



DIPLOMA PROGRAMME

PSYCHOLOGY

For first examinations in 2005

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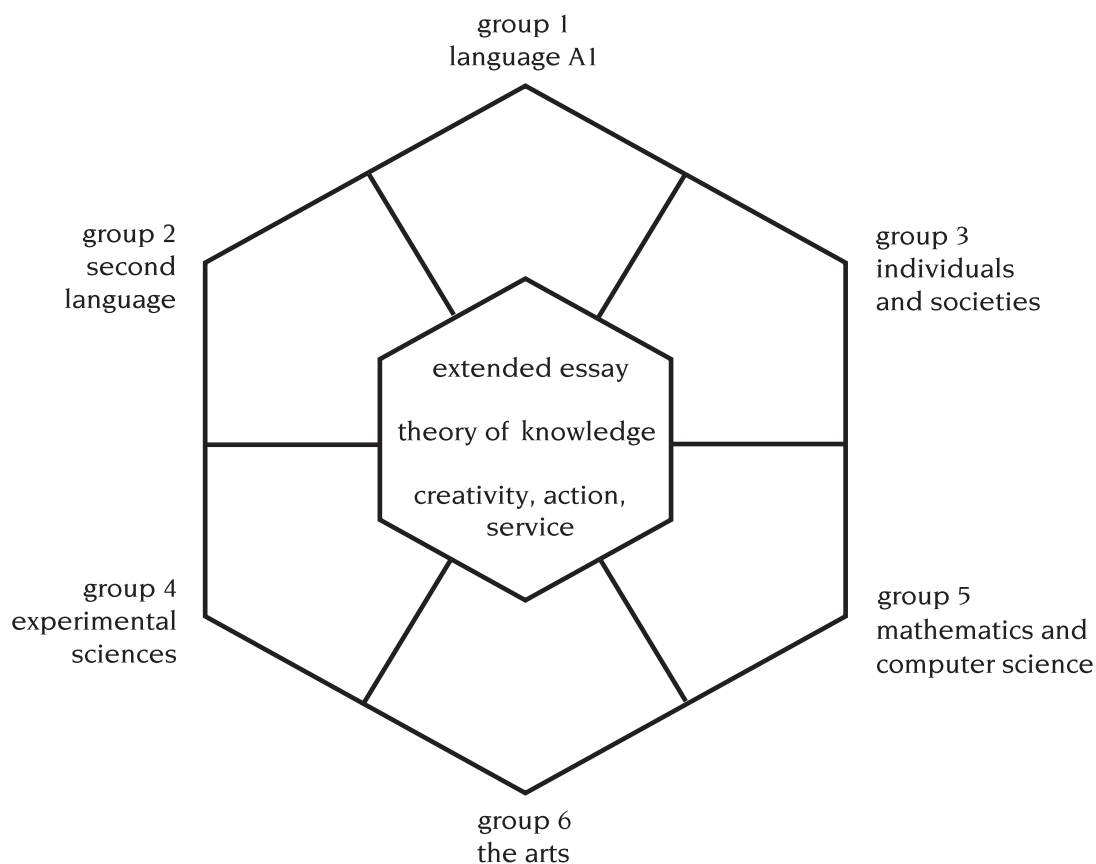
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INTRODUCTION

The International Baccalaureate Diploma Programme (DP) is a rigorous pre-university course of studies, leading to examinations, that meets the needs of highly motivated secondary school students between the ages of 16 and 19 years. Designed as a comprehensive two-year curriculum that allows its graduates to fulfill requirements of various national education systems, the DP model is based on the pattern of no single country but incorporates the best elements of many. The DP is available in English, French and Spanish.

The programme model is displayed in the shape of a hexagon with six academic areas surrounding the core. Subjects are studied concurrently and students are exposed to the two great traditions of learning: the humanities and the sciences.



DP students are required to select one subject from each of the six subject groups. At least three and not more than four are taken at higher level (HL), the others at standard level (SL). HL courses represent 240 teaching hours; SL courses cover 150 hours. By arranging work in this fashion, students are able to explore some subjects in depth and some more broadly over the two-year period; this is a deliberate compromise between the early specialization preferred in some national systems and the breadth found in others.

Distribution requirements ensure that the science-orientated student is challenged to learn a foreign language and that the natural linguist becomes familiar with science laboratory procedures. While overall balance is maintained, flexibility in choosing HL concentrations allows the student to pursue areas of personal interest and to meet special requirements for university entrance.

Successful DP students meet three requirements in addition to the six subjects. The interdisciplinary theory of knowledge (TOK) course is designed to develop a coherent approach to learning that transcends and unifies the academic areas and encourages appreciation of other cultural perspectives. The extended essay (EE) of some 4,000 words offers the opportunity to investigate a topic of special interest and acquaints students with the independent research and writing skills expected at university. Participation in the creativity, action, service (CAS) requirement encourages students to be involved in artistic pursuits, sports and community service work.

For first examinations in 2005

NATURE OF THE SUBJECT

Psychology is most appropriately defined as the systematic study of behaviour and experience. Its historical development, however, has witnessed several difficulties in arriving at a precise clarification of its subject matter and methodological focus. In the 19th century, psychology began to emerge from its ties with philosophical speculation. In the 20th century, its main focus was on empirical and scientific research methods. The current trend is towards a balance of quantitative and qualitative methods. Without denying its historical links with other fields of inquiry, modern psychology occupies an important position as a meeting ground for both the natural and the social sciences. The variety of current research areas and applications reflects the prominent role of psychology in modern society.

In recent years great attention has been given to cultural variables to study the diversity of human behaviour in a more comprehensive way. Whatever their background or methodology, psychologists employ rigorous procedures throughout the research process, utilizing their findings for the possible improvement of individual life, as well as for the understanding of social conditions that affect the individual.

Psychology has taken a leading role in the investigation of the relationship between physiological processes and human experience. For example, recent discoveries in the human genome project have supported current research into the relationship between humans and non-human animals. Research in each of these areas (the relationship between physiological processes and human experience, and the relationship between humans and non-humans) tends to raise crucial ethical issues, including those associated with determinism and reductionism. These same concepts are also key considerations in all courses throughout the DP.

Despite an apparent emphasis on deterministic, reductionist approaches to understanding human behaviour, some psychologists are adopting a more holistic view of what it is to be human. The rapid increase in globalization and the use of technology calls for greater insights into how individuals interpret meanings, relationships and health. Psychology addresses these complex issues so that students can develop a greater understanding of themselves and others. It therefore offers the opportunity to focus on individuals and societies in the context of a social science, which is an integral part of the DP.

COURSE OVERVIEW

The Curriculum Model

Higher Level	Standard Level
<p>Perspectives (compulsory)</p> <ol style="list-style-type: none"> 1. The biological perspective 2. The cognitive perspective 3. The learning perspective 4. The humanistic perspective 	<p>Perspectives (compulsory)</p> <ol style="list-style-type: none"> 1. The biological perspective 2. The cognitive perspective 3. The learning perspective
<p>Options (two only)</p> <ol style="list-style-type: none"> 1. Comparative psychology 2. Cultural psychology 3. The psychology of dysfunctional behaviour 4. Health psychology 5. Lifespan psychology 6. Psychodynamic psychology 7. Social psychology 	<p>Options (one only)</p> <ol style="list-style-type: none"> 1. Comparative psychology 2. Cultural psychology 3. The psychology of dysfunctional behaviour 4. Health psychology 5. Lifespan psychology 6. Psychodynamic psychology 7. Social psychology
<p>Research methodology (compulsory)</p> <ol style="list-style-type: none"> 1. Ethics 2. Quantitative research methods 3. Qualitative research methods 	<p>Research methodology (compulsory)</p> <ol style="list-style-type: none"> 1. Ethics 2. Quantitative research methods
<p>Experimental study</p>	<p>Simple experimental study</p>

The Assessment Model

Higher Level

	Paper 1	Paper 2	Paper 3	Internal assessment
Assessment objectives	1, 2, 3, 4	1, 5, 6, 7, 8	10, 11, 12	9
Syllabus content	perspectives	options	qualitative methods	research methodology
Method	short-answer questions and extended-response questions	extended-response questions	short-answer questions	experimental study 1,500–2,000 words
Component time	2 hours	2 hours	1 hour	30 hours
Assessment weighting	30%	30%	20%	20%

Standard Level

	Paper 1	Paper 2	Internal assessment
Assessment objectives	1, 2, 3, 4	1, 5, 6, 7, 8	9
Syllabus content	perspectives	option	research methodology
Method	short-answer questions and extended-response questions	extended-response questions	simple experimental study 1,000–1,500 words
Component time	2 hours	1 hour	15 hours
Assessment weighting	50%	30%	20%

AIMS

The aims of all subjects in **group 3, individuals and societies** are to:

- encourage the systematic and critical study of: human experience and behaviour; physical, economic and social environments; the history and development of social and cultural institutions
- develop in the student the capacity to identify, to analyse critically, and to evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable the student to collect, describe and analyse data used in studies of society, to test hypotheses and interpret complex data and source material
- promote the appreciation of the way in which learning is relevant to both the culture in which the student lives and the culture of other societies
- develop an awareness in the student that human attitudes and opinions are widely diverse and that a study of society requires an appreciation of such diversity
- enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.

The aims of the **psychology** course at HL and at SL are to:

- interpret and/or conduct psychological research to apply the resulting knowledge for the benefit of human beings
- ensure that ethical practices and responsibilities are implemented in psychological inquiry
- develop an understanding of the biological, social and cultural influences on human behaviour
- develop an understanding of different theoretical processes that are used to interpret behaviour, and to be aware of how these processes lead to the construction and evaluation of psychological theories
- develop an awareness of how applications of psychology in everyday life are derived from psychological theories
- develop an appreciation of the eclectic nature of psychology
- understand and/or use diverse methods of psychological inquiry.

OBJECTIVES

There are twelve assessment objectives for the psychology course at HL and nine at SL.

Having followed the course at HL or at SL, students should expect questions asking them to:

1. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour

Perspectives

2. describe, compare and evaluate the four content topics of the perspectives: development and cultural contexts, framework, methodologies, application
3. describe and evaluate theories and empirical studies of the perspectives
4. identify and explain the strengths and limitations of explanations of behaviour of each perspective

Options

5. describe and evaluate theories related to the selected options
6. identify, explain and evaluate empirical studies relevant to the selected options
7. apply theories and findings of empirical studies to explanations of human behaviour
8. analyse and compare issues within the selected options

Research Methodology

9. demonstrate the acquisition of knowledge and skills required for experimental design, data collection, data analysis and interpretation.

In addition to the above, students studying the course at HL will be expected to be able to:

10. explain and evaluate qualitative methods
11. identify and select appropriate qualitative methods relevant to specified investigations
12. demonstrate an understanding of the concept and use of triangulation in qualitative research.

SYLLABUS OUTLINE

Higher Level

The psychology syllabus at HL is divided into four parts: perspectives, options, research methodology and experimental study.

Part 1: Perspectives

The study of all four of the following perspectives is compulsory.

- The biological perspective
- The cognitive perspective
- The learning perspective
- The humanistic perspective

Part 2: Options

Two options from the following list must be studied.

- Comparative psychology
- Cultural psychology
- The psychology of dysfunctional behaviour
- Health psychology
- Lifespan psychology
- Psychodynamic psychology
- Social psychology

Part 3: Research Methodology

The study of research methodology is compulsory. It comprises the following elements.

- Introduction to research methods
- Ethics
- Quantitative research methods
- Qualitative research methods

Part 4: Experimental Study

The completion of an experimental study is compulsory.

