Diploma Programme

Psychology guide

First assessment 2027

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Diploma Programme

Psychology guide

First assessment 2027

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Diploma Programme
Psychology guide

Published February 2025
Updated May 2025, December 2025

Published by the International Baccalaureate Organization, a not-for-profit educational foundation of Rue du Pré-de-la-Bichette 1, 1202 Genève, Switzerland.
Website: ibo.org

The International Baccalaureate Organization (known as the IB) offers four high-quality and challenging educational programmes for a worldwide community of schools, aiming to create a better, more peaceful world. This publication is one of a range of materials produced to support these programmes.

The IB may use a variety of sources in its work and check information to verify accuracy and authenticity, particularly when using community-based knowledge sources such as Wikipedia. The IB respects the principles of intellectual property and makes strenuous efforts to identify and obtain permission before publication from rights holders of all copyright material used. The IB is grateful for permissions received for material used in this publication and will be pleased to correct any errors or omissions at the earliest opportunity.

IB mission statement

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

IB learner profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

As IB learners we strive to be:

INQUIRERS
We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

KNOWLEDGEABLE
We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

THINKERS
We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

COMMUNICATORS
We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

PRINCIPLED
We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

OPEN-MINDED
We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

CARING
We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

RISK-TAKERS
We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

BALANCED
We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

REFLECTIVE
We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

The IB learner profile represents 10 attributes valued by IB World Schools. We believe these attributes, and others like them, can help individuals and groups become responsible members of local, national and global communities.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Contents

Purpose of this document

This publication is intended to guide the planning, teaching and assessment of the subject in schools. Subject teachers are the primary audience, although it is expected that teachers will also use the guide to inform students and parents about the subject.

This guide can be found on the subject page of the Programme Resource Centre, a password-protected website designed to support IB teachers. It can also be purchased from the IB store at store.ibo.org.

Additional resources

Additional publications such as specimen papers and markschemes, teacher support materials, subject reports and grade descriptors can also be found on the Programme Resource Centre. Past examination papers as well as markschemes can be purchased from the IB store.

Teachers are encouraged to check the Programme Resource Centre for additional resources created or used by other teachers. Teachers can provide details of useful resources, for example: websites, books, videos, journals or teaching ideas.

Acknowledgement

The IB wishes to thank the educators and associated schools for generously contributing time and resources to the production of this guide.

First assessment 2027

The Diploma Programme

The Diploma Programme is a rigorous pre-university course of study designed for students in the 16 to 19 age range. It is a broad-based two-year course that aims to encourage students to be knowledgeable and inquiring, but also caring and compassionate. There is a strong emphasis on encouraging students to develop intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

The Diploma Programme model

The course is presented as six academic areas enclosing a central core (see figure 1). It encourages the concurrent study of a broad range of academic areas. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Figure 1

Diploma Programme model

Choosing the right combination

Students are required to choose one subject from each of the six academic areas, although they can, instead of an arts subject, choose two subjects from another area. Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL.

At both levels, many skills are developed, especially those of critical thinking and analysis. At the end of the course, students' abilities are measured by means of external assessment. Many subjects contain some element of coursework assessed by teachers.

The core of the Diploma Programme model

All Diploma Programme students participate in the three course elements that make up the core of the model.

Theory of knowledge (TOK) is a course that is fundamentally about critical thinking and inquiry into the process of knowing rather than about learning a specific body of knowledge. The TOK course examines the nature of knowledge and how we know what we claim to know. It does this by encouraging students to analyse knowledge claims and explore questions about the construction of knowledge. The task of TOK is to emphasize connections between areas of shared knowledge and link them to personal knowledge in such a way that an individual becomes more aware of their own perspectives and how they might differ from others.

In TOK, students explore the means of producing knowledge within the core theme of "knowledge and the knower" as well as within various optional themes (knowledge and technology, knowledge and politics, knowledge and language, knowledge and religion, and knowledge and Indigenous societies) and areas of knowledge (the arts, natural sciences, human sciences, history, and mathematics). The course also encourages students to make comparisons between different areas of knowledge and reflect on how knowledge is arrived at in the various disciplines, what the disciplines have in common, and the differences between them.

Creativity, activity, service (CAS) is at the heart of the Diploma Programme. The emphasis in CAS is on helping students to develop their own identities, in accordance with the ethical principles embodied in the IB mission statement and the IB learner profile. It involves students in a range of activities alongside their academic studies throughout the Diploma Programme. The three strands of CAS are creativity (arts, and other experiences that involve creative thinking), activity (physical exertion contributing to a healthy lifestyle) and service (an unpaid and voluntary exchange that has a learning benefit for the student). Possibly, more than any other component in the Diploma Programme, CAS contributes to the IB's mission to create a better and more peaceful world through intercultural understanding and respect.

The extended essay (EE), including the world studies EE, offers the opportunity for IB students to investigate a topic of special interest, in the form of a 4,000-word piece of independent research. The area of research undertaken is chosen from one of the students' six Diploma Programme subjects, or in the case of the interdisciplinary world studies essay, two subjects, and acquaints them with the independent research and writing skills expected at university. This leads to a major piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject or subjects chosen. It is intended to promote high-level research and writing skills, intellectual discovery and creativity. An authentic learning experience it provides students with an opportunity to engage in personal research on a topic of choice, under the guidance of a supervisor.

Approaches to learning and approaches to teaching

Approaches to learning and teaching across the Diploma Programme refers to deliberate strategies, skills and attitudes which permeate the learning and teaching environment. These approaches and tools,

intrinsically linked with the learner profile attributes, enhance student learning and assist student preparation for the Diploma Programme assessment and beyond. The aims of approaches to learning and teaching in the Diploma Programme are to:

- empower teachers as teachers of learners as well as teachers of content
- empower teachers to create clearer strategies for facilitating learning experiences in which students are more meaningfully engaged in structured inquiry and greater critical and creative thinking
- promote both the aims of individual subjects (making them more than course aspirations) and linking previously isolated knowledge (concurrency of learning)
- encourage students to develop an explicit variety of skills that will equip them to continue to be actively engaged in learning after they leave school, and to help them not only obtain university admission through better grades but also prepare for success during tertiary education and beyond
- enhance further the coherence and relevance of the students' Diploma Programme experience
- allow schools to identify the distinctive nature of an IB Diploma Programme education, with its blend of idealism and practicality.

The five approaches to learning (developing thinking skills, social skills, communication skills, self-management skills and research skills) along with the six approaches to teaching (teaching that is inquiry-based, conceptually focused, contextualized, collaborative, differentiated and informed by assessment) encompass the key values and principles that underpin IB pedagogy.

The IB mission statement and the IB learner profile

The Diploma Programme aims to develop in students the knowledge, skills and attitudes they will need to fulfil the aims of the IB, as expressed in the organization's mission statement and the learner profile. Teaching and learning in the Diploma Programme represent the reality in daily practice of the organization's educational philosophy.

Academic integrity

Academic integrity in the Diploma Programme is a set of values and behaviours informed by the attributes of the learner profile. In teaching, learning and assessment, academic integrity serves to promote personal integrity, engender respect for the integrity of others and their work, and ensure that all students have an equal opportunity to demonstrate the knowledge and skills they acquire during their studies.

All coursework—including work submitted for assessment—is to be authentic, based on the student's individual and original ideas with the ideas and work of others fully acknowledged. Assessment tasks that require teachers to provide guidance to students or that require students to work collaboratively must be completed in full compliance with the detailed guidelines provided by the IB for the relevant subjects.

For further information on academic integrity in the IB and the Diploma Programme, please consult the IB publications *Academic integrity policy, Effective citing and referencing, Diploma Programme: From principles into practice* and the general regulations in *Diploma Programme Assessment procedures*. Specific information regarding academic integrity as it pertains to external and internal assessment components of this Diploma Programme subject can be found in this guide.

Acknowledging the ideas or work of another person

Coordinators and teachers are reminded that students must acknowledge all sources used in work submitted for assessment. The following is intended as a clarification of this requirement.

Diploma Programme students submit work for assessment in a variety of media that may include audio-visual material, text, graphs, images and/or data published in print or electronic sources. If a student uses the work or ideas of another person, the student must acknowledge the source using a standard style of

referencing in a consistent manner. A student's failure to acknowledge a source will be investigated by the IB as a potential breach of regulations that may result in a penalty imposed by the IB final award committee.

The IB does not prescribe which style(s) of referencing or in-text citation should be used by students; this is left to the discretion of appropriate faculty/staff in the student's school. The wide range of subjects, three response languages and the diversity of referencing styles make it impractical and restrictive to insist on particular styles. In practice, certain styles may prove most commonly used, but schools are free to choose a style that is appropriate for the subject concerned and the language in which students' work is written. Regardless of the reference style adopted by the school for a given subject, it is expected that the minimum information given includes name of author, date of publication, title of source, and page numbers as applicable.

Students are expected to use a standard style and use it consistently so that credit is given to all sources used, including sources that have been paraphrased or summarized. When writing text students must clearly distinguish between their words and those of others by the use of quotation marks (or other method, such as indentation) followed by an appropriate citation that denotes an entry in the bibliography. If an electronic source is cited, the date of access must be indicated. Students are not expected to show faultless expertise in referencing but are expected to demonstrate that all sources have been acknowledged. Students must be advised that audio-visual material, text, graphs, images and/or data published in print or in electronic sources that is not their own must also attribute the source. Again, an appropriate style of referencing/citation must be used.

Learning diversity and learning support requirements

Schools must ensure that equal access arrangements and reasonable adjustments are provided to students with learning support requirements that are in line with the IB documents *Access and inclusion policy* and *Learning diversity and inclusion in IB programmes*.

The documents *Meeting student learning diversity in the classroom* and *The IB guide to inclusive education: a resource for whole school development* are available to support schools in the ongoing process of increasing access and engagement by removing barriers to learning.

Nature of the subject

What is psychology?

Psychology fascinates many of us as it enables the study of human behaviour—a subject of endless curiosity and relevance to our lives. Given that we are all human, why are our individual behaviours so different from one another? Why do we behave one way in groups and another when alone? How do our social and cultural background, our genetic inheritance and our developing cognition affect our behaviour? It is because psychology can help us explore these questions and try to understand and explain our behaviour and that of others that it is such a useful and compelling subject.

Psychology is the scientific study of human and animal cognition and behaviour with the goal of solving problems and increasing the quality of life for individuals and their communities. Psychologists attempt to describe, explain, predict and change behaviour by observing humans, forming hypotheses and theories regarding behaviour and testing them empirically. However, psychology is also a human science and looks for the meaning behind human behaviour through conversations and inquiry.

Psychology today

Psychology is a rich and diverse field of study with many different perspectives. Those fields have traditionally been dominated by a Western perspective, but modern psychologists recognize the importance of other voices. Not only are the voices of women and those of minority ethnic communities now more common in psychological research, but there is a shift from psychologists studying other cultures using Western understandings to an appreciation of how Indigenous psychologies contribute to a fuller understanding of human cognition and behaviour.

In the DP psychology course, students will develop knowledge and understanding of psychological concepts, content and contexts, as well as the models and theories associated with these areas. Through the course, students will develop the ability to engage in critical thinking, assess evidence and acknowledge the evolving nature of knowledge. They acquire the ability to seek fresh information and generate understanding by employing research methodologies. The goal of the DP psychology course is not to create psychologists, but to promote psychological literacy.

Psychological literacy includes:

- understanding basic concepts and principles of psychology
- understanding scientific research process
- having problem-solving skills
- applying psychological principles to personal, social or organizational problems
- acting ethically
- thinking critically
- communicating well in different contexts
- having cultural competence and respecting diversity
- having self-awareness.

The goal of psychological literacy is "personal, social, and cultural awareness, which requires critical reflection extending beyond the purely cognitive … it is not external but an essence of ourselves, our thoughts, feelings, and behaviours. This realization has profound implications for the importance of psychological literacy to oneself and one's fellow human beings" (Cranney, Dunn, 2011).

The DP psychology course has been designed to develop students' psychological literacy and improve their conceptual understanding through applying psychology in different contexts that are all relevant to their lives.

Distinction between SL and HL

SL and HL students will investigate four contexts using psychological content and concepts relevant to that area of study. In each of the contexts, students will engage in a teacher- and/or student-led class practical. Reading empirical research and everyday claims in the media provide opportunities to identify concepts and further the knowledge of psychological content applied within a context. Students will be required to think critically about data analysis and interpretation in psychological research and everyday claims (i.e. in social media, etc.); however only HL will be directly assessed on data analysis and interpretation. Finally, SL and HL students will engage in an internal assessment task requiring the development of a research proposal on a topic of interest.

HL extensions require students to further investigate the role of culture, motivation and technology on human behaviour. The extensions are not standalone units but rather they allow additional inquiry into content within the four contexts (health and well-being, human development, human relationships, learning and cognition). They also extend conceptual understanding. For example, culture allows further exploration of perspectives on human behaviour, using relevant sociocultural content; motivation introduces another explanation for behaviour that is highly relevant to the cognitive approach and the concepts of causality and change; technology also links with cognition and the concept of change. These are just some of the ways in which the concepts and contexts frame the HL extensions content.

Psychology and the core

Psychology and theory of knowledge

Theory of knowledge (TOK) is closely linked with psychology. There are several aspects where this link is most evident.

- Psychology falls under human sciences as one of the areas of knowledge considered in TOK. As such, psychology provides a relevant demonstration of the production and acquisition of knowledge in this area.
- Psychology is also closely related to natural sciences. It has a unique position among other human sciences because it is rooted in scientific methodology. In addition, it may be argued that some areas within psychology, such as neuroscience and the study of animal behaviour, are closer to the study of "nature". Many universities offer psychology as a science degree rather than as an arts degree.
- Psychology is closely related to three optional themes in the TOK course: knowledge and technology, knowledge and language, knowledge and Indigenous societies. However, the focus of psychology and TOK in these themes is fundamentally different. For example, TOK considers how technology may affect our knowledge about the world (questions about knowledge), whereas psychology is concerned with the effects of technology on human behaviour (questions about the world). It is sometimes difficult to see the difference, especially when the "behaviour" under consideration is a cognitive process. It is a clear understanding of the differences between the psychology focus and the TOK focus that contributes the most to truly appreciating both subjects.
- DP psychology is a conceptual subject. Its concepts (bias, causality, change, measurement, perspective, responsibility) resonate with TOK. These concepts transcend the boundaries of one discipline. There is bias in mathematics, bias in natural sciences, bias in art; the same is true about the other concepts in psychology. Bringing in TOK is an excellent way to ensure that all these concepts make sense, and that students develop a deep understanding of the key topics of psychological research.

More information on TOK can be found in the *Theory of knowledge guide*.

Psychology and creativity, activity, service

Creativity, activity, service (CAS) plays a crucial role in the DP in the development of personal and interpersonal skills. It also provides an important counterbalance to the academic pressures of the DP, allowing and valuing exploration and engagement beyond the academic.

Areas of the DP psychology programme can be extended into CAS projects. In particular, the internal assessment task for HL students involves creating a research proposal to help address a problem that is important to a local community. It is possible that some of these proposals will gather momentum and grow into student-led CAS projects.

Psychology also provides plenty of opportunities to learn how to plan an intervention strategy, implement it and assess its effectiveness. There is a variety of content topics in the course that touch upon socially important problems (for example, stereotypes or conflict). Using this learning in planning and carrying out CAS projects and activities is highly advisable and a great way to connect learning with practice.

More information on CAS can be found in the *Creativity, activity, service guide*.