Standard Level

The psychology syllabus at SL is divided into four parts: perspectives, option, research methodology and simple experimental study.

Part 1: Perspectives

The study of all three of the following perspectives is compulsory.

- The biological perspective
- The cognitive perspective
- The learning perspective

Part 2: Option

One option from the following list must be studied.

- Comparative psychology
- Cultural psychology
- The psychology of dysfunctional behaviour
- Health psychology
- Lifespan psychology
- Psychodynamic psychology
- Social psychology

Part 3: Research Methodology

The study of research methodology is compulsory. It comprises the following elements.

- Introduction to research methods
- Ethics
- Quantitative research methods

Part 4: Simple Experimental Study

The completion of a simple experimental study is compulsory.

SYLLABUS DETAILS

Introduction

The scope of the content in the psychology syllabus at HL and at SL has been deliberately limited to reflect the introductory nature of the courses. At HL, 240 hours of class time are expected. At SL, 150 hours are expected. The syllabus is designed to allow sufficient time for in-depth analysis, evaluation, and consolidation of learning.

The HL and SL syllabuses differ in terms of the content covered and in the skills to be developed. Although the aims of the course are the same for both levels, the objectives for HL students are designed to take account of the greater number of class hours. HL students are also assessed on a wider range of content than SL students.

Teachers are encouraged to find ways of delivering the course that are most relevant to their interests and resources. The overall aim of the course is to give students a deeper understanding of the nature and scope of psychology. The different parts of the course should therefore complement each other, and are probably taught most successfully when they are integrated throughout the course, allowing students to make comparisons and to evaluate different psychological theories and arguments.

Requirements

Higher level

The course of study must include:

- all **four** compulsory perspectives
- **two** options from a choice of seven
- quantitative research methods, qualitative research methods and ethics
- **one** experimental study.

Standard level

The course of study must include:

- all **three** compulsory perspectives
- **one** option from a choice of seven
- quantitative research methods and ethics
- **one** simple experimental study.

Structure of the Syllabus

The descriptions of the perspectives and options have the following structure.

- Introduction
- Learning outcomes
- Content
- Suggestions for detailed study

Introduction

The introduction gives the background of the perspective or option, including its history, assumptions and current standing.

The content that is included in the introductory section is intended only as background material and will not be formally examined. For example, in the section that introduces the biological perspective, aggression, stress and learning are mentioned for illustrative purposes only: knowledge of these suggested areas of study will **not** be specifically required for examination questions.

Learning outcomes

For each perspective, there are six learning outcomes common to all perspectives, and two specific to each perspective. For the options, there are four learning outcomes common to all options, and two specific to each option. The purpose of the learning outcomes is to clarify the content of the syllabus by describing the level of knowledge, understanding and skills expected of students at the end of the course.

Content

Content is described for topics and sub-topics. All topics and sub-topics are compulsory.

Suggestions for detailed study

Students are not expected to cover all the suggestions for detailed study given in the syllabus details for each perspective. The suggestions are intended to illustrate the kind of areas that can be used to place the learning outcomes and content in context.

Because the suggestions for detailed study are intended as illustrations only, other areas can be studied in addition to, or instead of, the areas suggested in the syllabus details. If the areas for study are chosen carefully, two or three is a sufficient number to allow them to be treated in appropriate depth.

When choosing areas of study, teachers should ensure that a range of methodologies is exemplified, to allow for a comparison of the methodologies across the perspectives.

Quotations from the introduction or from other sources may be used to provide a context for examination questions, but questions will only be drawn from the learning outcomes or from the content column.

Cultural, ethical, gender and methodological considerations

These four considerations should be used to evaluate the theories and studies, where appropriate, in each perspective and option.

Estimated Teaching Hours

The core of the syllabus is the study of the perspectives and therefore most of the teaching time should be allocated to covering the perspectives. The following is a guide to time allocations that teachers should have in mind when planning their course.

Higher level

	Hours
Perspectives	100
Options	60
Research methodology	50
Experimental study	30
Total hours	240

Standard level

	Hours
Perspectives	90
Option	30
Research methodology	15
Simple experimental study	15
Total hours	150

The Perspectives

Introduction

All students must study the following three perspectives of psychology.

- The biological perspective
- The cognitive perspective
- The learning perspective

Students at HL must also study a fourth perspective.

- The humanistic perspective

The perspectives have been selected to provide an understanding of the diverse approaches that have shaped the nature of knowledge and the ways of investigating behaviour within the discipline of psychology.

Structure of the Perspectives

The breadth and depth of study required for each perspective are indicated in the introduction and the learning outcomes for each one. There are eight learning outcomes for each perspective: six are common across all of the perspectives; two are specific to each perspective. The action verbs within the learning outcomes specify the level of knowledge, skills and understanding that will be expected of students after they have studied the perspective.

Each of the perspectives should be explored using the four compulsory topics listed under the heading “Content” on pages 14, 17, 19 and 21. These compulsory topics are:

- development and cultural contexts
- framework
- methodologies
- application.

The topics provide a structure for approaching the perspectives. Students are required to study closely each topic within each of the perspectives, using the content listed in the left-hand column. Suggestions for detailed study are listed in the right-hand column. However, these are suggestions only and teachers are free to choose their own examples when covering the topics. To cover the topics in depth, teachers should find at least two examples that can be used for all four topics.

The Biological Perspective

Introduction

The focus of this perspective is the interaction between the physiological and psychological factors that contribute to behaviour. To understand this interaction, a basic understanding of physiology is needed.

Until the middle of the 19th century, most humans regarded themselves as very distinct from animals. Since Darwin's discoveries were published, there has been a general acceptance that humans have evolved from animals, that we have a substantial number of physiological and behavioural characteristics in common, and that we also share much of our genetic make-up with them.

This acceptance has led psychologists to increase research into basic physiological processes as a way of explaining human behaviour. Changes in behaviour can be regarded as arising from an interaction between genetic disposition and environmental factors. Research has frequently, but not exclusively, used the experimental method to investigate behaviour. There are issues that are relevant to the biological perspective, including criticisms that this may involve a reductionist approach and that behaviour exhibited by non-human animals is not always relevant to humans.

There is an increasing awareness, due to the use of brain-scanning techniques, that physiological mechanisms play an important role in the behaviour of individuals in areas as diverse as aggression and stress. The greater insight that researchers have provided into biological processes means that behavioural problems are now often treated using a combination of drug treatment and psychological treatment, to alleviate symptoms caused by psychological disorders.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate the four content topics as they relate to the biological perspective
2. describe and evaluate theories and empirical studies within this perspective
3. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour from a biological perspective
4. compare theories, empirical studies and the four content topics of this perspective with those from other perspectives
5. identify and explain the strengths and limitations of biological explanations of behaviour
6. explain the extent to which the concepts of free will and determinism relate to this perspective
7. explain and evaluate claims that correlates exist between physiological processes and behaviour
8. discuss controversies surrounding a reductionist approach, as adopted by many biological psychologists.

Content	Suggestions for detailed study
<p>Development and cultural contexts</p> <p>Historical and cultural conditions that gave rise to the biological perspective</p> <p>Contribution of the biological perspective to the scientific study of behaviour</p>	<ul style="list-style-type: none"> • influence of Darwin • scientific discoveries about biological processes • biological correlates of behaviour, such as genes, neurotransmitters and hormones • localization of function in the brain • genetic contributions to explanations of behaviour, for example, twin and adoption studies • effects of hormonal change on behaviour, such as melatonin and serotonin in the sleep–wake cycle

Content	Suggestions for detailed study
<p>Framework</p> <p>Key concepts</p> <p>Assumptions on which key concepts are based</p> <p>Evaluation of assumptions</p> <p>Theoretical explanations of behaviour</p>	<ul style="list-style-type: none"> • endocrine system • role of genes • central nervous system (organization and function) • neurotransmitters (general mode of action) • bodily rhythms such as the sleep–wake cycle • biological factors (such as genes and hormones) influencing behaviour (for example, innate tendency to imprint) • relative importance of inherited disposition • relevance of animal research • comparison with other perspectives to explain strengths and limitations • empirical studies that challenge or support • use of drugs, surgical procedures • physiological impairment, such as strokes or Alzheimer’s disease • physiological factors involved in emotion • brain injuries • influence of hormones
<p>Methodologies</p> <p>Methods</p> <p>Strengths and limitations of methods</p> <p>Ethics and controversies of research</p>	<ul style="list-style-type: none"> • correlational studies • double-blind trials • experiments • interviews • case studies • questionnaires • reliability and validity • use of human participants for research • use of non-human animals for research
<p>Application</p> <p>Effectiveness (relative strengths and limitations) of the perspective in explaining psychological or social questions</p> <p>Application of theories and findings of empirical studies from the biological perspective</p>	<ul style="list-style-type: none"> • comparison with other perspectives on questions such as aggression, gender differences or stress • application of genetic research and its ethical implications • contribution of the biological perspective to areas such as work (for example, shift patterns and stress) or treatment (for example, drug therapy for dysfunctional behaviours)

The Cognitive Perspective

Introduction

Cognitive psychology is concerned with how people acquire, store, transform, use and communicate information. Following the influential and exciting conferences at the Massachusetts Institute of Technology (MIT) in the 1950s, there was an explosion of research into cognitive processes such as memory, language acquisition, attention, perception and problem solving. Cognitive psychologists rejected the behaviourist assumption that mental events or states were unsuitable for scientific study.

Developments in the fields of engineering, computer science and linguistics helped cognitive psychologists develop models showing how information could be efficiently represented, stored and transformed. They also provided analogies for cognitive psychologists to use when attempting to explain complex behaviours. More recently, development of brain-scanning techniques provided conceptual links between the cognitive and biological perspectives. Brain-scanning techniques have also provided psychologists with the means to actually see the physiological processes within the brain that are associated with cognition.

Cognitive psychologists recognize that using computer analogies to explain human behaviour has limitations. This recognition has led to the development of alternative models and fields of inquiry. These include research areas such as social cognition and the development of cognitive-based therapies.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate the four content topics as they relate to the cognitive perspective
2. describe and evaluate theories and empirical studies within this perspective
3. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour from a cognitive perspective
4. compare theories, empirical studies and the four content topics of this perspective with those from other perspectives
5. identify and explain the strengths and limitations of cognitive explanations of behaviour
6. explain the extent to which the concepts of free will and determinism relate to this perspective
7. assess the extent to which concepts and models of information processing have helped in the understanding of cognitive processes
8. assess claims that some research within this perspective lacks ecological validity, and be able to consider alternative research methods.

Content	Suggestions for detailed study
<p>Development and cultural contexts</p> <p>Historical and cultural conditions that gave rise to the cognitive perspective</p> <p>Contribution of the cognitive perspective to the scientific study of behaviour</p> <p>Framework</p> <p>Key concepts</p> <p>Assumptions on which key concepts are based</p> <p>Evaluation of assumptions</p> <p>Theoretical explanations of behaviour</p> <p>Methodologies</p> <p>Methods</p> <p>Strengths and limitations of methods</p> <p>Ethics and controversies of research</p> <p>Application</p> <p>Effectiveness (relative strengths and limitations) of the perspective in explaining psychological or social questions</p> <p>Application of theories and findings of empirical studies from the cognitive perspective</p>	<ul style="list-style-type: none"> • challenges to behaviourism (such as cognitive maps) • impact of the Second World War (such as the need to understand or predict cognitive processes) • development of models and theories of cognition (such as perceptual processing) • insights into information processing (such as the working memory model) • attention, perception, memory, language • selective attention, schemas, short-term and long-term memory • mental processes can be studied scientifically • relevance of explanations of non-human behaviour to humans • comparison with other perspectives to explain strengths and limitations • empirical studies that support or challenge • cognitive dissonance or perceptual set • experiments • interviews • verbal protocols • ecological validity • use of human participants for research • use of non-human animals for research • comparison with other perspectives on questions such as aggression, gender differences or stress • contribution of the cognitive perspective to areas such as education (for example, when, how and what to teach), work (for example, the use of eyewitness testimony), treatment (for example, self-instructional training)

The Learning Perspective

Introduction

Learning can be regarded as a hypothetical construct—a process that cannot be directly observed, but that can be inferred from observable behaviour. The study of how human beings learn has been dominated by behaviourism. Behaviourism developed simultaneously in Russia and in the United States, becoming a major force in psychology in the first part of the 20th century. Traditional behaviourists believed that all organisms learn in the same way, and that all learning could be explained by the processes of classical and operant conditioning. Psychologists working within this perspective have investigated the ways in which behaviour changes, usually using laboratory experiments and often using non-human animals.