Psychology and the extended essay

Psychology is a popular subject choice for extended essays. The research skills developed by students undertaking an extended essay in psychology not only benefit them in their study of DP psychology, but also prepare them for study in psychology and other subjects beyond the DP. Examples of topics for extended essays in psychology include the following.

- To what extent does emotional intelligence improve job performance in the workplace?
- To what extent is nudging useful in promoting healthy eating in adolescent boys?
- To what extent can acculturative stress be a risk factor for depression?

It is essential that teachers who are acting as supervisors for students completing extended essays in psychology refer to the *Extended essay guide*.

Psychology and the learner profile

The study of psychology offers many opportunities to engage in and further develop attributes from the learner profile. Each box provides an example of how each learner profile attribute could be modelled by learners and teachers.

Example attribute
• Learners who best embody the attribute with reference to psychology. • Directing teachers with possible routes to develop the attribute in the classroom. • Practical ways in which learners demonstrate the attributes in the process of engaging in psychological science.

Attributes of the IB learner profile

Inquirer
• Inquirers are curious; they actively use research skills, work independently and show enthusiasm about the world around them. • Teachers facilitate skill development and promote inquiry; they provide students with opportunities to ask questions, search for answers and experiment. • Learners use their inquiry skills to extend their psychological knowledge and engage in research.

Knowledgeable
• Learners explore concepts, ideas and issues related to psychology in order to broaden and deepen their understanding of factual and procedural knowledge. • Access to a variety of resources and opportunities provides learner agency to develop psychological knowledge and understanding. • Learners apply their knowledge to unfamiliar contexts and make connections between concepts and facts to illustrate their understanding of psychology.

Thinker
• Learners are eager to solve complex problems and reflect on their thinking strategies. • Teachers provide opportunities for learners to critically analyse their approaches and methods and to deepen their understanding of psychology, allowing them to be creative in finding solutions to problems. • Learners practise reasoning and critical thinking by testing assumptions, formulating hypotheses, interpreting data and drawing conclusion from the evidence provided.

Communicator
• Learners collaborate effectively with others and use a variety of modes of communication to express their ideas and opinions. • Teachers facilitate group work, and encourage open discussions and the use of psychological language to provide models for successful communication. • Learners demonstrate effective communication skills as part of collaborative activities through listening to others and sharing ideas.

Principled
• Learners take responsibility for their work, promote shared values and act in an ethical manner. • Teachers can provide opportunities to model principled behaviour including acknowledging the work of others and citing sources. Class practicals and the internal assessment provide opportunities for learners to take a principled stance. • Learners appreciate the importance of integrity in data collection and consider all data, even that which does not match their original hypothesis.

Open-minded
• Open-minded learners accept that different perspectives, models or hypotheses exist, and these can be used to enhance psychological understandings. • Teachers can provide research that was at the time supported by data or observations, but through reasoning, deduction or falsification may be rejected or refined. • Learners need to be prepared to have their perspectives and ideas challenged through the study of psychology.

Caring
• Learners act to improve the lives of others, including the environment. • Teachers can draw attention to how psychology can contribute to sustainable practices and provide support to help fellow learners.

Caring
• Learners can connect curriculum content to global and local challenges, particularly with class practicals and the internal assessment.

Risk-taker
• Risk-takers seek new opportunities to develop their learning and explore new approaches to solve problems. They actively thrive on challenges. • Teachers can provide support and guidance for learners, encouraging them to explore and research complex human behaviours. Through class practicals, students can scaffold their understanding of psychology in preparation for developing a research proposal as part of the internal assessment. • Learners should be prepared for the next set of experimental data to falsify their ideas as uncertainty is a feature of psychology. They understand that this is a step forward in their understanding.

Balanced
• Balanced learners look holistically at all aspects of their development and ensure that various tasks are given appropriate attention without focusing on one to the detriment of others. • Teachers should encourage learners to consider a balanced perspective on psychological issues without bias. • Learners need to organize their own time effectively, giving themselves sufficient time to complete all parts of their learning without negatively impacting on the emotional and social aspects of their lives.

Reflective
• Reflective learners consider why and how they achieve success, and also how they could change their approach when learning is difficult. • Teachers provide opportunities for learners to continually review strategies, methods, techniques and approaches to problem-solving in order to improve their conceptual understanding in psychology. Assessment criteria or checklists can help learners consider the quality of their work in a guided way. • Learners develop skills and concepts throughout the course, networking their knowledge by continually reflecting on their understanding.

Psychology and international-mindedness

International-mindedness is a term through which the IB defines the goal of international education, and which is exemplified by the emphasis in all IB programmes on promoting global engagement, multilingualism and intercultural understanding.

The DP psychology course develops an understanding of how our behaviour is shaped by the societies and cultures we experience and how we in turn shape our environment. The course also aids in the understanding of individual mental processes and behaviour with all its nuances and flaws and supports the understanding that others can also be right.

To learn more go to www.ibo.org and search for "international-mindedness".

Approaches to the learning and approaches to the teaching of psychology

This guide outlines **what** to teach in the psychology course while the teacher support materials assist in **how** to teach it. Teachers are encouraged to find their own approach to the course that considers their local context and the interests and abilities of their students.

The course is conceptual and integrated in its nature. It is recognized that content is most meaningful when it is linked to concepts and embedded in a real-life context. At the same time, it is through content that concepts come alive and gain their explanatory power. Therefore, it is through specific content, and by means of application to it, that concepts and conceptual understanding should be taught. In applying conceptual understanding to a variety of real-life examples (such as research studies), students achieve the level of competence that enables them to transfer their knowledge to other, unfamiliar situations. It is these transfer skills that should be the guiding principle of learning and teaching.

The course provides many opportunities for transfer. Six concepts (bias, causality, change, measurement, perspective, responsibility) run throughout the course. These concepts are so fundamental that they have a presence in each psychology content area. As TOK concepts as well as psychology concepts, they are deeply linked to other subject areas and to knowledge in general. The HL extensions provide the opportunity to explore content from alternative standpoints, considering the role of culture, motivation and technology in human behaviour. Understanding of research methodology and data interpretation are key skills that are related to each content area as well because psychology is built upon empirical evidence.

Conceptual understanding is closely associated with critical thinking—the student's ability to make balanced judgements about psychological knowledge based on thorough analysis, synthesis and evaluation of ideas. Critical thinking in psychology is not limited to evaluating research studies. It is the interaction and interdependence between the conceptual (theory, model, concept) and the factual (data collection, observation, research procedure) that creates the framework for thinking critically. Assessments are designed to focus on understanding, transfer and application as opposed to memorization of content areas. The same focus should be maintained in learning and teaching.

The course is also built around both students and teachers asking questions, as the foundation of student inquiry and learning together. "When people of all ages learn to ask the right questions, it leads to feeling a new sense of agency, confidence, and power" (Right Question Institute, 2024). As students will learn through their study of the concepts, content and contexts, questions promote creativity and scientific research, generate explanations and facilitate analysis and synthesis of ideas. Questioning motivates learning, as all students will appreciate through the learning and cognition context and HL students also through their study of the motivation extension.

Psychology is particularly concerned with the **why** of human behaviour. Why do we do what we do? To ask why in psychology is to look for reasons, question beliefs, take alternative perspectives and mistrust reductionist arguments, preferring the complexity of detailed answers over the deceptive simplicity of the one answer. Carefully designed questions are useful tools to stimulate students' curiosity and motivation to understand human behaviour (Neirotti, 2021).

Examples of critical thinking questions that can be explored in psychology

Evaluating a research study

- How good is the methodological quality of the study (for example, credibility and generalizability)?
- To what extent is the conclusion of the study supported by evidence?
- What alternative explanations could be used to account for the same results?
- What are the practical and theoretical implications of the study?

Synthesizing evidence in general

- Is research evidence in this area consistent or contradictory?

- What would be a possible way to explain inconsistent or contradictory findings?
- What are the common limitations or constraints of research in this area?
- What are the areas of uncertainty that remain to be investigated?

Conceptual analysis

- How is this idea or finding related to the concepts (bias, causality, change, measurement, perspective, responsibility)?
- What is the key conceptual understanding that describes our current state of knowledge in this area?
- How is this idea or finding linked to other theories or areas of research in psychology?
- What aspects are important to consider when investigating a problem?

Examples of questions related to concepts

- Bias—In what way may our knowledge of human behaviour be biased?
- Causality—How can we know the cause(s) of observed behaviour?
- Change—How can we know if a behaviour is a result of natural maturation or purposeful intervention?
- Measurement—How can we express complex psychological constructs in terms of observable, measurable behaviour?
- Perspective—What are the strengths and limitations of a reductionist approach to studying behaviour?
- Responsibility—Can potential benefits of research justify partial relaxation of ethical standards?

Prior learning

No prior study of psychology is expected. No particular background in terms of specific subjects studied for national or international qualifications is expected or required of students. The skills needed for the psychology course are developed during the course itself.

Links to the Middle Years Programme

Psychology can be offered as one of the subjects within the individuals and societies subject group of the IB Middle Years Programme (MYP). The MYP individuals and societies subject group is a concept-driven curriculum aimed at helping the learner construct meaning through improved critical thinking and the transfer of knowledge.

The MYP course uses a framework of concepts. These are broad, organizing, powerful ideas that have relevance within the subject but also transcend it, having relevance in other subject groups. Regardless of whether it is psychology or another subject from the subject group, the fundamental concepts of the MYP individuals and societies subject group provide a very useful foundation for students who go on to study the DP psychology course.

Links to the Career-related Programme

The aim of the Career-related Programme (CP) is to provide a choice of different pathways for students aged 16 to 19, enabling them to become self-confident, skilled and career-ready learners.

A key feature of the CP is that it provides flexibility to allow for local differences. Schools can provide a highly respected IB education by creating their own distinctive version of the CP geared toward the needs and backgrounds of students while meeting local, regional or national education requirements, as well as addressing industry and government priorities.

CP students undertake a minimum of two IB DP courses, a core consisting of four components (language development, reflective project, service learning, personal and professional skills) and a career-related study. For CP students, DP courses provide the theoretical underpinning and academic rigour of the programme; the career-related study further supports the programme's academic strength and provides

practical, real-world approaches to learning; and the CP core helps them to develop skills and competencies required for lifelong learning.

Language and cultural studies in the CP encourage an awareness and appreciation of linguistic and cultural diversity. This can be developed and supported within the DP psychology course and especially through the human development context. This context allows students to investigate sociocultural factors in development and in the development of social norms, framing their understanding through the concepts of identities and perspectives. This naturally links to the themes of effective communication and intercultural understanding in the personal and professional skills core component and supports students' ability to consider different perspectives in their analysis of an ethical dilemma in the reflective project. Awareness of multiple perspectives, appreciation of communities as holders of knowledge and a deeper understanding of human behaviour also enable students to undertake community engagement in contextually appropriate and ethical ways.

Taking the psychology course will support the aims of the CP by developing analytical skills, enhancing understanding and appreciation of cross-disciplinary learning, and developing awareness of the complexity of explaining human behaviour.

The DP psychology course may be chosen by CP students with an interest in human behaviour as expressed by their choice of career-related study as well, or it may be chosen to provide a deeper understanding of human relationships within their service learning and the development of their personal and professional skills. DP psychology offers a valuable course by providing students with the opportunity to think critically about the complex relationship between culture, society and identity, developing cross-disciplinary understandings and fostering a lifelong interest in and enjoyment of different cultures.

The CP programme and DP psychology course have many overlapping qualities. Both programmes develop students' critical and ethical thinking, encourage collaboration and promote inquiry. Experiences in the CP and DP psychology complement each other in allowing students to investigate interests in education and career pathways and think critically and creatively while considering multiple perspectives. Finally, students are able to apply knowledge to real-world scenarios and situations that are locally and globally important.

Individuals and societies aims

The aims of all subjects in the individuals and societies subject group are to:

1. explore and critically engage with multiple perspectives and ways of thinking
2. investigate and evaluate the interactions between individuals and societies
3. think and act as informed and principled individuals in societies
4. understand and value the variety and diversity of human experience across time and place.

Psychology aims

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

1. develop knowledge and understanding of psychological concepts, content and contexts, including models and theories
2. think critically and creatively about behaviour and cognitive processes
3. engage with problems facing individuals, groups and societies using psychological understanding and skills.

Assessment objectives

By the end of the psychology course at SL or at HL, students will be expected to demonstrate the following.

Knowledge and understanding (AO1)

- A range of psychological concepts, content and contexts including theories, models and examples.
- Biological, cognitive and sociocultural approaches to understanding human behaviour.
- Research methodology for understanding human behaviour.

Application and analysis (AO2)

- Explain and formulate arguments in response to a specific question or prompt using relevant/appropriate concepts and psychological research.
- Apply and analyse a range of psychological theories and models.
- Apply and analyse knowledge relevant to psychology in a variety of contexts.

HL

- Interpret data to draw conclusions for experimental and non-experimental research.

Synthesis and evaluation (AO3)

- Evaluate psychological theories and research.
- Draw conclusions from different types of evidence.
- Justify a position and critique claims.
- Discuss how psychological concepts interact.
- Design a study to investigate a research question.

HL

- Draw conclusions about the influence of culture, motivation and technology on human behaviour.

Assessment objectives in practice

This table provides a summary of assessment objective (AO) distribution.

Assessment objective	Paper 1—SL and HL			Paper 2—SL and HL		Paper 3 (HL only)	Internal assessment
	Section A	Section B	Section C	Section A	Section B		
AO1 – knowledge and understanding	√		√	√	√		
AO2 – application and analysis	√	√		√		√	
AO3 – synthesis and evaluation			√	√	√	√	√

Syllabus outline

Syllabus component	Teaching hours	
	SL	HL
Concepts, content and contexts		
• Integrating concepts and content in the understanding of contexts	100	100
• Class practicals (minimum four)	30	30
Extensions (HL only)		
• The role of culture, motivation and technology in shaping human behaviour	n/a	45
• Data analysis and interpretation	n/a	45
Internal assessment		
• Psychology research proposal to investigate a population of interest using one of the four research methods used in the class practicals.	20	20
Total teaching hours	**150**	**240**

The recommended teaching time is 240 hours to complete HL courses and 150 hours to complete SL courses as stated in the general regulations in *Diploma Programme Assessment procedures*.

Syllabus content

Overview

SL and HL

The focus of the psychology course is on conceptual understanding and the ability to apply given concepts across a variety of contexts as opposed to simple memorization of theories supporting studies. Framing the psychology course through concepts, content and context allows for the development and application of psychological knowledge when studying the contexts. Students also undertake the internal assessment task, which is to design a research proposal to investigate a population of interest using one of the four research methods used in the class practicals.

More information on how to integrate the concepts, content and context into the teaching of psychology can be found in the teacher support materials.

Class practicals

Practical activities are undertaken by SL and HL students and provide an opportunity for students to be guided through a critical discussion of each approach to research.

Each context lists suggestions of class practicals. These are examples only and teachers are free to choose their own as long as it is related to that context.