The behaviourists, with their emphasis on environmental factors, focused on the situational aspects of behaviour. Behaviourists claim that behaviour is determined by environmental contingencies, and suggest that personality is the result of conditioning history.

Many psychologists have portrayed behaviourist research as being reductionist and lacking in ecological validity. Alternative theories have been developed that challenge traditional learning theory. These alternative theories have put forward the idea that learning is more than a series of stimulus-response associations. Consequently, many psychologists have moved away from purely mechanistic assumptions about the origins of learning, and now include cognitive, biological and environmental factors in the highly complex set of behaviours that is involved in “learning”.

Learning theories are influential in many areas of research and occupy an important role in psychology.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate the four content topics as they relate to the learning perspective
2. describe and evaluate theories and empirical studies within this perspective
3. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour from a learning perspective
4. compare theories, empirical studies and the four content topics of this perspective with those from other perspectives
5. identify and explain the strengths and limitations of learning perspective explanations of behaviour
6. explain the extent to which the concepts of free will and determinism relate to this perspective
7. assess the extent to which learning can be explained by alternatives to traditional behaviourist approaches
8. assess the extent to which cognitive and biological factors have been added to traditional explanations of behaviour within the learning perspective.

Content	Suggestions for detailed study
<p>Development and cultural contexts</p> <p>Historical and cultural conditions that gave rise to the learning perspective</p> <p>Contribution of the learning perspective to the scientific study of behaviour</p> <p>Framework</p> <p>Key concepts</p> <p>Assumptions on which key concepts are based</p> <p>Evaluation of assumptions</p> <p>Theoretical explanations of behaviour</p> <p>Methodologies</p> <p>Methods</p> <p>Strengths and limitations of methods</p> <p>Ethics and controversies of research</p> <p>Application</p> <p>Effectiveness (relative strengths and limitations) of the perspective in explaining psychological or social questions</p> <p>Application of theories and findings of empirical studies from the learning perspective</p>	<ul style="list-style-type: none"> • reaction to subjective study of the mind • emphasis on scientific study of observable behaviour • experimental testing of hypotheses • classical conditioning, operant conditioning • observational learning • cognitive maps • biological preparedness • critical periods in learning • only observable, objective behaviour should be studied • learning can take place in the absence of reinforcement • innate predisposition to learning • comparison with other perspectives to explain strengths and limitations • empirical studies that challenge or support • classical and operant conditioning • shaping • social learning, modelling • learned helplessness • experiments • observations • case studies • replicability • ecological validity • use of human participants for research • use of non-human animals for research • comparison with other perspectives on questions such as aggression, gender differences or stress • contribution of learning theories to areas such as education (for example, programmed learning), work (for example, modelling of behaviours) or therapy (for example, systematic desensitization)

The Humanistic Perspective (HL Only)

Introduction

Humanistic psychology emerged as a third force during the late 1950s in the United States as an alternative to the deterministic orientations of behaviourism and psychoanalysis. There was a powerful element of European existentialism and phenomenology present in its earliest years of development, but humanistic psychology has now developed into an eclectic movement that attracts a diverse range of theorists.

The influence of the zeitgeist in the 1960s in the United States, where the rights of the individual was an issue in both political and personal matters, was also important in the development of humanistic theories.

Humanistic psychology's emphasis on the possibility of personal growth and change found immediate acceptance among academics from various disciplines. In particular, much of its ideology appealed to those who wished to see fundamental changes within society. Assumptions such as the innate goodness of the individual, self-direction and human potential have attracted broad debate in diverse fields.

The methodology applied by humanistic psychologists tends to use alternatives to those focusing on quantification and scientific rigour, but often produces useful data.

Concepts from the humanistic perspective have been applied to many areas, including international relations, counselling, parenting classes and personnel management. However, the humanistic perspective is not applied universally, perhaps because of its emphasis on the individual and its optimistic view of human potential.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate the four content topics as they relate to the humanistic perspective
2. describe and evaluate theories and empirical studies within this perspective
3. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour from a humanistic perspective
4. compare theories, empirical studies and the four content topics of this perspective with those from other perspectives
5. identify and explain the strengths and limitations of humanistic explanations of behaviour
6. explain the extent to which the concepts of free will and determinism relate to this perspective
7. explain the extent to which human behaviour is self-directed
8. explain and evaluate assumptions that individuals are able to achieve their maximum potential.

Content	Suggestions for detailed study
<p>Development and cultural contexts</p> <p>Historical and cultural conditions that gave rise to the humanistic perspective</p> <p>Contribution of the humanistic perspective to the study of behaviour</p> <p>Framework</p> <p>Key concepts</p> <p>Assumptions on which key concepts are based</p> <p>Evaluation of assumptions</p> <p>Theoretical explanations of behaviour</p> <p>Methodologies</p> <p>Methods</p> <p>Strengths and limitations of methods</p> <p>Ethics and controversies of research</p> <p>Application</p> <p>Effectiveness (relative strengths and limitations) of the perspective in explaining psychological or social questions</p> <p>Application of theories and findings of empirical studies from the humanistic perspective</p>	<ul style="list-style-type: none"> • humanistic psychology as a third force in reaction to previous deterministic perspectives • European phenomenology and existentialism • use of qualitative techniques • personality theories • peak experiences • organismic-valuing process • hierarchy of needs • free will in humans • humans are intrinsically good • uniqueness of individuals • innate drive of humans to achieve their maximum potential • comparison with other perspectives to explain strengths and limitations • empirical studies that challenge or support • self-actualization • facilitation • conditions of growth • unconditional positive regard • empathy • congruence • self-report • case studies, including archival research • Q-sort • lack of scientific rigour • generation of useful qualitative data • accuracy of biographical data • relevance of phenomenological approach • understanding of relationships, groups and individuals, conflict resolution and cross-cultural understanding, and promotion of peace • contribution of the humanistic perspective in areas such as education (for example, classroom management), work (for example, organizational management), or therapy (for example, different types of humanistic counselling)

The Options

Introduction

The options have been chosen to provide continuity with previous syllabuses and to reflect developing fields in psychology.

There are seven options.

- Comparative psychology
- Cultural psychology
- The psychology of dysfunctional behaviour
- Health psychology
- Lifespan psychology
- Psychodynamic psychology
- Social psychology

Students at HL must study **two** options. Students at SL must study **one** option.

The study of the perspectives provides a foundation and a broad overview of psychology, whereas the options allow students the opportunity to study a specialized area of psychology in depth (including empirical studies and theories), according to their own particular interests. Therefore, teachers are advised to integrate the options into the study of the perspectives wherever possible.

Structure of the Options

The description of each option consists of an introduction, learning outcomes and content. There are six learning outcomes: four learning outcomes are common to all the options; two are specific to each option. The action verbs within each learning outcome define the level of knowledge, skills and understanding that will be expected of students after studying the option.

The content, listed in the left-hand column, comprises three compulsory topics and students are required to study each topic. Suggestions for detailed study are listed in the right-hand column. As with the perspectives, examination questions are constructed on the basis of the learning outcomes and content, and there will be no specific reference to suggestions for detailed study in them.

Comparative Psychology

Introduction

Comparative psychologists study the behaviour of animal species and use this research to understand many aspects of human behaviour. Animal behaviour is also studied for its own sake, both in the laboratory and in the natural environment. Laboratory research has included work on learning, language acquisition, perception, attachment and care. Research in the natural environment has extended to the understanding of evolved patterns of behaviour, apparent altruism, aggression, and aspects of courtship, mating and parental care.

These studies enable us to understand the ways in which we can protect species and encourage them to survive in an environment that suffers from over-exploitation and damage by humans. They promote a fuller understanding of the complex ways in which animals form an essential part of a self-sustaining environment. Some areas of human behaviour have previously been difficult to explain, such as parent–offspring conflict or altruistic behaviour. Many of the fascinating insights into human behaviour owe their existence to investigations and observations of non-human animals. In studying evolutionary explanations of behaviour, students may better understand many areas of human behaviour that might otherwise have seemed inexplicable.

The human condition has also been improved by the application of comparative psychological research in various fields, including education, caring for the disabled, understanding language and communication, and medical treatment involving perception and other very important physiological mechanisms.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate relevant theories and empirical studies related to comparative psychology
2. explain, where appropriate, how ethical and methodological considerations may affect the interpretation of behaviour in comparative psychology
3. describe and evaluate methodologies used in comparative psychology
4. describe and evaluate applications of research findings and theories in comparative psychology
5. analyse the predictive accuracy of theories and studies when applied to the individual behaviour of humans and non-human animals
6. compare the behaviour of non-human animals acting alone with the behaviour of non-human animals acting in groups, and assess the impact of such behaviour on survival.

Content	Suggestions for detailed study
<p>Evolutionary origins of behaviour</p> <p>Evolutionary explanation of behaviour</p> <p>Altruism</p>	<ul style="list-style-type: none"> • comparison of evolutionary theories, such as survival of the fittest, selfish gene theory • competition for resources • innate tendencies and environmental influences on behaviour • explanations for altruistic behaviour, such as that exhibited by vampire bats, olive baboons, cuckoos • types of altruism, such as reciprocal, delayed, induced altruism
<p>Courtship, mating and parenting</p> <p>Courtship and mating strategies in non-human animals</p>	<ul style="list-style-type: none"> • courtship behaviour in animals, such as that exhibited by male songbirds, seals, spiders • mating systems including monogamy, polyandry and polygyny • strategies of mating such as sneak copulation, sperm competition
<p>Parenting behaviour in humans and non-human animals</p>	<ul style="list-style-type: none"> • parental investment • role of males and females • parent–offspring conflict
<p>Communication</p> <p>Inter- and intra-species communication</p> <p>Teaching language to non-human animals and humans</p>	<ul style="list-style-type: none"> • communication between parent and offspring • use of various senses in communication, such as visual, auditory, olfactory • attempts to teach human language to non-human animals such as apes and parrots • implications for human language acquisition

Cultural Psychology

Introduction

The discipline of psychology is largely rooted in westernized thinking. This option raises the issue of cultural bias, and therefore questions the degree to which generalizations that were formed from traditional psychological research can be applied to other cultures. In a world that is currently in a process of globalization, there is an increasing amount of contact among people in a variety of cultural contexts, and this is one factor that has encouraged cultural research in psychology.

The field has traditionally explored the cultural and social sources of individual differences. In response to growing global connections and an increasing awareness of differences between majority and minority groups, cultural research has been broadened to include studies of indigenous psychologies. This has encouraged psychologists to re-evaluate western psychological theories. In addition, the psychology of minority groups has become a focus of study in its own right.

Current research into the impact of culture on behaviour centres on cultural context and schema theory. Context and schema provide powerful explanations of psychological phenomena such as communication, the self and cultural identity. Research into cultural psychology also presents unique challenges to traditional research methods.

In studying cultural psychology, students should develop an understanding of the central role that culture plays in human behaviour. They should become aware that cultural psychology does not restrict itself to analysing interaction between people in international settings, but may also include looking at interaction and differences between cultural groups living in the same geographic region. Students studying psychology should develop an awareness of cultural differences and similarities, while avoiding overgeneralizations and stereotypical explanations.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate relevant theories and empirical studies related to cultural psychology
2. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour in cultural psychology
3. describe and evaluate methodologies used in cultural psychology
4. describe and evaluate applications of research findings and theories in cultural psychology
5. assess how differences in cultural dimensions have an impact on human behaviour
6. assess the extent to which ethnocentricity affects the interpretation of human behaviour.

Content	Suggestions for detailed study
<p>Culture</p> <p>Definition of culture and explanations: context and schemas</p> <p>Dimensions of cultural difference</p> <p>Cultural research</p> <p>Explanations of human behaviour—universal or culturally specific</p> <p>Problems in cross-cultural research</p> <p>Implications of cultural differences on human understanding and interaction</p> <p>Communication</p> <p>Self and cultural identity</p>	<ul style="list-style-type: none"> • distinction between society, culture and subculture • importance of cultural context and its impact on behaviour • cognitive aspects of individual cultures, such as the formation of culture-specific schemas • individualism–collectivism, power distance • cultural complexity, tight <i>versus</i> loose cultures <ul style="list-style-type: none"> • problems in applying western theories to non-western cultures or vice versa • development of indigenous psychologies as they relate to the needs of individual cultures • validating traditional theories in non-western cultures and vice versa • language barriers and translation, including strategies such as back-translation • cultural bias in methodology <ul style="list-style-type: none"> • comparison of high-context and low-context cultures in areas such as self-disclosure, direct and indirect communication styles • role of non-verbal communication, such as interpersonal distance, pheromones • individualist and collectivist conceptions of self • personal identity and social identity

The Psychology of Dysfunctional Behaviour

Introduction

This area of psychology is concerned with the understanding and treatment of dysfunctional behaviours. It investigates the issues of identifying individuals with dysfunctional behaviour and the strategies related to changing such behaviour. Anxiety disorders, schizophrenia and affective disorders are three examples of dysfunctional behaviours that have received attention from psychologists and psychiatrists.

An important starting point is the examination of concepts such as “normality”, “abnormality” and “mental illness”. Psychologists working in this area have developed a range of explanations for the development of dysfunctional behaviours by focusing on, for example, biological, cognitive, and environmental factors. Since the definition of “abnormality” has important implications for the treatments offered, these are examined from the biological, cognitive, and learning perspectives, in addition to the humanistic and psychodynamic perspectives.

Students studying this option should develop an increased awareness of the controversial nature of the psychology of dysfunctional behaviour, along with an appreciation of its ethical considerations.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate relevant theories and empirical studies related to the psychology of dysfunctional behaviour
2. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of dysfunctional behaviour
3. describe and evaluate approaches to treatments for dysfunctional behaviour
4. discuss the diagnosis and classification of dysfunctional behaviour
5. analyse the etiology and treatment of dysfunctional behaviours
6. describe and evaluate different concepts and models of dysfunctional behaviour.

Content	Suggestions for detailed study
<p>Concepts, models and theories in dysfunctional behaviour</p> <p>The concepts of “normality” and “abnormality”</p> <p>Models and theories of dysfunctional behaviour, including basic assumptions</p> <p>Diagnosis and classificatory systems</p> <p>Classificatory systems and diagnosis</p> <p>Description and etiologies of specific dysfunctional behaviours</p> <p>Treatments</p> <p>Approaches to treatment</p> <p>Evaluation of treatment</p>	<ul style="list-style-type: none"> • limitations in definitions of “normality” and “abnormality” • definition of “dysfunctional” • historical and cultural considerations in the concepts of “normality” and “abnormality” • medical model and the concept of “mental illness” • behavioural, cognitive, humanistic or psychodynamic theories of dysfunctional behaviour • social and environmental theories, such as the diathesis-stress model • purpose and functions of diagnosis • usefulness of classificatory systems • gender, cultural and ethical considerations in the diagnostic process • disorders such as: <ul style="list-style-type: none"> • anxiety disorders • schizophrenia • affective disorders • biological treatments, such as psychosurgery, electroconvulsive therapy and drug treatments • directive psychological therapies, such as those based on the behavioural, psychodynamic, and cognitive perspectives • non-directive psychological therapies, such as those based on the humanistic perspective • eclectic approach • effectiveness of treatment in helping people with dysfunctional behaviours • ethical considerations

Health Psychology

Introduction

Health psychology promotes an understanding of behaviour that leads to a healthier lifestyle. Health psychologists have investigated the causes of health problems such as stress, substance misuse and eating disorders. One of the benefits of their research has been the development of prevention and treatment strategies in these areas.

Health psychologists consider the interaction of psychological, physiological, social and cultural factors in relation to the causes of health problems. These same factors may affect the response of individuals to health campaigns and treatments.

There are differences in attitudes towards health behaviour among different cultures, as well as variations in the prevalence of health problems such as stress, eating disorders and smoking. Research in health psychology has drawn public attention to the problems that surround these areas, and has helped to identify possible links between physical and mental health.

Methods used in health psychology include longitudinal studies, case studies and double-blind testing.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate relevant theories and empirical studies related to health psychology
2. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour in health psychology
3. describe and evaluate methodologies used in health psychology
4. describe and evaluate applications of research findings and theories in health psychology
5. analyse the predictive value of theories and studies when applied to an individual's health-related behaviour
6. examine ways in which physical and mental health may be interrelated.

Content	Suggestions for detailed study
<p>Stress</p> <p>Physiological and psychological aspects of stress</p> <p>Coping with stress</p> <p>Addictive behaviour</p> <p>Substance use and misuse</p> <p>Disordered patterns of eating</p> <p>Physical and mental health research</p> <p>Focus of research</p> <p>Use of placebos</p>	<ul style="list-style-type: none"> • environmental factors, such as temperature, noise level, overcrowding • decision-making, work pressures, fight-or-flight response • positive and negative effects of stress • coping strategies, such as biofeedback, physical activity, cognitive techniques • psychological and physiological explanations, such as environmental influences, inherited behaviour patterns • treatments, such as biological, behavioural, group therapy • consequences of substance misuse • psychological and physiological factors related to obesity, anorexia nervosa and bulimia nervosa, such as environmental influences, inherited behaviour patterns • treatments such as family support, counselling • coping strategies • consequences of eating disorders • research suggesting links between physical and mental health, such as psychosomatic illness • factors that promote physical and psychological well-being, such as health education, counselling, physical activity • single- and double-blind techniques • ethical implications

Lifespan Psychology

Introduction

Lifespan psychology studies changes in the individual's biological, cognitive, social, and emotional behaviour, beginning with conception and continuing throughout the course of an individual's life. Psychological development continues after the transition to adulthood, so contemporary psychologists working in this area seek to describe and analyse human development across the entire lifespan. This is a broad area. Therefore, the option attempts to reflect the appreciation that human development is continuous throughout the lifespan and that development is greatly influenced by cultural factors.

The supposed irreversibility of early experiences has been challenged by recent research that shows how many individual and social factors can modify experience. Cross-cultural and sociological research into adolescence indicates that the concept of adolescence as an extended period of preparation for the demands of adulthood is a relatively recent development. The social context influences the length of adolescence, as well as the characteristic reactions to the process of growing up. Gender variations have also become a salient feature of recent lifespan research. Investigating human behaviour across the lifespan has generated techniques for research, as well as presenting methodological challenges.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate relevant theories and empirical studies related to lifespan psychology
2. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour in lifespan psychology
3. describe and evaluate methodologies used in lifespan psychology
4. describe and evaluate applications of research findings and theories in lifespan psychology
5. examine controversies related to concepts of adolescence
6. explain how human development continues throughout the lifespan.

Content	Suggestions for detailed study
<p>Change and continuity during the lifespan</p> <p>Beginnings of development and its ongoing impact</p> <p>Methodology applied in lifespan research</p> <p>Changes in identity</p> <p>Theories of adolescence</p> <p>Gender identity and gender role</p> <p>Emotional and social development</p> <p>Attachment and separation across the lifespan</p> <p>Psychosocial development and socialization</p>	<ul style="list-style-type: none"> • biological and environmental impact on pre-natal development • biosocial development and its ongoing effect • temperament • alternatives to the experimental method in researching lifespan changes • methodological issues in longitudinal research • research findings: continuity <i>versus</i> discontinuity • social construction of the concept of adolescence • concept of crisis • cross-cultural research findings that challenge the normative concept of adolescence • social construction of gender identity • biological and environmental impact on gender differences • role identity development and stereotypes • theories and research, such as brief separation studies • patterns of attachment in childhood and in adulthood, including cultural variations • psychosocial identity • adjustment to critical life events

Psychodynamic Psychology

Introduction

The term “psychodynamic” refers to a wide group of theories that emphasize the overriding influence of instinctive drives and forces, and the importance of developmental experiences in shaping personality. Early in their development, these theories focused solely on the influence of unconscious drives and forces, but they received much criticism and subsequent revision. More recent psychodynamic theory places greater emphasis on conscious experience and its interaction with the unconscious, in addition to the role that social factors play in development. Psychodynamic psychology has occupied a central position in the development of psychology over the last 100 years, and remains an important influence in attempting to understand human behaviour. In an age when empirical research is emphasized, some of the assertions made by psychodynamic theorists have been accepted while others have been rejected. Psychodynamic psychology has produced widespread controversy, as well as new ideas and research.

Psychodynamic theories are in basic agreement that the study of human behaviour should include factors such as internal processes, personality, motivation and drives, and the importance of childhood experiences. Classic theories about the role of unconscious sexual and aggressive drives have been re-evaluated to focus on the conscious experience, resulting in, for example, the birth of ego psychology.

Students should be aware of the revisions to classical psychodynamic theory.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate relevant theories and empirical studies related to psychodynamic psychology
2. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour in psychodynamic psychology
3. describe and evaluate methodologies used in psychodynamic psychology
4. describe and evaluate applications of research findings and theories in psychodynamic psychology
5. compare and evaluate theories of the influence of childhood experience on human behaviour
6. assess the role of both the unconscious and conscious mind in human behaviour.

Content	Suggestions for detailed study
<p>Introduction to psychodynamic psychology</p> <p>Historical and cultural context of the development of the psychodynamic perspective</p> <p>Techniques for research</p> <p>Theories</p> <p>Structure and functioning of the personality in Freudian psychoanalytic theory</p> <p>Neo-Freudian theories</p> <p>Application</p> <p>Psychodynamic explanations of human behaviour</p> <p>The development of personality</p>	<ul style="list-style-type: none"> • contributions of developments in the natural sciences to psychodynamic theory • “Victorian” society • cultural bias and gender bias • case study methods that may use psychohistory, free association and interpretation of dreams • clinical validation of concepts • experimental validation of concepts • id, ego, superego • unconscious, preconscious and conscious • importance of drives in determining human behaviour • psychosexual development • collective unconscious • psychosocial development • object-relations theory • psychodynamic view of psychological phenomena, such as aggression, sex-role development or moral development • importance of childhood experience for adult behaviour (such as mother–infant relationship, fixation)

Social Psychology

Introduction

Social psychology is the study of behaviour and experience with respect to social stimuli. Social psychologists are particularly interested in the changes that occur in a person's behaviour when other people are present. The diversity of topics lends itself to various methodological approaches and interpretations when attempting to understand the complexities of behaviour generated by social interaction.