Figure 2

An overview of the DP psychology course

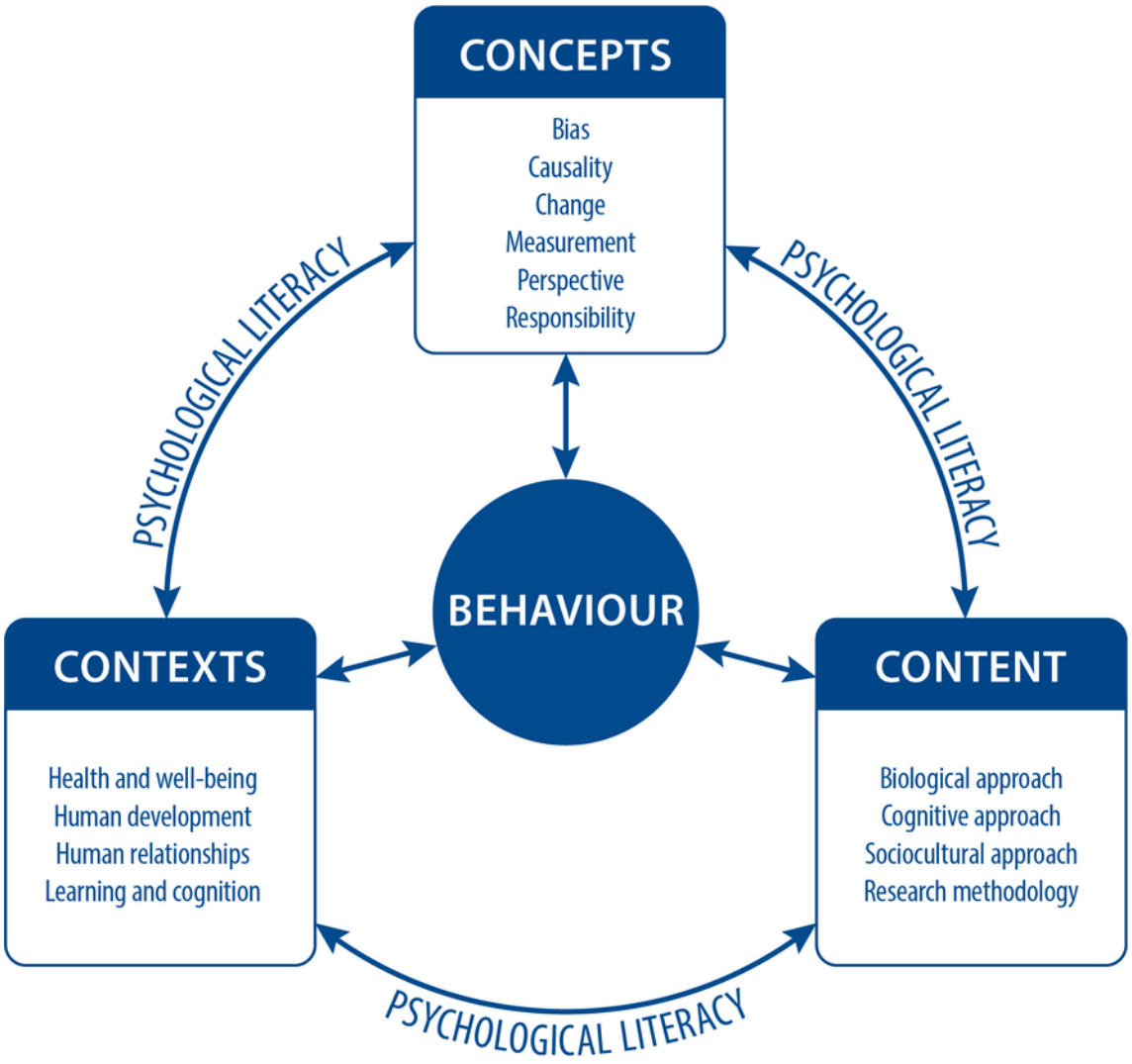

Table 1

Overview of the SL and HL course: concepts, content and contexts

Concepts	Content	Contexts
• Bias • Causality • Change • Measurement • Perspective • Responsibility	• Biological approach • Cognitive approach • Sociocultural approach • Research methodology	• Health and well-being • Human development • Human relationships • Learning and cognition Note: class practicals are integrated within each context

All DP psychology students at SL and HL study concepts, content and contexts. These are not meant to be taught separately. The content provides the psychological terminology and theories needed to understand how the biological, cognitive and sociocultural approaches assist to understand human behaviour, while using a variety of research methodology. Concepts provide a framework through which specific content is considered and contexts provide the real-world setting in which it is applied. Psychological literacy, as outlined in the "Nature of the subject" section, connects the three elements of the course.

Data analysis and interpretation

Data analysis and interpretation should be studied by SL and HL students but it is **NOT** assessed at SL.

HL only

In addition to concepts, content and context, HL students extend their learning with the additional study of the role of culture, motivation and technology in shaping human behaviour, and data analysis and interpretation.

Table 2

Overview of the elements of DP psychology that are HL only

HL only
• The role of culture, motivation and technology in shaping human behaviour • Data analysis and interpretation

Concepts

The concepts in DP psychology are broad and generic ideas that find a variety of manifestations in specific content and contexts. For example, the idea of bias presents itself in how research is organized (e.g. researcher bias), how theories are constructed (e.g. biological determinism), in human behaviour itself (e.g. cognitive biases), etc. Although these are different ideas, they are all conceptually related to bias, and therefore connected to each other. This ability to find multiple examples in specific content and contexts to connect ideas to each other makes these ideas, or concepts, powerful.

Using the concepts to develop questions is an effective way to investigate psychological research and psychology claims. For example, how is measurement similar/different across contexts? To what extent does perspective influence research and research findings? What types of bias were addressed in the research?

This section sets out six key concepts in the study of DP psychology: bias, causality, change, measurement, perspective and responsibility. The explanation accompanying each of the concepts demonstrate the breadth of scope in how they can be applied to specific content and contexts within psychology.

A list of **related terms** is given for each concept. The following should be noted.

- There is no requirement to teach all the related terms. The list given for each concept is intended to provide guidance for discussions and activities which increase students' conceptual understanding.
- The related terms given do not represent an exhaustive list and they will not be used to set concept-based questions for paper 1 section C or paper 2 section B. In each concept there could be other related terms that connect the concept to the specific content area or example, and these will be accepted for assessment as long as their link is relevant, explained and clearly justified.

When covering concepts, it is important for teachers to note the following.

- There is no prescribed way to apply concepts to the content or contexts.
- Concepts can also be related to each other. For this reason, the same related terms may appear under different concepts. For example, reductionism is related both to bias and causality. In this and similar cases, including the ones not listed, links to concepts are accepted as long as they are relevant, explained and clearly justified.

Bias

A bias is a limitation in objective thinking; it is a tendency to perceive information through a cognitive filter of experience and preference. Psychologists should be aware of biases that occur during the research process—that is, researcher biases, participant biases, sampling bias, confirmation bias and publication bias. It is important not to just recognize the bias, but to understand how it may affect the way research is

conducted and the results analysed and interpreted. Creating controls for bias is an important part of the research process. Psychological research attempts to be objective, while at the same time recognizing that much of the data that is collected is subjective and that bias can be implicit or explicit.

Biases such as gender and cultural biases are present in clinical psychology and can affect diagnosis, prevalence statistics and treatment. Biases may also be toward a certain perspective in psychology and result in reductionism.

Biases also affect how choices are made on a daily basis. Cognitive biases may be applied because there is not enough time, information or motivation to make a decision. Anchoring, representativeness and availability biases can affect thinking and decision-making.

Related terms

Terms related to this concept include but are not limited to the following.

- Researcher bias, participant bias sampling bias, confirmation bias, publication bias
- Gender bias, cultural bias
- Sampling techniques
- Determinism (biological and environmental)
- Cognitive biases
- Credibility, reflexivity, inter-rater reliability
- Positivism, reductionism vs holism

Causality

Psychologists investigate the relationship between variables with the goal of determining cause-and-effect relationships. However, human behaviour is complex, so often causality is not the direct effect of one variable on another, but often the interaction of several variables. Simple relationships may be the result of direct causal relationships.

Related terms

Terms related to this concept include but are not limited to the following.

- Reductionism
- Correlation vs causation; bidirectional ambiguity
- Validity: internal vs external validity
- Controls: extraneous variables, placebos, double-blind, wait-listing
- Statistical significance
- Complexity
- Influence vs interaction
- Agency, motivation

Change

A key focus of psychological research is how to apply theory and psychological findings with the goal of changing individual behaviours. One of the great debates of psychology is the extent to which we have free will over our behaviour versus whether behaviours are determined. Change is a constant in the human experience and can be gradual (as in human development) or sudden (as in mood changes). It can also be deliberate, as with intrinsic motivation to change one's behaviour through education or health treatments. Unplanned change can be due to unexpected biological changes in the body or mind while planned change can involve individual and group adaptation to evolving circumstances, such as environmental and technological influences.

Researchers look at theories of how to promote change—whether it be encouraging stress management, healthy eating or stopping unhealthy behaviour. However, psychologists also recognize that there is resistance to change. Psychologists evaluate the effectiveness of treatments and health promotion strategies on the individual, local and global levels.

Related terms

Terms related to this concept include but are not limited to the following.

- Barriers to change
- Prevalence
- Use of longitudinal and repeated measures designs
- Intervention, prevention and promotion strategies
- Effectiveness of treatment
- Development and maturation
- Determinism (biological and environmental)
- Agency, motivation

Measurement

A fundamental challenge for psychologists is that human behaviour is difficult to observe and objectively measure. Measurement varies according to the context in which it is applied and the theory underlying its use. Psychologists must select appropriate methods for studying and collecting data relevant to the behaviour studied. An important aspect of measurement is the operationalization of variables in order to allow for reliable measurement and a valid representation of the behaviour being studied. Triangulation of methods allows for researchers to establish the credibility of their findings.

There are strengths and limitations to each type of evidence collected. Measurements may be direct or indirect. Data may be quantitative or qualitative—or a mix of both.

Psychologists use various techniques to measure variables affecting behaviour, including brain imaging techniques, twin studies, virtual reality simulations and questionnaires. In some cases measurement involves collection and statistical analysis of large amounts of quantitative data. In others, measurement is indirect—for example, determining the role of a neurotransmitter in a behaviour by measuring brain activity using brain imagining technology such as an MRI scanner.

Related terms

Terms related to this concept include but are not limited to the following.

- Choice of research method
- Constructs and variables; operationalization of variables
- Types of data (self-reported, empirical)
- Statistical significance; type I and type II errors
- Brain imaging
- Interpretive approaches (content analysis)
- Prospective vs retrospective approaches; longitudinal vs cross-sectional research designs

Perspective

Psychology is the rigorous and systematic study of behaviour. A challenge unique to this academic discipline is the complexity of studying the behaviour of humans with highly developed frontal lobes, self-awareness, cognitive abilities, advanced social structures and cultures. As a result, within psychology there are a number of different approaches that have evolved to provide a multi-perspective understanding of human beings. The content of DP psychology comprises three approaches which examine how biological,

cognitive and sociocultural factors influence human behaviour. No single perspective explains behaviour sufficiently on its own; each provides a means by which to interpret and examine behaviour.

Each perspective or approach is based on a series of assumptions about behaviour and beliefs about research. For example, sociocultural approach takes a more holistic approach, using both etic and emic methodology.

Related terms

Terms related to this concept include but are not limited to the following.

- Biological, cognitive, sociocultural approaches
- Psychological theories, psychological models
- Deductive and inductive research methodology and data analysis
- Emic and etic perspectives/approaches
- Perspectives of Indigenous people
- Alternative explanations and interpretations

Responsibility

Psychologists rely on humans as participants in their research; the relationship between researchers and participants is based on the premise of treating each other with respect. As researchers, therapists or government advisers, for example, psychologists can have positions of power and should act with social responsibility. In the use of animal participants, researchers should attempt to reduce the number of animals used, refine the conditions of the research in order to minimize harm and always attempt to replace animals with alternatives.

Ethical principles guide psychologists, and those studying psychology, to make reasoned and responsible decisions to ensure that benefits are maximized and costs are minimized. Ethical standards can also affect the results of research. Informed consent can introduce participant variables, the right to withdraw can lead to sampling biases, and anonymity can increase the validity of self-reported data.

It is important to note that the core ethical considerations have been developed over time, and may continue to adapt and change depending on the context. Today it is recognized that the way research is applied is also the responsibility of psychologists. This includes protecting marginalized groups from stigma, making sure that the public understands the level of uncertainty in a study's findings and advocating for change in governmental policies in line with research findings.

Related terms

Terms related to this concept include but are not limited to the following.

- Ethical standards in research, use of deception, informed consent, cost-benefit analysis, anonymity, debriefing, right to withdraw, protection from harm
- Use of animals; use of child participants; research in public spaces including observation-only research
- Socially sensitive issues; stigma; publication of findings; advocacy

Content

The DP psychology course investigates the biological, cognitive and sociocultural approaches and the research methodology used to understanding human behaviour. While these approaches may be considered separately, students are encouraged to also be aware of the overlaps and interactions between them, within the contexts. Examples include, but are not limited to, genetic predispositions to certain behaviours that are triggered environmentally; cognitive biases that are the result of specific sociocultural experiences; or epigenetic changes that result from environmental factors.

This section sets out four key areas of content in the study of DP psychology: the biological approach, the cognitive approach, the sociocultural approach and the research methodology used to understand human behaviour. The explanation accompanying each also sets out related **psychological terminology** relevant to each aspect of content and **learning objectives**, which describe what students should be able to know or do as a result of a learning experience.

Biological approach

The biological approach to understanding human behaviour has evolved over centuries. Texts from as early as the sixth century BCE describe neurosurgery, including the removal of tumours and fluid from the brain in order to relieve pain. However, the first example of a psychological approach to understanding human behaviour comes with the development of phrenology in the 19th century. Phrenologists believed that the shape of a person's skull revealed their personality traits and mental abilities. Although this was later discredited, it contributed to the theory of localization of brain function which was furthered in the late 19th and early 20th centuries by research into language.

In recent decades, the advent of brain imaging technology has allowed psychologists to explore the brain structure and activity non-invasively. This has contributed to an understanding of neuroplasticity and the interaction between the brain and the environment. DNA sequencing shows that this includes gene-environment interaction through epigenetics. This is an area in which our knowledge is evolving rapidly with the improving technology for studying the brain. Finally, animal models, often using rodents or primates, have been used in studying human behaviour. By examining the brains and behaviour of rodents and primates, researchers gain insights into human cognition and behaviour. The biological approach is continually evolving and helping us to understand the complex relationship between the brain and behaviour.

Related psychological terminology

Students should have an understanding of the following and be able to apply them in the contexts.

Table 3.1

Terms related to the biological approach of psychology

Psychological terminology	Learning objective
Animal research/animal models	The use of animal research in the study of human behaviour and the ethical considerations in the use of animals in research.
Biological reductionism	The strengths and limitations of a reductionist approach to the study of behaviour.
Brain imaging techniques	The use of using one or more brain imaging techniques in investigating human behaviour.
Chemical messengers	The role of one or more chemical messengers in human behaviour.
Diathesis-stress model	The interaction of environmental factors and genetics in human behaviour.
Genetic inheritance	The extent to which human behaviour may be inherited.
Localization of function	The role of localization of function in explaining human behaviour and cognition.
Neuroplasticity	Neuroplasticity and its role in human behaviour.
Neurotransmission	The process of neurotransmission and its influence on human behaviour.

Cognitive approach

The cognitive approach to understanding human behaviour emerged as a reaction to behaviourism in the early to mid-20th century. Behaviourism introduced classical conditioning, which demonstrated how links

are formed between stimuli and responses, and operant conditioning, which showed how behaviours are shaped through reinforcement and punishment. It continues to be applied in modern education through techniques such as personalized learning, where individual rewards and feedback are used to reinforce desired behaviours and motivate students.

However, the cognitive approach focuses on the importance of mental processes in understanding observable behaviour, with the mind acting as an information processor that bridges the gap between a stimulus input and the behavioural output. Exactly how humans process sensory information is the content of cognitive psychology and psychologists have developed cognitive models, such as the computer model of information processing, memory models and models of language development, to try to explain this.

The reliability of human cognitive processes and how they are affected by our different individual, social and cultural experiences and by language used to communicate ideas were the first areas of interest. Early in the 20th century, psychologists investigated how we organize and interpret information through mental frameworks, or schemas, shaping our perceptions and memories. This model still has explanatory value today.

The dual processing theory, another key theory of the cognitive approach, suggests that our minds process information both consciously and unconsciously, leading to cognitive biases that influence our behaviour and decision-making. Cognitive theories are powerful in applied psychology and used to explain human development and the prevalence and prevention of health problems and learning.

Related psychological terminology

Students should have an understanding of the following and be able to apply them in the contexts.

Table 3.2

Terms related to the cognitive approach of psychology

Psychological terminology	Learning objective
Anchoring bias	The role of anchoring bias in decision-making.
Classical conditioning	The process of classical conditioning and its role in behaviour.
Cognitive load theory	The role of cognitive load theory in understanding human cognition.
Cognitive models	The role of one or more cognitive models in understanding a cognitive process or behaviour.
Confirmation bias	The role of confirmation bias in decision-making.
Dual processing theory	The role of the dual processing theory in understanding decision-making.
Operant conditioning	The process of operant conditioning and its role in behaviour.
Schema theory	The role of schema theory in understanding a cognitive process.

Sociocultural approach

The sociocultural approach to understanding human behaviour emphasizes the influence of social and cultural factors on human behaviour. This approach has grown out of social psychology, which explores how social environments, interaction and relationships shape individuals. Sociocultural psychologists investigate how culture influences values, beliefs and behaviour. The study of cross-cultural psychology developed using an etic approach to compare how different cultures shape human behaviour. Soon it became apparent that this was only part of the story, and psychologists followed the earlier lead of anthropologists and engaged also in an emic approach to research, studying different social and cultural groups from an "insider perspective", allowing for a deeper and more sensitive understanding of behaviour. It is from here that a psychological understanding of Indigenous communities developed into a growing Indigenous psychology.

Acculturation is a key idea of sociocultural psychology, allowing psychologists to develop models and explanations for how individuals adapt to changing their culture, while enculturation is similarly important in understanding how we internalize our own culture's norms from childhood.

The social environment and particular environmental factors, such as poverty, pollution and isolation and others, can also affect human behaviour. These may be investigated using the sociocultural approach.

Related psychological terminology

Students should have an understanding of the following and be able to apply them in the contexts.

Table 3.3

Terms related to the sociocultural approach of psychology

Psychological terminology	Learning objective
Cognitive dissonance	The role of cognitive dissonance in understanding human behaviour.
Compliance techniques	The role of one or more compliance techniques in changing human behaviour.
Conformity	The process of conformity and its role in understanding human behaviour.
Cultural dimensions	The role of one or more cultural dimensions in understanding cross-cultural similarities and differences in behaviour.
Emic approach	The use of the emic approach in researching human behaviour.
Enculturation	The role of enculturation in one or more human behaviour.
Etic approach	The use of the etic approach to researching human behaviour.
Models of acculturation	The application of one or more acculturation models to explain the experience of immigrants, refugees or other people taking an extended stay in another culture.
Social identity theory	The application of social identity theory to explain and change behaviour.
Social learning theory	The application of social learning theory to explain and change behaviour.

Research methodology

Research methodology, which in DP psychology is organized as research methods, sampling techniques, procedures, data collection and analysis, threads throughout the course, and is the focus of the class practicals. Students will develop an understanding of research methodology, from the practical and theoretical background framing the choice of research methodology to decisions made regarding data analysis and interpretation. All of the concepts, but particularly bias, causality and measurement, can be further understood through research methodology explored within each context and relevant to the biological, cognitive and sociocultural approaches.

For example, in the context of learning and cognition, a common research methodology is a quantitative approach, using the research method of true experiments to measure memory, language development or perception. This research method allows for measurement to control variables and reduce bias while trying to demonstrate causality.

Within research methodology, students will investigate different research designs and research methods, and develop an understanding of how data is collected, analysed and interpreted. They will also frame their knowledge of these within the concepts relevant to research methodology (such as, but not limited to, bias, causality or measurement). Research considerations such as ethics (researcher responsibility) and considerations of validity and reliability will also be linked to the concepts.

Research methodology will form a part of the study of each context, as research methods and data collection methods appropriate for investigating health and well-being, human development, human relationships, and learning and cognition are explored.

Data analysis and interpretation

Data analysis and interpretation should be studied by SL and HL students but it is **not** assessed at SL.

Related psychological terminology

Students should have an understanding of the following and be able to apply them in the contexts.

Table 3.4

Terms related to the research methodology of psychology

Research methodology	Related terms	Learning objective
Data analysis and interpretation	• Bar graph • Box and whisker plot • Distributions (e.g. normal, skewness) • Frequency table • Histogram • Line graph • Outliers • Scatterplot • Descriptive statistics • Inferential statistics • Correlation coefficient • Thematic analysis	• Understand that data is represented and analysed in different forms based on the design of the study and the nature of the data. • Analyse and interpret different types of data tables, graphs and results. • Analyse and interpret descriptive and inferential statistics. • Understand the stages of thematic analysis to uncover patterns in textual data that are then grouped into themes that are relevant to the aim of research engaging in thematic analysis. • Descriptive statistics: Analyse and interpret results of typical measures of central tendency (mean, median, mode) and measures of dispersion (range, standard deviation, semi-interquartile range). • Inferential statistics: Analyse and interpret results of typical tests of difference between two groups or conditions (such as chi-square test, related and unrelated t-test, Mann-Whitney test, Wilcoxon test) and tests of relationship between two variables (such as correlation coefficients). Understand the notions of effect size and statistical significance.
Research considerations	• Reliability • Validity (internal, external, content, face, construct) • Generalizability • Researcher and participant biases • Reflexivity • Transferability	• Factors that should be considered when generalizing findings to another population or context. • The role of reflexivity and the process of checking for unconscious bias. • Factors that should be considered when transferring findings of a study to another population or context and the steps to ensuring credibility in research.

Research methodology	Related terms	Learning objective
	• Credibility	• Strategies for ensuring the credibility of research.
Research methods	• Experiments (true or quasi-) • Observations (naturalistic or controlled, overt or covert, participant or non-participant) • Surveys/questionnaires • Interviews (structured, semi-structured or focus group) • Correlational studies • Case studies	• Differentiate between the different types of research methods. • The appropriate selection of research methodology to investigate a psychological question. • The advantages and disadvantages of different research methods. • The potential effects of ethical considerations on psychological research. • The role of external variables in drawing conclusions about causality.
Sampling techniques	• Self-selected • Opportunity • Stratified • Random • Snowball	• The advantages and disadvantages of different sampling techniques.

Contexts

Each context is an important area of applied psychology, which bridges the gap between theoretical knowledge and practical solutions, offering valuable insights into human behaviour and possibilities for action.

This section sets out four key contexts in the study of DP psychology: health and well-being, human development, human relationships, and learning and cognition. The explanation accompanying each also sets out a relevant **area of study** and **learning objective**, which describes what students should be able to know or do as a result of a learning experience.

Suggestions for class practical activities are also included within each context. These are suggestions only and teachers are free to choose their own activities to suit their students or school.

It should be noted that each context section contains subheadings (such as mental health disorders, health problems) that are for convenience of presentation and will not be used in the formation of examination questions.

Health and well-being

Concepts of health and well-being have evolved since ancient Greek and Roman history. Recently it has become clear that mental and physical health are encompassed by the mind–body interaction and any separation between them is artificial. Thus, the study of mental health and physical health has been combined in order to take a holistic approach to health.

Well-being is related to physical and mental health but is also distinct from personal well-being, which is the self-reported state of a pleasant and satisfying quality of life. Mental and physical health can to some extent be objectively measured, while the state of well-being is subjectively reported, but has equal validity for the individual (adapted from Vögele, 2022).

Mental health disorders

Students should have an understanding of one or more of the following: major depressive disorder, eating disorders, post-traumatic stress disorder, obsessive-compulsive disorders or anxiety disorders.

Table 4.1

Areas of study and learning objectives for mental health disorders

Area of study	Learning objective
Biological explanations	One or more biological explanations of one mental health disorder.
Cognitive models	The value of one or more cognitive models in understanding a mental health disorder.
Cultural differences	One or more factors that may explain the difference in prevalence rates for mental health disorders between cultures and/or populations. Examples of cultural differences in approaches to mental health.
Environmental factors	The role of one or more environmental factors in understanding/explaining mental health disorders.

Health problems

Students should have an understanding of one or more of the following: obesity, substance misuse or abuse, or social media addiction.

Table 4.2

Areas of study and learning objectives for health problems

Area of study	Learning objective
Prevalence of health problems	One or more factors that may explain changes in the prevalence of one or more health problems in a population. One or more factors that may explain differences in the prevalence of one or more health problems between populations.
Social learning and health	The role of social learning theory in understanding one or more health problems.
Stress and health	The role of stress in one or more health problems.

Prevention and treatment

Students should have an understanding of prevention and treatment in relation to the mental health disorders and health problems selected from the above.

Table 4.3

Areas of study and learning objectives for prevention and treatment

Area of study	Learning objective
Biological treatment for one disorder	The explanation and effectiveness of one or more biological treatments of one or more mental health disorders.
Prevention and/or treatment for one health problem	The explanation and effectiveness of one or more prevention and/or treatment strategies for one or more health problems.

Area of study	Learning objective
Psychological treatment for one disorder	The explanation and effectiveness of one or more psychological treatments of one or more mental health disorders.

Class practicals

The recommended class practical in this context is an interview. Examples are provided as suggestions only and teachers are free to choose a class practical which suits their students as long as it relates to the context of "Health and well-being".

Table 4.4

Suggestions for class practicals for health and well-being

Class practical	Examples
Interviews (Structured, semi-structured or focus group)	• Focus group interviews with students of how they manage their physical health or stress. • Focus group interviews on student perceptions of effectiveness of mindfulness (students can do a class practice of mindfulness first). • Semi-structured interview with a school counsellor, fitness coach, yoga instructor, mindfulness practitioner. • Interview of social media use and self-esteem. • Interview of exercise habits and mood.

Human development

Developmental psychology is the study of how and why people's behaviour and cognition changes over time.

The search for the determinants of development has led to the creation of multiple models and theories that attempt to explain what causes cognitive and social development and how it proceeds. Some models focus on the role of biological factors; others look at cultural factors and social influences. In terms of modelling the process of development itself, some theories suggest that development is a continuous process whereas others claim that there are clear-cut, qualitatively different stages and the process of development has its own unique characteristics at each stage.

Developmental psychologists study how people grow, develop and adapt throughout their lives. They are interested to know how behaviours develop and change over time.

Models of development

Students should have an understanding of one or more of the following: cognitive, social, moral or language development.

Table 4.5

Areas of study and learning objectives for models of development

Area of study	Learning objective
Brain development	The role of brain maturation in human development. The extent to which critical periods explain human development. The role of neuroplasticity in human development.
Sociocultural factors in development	The influence of one or more sociocultural factors in human development.

Area of study	Learning objective
Stage theories and continuous models	The explanation and effectiveness of one or more stage theories and one or more continuous models in understanding human development.
Theory of mind	The role theory of mind has in understanding human development and cognition.

Development of self

Students should have an understanding of the following.

Table 4.6

Areas of study and learning objectives for development of self

Area of study	Learning objective
Attachment	The role of attachment in the development of self.
Enculturation of social norms	The role of enculturation of social norms in the development of self.
Peer influence	The role of peer influence in the development of self.
Role of childhood experiences	The role of childhood experiences in the development of self.

Class practicals

The recommended class practical in this context is an observation. Examples are provided as suggestions only and teachers are free to choose a class practical which suits their students as long as it relates to the context of "Human development".

Table 4.7

Suggestions for class practicals for human development

Class practical	Example
Observation (naturalistic or controlled, overt or covert, participant or non-participant)	• Observations of language learning classes • Playground observations • Observation of group dynamics in a public setting

Human relationships

People are social and interdependent. They influence and are influenced by the behaviour of others in interpersonal relationships such as friendships, romantic partnerships, family relationships and work relationships.

One aspect of human relationships is group behaviour. Social learning and acculturation are ideas that help us understand how a person gradually becomes part of a group by, for example, learning the acceptable behaviours and cultural norms. Social identity theory explains why people find it so important to belong to a group and why they may behave favourably towards their group members and not so favourably towards others. The idea of cultural dimensions describes the cross-cultural variations in human behaviour. Conformity and compliance techniques are specific types of social influence.

Another aspect is interpersonal relationships. A lot depends on our understanding of how interpersonal relationships develop and how they are influenced. Various models and explanations have been proposed, including purely cognitive models of relationships, the role of genetic factors, chemical messengers and communication/language. If we understand how relationships develop and what they depend on, it becomes possible to design strategies for improving relationships.

Group behaviour

Students should have an understanding of the following.

Table 4.8

Areas of study and learning objectives for group behaviour

Area of study	Learning objective
Acculturation	Different acculturation strategies and their effect on human behaviour.
Compliance techniques	The application of one or more compliance techniques to change group behaviour(s).
Conformity	The role of conformity in understanding group behaviour(s).
Cultural dimensions	The role of one or more cultural dimensions in understanding group behaviour(s).
Social identity theory	The application of social identity theory to explain and change group behaviour(s).
Social learning	The application of social learning theory to explain and change group behaviour(s).

Interpersonal relationships

Students should have an understanding of one or more of the following: social relationships or interpersonal conflict/aggression.

Table 4.9

Areas of study and learning objectives for interpersonal relationships

Area of study	Learning objective
Chemical messengers	The role of one or more chemical messengers in interpersonal relationships.
Cognitive explanations	One or more cognitive explanations for interpersonal relationships.
Communication/language	The role of communication in interpersonal relationships.
Strategies for improving relationships	One or more strategies for improving interpersonal relationships.

Class practicals

The recommended class practical in this context is a survey/questionnaire. Examples are provided as suggestions only and teachers are free to choose a class practical which suits their students as long as it relates to the context of "Human relationships".

Table 4.10

Suggestions for class practicals for human relationships

Class practical	Examples
Survey/questionnaire	• Hazan and Shaver (1987) love quiz • Buss (1989) cross-cultural differences in attraction

Learning and cognition

Humans are born with a range of innate behaviours, but these behaviours only cover the most basic biological mechanisms and survival needs.

Humans have highly developed cognitive abilities and can think about their own thinking (metacognition). This is why it is important to understand human cognition: what it is, how it can be described and explained, how it develops and how reliable it is in various situations.

Humans and animals are capable of various forms of learning, some simpler, some more sophisticated. Conditioning is a simpler form of learning that can operate on the level of overt behaviours without requiring participation of cognitive processes. More sophisticated forms of learning rely on forming mental representations of reality (cognitive schemas). As social beings, people also learn from observing each other —this is known as social learning. Thinking and decision-making are probably the most complex cognitive processes that humans develop as a result of learning. Studying how people think about specific situations, and whether or not their decisions are accurate, presents great practical value. The dual processing theory and the related idea of cognitive biases allow us to investigate these specific decision-making scenarios.

However, there is also a variety of other cognitive processes, such as attention, perception, memory and language. Scientific investigation of a cognitive process implies creating a model of it and studying how it is affected by various factors (biological, cultural, environmental). If there is a valid model of a cognitive process, and knowledge of how it is affected, it is possible to design improvements.

Thinking and learning

Students should have an understanding of the following.