Students studying this option begin by looking at the ways in which an individual is influenced by the presence of others. They then move on to examine the development of group behaviours and how group membership can influence individual behaviour. Finally, they study the impact of collective behaviour, both on the individual and on the group itself.

This option gives students the opportunity to explore theories and methodologies within social psychology, and to evaluate them critically.

Learning outcomes

Students should expect questions asking them to:

1. describe and evaluate relevant theories and empirical studies related to social psychology
2. explain, where appropriate, how cultural, ethical, gender and methodological considerations may affect the interpretation of behaviour in social psychology
3. describe and evaluate methodologies used in social psychology
4. describe and evaluate applications of research findings and theories in social psychology
5. assess the extent to which social psychology findings and studies allow predictions to be made about individual and group behaviour
6. compare explanations of the behaviour of an individual in a group with that of an individual acting alone.

Content	Suggestions for detailed study
<p>Social influence</p> <p>Conformity</p> <p>Obedience and independent behaviour</p> <p>Prejudice and discrimination</p> <p>Definitions, origins of, and relationship between prejudice and discrimination</p> <p>Reduction of prejudice and discrimination</p> <p>Collective behaviour</p> <p>Theories of collective behaviour</p> <p>Application</p>	<ul style="list-style-type: none"> • definition of conformity and the role of social norms • factors affecting conformity, such as group pressure or affiliation • minority influences on larger groups • definition of obedience • factors affecting obedience, such as response to authority figures, environment and culture • factors affecting independent behaviour, such as need to protect sense of freedom, need for individuation, gender or culture • personality and environmental theories of the origin of prejudice and discrimination, such as schema theory, frustration–aggression hypothesis, social norms or inter-group conflict • link between prejudice as an attitude and discrimination as a behaviour • strategies for reducing prejudice and discrimination, such as education, inter-group contact and communication • traditional theories, such as mob behaviour and unstructured behaviour • social theories, such as de-individuation and loss of identity, social identity theory • structured and peaceful behaviour • crowd management • manipulation of crowds

Research Methodology

Higher Level

Introduction to research methodology

This part of the course serves two functions.

- To allow students to develop appropriate practical research skills
- To enable students to evaluate research encountered in other components of the course

Knowledge and understanding of quantitative methods and statistical analysis of data will not be externally examined but will be assessed through the reporting of one experimental study. However, knowledge and understanding of qualitative methods will be externally assessed through paper 3.

Use of quantitative and qualitative methods

Quantitative methods demonstrate a systematic approach to the investigation of behaviour. Some aspects of behaviour are not suitable for investigation by quantitative methods and therefore qualitative methods must be used. In some cases the distinction between qualitative and quantitative approaches is difficult to determine. In Likert scales the same responses of participants can be used as either qualitative or quantitative data.

Definition of the experimental method

For this course the experimental method is defined as requiring the manipulation of one independent variable, while other variables are kept constant. Consequently, correlational studies will **not** be accepted as meeting the requirements of the experimental study.

Ethics

Before attempting any practical work, students must be made aware of all relevant ethical considerations. The complete ethical guidelines for the psychology course can be found in the *Vade Mecum*. Students must consider the ethical responsibilities of researchers towards participants and they must recognize the need to use psychological findings responsibly. The following ethical considerations should be thoroughly described, elaborated and discussed, so that students can fully understand the relevance of this issue.

- Responsibility to the profession of psychology (including the school environment)
 - Acknowledgment of others' work and publications
 - Honesty in reporting results
 - Monitoring the ethical standards and procedures of the research community
- Competence of the investigator
- Personal conduct of the investigator
- Informed consent
- Respect for participant integrity
- Justification for using deception
- Participant's right of withdrawal
- Confidentiality of findings
- Debriefing
- Use of non-human animals in research

Quantitative research methods

Psychologists use quantitative methods to investigate areas of study where it is possible to test hypotheses under rigorous conditions. Experiments can take place in the laboratory or in the field. The aim is to be able to establish a cause and effect relationship through the use of descriptive as well as inferential statistics, allowing the researcher to determine the significance of the results.

All experimental research studies submitted for internal assessment must include the manipulation of one independent variable while other variables are held constant. Therefore, quasi-experiments and natural experiments (that is, any research undertaken without control over the independent variable and without a controlled sampling procedure), and those where the gender or age of the participants is the independent variable, will **not** be accepted as meeting the requirements.

Experimental designs and controls

Students are expected to be able to define, explain, apply and evaluate the terms below.

Considerations in designing experiments

- Independent and dependent variables
- Confounding variables
- Experimental, control and placebo groups
- Research bias and expectancy (researcher and participant effects)
- Demand characteristics
- Single- and double-blind techniques

Types of experimental design

- Independent measures/samples/subjects design (between-subjects design)
- Matched pairs design
- Repeated measures design (within-subject design)
- Single participant/subject design

Sampling procedures

- Random selection of participants and random assignment to groups
- Random and representative sampling
- Stratified and systematic sampling procedures

Evaluating research

- Reliability and validity (internal and external)
- Replication

Descriptive statistics

Students are expected to be able to define, explain, use and apply the terms below.

- Levels of measurement (nominal, ordinal, interval, ratio)
- Measures of central tendency (mean, mode, median)
- Measures of dispersion (range, standard deviation, variance)
- Normal distribution of data (standard scores, frequency, skewed distributions)

Inferential statistics

Students are expected to be able to use and apply the following.

- Operational definitions of variables
- Hypothesis testing: research and null hypotheses
- Statistical significance: probability and levels of confidence
- The appropriate choice of statistical tests and limitations upon their use
- Non-parametric tests
 - Wilcoxon signed ranks tests, Mann–Whitney U tests
 - Sign test, chi-squared test

Graphical techniques

Students are expected to be able to define, explain, use and apply the graphical techniques below.

- Bar chart
- Histogram
- Line graph
- Frequency polygon

Qualitative research methods

Although qualitative research may involve the use of descriptive statistics, more frequently it involves methods that do not usually employ numerical methods; these may include, for example, questionnaires, case studies or content analysis. It is recognized that to have a fuller picture, psychologists may choose to approach their data collection by using more than one method. To achieve this, psychologists can use triangulation to allow for a more credible interpretation of the data that has been collected. For example, when studying aggression in humans, a psychologist may:

- measure hormone levels
- conduct an interview
- observe behaviour over an extended period of time.

The measurement of hormones is quantitative, while the other two methods can be quantitative or qualitative. The measurement of hormones may give only a partial interpretation of aggression. However, the use of all three methods will give a more credible interpretation of what is happening in human aggression.

Students will be expected to explain, apply and evaluate the following when using all qualitative methods.

- Ethics
- Participant and researcher expectancies
- Demand characteristics
- Sampling techniques

For all of the qualitative methods, students will be expected to:

- explain each method
- identify conditions appropriate for the use of each method (sampling techniques, participant and researcher expectancies, how demand characteristics affect data)
- evaluate the strengths and limitations of each method
- explain why a single method of qualitative research is often inadequate for drawing conclusions.

There are many different qualitative research methods. Students must study in detail only the following qualitative research methods.

- Interviews
- Questionnaires/surveys
- Observation
- Content analysis
- Case study

Interviews

Students are expected to be able to define, explain, apply and evaluate the terms below.

Types of interview

- Structured
- Semi-structured
- Unstructured
- One-to-one interviews
- Conversational interviews
- Small-group interviews (focus groups)
- E-mail and telephone interviews
- Verbal protocols (think-aloud protocols)

Verbal protocols are particularly used in task analysis (for example, in problem solving, learning a new task such as using a computer or driving a police car in dense traffic), or obtaining feedback from a patient undertaking a new form of treatment.

“Verbal protocols are a record of what people say when they are asked to think aloud as they perform a task. Their speech is recorded and later transcribed so that the mental processes that are reported can be analysed.”

Cohen, G (1989), *Memory in the Real World*,
Lawrence Earlbaum Associates, Hillsdale

Methods of transcribing recorded interviews

Methods of transcribing recorded interviews include the traditional method (words only) and the post-modern method (words plus volume, pitch, speed, pauses, facial expressions, gestures and other non-verbal communication).

Questionnaires/surveys

Students are expected to be able to define, explain, apply and evaluate the terms below.

- Large-scale and small-scale surveys
- Identification and representativeness of target population
- Techniques of sampling from target population
- Use of a Likert scale

Observation

Students are expected to be able to define, explain, apply and evaluate the terms below.

- Participant observation
- Non-participant observation
- Methods of recording data, including time, event and point sampling

Content analysis

Students are expected to be able to explain how to apply the techniques of content analysis to:

- printed material
- television, video and film
- advertising
- Internet and e-mail.

Case study

Students are expected to know about the types of case study listed below, as well as related concepts including data-collection methods and problems of generalization.

- One individual
- Small and large groups

Students are also expected to be able to understand the following concepts related to case studies.

- Collecting data, including self-reports, observed data and a range of other techniques.
- Issues of generalizing from an individual case study. Some case studies are chosen to be representative of a target population (extrinsic/instrumental case studies) and are therefore more generalizable; others are chosen because the case is especially unusual or interesting (intrinsic case studies) and these are less generalizable.

Triangulation

Triangulation is the application and combination of several research methodologies in the study of the same phenomenon.

“The use of evidence from different sources, of different methods of collecting data and of different investigators, where feasible, are all triangulation techniques which enhance credibility.”

Robson, C (1998), *Real World Research*, Blackwell, Oxford

Types of triangulation

There are four basic types of triangulation.

- Data triangulation, which involves using different times, locations and participants (individuals or groups).
- Investigator triangulation, which involves using multiple, rather than single observers.
- Theory triangulation, which involves using theories from more than one perspective in the interpretation of the data.
- Methodological triangulation, which involves using more than one method and may consist of within-method or between-method strategies.

Multiple triangulation involves a combination of the four basic types.

Descriptive statistics

Students are expected to be able to define, explain, use and apply the terms below.

- Measures of central tendency
 - Mean
 - Median
 - Mode
- Measures of dispersion
 - Range
 - Variance
 - Standard deviation
 - Quartile and semi-interquartile range

Graphical techniques

- Students are expected to be able to define, explain, use and apply the terms below.
 - Bar chart
 - Histogram
 - Line graph
 - Frequency polygon

Standard Level

Introduction to research methodology

This part of the course serves two functions.

- To allow students to develop appropriate practical research skills
- To enable students to evaluate research encountered in other components of the course

Knowledge and understanding of quantitative methods and statistical analysis of data will not be externally examined, but will be assessed through the reporting of one simple experimental study.

When students are conducting a partial replication of an experiment, it is sufficient if they produce only descriptive statistics.

The results given in tables and graphs should be inspected, and conclusions drawn on the basis of this inspection. It may be informative to consider measures of standard deviation or dispersion, but at SL students will be assessed only on the descriptive statistics that have been covered.

While studying the perspectives and chosen option, students may encounter a variety of qualitative studies at SL and should be prepared to evaluate these, where appropriate, in response to examination questions.

Ethics

Before attempting any practical work, students must be made aware of all relevant ethical considerations. The complete ethical guidelines for the psychology course can be found in the *Vade Mecum*. Students must consider the ethical responsibilities of researchers towards participants, and must recognize the need to use psychological findings responsibly. The following ethical considerations must be thoroughly described, elaborated and discussed, so that students can fully understand the relevance of this issue.

- Responsibility to the profession of psychology (including the school environment)
 - Acknowledgment of others' work and publications
 - Honesty in reporting results
 - Monitoring the ethical standards and procedures of the research community
- Competence of the investigator
- Personal conduct of the investigator
- Informed consent
- Respect for participant integrity
- Justification for using deception
- Participant's right of withdrawal
- Confidentiality of findings
- Debriefing
- Use of non-human animals in research

Quantitative research methods

All experimental research studies submitted for internal assessment must include the manipulation of one independent variable while other variables are held constant. Therefore, quasi-experiments and natural experiments (that is, any research undertaken without control over the independent variable and without a controlled sampling procedure), and those where use of gender or age is the independent variable, will **not** be accepted as meeting the requirements.

Experimental designs and controls

Students are expected to be able to define, explain, apply and evaluate the terms below.

Considerations in designing experiments

- Independent and dependent variables
- Confounding variables
- Experimental, control and placebo groups
- Research bias and expectancy (researcher and participant effects)
- Demand characteristics
- Single- and double-blind techniques

Types of experimental design

- Independent samples/subjects design (between-subjects design)
- Matched pairs design
- Repeated measures design (within-subject design)

Sampling procedures

- Random selection of participants and random assignment to groups
- Random and representative sampling
- Stratified and systematic sampling

Evaluating research

- Reliability and validity
- Replication

Simple descriptive statistics

Students are expected to be able to define, explain, use and apply the terms below.

- Measures of central tendency (mean, median, mode)
- Measures of dispersion (range)

Graphical techniques

Students are expected to be able to define, explain, use and apply the terms below.

- Bar chart
- Histogram
- Line graph
- Frequency polygon

ASSESSMENT OUTLINE

Higher Level

For first examinations in 2005

External assessment **80%**

Written papers **5 hours**

Paper 1 **2 hours** **30%**

This paper is divided into two sections.

Section A contains four compulsory short-answer questions, one on each perspective. Students are required to answer **all** questions in this section.

The maximum mark for each question is 8.

The maximum mark for this section is 32.

Section B contains four extended-response questions.

Students are required to answer **one** question of their choice from this section.

The maximum mark for each question is 20.

The maximum mark for this section is 20.

The maximum mark for this paper is 52.

Paper 2 **2 hours** **30%**

This paper contains 21 questions on the seven options, three on each option.

Students are required to answer **two** questions, each one from a different option.

The maximum mark for each question is 20.

The maximum mark for this paper is 40.

Paper 3 **1 hour** **20%**

This paper contains three compulsory questions on research methods.

Students are required to answer **all** the questions.

The maximum marks for each question may vary.

The maximum mark for this paper is 30.

Internal assessment **20%**

An experimental study (approximately 30 hours).

The study will be assessed by the teacher and externally moderated.

The maximum mark for this component is 25.

Standard Level

For first examinations in 2005

External assessment **80%**

Written papers **3 hours**

Paper 1 **2 hours** **50%**

This paper is divided into two sections.

Section A contains three compulsory short-answer questions, one on each perspective.

Students are required to answer **all** questions in this section.

The maximum mark for each question is 8.

The maximum mark for this section is 24.

Section B contains three extended-response questions.

Students are required to answer **one** question of their choice from this section.

The maximum mark for each question is 20.

The maximum mark for this section is 20.

The maximum mark for this paper is 44.

Paper 2 **1 hour** **30%**

This paper contains 21 questions on the seven options, three on each option.

Students are required to answer **one** question.

The maximum mark for each question is 20.

The maximum mark for this paper is 20.

Internal assessment **20%**

A simple experimental study (approximately 15 hours).

The study will be assessed by the teacher and externally moderated.

The maximum mark for this component is 20.

ASSESSMENT DETAILS

Introduction

The method of assessment used by the International Baccalaureate Organization (IBO) is criterion-referenced, not norm-referenced: the method of assessment judges students' work by their performance in relation to identified assessment criteria, and not in relation to the work of other students.

Two different methods are used to assess students: detailed markschemes specific to each examination paper, and markband descriptors. The markband descriptors are published in this guide.

For paper 1, paper 2 and paper 3, there are markband descriptors and markschemes. The markband descriptors are related to the objectives established for the psychology course and the group 3 grade descriptors. The markschemes are specific to each examination.

For internal assessment a number of assessment criteria have been identified. Each assessment criterion has markband descriptors describing specific levels of achievement together with an appropriate range of marks.

The descriptors concentrate on positive achievement, although for the lower levels failure to achieve may be included in the description.

External Assessment

The external assessment consists of three written examination papers for the HL course (paper 1, paper 2 and paper 3) and two papers for the SL course (paper 1 and paper 2). The external assessment components contribute 80% to the final mark at HL and at SL.

HL Written Papers

Paper 1	(2 hours)	30%
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This paper is divided into two sections (section A and section B), both of which are based on the four perspectives.

- The biological perspective
- The cognitive perspective
- The learning perspective
- The humanistic perspective

It is recommended that students spend approximately one hour on section A and one hour on section B.

The maximum mark for this paper is 52.

Section A

- This section consists of four short-answer questions, one question on each perspective. Students must answer all **four** questions.
- The purpose of this section is to assess students' knowledge across the four perspectives.
- Each question is worth 8 marks.
- The maximum mark for this section is 32.

Section B

- This section consists of four extended-response questions, which may be structured or essay questions. Students must answer **one** question.
- The purpose of this section is to assess students' in-depth knowledge of the perspectives. Students will need to show their understanding of the perspectives and demonstrate the higher-order skills of analysis and evaluation of the perspectives.
- Theoretical and empirical support is required in all answers.
- Each question may relate to more than one perspective. Some questions may ask for a student's knowledge of one perspective. Other questions may require comparative analysis of selected topics or sub-topics from several or all of the perspectives.
- Each question is worth 20 marks.
- The maximum mark for this section is 20.

Paper 2 (2 hours)

30%

This paper consists of 21 questions on the seven options, three on each option.

- Comparative psychology
- Cultural psychology
- The psychology of dysfunctional behaviour
- Health psychology
- Lifespan psychology
- Psychodynamic psychology
- Social psychology

There are three questions on each option, which may be structured or essay questions. Students must answer **two** questions, each one from a different option.

The purpose of this paper is to assess students' knowledge of the options and to give students the opportunity to demonstrate the higher-order skills of critical thinking and evaluation of the options.

Critical evaluation is of particular importance and students must consider cultural, ethical, gender and methodological issues, together with theoretical and empirical evidence when answering the questions.

The maximum mark for each question is 20.

The maximum mark for this paper is 40.

Paper 3 (1 hour)**20%**

This paper consists of three questions on qualitative research. Students must answer all **three** questions.

The purpose of this paper is to assess students' knowledge of qualitative methods of investigation. Although the emphasis is on qualitative methods, this paper also aims to assess students' understanding of descriptive statistics. Questions may include stimulus material.

The marks allocated to each question may vary according to the type, the demands and the combination of questions set.

The maximum mark for this paper is 30.

SL Written Papers**Paper 1 (2 hours)****50%**

This paper is divided into two sections (section A and section B), both of which are based on the three perspectives.

- The biological perspective
- The cognitive perspective
- The learning perspective

It is recommended that students spend approximately one hour on section A and one hour on section B.

The maximum mark for this paper is 44.

Section A

- This section consists of three short-answer questions, one question on each perspective. Students must answer all **three** questions.
- The purpose of this section is to assess students' knowledge across the three perspectives.
- Each question is worth 8 marks.
- The maximum mark for this section is 24.

Section B

- This section consists of three extended-response questions, which may be structured or essay questions. Students must answer **one** question.
- The purpose of this section is to assess students' in-depth knowledge of the perspectives. Students will need to show their understanding of the perspectives and demonstrate the higher-order skills of analysis and evaluation of the perspectives.
- Theoretical and empirical support is required in all answers.
- Each question may relate to more than one perspective. Some questions may ask for a student's knowledge of one perspective. Other questions may require comparative analysis of selected topics or sub-topics, from two or all three of the perspectives.
- Each question is worth 20 marks.
- The maximum mark for this section is 20.

Paper 2 (1 hour)**30%**

This paper consists of 21 questions on the seven options, three on each option.

- Comparative psychology
- Cultural psychology
- The psychology of dysfunctional behaviour
- Health psychology
- Lifespan psychology
- Psychodynamic psychology
- Social psychology

There are three questions on each option, which may be structured or essay questions. Students must answer **one** question.

The purpose of this paper is to assess students' knowledge of the options and to allow students the opportunity to demonstrate the higher-order skills of critical thinking and evaluation of the options.

Critical evaluation is of particular importance and students must consider cultural, ethical, gender and methodological issues together with theoretical and empirical evidence.

The maximum mark for each question is 20.

The maximum mark for this paper is 20.

Markbands for Paper I (Section A)

In applying the markbands the concept of “best fit” should be used: a response that meets most of the statements in a particular markband, but not necessarily all, can still be awarded marks in the markband.

The markband that best fits the response should be determined first. Then, by reference to the markband above and the markband below, the mark should be decided.

Markband

- 0** If the answer does not achieve the standard described in markband 1–2, a mark of 0 should be recorded.
- 1–2** There is an attempt to answer the question, but knowledge and understanding of the perspective is limited, often inaccurate and of marginal relevance to the question.
- 3–4** The question is partially addressed, with limited accurate, relevant and factual knowledge and understanding. There is an attempt to structure the answer but it is not sustained throughout the answer.
- 5–6** At the bottom of this markband the question is addressed. The answer contains accurate knowledge and understanding but is mainly descriptive with some implicit analysis that is not sufficiently related to the question. There is a basic structure to the answer.
At the top of this markband the demands of the question are addressed, mainly within a logical structure. The response is sufficiently accurate, relevant and adequate to support a sound answer. Analysis may not be well developed.
- 7–8** The demands of the question are addressed effectively within a logical structure. The argument is clearly supported by appropriate knowledge and understanding from the perspectives. The answer contains appropriate analysis but there may be minor omissions.
At the top of this markband the demands of the question are addressed effectively, in a focused and logical structure. Arguments are supported by appropriate knowledge and understanding, and analysis.

Markbands for Paper I (Section B)

In applying the markbands the concept of “best fit” should be used: a response that meets most of the statements in a particular markband, but not necessarily all, can still be awarded marks in the markband.

The markband that best fits the response should be determined first. Then, by reference to the markband above and the markband below, the mark should be decided.

Markband

- 0** If the answer does not achieve the standard described in markband 1–3, a mark of 0 should be recorded.
- 1–3** There is almost no organizational structure. There is very little or no understanding of the question, nor evidence of knowledge of the perspectives. The answer consists of no more than a few relevant facts.
- 4–5** There is little sense of structure in the answer. Although there is an attempt to answer the question, knowledge and understanding of the perspectives is limited, often inaccurate and of marginal relevance to the question. There is no reference to cultural, ethical, gender or methodological considerations.
- 6–7** There is an attempt to structure the answer but it is not sustained throughout the answer. The question is partially addressed, with limited accurate, relevant and factual knowledge and understanding. There may be minimal reference to cultural, ethical, gender or methodological considerations appropriate to the question.
- 8–10** There is a basic structure to the answer. The question is addressed. The answer contains accurate knowledge and understanding, but is mainly descriptive. There may be minimal reference to cultural, ethical, gender or methodological considerations appropriate to the question.
- 11–13** The demands of the question are addressed mainly within a structured framework. The answer contains accurate knowledge and understanding. Some limited analysis is offered. Evaluation is limited or may not be well developed. Cultural, ethical, gender or methodological considerations are present and appropriate to the question.
- 14–16** The demands of the question are addressed effectively within a structured framework. The argument is supported by appropriate knowledge and understanding from the perspectives. The answer contains appropriate analysis, but there may be minor omissions. Evaluation is clear and applied appropriately. Cultural, ethical, gender or methodological considerations are present and appropriate to the question.
- 17–20** The demands of the question are addressed effectively in a focused and logical structure. Arguments are supported by appropriate knowledge and understanding and in-depth analysis. Evaluation is balanced and well developed. Cultural, ethical, gender or methodological considerations are an integral part of the response.