Table 4.11

Areas of study and learning objectives for thinking and learning

Area of study	Learning objective
Cognitive biases	The role of one or more cognitive biases in decision-making.
Conditioning (classical and operant)	Examples of classical and operant conditioning as a way of learning. Application of operant conditioning to change behaviour.
Dual processing theory	The value of the dual processing theory for understanding thinking and decision-making.
Schema theory	The role of schema in behaviour and/or cognition.
Social learning theory	The role of social learning theory in learning. Application of social learning theory to explain and change behaviour.

Cognitive processes

Students should have an understanding of one or more of the following: attention, memory, perception, thinking/decision-making or language.

Table 4.12

Areas of study and learning objectives for cognitive processes

Area of study	Learning objective
Biological factors in cognitive processes	The role of one or more biological factors in one or more cognitive processes.
Cognitive models	The value of one or more cognitive models in understanding one or more cognitive processes.
Cultural factors in cognitive processes	The role of one or more cultural factors in one cognitive process.
Environmental influences on cognitive processes	The potential influence of one or more environmental factors on one cognitive process.

Area of study	Learning objective
Potential for improving a cognitive process	One or more strategies to improve one or more cognitive processes.

Class practicals

The recommended class practical in this context is an experiment. Examples are provided as suggestions only and teachers are free to choose a class practical which suits their students as long as it relates to the context of "Learning and cognition".

Table 4.13

Suggestions for class practicals for learning and cognition

Class practical	Examples
Experiments (true or quasi-)	• Loftus and Palmer (1974) car crash • Masuda and Nisbett (2001) attention with analytic and holistic thinkers • Tversky and Kahneman (1974) anchoring bias • Music and memory/Mozart effect (Rauscher et al., 1997)

Class practicals

This part of the course is intended to be active and engaging for students, providing an opportunity for them to be guided through a critical discussion of each approach to research.

All students must engage in a class practical for each context. These can be teacher and/or student led. Furthermore, students can be encouraged to design and operate additional student-led class practicals. While these extra exercises are not compulsory they must always be conducted with explicit permission from the teacher, given on a class practical research form (provided in the teacher support materials) and according to ethical guidelines.

All class practicals must follow ethical guidelines.

Further guidance on best practice for this aspect of the course will be provided in the *Psychology teacher support material*.

Table 5 details the class practicals that must be conducted with their recommended allocation into the contexts. It also gives the minimum sample size for student-led practicals. All four practicals must be conducted, one of each type, but their allocation into contexts may be changed.

Table 5

Class practicals and their recommended allocation into contexts

Recommended context	Type of class practical	Minimum sample size
Health and well-being	Interview (structured, semi-structured or focus group)	One participant in an individual interview or three to eight participants in one focus group
Human development	Observation (naturalistic or controlled, overt or covert, participant or non-participant)	One participant
Human relationships	Survey/questionnaire (used interchangeably)	10 participants

Recommended context	Type of class practical	Minimum sample size
Learning and cognition	Experiment (true or quasi-)	Five participants (repeated measures) or ten participants (independent measures)

To get the most benefit from the exercise, it is recommended that students write a brief description of each class practical, including the aim, procedure, sampling technique and sample findings, and any ethical considerations. This is not expected to be lengthy or include discussion but forms a brief record that may be used for further understanding of the role of research in psychology. Although the summary is not assessed, it will assist SL and HL students in answering questions on paper 2 section A and preparing students for their internal assessment investigation.

Class practicals are expected to be conducted during lesson time. This can take the format of the teacher being the researcher and students being the participants. Students may conduct the class practical outside of the lesson on the condition the teacher approves the proposal on a class practical research form (provided in the teacher support materials). Please note that, depending on the nature of the practical, a consent form may also be required.

Ethics in class practicals

High standards of ethical practice are central to the IB philosophy and should therefore be promoted and supported by the entire IB community. It is expected that teachers and students adhere to the ethical guidelines outlined below when conducting the class practicals. For further information on ethical guidelines, please refer to a psychological association or organization; a list of organizations is presented at the end of the "Data protection" section.

Further guidance on ethical considerations will be provided as part of the teacher support materials.

Protection from harm

Class practicals should always be conducted under the supervision of a teacher and **everyone** involved must adhere to ethical guidelines. If a non-compulsory class practical is student led, classmates must be free to choose whether they wish to participate, and can withdraw at any time. For the class practicals to be considered ethical, they must not harm anyone. Any class practical that creates anxiety, stress, pain or discomfort for participants is not permitted. In addition, teachers and students must exercise the greatest sensitivity to local, national and international cultures.

Partial deception may be allowed for some class practicals where full knowledge of the study would fundamentally affect the outcome. Such class practicals are permissible provided they do no harm and participants are fully debriefed at the end. Participants retain their right to withdraw their data at this point. Conformity or obedience studies are not permitted under any circumstances.

Ethical considerations for interviews

Caution should be exercised around sensitive issues regardless of the structure of the interview study. It would therefore be inappropriate for students to interview other students on topics such as, for example, mental health concerns or diagnosis, experiences of bullying or self-harm. This is not an exhaustive list and teachers are advised to fully consider the needs of their students and be careful in their approach. More appropriate topics for students to interview each other include subjects such as stress reduction techniques, healthy lifestyle habits or media consumption.

Informed consent

Ethical guidelines demand that explicit informed consent must be obtained from subjects of a class practical through the use of a consent form. Implied consent is not acceptable. All participants must be informed of the aims and objectives of the class practical. All participants must be informed before commencing the class practical study that they have the right to withdraw at any time. Pressure must not be placed on any individual participant to continue with the investigation. A consent form template will be provided as part of the teacher support materials.

Parental consent is not required for participants aged 16 and older. Class practical studies involving children under 16 require written consent of parent(s) or guardian(s). Students must ensure that parents are fully informed about the implications for children who take part in such research. It is permitted to study children under the age of 12, as long as appropriate ethical considerations are addressed, especially regarding parental informed consent. Where a class practical study is conducted with children in a school, the written consent of the teachers concerned must also be obtained.

Students must not conduct research with any participant who is not in a fit state of mind and cannot respond freely and independently. In addition, animals must **not** be used for class practicals.

When conducting a **naturalistic observation**, participants will not be able to give informed consent, and its debriefing would be difficult and ineffectual. Asking participants for their consent will alert them to being studied and may therefore influence their behaviour. Therefore, it is up to the teacher to decide which situations are appropriate to observe and what would be unethical. In general, it is acceptable to conduct naturalistic observations in areas where participants would expect to be observed by strangers or "in public". Examples include in a shopping centre, on public transport, on the street.

While **surveys/questionnaires** raise fewer ethical issues than many other research methods, care should still be taken to ensure students understand that consent must still be gained before issuing a survey/questionnaire.

Data protection

All data collected must be stored in a confidential and responsible manner and not disclosed to any other person. Anonymity for each participant must be guaranteed even after the class practical has finished.

Data must not be used for purposes other than that agreed to by the participants. Any data collected or stored online must be deleted once the research is complete. Such data must not be used for any purpose other than the conduct of the class practical study.

For more information about ethical practices in psychology, teachers should refer to their national or international psychology organizations. These include: American Psychological Association, Australian Indigenous Psychologists Association, Australian Psychological Society, British Psychological Association, Canadian Psychological Association, Chinese Psychological Society, European Federation of Psychology Teachers, Japanese Psychological Association, National Association of Psychological Science (India), National Latinx Psychological Association, Pan Africa Psychology Union, Psychological Society of South Africa, The Middle East Psychological Association, The Society of Indian Psychologists. Please note that this list is not exhaustive and teachers are free to refer to other appropriate organizations.

HL extensions

Students studying DP psychology at HL have the opportunity to study four extensions: the role of culture, motivation and technology in shaping human behaviour, and data analysis and interpretation. These HL extensions are designed to extend conceptual understanding of content within the four contexts.

The concept of perspective is important with regard to cultural influences on human behaviour. Cultural perspectives, including Indigenous perspectives, on health and well-being can further students' inquiry into this context. Similarly, motivation is highly relevant to the concepts of change and also of causation. Motivation for learning, especially intrinsic motivation, has been shown to result in long-term improvements in cognition and is an essential area for students to understand change in learning outcomes as a result of motivation. The effect of technology on human behaviour is framed within all contexts, as we are all reliant on technology for health and well-being advice and communication in human relationships, and familiar with screen time concerns in human development and with the effects of technology in the classroom on learning and cognition. This is clearly related to change, but also to perspective and responsibility.

The HL extensions allow inquiry and encouraging student investigation. **Examples of areas of inquiry** are given for each context; however, teachers and students are encouraged to develop their own, based on their own specific learning contexts and needs.

Culture

Culture plays a key role in explaining differences in human behaviour across populations. When studying culture, psychologists consider a person's local culture, the culture a person is enculturated into and the global culture. Cultural diffusion has raised questions about the effect of globalization on mental and physical health, identity and the nature of relationships.

Operationalizing variables in the study of culture can be challenging. Researchers must be careful of the ecological fallacy—the assumption that because an individual is a member of a cultural group, they must share the cultural norms of that group.

One key consideration is the role of researcher bias in cultural research. An important bias is the imposed etic bias, where a researcher attempts to apply findings of the study of one culture to another culture; for example, taking the findings regarding modesty in one African culture and applying it to a South American culture, because both are agricultural societies.

Table 6.1

Contexts and examples of inquiry for culture

Context	Examples of areas of inquiry
Health and well-being	• The role of culture in health and well-being. • The role of culture in diagnosing and treating mental health issues. • Cross-cultural comparisons of the prevalence of mental health issues.
Human development	• The role of cultural dimensions in understanding the social and cognitive development of children. • The extent Western models of development can be applied to explain child development in Indigenous cultures—or vice versa. • The role of culture in developing the self.
Human relationships	• Different strategies for developing and maintaining cross-cultural relationships. • The role of culture and strategies for cross-cultural communication.
Learning and cognition	• The role of culture on learning and cognition. • The role of bilingualism on other cognitive processes. • The extent to which learning and cognition across cultures are similar and different.

Motivation

Motivation is the impetus that gives purpose or direction to behaviour and operates in humans at a conscious or unconscious level. Motives are frequently divided into primary motives, such as hunger, thirst and need for sleep, and secondary motives, such as affiliation, competition, and individual interests and goals. An important distinction must also be drawn between intrinsic (internal) motivation and extrinsic motivation, such as rewards or punishments, that can encourage or discourage certain behaviours.

Primary motives can be measured through physiological testing, e.g. glucose tests in order to determine motivation to eat in people with eating disorders. For secondary motives, direct methods are often used, such as asking the individual why they engaged in certain behaviours. These methods are reliant on self-reported data and are open to demand characteristics. Experimental methods may also be used to test the effects of different external motivators.

Intrinsic motivation is explained by the self-determination theory which argues that people's innate growth tendencies and innate psychological needs influence one's choices in the absence of external influences.

Table 6.2

Contexts and examples of inquiry for motivation

Context	Examples of areas of inquiry
Health and well-being	• The different motivational theories underpinning the prevention or treatment of a health problem. • The role of motivation in changing behaviour.
Human development	• The different motivational theories important in human development. • The role of extrinsic motivators in the social development of a child.
Human relationships	• The role of motivation to influence group behaviours. • The motivational strategies to change individual behaviours. • The role of motivators in leading to greater employee satisfaction and performance.
Learning and cognition	• The role of motivation in enhancing one cognitive process. • The strategies to motivate students to becoming independent learners. • The extent motivation can be assessed.

Technology

The increased use of technology—including mobile phones, computers, video games and artificial intelligence—has had a significant influence on human behaviour and relationships.

One of the difficulties of studying technology is the ability to isolate variables under natural conditions. Research on the role of technology often demonstrates sampling biases which may limit the generalizability of the findings. Much research is correlational in nature, presenting the problem of bidirectional ambiguity when interpreting the findings. There is also a high potential for researcher bias or confirmation bias, especially in action research carried out in school settings.

As this is a relatively new topic in psychology, there is the problem of publication bias, as well as the question of the funding of the research. Many researchers may make assumptions about the positive or negative influences of technology on behaviour and mental health. Findings from various studies have not been replicated, thus contributing to the replication crisis in psychology.

Table 6.3

Contexts and examples of inquiry for technology

Context	Examples of areas of inquiry
Health and well-being	The role of technology in assisting in the prevention or treatment of health problems. The role of technology on mental health problems. The effectiveness of tele-therapy in the treatment of disorders.
Human development	The role of technology on the development of self. The role of artificial intelligence to test models of human development. The effect of technology on attachment.
Human relationships	The impact of technology on interpersonal relationships. The role of social media contributing to group behaviour. The use of technology to assist with acculturation into a new society.
Learning and cognition	The role of technology in learning.

Context	Examples of areas of inquiry
	The effect of technology on cognition.

Data analysis and interpretation

Psychology is an empirical science, and as such research is always used to explore human behaviour. Thinking critically about research and about conclusions and generalizations based on research serves as a basis for conceptual understanding.

Table 3.4 provides a breakdown of terminology and the required skills of reading and understanding the different ways data is presented. To be critical consumers of information, students will need to analyse data and the ways it is presented. For this reason, students are expected to be familiar with the content of research methodology.

- The related terms in table 3.4 should be familiar to all HL students as they are instrumental in enabling students to apply relevant arguments about psychological research in paper 3 and their internal assessment. Opportunities should be found to teach this content, either via HL class practicals or as part of studying the content and extensions.
- Related terms in table 3.4 may be used in examination materials in paper 3. More information on teaching psychology research methods can be found in the Psychology section of the DP resources on the Programme Resource Centre.

Data analysis and interpretation

Data analysis and interpretation should be studied by SL and HL students but it is **not** assessed at SL.

Assessment in the Diploma Programme

General

Assessment is an integral part of teaching and learning. The most important aims of assessment in the Diploma Programme are that it should support curricular goals and encourage appropriate student learning. Both external and internal assessments are used in the Diploma Programme. IB examiners mark work produced for external assessment, while work produced for internal assessment is marked by teachers and externally moderated by the IB.

There are two types of assessment identified by the IB.

- Formative assessment informs both teaching and learning. It is concerned with providing accurate and helpful feedback to students and teachers on the kind of learning taking place and the nature of students' strengths and weaknesses in order to help develop students' understanding and capabilities. Formative assessment can also help to improve teaching quality, as it can provide information to monitor progress towards meeting the course aims and objectives.
- Summative assessment gives an overview of previous learning and is concerned with measuring student achievement at key points in the course of study and towards the end of the course.

A comprehensive assessment plan is viewed as being integral with teaching, learning and course organization. For further information, see the IB *Programme standards and practices* document.

The approach to assessment used by the IB is criterion-related, not norm-referenced. This approach to assessment judges students' work by their performance in relation to identified levels of attainment, and not in relation to the work of other students.

For further information on assessment within the Diploma Programme please refer to the publication *Assessment principles and practices—Quality assessments in a digital age*.

To support teachers in the planning, delivery and assessment of the Diploma Programme courses, a variety of resources can be found on the Programme Resource Centre or purchased from the IB store (store.ibo.org). Additional publications such as specimen papers and markschemes, teacher support materials, subject reports and grade descriptors can also be found on the Programme Resource Centre. Past examination papers as well as markschemes can be purchased from the IB store.

Methods of assessment

The IB uses several methods to assess work produced by students.

Assessment criteria

Assessment criteria are used when the assessment task is open-ended. Each criterion concentrates on a particular skill that students are expected to demonstrate. An assessment objective describes what students should be able to do, and assessment criteria describe how well they should be able to do it. Using assessment criteria allows discrimination between different answers and encourages a variety of responses. Each criterion comprises a set of hierarchically ordered level descriptors. Each level descriptor is worth one or more marks. Each criterion is applied independently using a best-fit model. The maximum marks for each criterion may differ according to the criterion's importance. The marks awarded for each criterion are added together to give the total mark for the piece of work.