Markbands for Paper 2

In applying the markbands the concept of “best fit” should be used: a response that meets most of the statements in a particular markband, but not necessarily all, can still be awarded marks in the markband.

The markband that best fits the response should be determined first. Then, by reference to the markband above and the markband below, the mark should be decided.

Markband

- 0** If the answer does not achieve the standard described in markband 1–3, a mark of 0 should be recorded.
- 1–3** There is almost no organizational structure. There is very little or no understanding of the question, nor evidence of knowledge of the option. The answer consists of no more than a few relevant facts.
- 4–5** There is little sense of structure in the answer. Although there is an attempt to answer the question, knowledge and understanding of the option is limited, often inaccurate and of marginal relevance to the question. There is no reference to cultural, ethical, gender or methodological considerations.
- 6–7** There is an attempt to structure the answer but it is not sustained throughout the answer. The question is partially addressed, with limited accurate, relevant and factual knowledge and understanding. There may be minimal reference to cultural, ethical, gender or methodological considerations appropriate to the question.
- 8–10** There is a basic structure to the answer. The question is addressed. The answer contains accurate knowledge and understanding, but is mainly descriptive. There may be minimal reference to cultural, ethical, gender or methodological considerations appropriate to the question.
- 11–13** The demands of the question are addressed mainly within a structured framework. The answer contains accurate knowledge and understanding. Some limited analysis is offered. Evaluation is limited or may not be well developed. Cultural, ethical, gender or methodological considerations are present and appropriate to the question.
- 14–16** The demands of the question are addressed effectively within a structured framework. The argument is supported by appropriate knowledge and understanding from the option. The answer contains appropriate analysis, but there may be minor omissions. Evaluation is clear and applied appropriately. Cultural, ethical, gender or methodological considerations are present and appropriate to the question.
- 17–20** The demands of the question are addressed effectively in a focused and logical structure. Arguments are supported by appropriate knowledge and understanding and in-depth analysis. Evaluation is balanced and well developed. Cultural, ethical, gender or methodological considerations are an integral part of the response.

Markbands for Paper 3 (HL Only)

In applying the markbands the concept of “best fit” should be used: a response that meets most of the statements in a particular markband, but not necessarily all, can still be awarded marks in the markband.

The markband that best fits the response should be determined first. Then, by reference to the markband above and the markband below, the mark should be decided.

Markband

- | | |
|-------------|---|
| 0 | If the answer does not achieve the standard described in markband 1–2, a mark of 0 should be recorded. |
| 1–2 | There is very little understanding of the question, nor is there evidence of knowledge of qualitative research methods. The answer is no more than a collection of generalizations, or is a paragraph of few relevant facts. There is almost no organizational structure. |
| 3–4 | Although there is an attempt to answer the question, knowledge of qualitative research methods is limited, often inaccurate and of marginal relevance to the question. There is a minimal attempt at explaining or identifying conditions appropriate for the application of each method, or at evaluating the strengths and limitations of each method. There is minimal evidence of organizational structure. |
| 5–6 | The question is addressed and contains some accurate knowledge of qualitative research methods. There is a reasonable attempt at explanation, at identifying conditions appropriate for the application of each method, and at evaluating strengths and limitations of each method, but there are some omissions or errors. There is a limited but reasonable attempt to organize the answer. |
| 7–8 | The response shows an accurate knowledge of qualitative methods. There is a good attempt at explaining and identifying conditions appropriate for the application of each method, and at evaluating the strengths and limitations of each method. Omissions or errors are relatively minor. The demands of the question are addressed effectively within a structured framework. |
| 9–10 | The response shows accurate knowledge of qualitative methods. There is evidence of clear explanation and identification of conditions appropriate for the application of each method, and evaluation of the strengths and limitations of each method. There are no significant errors or omissions. The demands of the question are addressed effectively in a focused and logical manner. |

Internal Assessment

Purpose of Internal Assessment

Internal assessment is an integral part of the psychology course and is compulsory for both HL and SL students. It enables students to demonstrate the application of their skills and knowledge in psychology, and to pursue their personal interests without the time constraints that are associated with written examinations.

The internal assessment requirements at HL and at SL are different: the experimental study at HL requires the use of inferential statistics; the simple experimental study at SL requires the use of descriptive statistics only.

Guidance and authenticity

The experimental study (HL) and simple experimental study (SL) submitted for internal assessment must be the student's own work. However, it is not the intention that students should decide upon a title or topic and then be left to work on the project without any further support from the teacher. The teacher should play an important role during both the planning stage and the period when the student is working on the investigation.

It is the responsibility of the teacher to ensure that students are familiar with:

- the requirements of the type of work to be internally assessed
- the psychology course ethical guidelines
- the assessment criteria.

Teachers and students must discuss the study. Students should be encouraged to initiate discussions with the teacher to obtain advice and information, and students must not be penalized for seeking guidance. However, if a student could not have completed the work without substantial support from the teacher, this should be recorded on the appropriate form from the *Vade Mecum*.

Group work may be undertaken by groups of up to four students. Each group must collect its own data and this may be pooled with data collected by other groups. More than one group is allowed to research the same hypotheses (HL) or aims (SL), but each student must write up his or her own individual report.

Teachers must explain clearly to students that the internally assessed work must be entirely their own, and that each student is required to sign a written declaration to this effect, verified by the teacher, when they submit their work for internal assessment.

Teachers are required to ensure that the work submitted is the student's own. If in doubt, authenticity may be checked by discussion with the student on the content of the work, and scrutiny of one or more of the following:

- the student's initial proposal
- the first draft of the written work
- the references cited
- the style of writing compared with work known to be that of the student.

As part of the learning process, teachers can give advice to students on a first draft of the experimental study (HL) or simple experimental study (SL). This advice should be in terms of the way the study could be improved, but this first draft must not be heavily annotated or edited by the teacher. Constant drafting and redrafting is not allowed and the next version handed to the teacher after the first draft must be the final one.

The same piece of work cannot be submitted to meet the requirements of both the internal assessment and the extended essay.

Time allocation

Internal assessment is an integral component of the psychology course, contributing 20% to the final assessment in both the HL and the SL courses. This weighting should be reflected in the time that is allocated to teaching the knowledge, skills and understanding required to undertake the study, as well as the total time allocated to carry out the study.

It is recommended that a total of approximately 30 hours (HL) and 15 hours (SL) should be allocated to the study. This should include:

- time for the teacher to explain to students the requirements of the investigation, including the psychology course ethical guidelines
- class time for students to work on their study
- additional time outside normal class time for students to work on their own
- time for consultation between the teacher and each student
- time to review and monitor progress, and to check authenticity.

Experimental Study and Simple Experimental Study

Introduction

The experimental study (HL) or simple experimental study (SL) forms an important part of psychological training. It enables students to demonstrate the application of their skills and knowledge of psychology. The psychology course defines the experimental method as requiring the manipulation of one independent variable, while other variables are kept constant. Consequently, correlational studies, quasi-experiments and natural experiments (that is, any research undertaken without control over the independent variable and without a controlled sampling procedure), including the use of gender or age as the independent variable, are **not** acceptable for the experimental study (HL) or simple experimental study (SL).

SL students are required to undertake a partial replication of a simple experiment. Examples of experiments that may be replicated and that may be made applicable at HL and at SL include any of the following:

- Stroop effect
- interference on recall
- schemas
- attractiveness
- familiarity and liking
- music and memory
- time of day and recall
- group size and helping behaviour
- visual search
- perceptual set
- emotion and memory (physical arousal)
- levels of processing
- reconstructive memory
- facial recognition.

This list is not exhaustive and many other examples of suitable experiments that could be replicated are available in psychology textbooks.

Requirements

- The work will be internally assessed by the teacher and externally moderated by the IBO.
- The psychology course ethical guidelines published in the *Vade Mecum* must be followed.
- Non-human animals must **not** be used for the experimental study at HL or the simple experimental study at SL.
- The word count does not include supplementary information such as abstract, title page, references and appendices.

Higher level

HL students are required to:

- design, undertake, analyse and report one experimental study
- present results systematically
- use descriptive and inferential statistics
- produce a written report of between 1,500 and 2,000 words that must consist of:
 - title page
 - abstract
 - introduction
 - method: design, participants, materials, procedures
 - results
 - discussion
 - references
 - appendices.

Standard level

SL students are required to:

- undertake a partial replication of and report on one simple experiment
- present results systematically
- use descriptive statistics only (see the section about the introduction to research methodology)
- produce a written report of between 1,000 and 1,500 words that must consist of:
 - title page
 - abstract
 - introduction
 - method: design, participants, materials, procedures
 - results
 - discussion
 - references
 - appendices.

Choice of topic

Students should choose their own topic, but this must be with the teacher's guidance. For various reasons (ethical, socially sensitive), not all topics are suitable for students at this level. However, the topic should be one that seems interesting and worthwhile to the student.

When making this choice, students should bear in mind the recommended time allocation (30 hours for HL and 15 hours for SL).

The teacher must approve each study before work is started, ensure it complies with the regulations and meets the criteria for internal assessment.

Students must adhere to the psychology course ethical guidelines published in the *Vade Mecum* when undertaking any study. They must show tact and sensitivity, respect confidentiality, and acknowledge all sources used.

The report

Every student **must** produce a written report using the following format.

	Higher level	Standard level
Title page	<ul style="list-style-type: none"> Title Student name and number Subject and level Date, month and year of submission 	<ul style="list-style-type: none"> Title Student name and number Subject and level Date, month and year of submission
Abstract	<ul style="list-style-type: none"> Summary of aims Summary of methods Summary of results Conclusion 	<ul style="list-style-type: none"> Summary of aims Summary of methods Summary of results Conclusion
Introduction	<ul style="list-style-type: none"> Research question Literature review Hypotheses 	<ul style="list-style-type: none"> Aim Identification and explanation of study being replicated
Method	<ul style="list-style-type: none"> Design: type and justification of design, controls, ethical considerations, identification of variables Participants: characteristics of target population, sampling techniques Materials: list of materials used, reference to copies in appendices Procedures: itemized in sufficient detail to allow full replication 	<ul style="list-style-type: none"> Design: type and justification of design, controls, ethical considerations, identification of variables Participants: characteristics of target population, sampling techniques Materials: list of materials used, reference to copies in appendices Procedures: itemized in sufficient detail to allow full replication
Results	<ul style="list-style-type: none"> Interpretation of descriptive statistics Analysis using inferential statistics and justification for their use Graphs/tables where appropriate (may be computer generated) 	<ul style="list-style-type: none"> Interpretation of descriptive statistics Graphs/tables where appropriate (may be computer generated)
Discussion	<ul style="list-style-type: none"> Discussion of results Linking of results to literature review in the introduction Identification of strengths and limitations of the methodology Suggestions for modification and further research Implication of findings 	<ul style="list-style-type: none"> Discussion of results Linking of results to study being replicated Identification of strengths and limitations of the methodology Suggestions for modification and further research
References	<ul style="list-style-type: none"> Works cited within the report 	<ul style="list-style-type: none"> Works cited within the report
Appendices	<ul style="list-style-type: none"> Supplementary information One copy of instrument(s) used Copy of standardized instructions and debriefing notes Informed consent form 	<ul style="list-style-type: none"> Supplementary information One copy of instrument(s) used Copy of standardized instructions and debriefing notes Informed consent form
Words	1,500–2,000	1,000–1,500
Marks	25	20

Using the Internal Assessment Criteria

Teachers should judge the internally assessed work at HL and at SL against the criteria using the markband descriptors.