Markbands

Markbands are a comprehensive statement of expected performance against which responses are judged. They represent a single holistic criterion divided into level descriptors. Each level descriptor corresponds to a range of marks to differentiate student performance.

A best-fit approach is used to ascertain which mark to use from the possible range for each level descriptor. This means that the examiner or teacher aims to find the descriptor that conveys most accurately the level attained by the student's work. A best-fit approach means that marks should be adjusted when a piece of work matches different aspects of a markband at different levels. The mark awarded should be one that most fairly reflects the balance of achievement against the markband. It is not necessary for every single aspect of a level descriptor to be met for that mark to be awarded.

When assessing a student's work, teachers should read the level descriptors 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.

There are a number of marks available within a level; examiners and teachers should award the upper marks if the student's work demonstrates the qualities described to a great extent; the work may be close to achieving marks in the level above. Teachers should award the lower marks if the student's work demonstrates the qualities described to a lesser extent; the work may be close to achieving marks in the level below. For example, work that has met two out of three descriptors in the mid-band and one out of three descriptors in the low band may be awarded a mark towards the bottom of the mid-band.

Analytic markschemes

Analytic markschemes are prepared for those examination questions that expect a particular kind of response and/or a given final answer from students. They give detailed instructions to examiners on how to break down the total mark for each question for different parts of the response.

Marking notes

For some assessment components marked using assessment criteria, marking notes are provided. Marking notes give guidance on how to apply assessment criteria to the particular requirements of a question.

Inclusive access arrangements

Inclusive access arrangements are available for students with access requirements. Standard assessment conditions may put students with assessment access requirements at a disadvantage by preventing them from demonstrating their attainment level. Inclusive access arrangements enable students to demonstrate their ability under assessment conditions that are as fair as possible.

The IB document *Access and inclusion policy* provides details on all the inclusive access arrangements available to students. The IB document *Learning diversity and inclusion in IB programmes* outlines the position of the IB with regard to students with diverse learning needs in the IB programmes. For students affected by adverse circumstances, the publication *Diploma Programme Assessment procedures* (updated annually), which includes the general regulations, provides details on access consideration.

Responsibilities of the school

The school is required to ensure that equal access arrangements and reasonable adjustments are provided to students with learning support requirements that are in line with the IB documents *Access and inclusion policy* and *Learning diversity and inclusion in IB programmes*.

Assessment outline—SL

First assessment 2027

Assessment component	Weighting
External assessment (3 hours)	**70%**
Paper 1 (1 hour 30 minutes) Integration of the concepts, content and contexts (35 marks) Section A: two compulsory short-answer questions from two of the three content areas Section B: two compulsory short-answer questions asking students to apply their knowledge of content to an unseen situation, each from one of four contexts Section C: students answer one of two concept-based extended response questions, each from a different context	**35%**
Paper 2 (1 hour 30 minutes) Applying concepts and content to research contexts (35 marks) Section A: four compulsory questions that focus on the class practicals Section B: evaluation of an unseen research study with regard to two or more concepts	**35%**
Internal assessment (20 hours) **Research proposal (24 marks)** Design a research proposal to investigate a population of interest using one of the four research methods used in the class practicals. This component is internally assessed by the teacher and externally moderated.	**30%**

Assessment outline—HL

First assessment 2027

Assessment component	Weighting
External assessment (4 hours 45 minutes)	**80%**
Paper 1 (1 hour 30 minutes) Integration of the concepts, content and contexts (35 marks) Section A: two compulsory short-answer questions from two of the three content areas Section B: two compulsory short-answer questions asking students to apply their knowledge of content to an unseen situation, each from one of four contexts Section C: students answer one of two concept-based extended response questions, each from a different context	**25%**
Paper 2 (1 hour 30 minutes) Applying concepts and content to research contexts (35 marks) Section A: four compulsory questions that focus on the class practicals Section B: evaluation of an unseen research study with regard to two or more concepts	**25%**
Paper 3 (1 hour 45 minutes) Data analysis and interpretation of research data (30 marks) Four source-based questions with quantitative and qualitative findings will be provided. The focus of the questions will be from one of the HL extensions.	**30%**
Internal assessment (20 hours) **Research proposal (24 marks)** Design a research proposal to investigate a population of interest using one of the four research methods used in the class practicals. This component is internally assessed by the teacher and externally moderated.	**20%**

External assessment

Two different methods are used to assess students.

- Detailed markschemes specific to each examination paper
- Markbands

The markbands are published in this guide.

- For paper 1, there are markbands.
- For paper 2, there are markbands.
- For paper 3, there are markbands.

The markbands are related to the assessment objectives established for the psychology course and the individuals and societies grade descriptors. The markschemes are specific to each examination.

External assessment details—SL

Paper 1

Duration: 1 hour 30 minutes

Weighting: 35%

Section A: assessed using markbands

Section B: assessed using markbands

Section C: assessed using markbands

Paper 2

Duration: 1 hour 30 minutes

Weighting: 35%

Section A: assessed using markbands

Section B: assessed using markbands

External assessment details—HL

Paper 1

Duration: 1 hour 30 minutes

Weighting: 25%

Section A: assessed using markbands

Section B: assessed using markbands

Section C: assessed using markbands

Paper 2

Duration: 1 hour 30 minutes

Weighting: 25%

Section A: assessed using markbands

Section B: assessed using markbands

Paper 3

Duration: 1 hour 45 minutes

Weighting: 30%

Assessed using markbands

External assessment markbands—SL and HL

Paper 1

Section A

This will comprise **two** compulsory short-answer questions designed to assess knowledge of theories and content from two of the three content areas (biological, cognitive, sociocultural).

These questions may ask students to explain or describe a psychological idea or a theory and provide an example. Examples may be a research study or a real or hypothetical situation.

Psychological terminology listed in the "Content" section of this guide will be used in formulating the questions. As the content may be taught in any of the contexts, a context will not be specified in the question.

The focus of assessment will be on students' understanding of the psychological content or theory as evidenced by their explanation and relevance of their example. Knowledge of details of research studies will not be assessed.

Responses will be assessed using these rubrics (8 marks).

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• The response demonstrates limited knowledge relevant to the question. • The example is relevant but is not explained.
3–4	• The response demonstrates detailed knowledge relevant to the question. • The example is relevant and explained.

Section B

This will comprise **two** compulsory short-answer questions that are designed to assess the student's ability to apply knowledge to new situations or in new scenarios. Students will be required to apply their understanding of content to a context-specific situation or scenario.

Psychological terminology listed in the "Content" section of this guide will be used in formulating the questions. Each question will be based on one of the four contexts. The situation or scenario will be provided as part of the question.

The focus of assessment will be for students to apply their knowledge of content to an unseen situation.

Responses will be assessed using these rubrics (12 marks).

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• Knowledge and understanding of the question are limited. • The application of knowledge is relevant but limited.
3–4	• Knowledge and understanding have some detail and are mostly accurate. • The application of knowledge is relevant and partially developed.

Mark	Level descriptor
5–6	• Knowledge and understanding are accurate and detailed. • The application of relevant knowledge is well developed.

Section C

This will comprise **two** concept-based extended response questions, each from a different context. Students will be required to answer **one** of the two questions.

The focus of assessment is on conceptual understanding and the ability to think critically about psychology. Knowledge of specific details of research studies is not assessed.

Responses will be assessed using these rubrics (15 marks).

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–3	• The response indicates little understanding of the demands of the question. Knowledge and understanding of the area of study/concept are very limited and contain inaccuracies. • The response is descriptive. Any analysis present is superficial or incoherent. Links between the area of study and the concept are not stated, or they are not relevant. Where a conclusion is included, this is very superficial or is not consistent with the rest of the response. • Psychological terminology is not used or is consistently used inappropriately. Points are frequently inaccurate and unclear.
4–6	• The response indicates some understanding of the demands of the question. Relevant knowledge and understanding of the area of study/concept are described. • There is limited analysis present and overall the response is more descriptive than it is analytical. Links between the area of study and the concept are stated, and they are partly relevant. A simplistic conclusion is included. • Psychological terminology is used, but often inappropriately. Points are frequently imprecise or vague.
7–9	• The response indicates understanding of the demands of the question, but these demands are only partially addressed. Relevant knowledge and understanding of the area of study/concept are partly explained. • The response contains analysis, although this analysis lacks development. Links between the area of study and the concept are explained, and they are partly relevant. A conclusion is included but it is not always consistent with the arguments presented. • Psychological terminology is used sometimes appropriately. Relevant points are made but lack accuracy and development.
10–12	• The demands of the question are addressed. Relevant knowledge and understanding of the area of study/concept are mostly explained. • The response contains critical analysis, although this analysis lacks development. Links between the area of study and the concept are included and explained. The response argues to a conclusion that is consistent with the arguments presented. • Psychological terminology is used, mostly appropriately. Points made are relevant and accurate but lack detail.
13–15	• The demands of the question are addressed. Relevant knowledge and understanding of the area of study/concept are fully explained.

Mark	Level descriptor
	• The response contains well-developed critical analysis. Links between the area of study and the concept are included throughout the response and fully explained. The response argues to a reasoned and clearly stated conclusion that is consistent with the arguments presented. • There is accurate and precise use of psychological terminology. Points are relevant, accurate and detailed.

Paper 2

Section A

This will comprise **four** compulsory questions that focus on the class practicals.

The focus of the assessment will be on the research method itself rather than the context in which the practical was conducted.

Responses will be assessed using these rubrics.

Question 1: Knowledge and understanding
(4 marks)

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• The response demonstrates limited knowledge and understanding of the research methodology relevant to the class practical. • Psychological terminology is limited or contains some inaccuracies.
3–4	• The response demonstrates detailed knowledge and understanding of the research methodology relevant to the class practical. • Psychological terminology is used accurately.

Question 2: Application
(4 marks)

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• The knowledge and understanding of the concept are relevant but limited. • There are some relevant links between the concept and the class practical.
3–4	• The knowledge and understanding of the concept are well developed. • There are clear and detailed links between the concept and the class practical.

Question 3: Compare and contrast
(6 marks)

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• Similarities or differences are described in limited detail or contain errors. • There is limited psychological terminology relevant to the research methods.

Mark	Level descriptor
3–4	• Similarities and differences are explained in limited detail and may lack clarity or either similarities or differences are discussed in detail. • Psychological terminology relevant to the research methods is used, but with some inaccuracies.
5–6	• Similarities and differences are discussed in detail. • Psychological terminology relevant to the research methods is used effectively.

Question 4: Design
(6 marks)

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• The procedure of the research method is described in limited detail or contains inaccuracies. • There is limited use of psychological terminology relevant to the research method.
3–4	• The procedure of the research method is explained in some detail but lacks clarity. • Psychological terminology relevant to the research method is used, but with some inaccuracies.
5–6	• The procedure of the research method is explained with accuracy and detail. • Psychological terminology relevant to the research method is used effectively.

Section B

This will comprise a question requiring students to discuss a research study with regard to two or more concepts. The study will be provided in the source material. The study may be experimental or non-experimental. The study will align to one of the four contexts. The question will specify four or more of the concepts.

Responses will be assessed using these rubrics (15 marks).

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–3	• The response indicates little understanding of, and critical engagement with, any of the specified concepts in relation to the study. • The response is descriptive. Any analysis present is superficial or incoherent. Links between concepts and source material are not included or are irrelevant to the discussion. Where a conclusion is included, this is very superficial or is not consistent with the rest of the response. • Psychological terminology is not used or is consistently used inappropriately. Points are frequently inaccurate and unclear. There are few, if any, references to the study.
4–6	• The response indicates a basic understanding of, and critical engagement with, at least one of the specified concepts in relation to the study. • There is limited analysis present and overall the response is more descriptive than it is analytical. Links between concepts and the study are of limited relevance or ineffectively support the discussion. A simplistic conclusion is included.

Mark	Level descriptor
	• Psychological terminology is used, but often inappropriately. Points are frequently imprecise or vague. There are occasional references to the study.
7–9	• The response indicates some understanding of, and critical engagement with, one or more of the specified concepts in relation to the study. • The response contains analysis, although this analysis lacks development. Links between concepts and the source material are relevant, but they lack development in support of the discussion. A conclusion is included. • Psychological terminology is used, sometimes appropriately. Relevant points are made but lack accuracy and development. Specific references to the study are made, although these are sometimes ineffective.
10–12	• The response indicates good understanding of, and critical engagement with, at least two of the specified concepts in relation to the study. • The response contains critical analysis, although this analysis lacks development. Links between concepts and the study are used to support the discussion. The response argues to a conclusion that is consistent with the arguments presented. • Psychological terminology is used, mostly appropriately. Points made are relevant and accurate but lack detail. There are specific references to the study.
13–15	• The response indicates very good understanding of, and critical engagement with, two or more of the specified concepts in relation to the study. • The response contains well-developed critical analysis. Links between concepts and source material are relevant and well developed and effectively support the discussion. The response argues to a reasoned and clearly stated conclusion that is consistent with the arguments presented. • There is accurate and precise use of psychological terminology. Points are relevant, accurate and detailed. There are specific and effective references to the study.

External assessment markbands—HL only

HL extensions will be assessed in paper 3. Four source-based questions with quantitative and qualitative findings will be provided. The focus of the questions will be from one of the HL extensions. For example, the sources could focus on the role of motivation in learning (learning and cognition), the potential effects of technology on mental health (health and well-being) or the role of culture in group dynamics (human relationships).

Students will be required to answer four questions based on the sources. Some questions will be solely focused on analysing data and interpreting the results of the provided studies, whereas other questions will require students to make conclusions and generalizations based on both the sources and their general understanding of the HL extension. This means that knowledge of the extension will be assessed in its application to unseen material.

To be prepared for this paper, HL students should have an in-depth understanding of principles of data analysis and interpretation as well as knowledge and appreciation of the challenges surrounding psychological research in the areas of culture, motivation and technology in shaping human behaviour.

Paper 3

This will comprise a source-based paper and is focused on the HL extensions. Paper 3 requires students to analyse data and findings from several sources provided. The sources will reflect one of the following HL extension inquiry topics within one of the four contexts.

- The role of culture in shaping behaviour

- The role of motivation in shaping behaviour
- The role of technology in shaping behaviour

The research data will be provided in the sources. The data and findings may be authentic or created specifically for the examination. The sources will be from both quantitative research and qualitative research and may be experimental or non-experimental.

The focus of assessment for the four questions will be on the interpretation of graphs, data analysis, research considerations and synthesis of data sources.

Question 1: Interpretation of graphs

This question requires students to explain **one** issue that limits the interpretation of the information from a given source (3 marks).

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1	A relevant issue is identified.
2	A relevant issue is clearly described.
3	A relevant issue is explained.

Question 2: Data analysis

This question requires students to analyse the findings from **one** of several given sources and state a conclusion (6 marks).

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• There is limited analysis of the data or the analysis contains inaccuracies. • A conclusion is attempted but it is not relevant.
3–4	• Analysis of the data is accurate but lacks detail or development. • A conclusion is stated but the link to the findings lacks clarity.
5–6	• The data is analysed in detail. • A conclusion is stated that is explicitly linked to the findings.

Question 3: Research considerations

This question requires students to consider qualitative research considerations of credibility, bias or transferability. The examination paper will comprise **one** of the following questions in reference to one of the sources (6 marks).

- Discuss how the researcher could improve the credibility of the findings.
- Discuss how the researcher could avoid bias.
- To what extent are the findings transferable to other populations or contexts?

Mark	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• Discussion shows limited understanding of the research consideration. • Reference to relevant supporting evidence from the source is limited or missing.
3–4	• Discussion shows some understanding of the research consideration, but with some inaccuracies.

Mark	Level descriptor
	• Reference to relevant supporting evidence from the source is implicit.
5–6	• Discussion shows detailed understanding of the research consideration. • Reference to the relevant supporting evidence from the source is explicit.

Question 4: Synthesis

This question requires students to interpret at least **three** of the given sources from the resource booklet and use their own knowledge to discuss the validity of the claim illustrated by these sources. The claim will be stated as part of the question (15 marks).

Mark	Descriptor
0	The work does not reach a standard described by the descriptors below.
1–3	• The response indicates little understanding of the demands of the question. Knowledge and understanding relevant to the claim are anecdotal or of very marginal relevance. • The response is mostly descriptive. Any analysis present is superficial or incoherent. Knowledge relevant to one or more of the sources is included but there is no clear link to the claim. • There is little or no discussion of different points of view. Where a conclusion is included, it is superficial or is not consistent with the rest of the response.
4–6	• The response indicates some understanding of the demands of the question. Knowledge and understanding relevant to the claim are limited or of marginal relevance. There is limited discussion of the extent to which the claim is valid. • The response contains limited analysis and overall is more descriptive than analytical. Relevant knowledge is used to interpret one or more of the sources but with inaccuracies or without a clear link to the claim. • There is little relevant discussion of different points of view. A simplistic conclusion is included.
7–9	• The response indicates understanding of the demands of the question, but these demands are only partially addressed. Knowledge and understanding relevant to the claim are limited or lack clarity. There is some discussion of the extent to which the claim is valid. • The response contains analysis, although this analysis lacks development. Relevant knowledge is used to interpret at least two of the sources but the link to the claim is limited. • There is some discussion on relevant and different points of view. The response includes a conclusion that is only partially supported by evidence.
10–12	• The demands of the question are understood and addressed. Knowledge and understanding relevant to the claim have some detail with some development. There is discussion of the extent to which the claim is valid, but the response lacks some detail. • The response contains critical analysis, although this analysis lacks development. Relevant knowledge is used to interpret two or more of the sources to support the discussion of the claim. • There is some discussion of different points of view. The response argues to a conclusion that is consistent with the arguments presented.
13–15	• The demands of the question are understood and addressed. Knowledge and understanding relevant to the claim are detailed and well developed. There is detailed relevant discussion of the extent to which the claim is valid.

Mark	Descriptor
	• The response contains well-developed critical analysis. Relevant knowledge is used to interpret at least three of the sources and is used effectively to support the discussion of the claim. • Different points of view are identified and evaluated. The response argues to a reasoned and clearly stated conclusion that is consistent with the arguments presented.

Internal assessment

Purpose of internal assessment

Research proposal

The internal assessment (IA) asks students to consider the power of psychology to lead to real improvement in people's quality of life. The task focuses on the design of a research proposal for a "population of interest" using one of the four research methods used in the class practicals. A population of interest is a group which shares common characteristics from which the researcher wishes to study and draw conclusions or inferences. The focus of the assessment of the IA is on students' ability to justify their methodological decision-making, not on their ability to design the perfect study. Students are not expected to put their proposal into practice and actually conduct the research.

The IA shows students that psychological research is conducted with the goal of continuous change and improvement of the human condition. For the purpose of the IA, the population of interest can be selected from within the school community, a local community or a national community. Further guidance on selecting a population of interest will be provided in the teacher support materials. The problem to be investigated should have relevance to the chosen population of interest (e.g. self-esteem and social media; language acquisition and acculturation). It is not expected that students or teachers are experts in the area of psychological investigation and/or the population of interest. It is hoped students will develop a degree of understanding of the chosen topic through the IA research process. However, teachers will be able to effectively guide students through the IA process without being familiar with each student's choice of topic.

The IA enables students to demonstrate the application of their skills and knowledge, and to pursue their personal interests without the time limitations and other constraints that are associated with written examinations. The IA should, as far as possible, be woven into normal classroom teaching.

Students should select **one** of the following research methods for their research proposal.

- Experiment (true or quasi-)
- Interviews (structured, semi-structured or focus group)
- Observations (naturalistic or controlled, overt or covert, participant or non-participant)
- Survey/questionnaire

Time allocation

Internal assessment is an integral part of the psychology course, contributing 30% at SL and 20% at HL to the final assessment. It is recommended that a total of approximately 20 hours of teaching time should be allocated to the work.

This should include time for:

- teachers to explain to students the requirements of the internal assessment
- students to research the chosen topic
- a review of the ethical guidelines for the course
- the completion of a rough draft
- students to consult with teachers
- teachers to review and monitor progress to verify authenticity.

The nature of the research proposal

Students will **not** conduct the research that is being proposed, but they may propose methodological aspects that are normally unfeasible for DP students. For example, it would be inappropriate and unethical for students to actually interview participants who have depression. However, as this is a purely hypothetical situation, it could be included in a student's proposal. Another example would be to conduct longitudinal studies. These would not be feasible with students in their final years of their DP, yet given the hypothetical nature of this proposal, a study may be proposed that would take place over many years.

Whatever a student chooses to study, it must be within the field of psychology and related to other studies or similar published research.

High standards of ethical practice are central to the IB philosophy and should be met even though students will not actually conduct the research. The guidelines in "Ethics in class practicals" in the "Syllabus" section should be followed with these caveats.

- Ingestion is not allowed, although investigation into self-reported dietary choices is permissible. Some sensitive topics may be investigated which would not be allowed for practicals—e.g. mental health, body image, neurodiversity or cultural differences.
- The research proposal should be conducted as if it must be passed by an ethics committee. Studies which are unjustifiably unethical are inappropriate. For example, studies which propose withholding food from participants, forced participation or public humiliation.
- The use of animals is not allowed.

Sensitive topics are often interesting for students to explore. However, these topics may be difficult for teachers and examiners to read. In order to protect both students and adults from reading material that could be seen as sensitive, the following topics must **not** be the focus of the internal assessment.

- Abuse (sexual, physical, emotional)
- Self-harm (including suicide)
- Pornography, rape or other sexual acts
- Serial killers or acts of torture

This list is not exhaustive and other topics may not be suitable. Teachers should give guidance to students about topics that might be considered sensitive or controversial in a local context.

Connections to concepts

The following table provides guidance for how students may approach a discussion of concepts within the teaching of the internal assessment. It is not required to teach all the terminology here; rather it is guidance for discussions and activities that increase students' conceptual understanding.

Bias	During the research proposal, students are required to consider how their personal biases may have influenced their research design. This can include, but is not limited to, a consideration of gender, culture or personal experience. Further discussion of their proposal may consider other biases such as participant, sampling and researcher bias.
Causality	When selecting their research methodology for their proposal, students will explore the complexity of the concept of causality and consider how and why their chosen methodology explores different types of relationships between phenomena.
Change	Students will be considering how their research proposal could create change. This may be in terms of addressing the needs of the population of interest, or a consideration of how the potential findings may have wider implications for future research, policies and practices.
Measurement	Students will be exploring how psychologists measure behaviour and proposing their own approach to measuring behaviour. They will create materials that measure variables and consider issues that arise when measuring behaviour.

Perspective	Students have the opportunity to explore a real-life problem that applies a psychological concept to a population of interest. Therefore, they will be exploring research from a biological, cognitive or sociocultural approach using psychological theories, models and research to guide their proposals. Students have freedom to explore the perspective of a population of interest to them.
Responsibility	Students will engage in how psychologists design responsible research while balancing the needs of participants by meeting ethical standards in research. If students explore socially sensitive topics, they should demonstrate an awareness of their responsibility to ensure ethical research.

Structure of research proposal

The research proposal should be structured to reflect the four IA criteria. That is, each proposal should feature an introduction, research methodology, data collection and discussion. This section outlines how a research proposal should be set out. Examples given are for illustration only and teachers should choose topics which reflect their students' interests and resources.

The research proposal should be submitted as a written report and can include tables, graphs or pictures if relevant to the report. The report must not exceed 2,200 words in length. Examiners will be instructed to stop reading when this limit is reached.

Introduction

The introduction to the research proposal should include the following.

- An aim that is relevant and clearly focused on the population of interest.
    - The aim should be relevant to the stated real-life problem and focused on the impact on the population of interest.
- A description of a real-life problem and an explanation of its impact on a population of interest.
    - The IA is an opportunity for students to investigate an area of interest to them, to enrich their studies and stimulate their curiosity. Examples of topics which could be explored include sleep and mental health, body image and self-esteem, or stress and memory. Students are encouraged to seek out research associated with the population that they are investigating. They should explain why this research is important to the current proposal.
- The findings and key conclusions of two pieces of relevant research.
    - Students should include abstracts (findings and key conclusions) of two pieces of relevant research. This should be in the form of a brief literature review. No procedural details are required, unless they are directly relevant to the current proposal (for example, it is planned to be conducted on a similar sample). It is recommended that students read broadly around psychological investigations relevant to their real-life problem before selecting two studies for their introduction.

Research methodology

The research methodology should include the following.

- A justification of the choice of research methods from the following list.
    - Experiment (true or quasi-)
    - Interview (structured, semi-structured or focus group)
    - Observation (naturalistic or controlled, overt or covert, participant or non-participant)
    - Survey/questionnaire
- An explanation of why the proposed research method is appropriate for the investigation.

- The choice of procedure should be explained. The procedure refers to all decisions about planning and carrying out the investigation, including, but not limited to, sampling technique, sample characteristics, design (if experimental), setting and process.

- An explanation of the relevant ethical considerations in conducting the study.
  - Students should explain ethical considerations relevant to their investigation. In addition, they should explain steps that can be taken to minimize or address ethical issues. Particular attention should be paid to the ethical issues of working with vulnerable populations and/or investigating sensitive topics if this is relevant to the students' proposal.

Data collection

The data collection requirement should include the following.

- The creation of **one** data collection tool to measure behaviour relevant to the aim of the investigation. Acceptable tools may include but are not limited to:
  - a measurement tool such as a questionnaire or Likert-type scales
  - an observation checklist or an interview schedule.

Any data collection tool used for a survey/questionnaire, structured interview or controlled observation should contain a minimum of five items. A copy of the tool should be provided in the appendix. For example, for a questionnaire there should be at least five questions. This is necessary for completing the IA task. Students are not required to provide completed material beyond the data collection tool. For example, there is no requirement for an informed consent form or standardized instructions.

- An explanation of the decisions made when creating the data collection tool.
  - Students are required to explain why they created the data collection tool. This may include but is not limited to selection or categorization of variables (identifying and operationalizing variables from the topic of interest), types of questions, use of measures, links to existing measures or materials, and an explanation of how the tool measures what is intended to be measured.
- A discussion of potential challenges when collecting data. Students should discuss factors that could potentially affect their data collection and their findings. These may include, but are not limited to the following.
  - Participant variability
  - Practice effects (fatigue/boredom)
  - Order effects
  - Researcher bias
  - Response bias
  - Validity of the data collection tool
  - Controlling variables
  - Demand characteristics/social desirability bias

Discussion

The discussion should include the following.

- A discussion of the potential findings of the investigation and the implication(s) for policy/practice.
  - Students are asked to discuss how these findings may have wider implications for future research, policies and/or practices. Policies may be small scale (for example a student health and well-being policy) or larger scale (such as a national health campaign). Practices refers to practical applications of the findings to benefit the population of interest and or others.
- A discussion of how researcher bias may have affected the investigation. Students could address the following types of question.
  - How has my personal history influenced the choice of topic?

    - How do my gender, culture and/or background and my relation to my potential participants influence my position on this topic?
    - How might my personal values or beliefs influence my interpretation of the data and/or my conclusions?
- A discussion of one additional method for investigating the same topic.
    - No research method is perfect, and we can gain a more holistic picture of any psychological topic by studying it from multiple methodological perspectives. Students should suggest a different additional research method to further investigate the same research question. They should discuss why this additional research method would increase understanding of the topic.

The presentation of the research proposal

The following details should be stated on the title page of the research proposal.

- Title of the investigation
- Number of words

The research proposal should be submitted as a written report and can include tables, graphs or pictures if relevant to the report. The report must not exceed 2,200 words in length. Examiners will be instructed to stop reading when this limit is reached.

References and the appendices are not included in the word count but must be included in the report. The references are not assessed but must be included to meet the requirements of *Academic integrity policy*.

The selected research may be in any language, but students should include a translation of the title in the references to assist examiners. Research may be either qualitative and/or quantitative. Both are equally acceptable.

Using assessment criteria for internal assessment

For internal assessment, a number of assessment criteria has been identified. Each assessment criterion has level descriptors describing specific achievement levels, together with an appropriate range of marks. The level descriptors concentrate on positive achievement, although for the lower levels failure to achieve may be included in the description.

Teachers must judge the internally assessed task against the criteria using the level descriptors.

- The aim is to find, for each criterion, the descriptor that conveys most accurately the level attained by the student, using the best-fit model. A best-fit approach means that compensation should be made when a piece of work matches different aspects of a criterion at different levels. The mark awarded should be one that most fairly reflects the balance of achievement against the criterion. It is not necessary for every single aspect of a level descriptor to be met for that mark to be awarded.
- When assessing a student's work, teachers should read the level 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 level, teachers should award the upper marks if the student's work demonstrates the qualities described to a great extent; the work may be close to achieving marks in the level above. Teachers should award the lower marks if the student's work demonstrates the qualities described to a lesser extent; the work may be close to achieving marks in the level below.
- 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-level 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 achievement level in relation to one criterion will not necessarily attain high achievement levels in relation to the other criteria. Similarly, a student who attains a low achievement level for one criterion will not necessarily attain low achievement levels for the other criteria. Teachers should not assume that the overall assessment of the students will produce any particular distribution of marks.
- It is recommended that the assessment criteria be made available to students.

Internal assessment criteria

The following rubric is used in the assessment.

Criterion A: Introduction (6 marks)

Marks	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• The aim or research question is stated but not clearly expressed or is too broad. • The real-life problem is stated. • The findings and conclusions of two pieces of research are not clearly stated and are not made relevant to the investigation, or only one piece of research is included.
3–4	• The aim or research question is clearly stated but only partially focused. • The real-life problem is described, but the impact on the population of interest is not addressed. • Relevant findings and conclusions of two pieces of research are described and linked to the investigation or only one is explained and linked to the investigation.
5–6	• The aim or research question is clearly stated and focused. • The real-life problem is described and the impact on the population of interest is explained. • Relevant findings and conclusions of two pieces of research are explained and linked to the investigation.

Criterion B: Research methodology (6 marks)

Marks	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• The research method is described with errors in understanding. • The procedure is described but is unclear due to errors or omissions. • Ethical considerations are described but not linked to the investigation.
3–4	• The choice of research method is described. • The procedure is described but lacks detail. • Relevant ethical considerations are described but some are not linked to the investigation.
5–6	• The choice of research method is explained. • The procedure is explained. • Relevant ethical considerations are described and explicitly linked to the investigation.

Criterion C: Data collection (6 marks)

Marks	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• An appropriate data collection tool has been created to measure behaviour, but it contains errors. • Decisions made when creating the data collection tool are in limited detail or have limited relevance to the aim or research question of the investigation. • Potential challenges when collecting data are described in limited detail and/or are not relevant to the investigation.
3–4	• An appropriate data collection tool has been created to measure behaviour. • Decisions made when creating the data collection tool are described and relevant to the aim or research question of the investigation. • Potential challenges when collecting data are described and relevant to the investigation.
5–6	• An appropriate and effective data collection tool to measure behaviour has been created. • Decisions made when creating the data collection tool are explained and relevant to the aim or research question of the investigation. • Potential challenges when collecting data are explained and relevant to the investigation.