- Different assessment criteria are provided for HL and SL. For each assessment criterion there are markband descriptors that concentrate on positive achievement.
- The aim is to find, for each criterion, the descriptor that conveys most accurately the level attained by the student's work, using the best-fit model.
- When assessing a student's work, teachers should read the descriptors for each criterion until they reach a descriptor that most appropriately describes the level of the work being assessed. If a piece of work seems to fall between two descriptors, both descriptors should be read again and the one that more appropriately describes the student's work should be chosen.
- Where there are two or more marks available within a markband, teachers should award the upper marks if the student's work demonstrates most or all of the qualities described. Teachers should award the lower marks if the student's work demonstrates some of the qualities described.
- Only whole numbers should be recorded: partial marks, fractions and decimals are not acceptable.
- Teachers should not think in terms of a pass or fail boundary but should concentrate on identifying the appropriate descriptor for each assessment criterion.
- The highest descriptors do not imply faultless performance but should be achievable by a student. Teachers should not hesitate to use the extremes if they are appropriate descriptions of the work being assessed.
- A student who attains a high level of achievement in relation to one criterion will not necessarily attain high levels of achievement in relation to the others, and vice versa. Teachers should not assume that the overall assessment of the students will produce any particular distribution of scores.
- It is recommended that the assessment criteria and the markband descriptors be available to students at all times.

HL Internal Assessment Criteria

The experimental study is assessed against seven criteria that are related to the objectives of the psychology course and the sections of the report.

Criterion A	Introduction	5 marks
Criterion B	Method: design	2 marks
Criterion C	Method: participants	2 marks
Criterion D	Method: procedure	2 marks
Criterion E	Results	4 marks
Criterion F	Discussion	8 marks
Criterion G	Presentation	2 marks
	Total	25 marks

A Introduction

Markband

- 0** There is no introduction or it is irrelevant.
- 1–3** The research question is clearly stated. The theoretical framework is not sufficiently relevant to the hypotheses and the background research studies are limited. The experimental hypotheses are unclear and not justified.
- 4–5** The research question is clearly stated. The theoretical framework is highly relevant to the hypotheses and sufficient background research studies are analysed in depth. The experimental hypotheses are clearly stated and justified.

B Method: Design

Markband

- 0** The independent and dependent variables are not identified or are irrelevant. The psychology course ethical guidelines are not followed.
- 1** The independent and dependent variables are accurately identified. The design is appropriate but unjustified, and there is evidence that the psychology course ethical guidelines are followed.
- 2** The independent and dependent variables are accurately identified. The design is appropriate and justified, and there is evidence that the psychology course ethical guidelines are followed.

C **Method: Participants**

Markband

- 0** No relevant characteristics of the target population are identified and no relevant sampling technique is identified or justified.
- 1** Some characteristics of the target population are identified but not all are relevant. The sample is selected using an appropriate method but the method is not justified.
- 2** The characteristics of the target population are identified. The sample is selected using an appropriate method and the method is justified.

D **Method: Procedure**

Markband

- 0** No relevant procedure is presented.
- 1** The procedure is relevant but it is not clearly described and is not easily replicable.
- 2** The procedure is relevant, clearly described, and is easily replicable.

E **Results**

Markband

- 0** There are no results, or they are irrelevant to the hypotheses.
- 1–2** Results are stated and accurate but are not sufficiently related to the hypotheses. Graphs are not sufficiently accurate or clear, and inferential statistical tests have not been appropriately chosen or applied or justified.
- 3–4** Results are clearly stated and accurate. The null hypothesis has been accepted or rejected according to the results of the statistical tests. Graphs are accurate and clearly presented, and inferential statistical tests have been appropriately chosen, applied and justified.

F Discussion

Markband

- 0** There is no discussion or it is irrelevant.
- 1–2** The discussion of the results, in light of the theoretical framework, research studies and aim of the study, is very superficial. The strengths and limitations are not always accurately identified. There is no conclusion drawn and no modifications are suggested.
- 3–5** The discussion of the results, in light of the theoretical framework, research studies and aim of the study, is not fully developed. Not all the strengths and limitations of the study have been accurately identified. The conclusion is appropriate and some modifications are suggested.
- 6–8** The discussion of the results, in light of the theoretical framework, research studies and aim is fully developed. The strengths and limitations of the study are clearly identified. The conclusion is appropriate and well balanced, and modifications and/or improvements are suggested for further research.

G Presentation

Markband

- 0** The report is not within the word limit of 1,500–2,000 words and/or no references are provided.
- 1** The report is within the word limit of 1,500–2,000 words. However, the report format may not be correct, or the references are incomplete, or one standard method of listing references is not used consistently.
- 2** The report is in the correct format and within the word limit of 1,500–2,000 words. References are provided using one standard method of listing references consistently.

SL Internal Assessment Criteria

The simple experimental study is assessed against seven criteria that are related to the objectives for the psychology course and the sections of the report.

Criterion A	Introduction	2 marks
Criterion B	Method: design	2 marks
Criterion C	Method: participants	2 marks
Criterion D	Method: procedure	2 marks
Criterion E	Results	4 marks
Criterion F	Discussion	6 marks
Criterion G	Presentation	2 marks
	Total	20 marks

A Introduction

Markband

- 0** There is no introduction or it is irrelevant.
- 1** The aim of the student's study is imprecise, or the study being replicated is identified but not explained.
- 2** The aim of the student's study is clearly stated and the study being replicated is clearly identified and explained.

B Method: Design

Markband

- 0** The independent and dependent variables are not identified or they are irrelevant. The psychology course ethical guidelines are not followed.
- 1** The independent and dependent variables are accurately identified. The design is appropriate but unjustified. There is evidence that the psychology course ethical guidelines are followed.
- 2** The independent and dependent variables are accurately identified. The design is appropriate and justified. There is evidence that the psychology course ethical guidelines are followed.

C Method: Participants

Markband

- 0** No relevant characteristics of the target population are identified and no relevant sampling technique is identified or justified.
- 1** Some characteristics of the target population are identified but not all are relevant. The sample is selected using an appropriate method but the method is not justified.
- 2** The characteristics of the target population are identified. The sample is selected using an appropriate method and the method is justified.

D Method: Procedure

Markband

- 0** No relevant procedure is presented.
- 1** The procedure is relevant but it is not clearly described and is not easily replicable.
- 2** The procedure is relevant, clearly described and is easily replicable.

E Results

Markband

- 0** There are no results, or they are irrelevant to the aims.
- 1–2** Results are stated and accurate. Graphs are not sufficiently accurate or clear.
- 3–4** Results are clearly stated and accurate. Graphs are accurate and clear.

F Discussion

Markband

- 0** There is no discussion or it is irrelevant.
- 1–2** The discussion of the results, in light of the study being replicated, is very superficial. The strengths and limitations are not always accurately identified. There is no conclusion drawn and no modifications are suggested.
- 3–5** The discussion of the results, in light of the study being replicated, is not fully developed. Not all the strengths and limitations have been accurately identified. The conclusion is appropriate and some modifications are suggested.
- 6** The discussion of results, in light of the study being replicated, is fully developed. The strengths and limitations of the study are clearly identified. The conclusion is appropriate and well balanced and modifications and/or improvements are suggested for further research.

G **Presentation**

Markband

- | | |
|----------|--|
| 0 | The report is not within the word limit of 1,000–1,500 words and/or no references are provided. |
| 1 | The report is within the word limit of 1,000–1,500 words. However, the report is not in the required format or the references are incomplete, or one standard method of listing references is not used consistently. |
| 2 | The report is in the correct format and within the word limit of 1,000–1,500 words. References are provided using one standard method of listing references consistently. |

GLOSSARY OF COMMAND TERMS

Students should be familiar with the following key terms and phrases used in examination questions. Although these terms are used frequently in examination questions, other terms may be used to ask students to present an answer in a specific way.

- account for** Asks students to explain a particular happening or outcome. Students are expected to present a reasoned case for the existence of something. For example:
Why is conformity difficult to resist? Account for the dynamics of conformity.
- analyse** Asks students to respond with a closely argued and detailed examination of a perspective or a development. A clearly written analysis will indicate the relevant interrelationships between key variables, any relevant assumptions involved, and also include a critical view of the significance of the account as presented. If this key word is augmented by “the extent to which” then students should be clear that judgment is also sought. For example:
Analyse the extent to which methodological and ethical issues relate to lifespan studies in psychology.
- assess** Asks students to measure and judge the merits and quality of an argument or concept. Students must clearly identify and explain the evidence for the assessment they make. For example:
Assess the effectiveness of treatments based on behavioural principles.
- compare/
compare and contrast** Asks students to describe two situations and present the similarities and differences between them. On its own, a description of the two situations does **not** meet the requirements of this key word. For example:
Compare and contrast two content theories of motivation.
Compare models of abnormal behaviour from the psychodynamic and cognitive perspectives.
Compare the biomedical and psychodynamic models of “mental illness”.
- define** Asks students to give a clear and precise account of a given word or term. For example:
Define the term “homeostasis”.

describe	<p>Asks students to give a portrayal of a given situation. It is a neutral request to present a detailed picture of a given situation, event, pattern, process or outcome, although it may be followed by a further opportunity for discussion and analysis. For example:</p> <p><i>Describe the apparent altruistic behaviour of two different species of non-human animals, not including social insects.</i></p>
discuss/consider	<p>Asks students to consider a statement or to offer a considered review or balanced discussion of a particular topic. If the question is presented in the form of a quotation, the specific purpose is to stimulate a discussion on each of its parts. The question is asking for students' opinions; these should be presented clearly and supported with as much empirical evidence and sound argument as possible. For example:</p> <p><i>Discuss the relevance of classical conditioning and of operant conditioning to our understanding of human behaviour.</i></p>
distinguish	<p>Asks students to demonstrate a clear understanding of similar terms. For example:</p> <p><i>Distinguish between psychological definitions of conformity and compliance.</i></p>
evaluate	<p>Asks students to make an appraisal of the argument or concept under investigation or discussion. Students should weigh the nature of the evidence available, and identify and discuss the convincing aspects of the argument, as well as its limitations and implications. For example:</p> <p><i>Evaluate studies that have been used to investigate visual processing.</i></p>
examine	<p>Asks students to investigate an argument or concept and present their own analysis. Students should approach the question in a critical and detailed way that uncovers the assumptions and interrelationships of the issue. For example:</p> <p><i>Examine the ways in which the biological perspective contributes to our understanding of human society.</i></p>
explain	<p>Asks students to describe clearly, make intelligible and give reasons for a concept, process, relationship or development. For example:</p> <p><i>Explain the historical factors that gave rise to the birth of the cognitive perspective.</i></p>
identify	<p>Asks students to recognize one or more component parts or processes. For example:</p> <p><i>Identify two group processes and describe how they are interpreted by social psychologists.</i></p>

- outline** Asks students to write a brief summary of the major aspects of the issue, principle, approach or argument stated in the question. For example:
Outline two reasons why the participant observer may have obtained different information from that obtained through questionnaires and interviews.
- to what extent?** Asks students to evaluate the success or otherwise of one argument or concept over another. Students should present a conclusion, supported by arguments. For example:
To what extent are attitudes good predictors of behaviour?