Criterion D: Discussion (6 marks)

Marks	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• Potential findings of the investigation are described but the implication(s) for policy/practice are not addressed. • One or more examples of researcher bias are identified. • The usefulness of one relevant additional research method is described, without reference to increasing the understanding of the area of investigation.
3–4	• Potential findings of the investigation are described and the implication(s) for policy/practice are partially addressed. • One or more relevant examples of researcher bias are described. • The usefulness of one relevant additional research method is discussed without reference to increasing the understanding of the area of investigation.
5–6	• Potential findings of the investigation are described in detail and the implication(s) for policy/practice are explained. • One or more relevant examples of how researcher bias may affect the investigation are discussed. • The usefulness of one relevant additional research method is discussed with reference to increasing the understanding of the area of investigation.

Glossary of command terms

Command terms for psychology

Students should be familiar with the following key terms and phrases used in examination questions, which are to be understood as described below. Although these terms will be used frequently in examination questions, other terms may be used to direct students to present an argument in a specific way.

These command terms indicate the depth of treatment required.

Assessment objective 1—knowledge and understanding

Command term	Definition
Describe	Give a detailed account.
State	Give a specific name, value or other brief answer without explanation or calculation.

Assessment objective 2—application and analysis

Command term	Definition
Analyse	Break down in order to bring out the essential elements or structure.
Apply	Use an idea, equation, principle, theory or law in relation to a given problem or issue.
Comment	Give a judgement based on a given statement or result of a calculation.
Design	Produce a plan, simulation or model.
Explain	Give a detailed account including reasons or causes.
Interpret	Use knowledge and understanding to recognize trends and draw conclusions from given information.
Predict	Give an expected result.
Suggest	Propose a solution, hypothesis or other possible answer.

Assessment objective 3—synthesis and evaluation

Command term	Definition
Compare and contrast	Give an account of similarities and differences between two (or more) items or situations, referring to both (all) of them throughout.
Discuss	Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.
Evaluate	Make an appraisal by weighing up the strengths and limitations.
Examine	Consider an argument or concept in a way that uncovers the assumptions and interrelationships of the issue.

Command term	Definition
To what extent?	Consider the merits or otherwise of an argument or concept. Opinions and conclusions should be presented clearly and supported with appropriate evidence and sound argument.

Glossary of subject-specific terms

Glossary term	Glossary definition
acculturation	The process through which individuals from one culture come into contact with and adopt the behaviours, norms and values of another culture.
anecdotal data	Data that is informal from accounts that are not systematically collected. It lacks scientific rigour or empirical support.
approach/perspective	Used interchangeably—these are different theoretical frameworks applied to understand human behaviour.
artefact (brain imaging)	In the context of brain imaging, artefacts are unwanted errors in the images that can arise from movement, scanner malfunction or other external factors.
bar graph	A visual representation of data using separate rectangular bars to show the values of different categories or variables. The length or height of each bar is proportional to the quantity it represents.
behaviour	Behaviour is observable action, in response to internal biological changes, cognitive processes and environmental factors. In DP psychology, intelligence, memory, motivation, language, learning, empathy, relationships—not all of which are directly observable—are accepted as examples of behaviour.
bidirectional ambiguity	When the direction of cause and effect between two variables is unclear. It is challenging to determine which variable influences the other or if there is a mutual interaction.
case study	A detailed analysis over time of an area of interest (a case) to produce context-dependent knowledge. A case study could also be an in-depth study of an individual. For the purpose of DP psychology, case studies are considered a research method and use other research methods, such as interviews and observations, to collect data.
causation	The relationship between cause and effect, where one event or factor directly brings about another. It describes how changes in one variable result in changes in another.
cognitive bias	A systematic pattern of deviation from norm or rationality in judgement.
cognitive error	These include errors in memory, attention or perception. Often suggested to be the result of a lack of information or the use of mental shortcuts (heuristics).
cognitive process	Any mental function involved in the acquisition, storage, interpretation, manipulation, transformation and use of knowledge. Examples of these processes include attention, learning, memory, perception, thinking and decision-making.
concept	Organizing ideas with distinct attributes that are shared across multiple areas. In DP psychology, the concepts are bias, causality, change, measurement, perspective and responsibility.

Glossary term	Glossary definition
conceptual understanding	A comprehension of the underlying principles and connections of a theory, model or idea, beyond mere memorization.
confirmation bias	The tendency to seek, interpret and remember information that confirms pre-existing beliefs while ignoring or downplaying contradictory evidence.
construct	An abstract idea, concept or variable that cannot be directly observed but is used to explain or measure aspects of human behaviour. Examples include intelligence and self-esteem.
content analysis	A data analysis method of examining, organizing and interpreting the content of numerical, written, visual or verbal material, such as data sets, texts or interviews, to identify key themes that can provide insights into human behaviour. It can be used in both quantitative and qualitative research.
context	Circumstances, events and settings that give relevance to learning and information. In DP psychology the contexts are health and wellness, human development, human relationships, and learning and cognition.
controlled observation	A method in which researchers closely monitor and record specific behaviours in a controlled environment, such as a laboratory or a classroom, to gather data.
correlation	A method of measuring the relationship between two variables that may move in the same direction (positive correlation) or move in opposite directions (negative correlation).
correlation coefficient	A numerical value that represents the strength and direction of the relationship (correlation) between two variables. It ranges from -1 (perfect negative correlation) to 1 (perfect positive correlation).
correlational research	A type of study investigating relationships between variables without any control over the setting; a focus on two variables.
cost-benefit analysis	An evaluation of the positive and negative consequences of a decision by comparing the costs involved with the rewards it offers. In psychology it is often applied to the ethics of research: the benefits of the knowledge generated are compared with the cost to the individual participant of being deceived regarding the real aim of the study.
covert observation	Observing participants without their knowledge, to avoid participant expectations altering their behaviour.
credibility	The degree to which the research gives a true picture of what is being investigated and the results represent the perceptions and opinions of the research participants. Credibility is a factor in establishing trustworthiness in qualitative research.
critical thinking	Analysing, evaluating and synthesizing information and arguments to make reasoned and informed judgements or decisions.
cross-sectional research design	A type of study that collects data from participants at a single point in time. It is often used to compare different groups of people or variables at a specific moment, providing a snapshot of their behaviour.
culture	The shared beliefs, values, norms and behaviours of a group of people. It plays a significant role, through enculturation, in shaping individual and collective identity and behaviour.

Glossary term	Glossary definition
cultural bias	The tendency to interpret people's behaviour based on one's own cultural norms and values. It can lead to misunderstandings and unfair judgements when assessing individuals from different cultures.
cultural competence	The ability to interact effectively and sensitively with individuals from diverse cultures. It involves understanding and respecting cultural differences and adapting communication and practices to be inclusive and culturally sensitive.
deductive research methodology	A method where researchers start with a general theory or hypothesis and then collect data to test or confirm that hypothesis. It involves moving from a general idea to specific conclusions.
descriptive statistics	These are used to calculate and describe spread of data and measures of central tendency.
determinism	The argument that events, including human actions and choices, are predetermined and inevitable. In psychology, the term is used in relation to biology or environment and implies little or no personal choice in human behaviour.
digital technology	Electronic technology that generates, stores and processes data (for example, smart phones and computers).
double-blind design	When neither the participants nor the researchers conducting the study are aware who is in the control group and who is in the experimental group. This is done to minimize bias and increase the reliability of results.
emic perspective/approach	This involves research that studies a culture or group from within, focusing on its unique beliefs, values and norms. It seeks to understand phenomena from the perspective of the individuals within that culture.
empirical data	Data collected through systematic and objective methods. Information or evidence that is based on direct observation or experience rather than purely theoretical or abstract concepts.
enculturation	The process of learning and adopting the cultural norms, values and behaviours of one's own culture, typically through socialization and upbringing.
ethical consideration	Considerations that are vital in any psychology investigation; they concern the ethics of treating participants fairly and without causing harm.
etic perspective/approach	Research that studies cultures or groups from an outsider's perspective, often using universal criteria that apply across cultures. It aims to identify common behaviours and make comparisons.
experimental controls	Measures put in place during research to minimize the influence of extraneous variables that could affect the results. These controls help ensure that changes in the dependent variable are due to the manipulation of the independent variable.
extraneous variable	Variables other than the independent variable in an experiment that can potentially influence the dependent variable. If not controlled, they can become confounding variables.
focus group	A research method involving a small group discussion led by a facilitator to gather diverse opinions and insights on a particular topic.

Glossary term	Glossary definition
frequency table	A data presentation method that displays the number of times each value or category appears in a data set.
genetic inheritance	Genetic inheritance refers to the passing of traits and characteristics information from one generation to the next through the transmission of genes from parents to offspring. It plays a crucial role in the development of traits and behaviours in individuals.
generalizability	The extent to which research findings or conclusions drawn from a study can be applied to a different population or other settings. It demonstrates the external validity of research.
graph (chart)	A visual representation of data, often used in psychology to illustrate patterns, trends or relationships between variables. Common types include bar graphs, box and whiskers plots and scatter plots.
histogram	A visual representation that uses touching rectangular bars to illustrate a frequency distribution—how often each value occurs in a data set. The length or height of each bar is proportional to the quantity it represents and the shape of the histogram shows the distribution of the data.
holism	An approach in psychology that emphasizes the idea that human behaviour should be viewed as a whole integrated experience, and not as separate parts. (Opposite of reductionism.)
Indigenous psychologies	Indigenous psychologies are distinct from mainstream Western psychology. They refer to the diverse and culturally relevant ways of understanding and studying human behaviour and cognitive processes within specific Indigenous communities. These psychologies are rooted in the cultural, historical and social contexts of these communities and often incorporate traditional beliefs, practices and world views.
Indigenous societies	Communities who are native to a particular region or land and have a unique cultural, historical and often ancestral connection to that place. They are distinct from the dominant cultures that may have colonized or influenced the region.
inductive research methodology	An approach in which researchers start with specific observations or data and use them to develop broader theories or general principles. It involves moving from specific instances to generalizations. An example is grounded theory, where the theory is developed from ("grounded in") the data, rather than the other way around.
innate	Describes qualities, characteristics or abilities that are present in an organism from birth or are inherent to its nature, rather than being learned or acquired through experience.
interpretive approach	Understanding of human behaviour through subjective analysis and context. It emphasizes the role of personal meaning and cultural context in understanding behaviour.
line graph	A straight or curved line used to depict where data points lie on a chart.
longitudinal design	A research design in which data is collected from the same individuals or groups over an extended period, in order to study changes or developments over time.
maturation	The natural process of individual growth and development over time, leading to changes in physical, cognitive and emotional abilities.

Glossary term	Glossary definition
model	A theoretical representation or framework used to explain and understand complex processes in order to test hypotheses and make predictions.
motivation	The impetus that gives purpose or direction to behaviour and operates in humans at a conscious or unconscious level.
mundane realism	The degree to which a research study or experimental setting resembles real-life situations and experiences. It impacts the external validity of findings.
naturalistic observation	Observing and recording behaviour in a natural setting (such as on the street or in a supermarket) without researcher interference, to study behaviour as it occurs naturally.
non-participant observation	Observing a group or situation without actively participating, maintaining a more objective "outsider" view.
operationalization	Stating exactly how a variable will be manipulated or measured in experimental research.
overt observation	Observing participants openly, so they are aware of being watched.
participant bias	Occurs when participants in a study alter their behaviour or responses due to their awareness of being observed or their expectations about the study's purpose.
participant observation	Researchers immerse themselves in the activities of the group being studied, participating in them to gain a deeper understanding of the group's behaviour.
placebo	A treatment that has no therapeutic effect but is given to participants in a research study. It helps researchers assess the effects of an active treatment by comparing it to the non-active placebo.
positivism	Emphasizes the use of empirical evidence and scientific methods to gain knowledge and understand the human behaviour. It contrasts with more interpretive or qualitative approaches in psychology.
prevalence	The proportion or percentage of a population that shows a particular condition or trait at a specific point in time or over a lifetime. It is commonly used in health and wellness research.
prospective research	Research that follows individuals or groups over time, collecting data periodically. Used to investigate the outcomes of specific events or conditions.
psychological literacy	The understanding of psychology and application of problem-solving skills and psychological principles to real-life problems in different contexts. Includes acting ethically, thinking critically, cultural competence and self-awareness.
publication bias	When the results of research are selectively published based on the direction or significance of their findings. It can lead to a partial and biased representation of the research literature, as studies with positive or statistically significant results are more likely to be published.
qualitative research methodology	The collection and analysis of textual or verbal data to understand and explore the meaning behind people's behaviour. Methods such as interviews, observations and content analysis are used to investigate the experiences and meanings that individuals attribute to them.

Glossary term	Glossary definition
quantitative research methodology	The collection and analysis of numerical data to examine relationships between variables. It relies on statistical techniques to test hypotheses and make inferences about populations based on data.
quasi-experiment	A research method that resembles a true experiment but lacks random assignment of participants to different groups. In a true experiment, researchers randomly assign participants to different conditions. In a quasi-experiment, researchers often have limited control over participant assignment, meaning it is unable to establish a cause-and-effect relationship.
reductionism	An approach in psychology that seeks to understand complex phenomena by breaking them down into simpler, more manageable components or elements. (Opposite of holism.)
reflexivity	The researcher's awareness of their own perspectives, biases and values and how these may influence the research process and findings. It involves ongoing critical self-reflection during the research process. Epistemological reflexivity involves reflecting on the process and methodology used to try to gain understanding. Personal reflexivity involves the researcher reflecting on their own biases and values that may affect the findings and conclusions drawn.
reliability	The consistency of measurement tools or methods. A reliable measure or assessment should yield consistent results when administered repeatedly under similar conditions and with a similar population.
repeated measures design	A research design in which the same group of participants is measured or tested more than once under different conditions. This design allows for the examination of changes within the same individuals.
research method	The specific techniques or procedures used to collect data for a research study. Examples include surveys/questionnaires, case studies, experiments, interviews and observations.
research methodology	The broader framework and philosophical approach that guides the entire research process. It includes the choice of research methods, sampling techniques, data collection, analysis techniques and the overall strategy for conducting research.
researcher bias	When a researcher's personal values or expectations influence the design, data collection or interpretation of findings, potentially leading to biased results.
retrospective research	This involves the examination of past events, data or records to understand and analyse behaviour that has already occurred. It relies on historical data and participants' memories.
sampling bias	This occurs when the sample used in a research study is not representative of the population from which it was drawn and to which the findings may be generalized.
self-reported data	Data collected directly from individuals through their own accounts, typically through surveys, questionnaires or interviews.
semi-structured interview	An interview approach combining open-ended and closed-ended questions, providing flexibility for in-depth exploration while maintaining some structure.
skewness	The degree to which the distribution of data in a dataset is asymmetrical, as shown when graphed. A positively skewed distribution has a longer tail on

Glossary term	Glossary definition
	the right side, while a negatively skewed distribution has a longer tail on the left side.
statistical significance	Statistical significance in research indicates that the results of a statistical test are unlikely to have occurred by chance. It is represented by a level of probability, usually $p<0.05$ in psychology, meaning there is less than a 5% probability that the results occurred by chance.
stigma	Refers to negative beliefs about and attitudes towards individuals or groups based on certain characteristics, such as mental disorders or social identity.
substance misuse	The inappropriate or harmful use of medications or substances, which may include exceeding recommended doses, or using drugs for non-medical purposes.
survey/questionnaire	A set of questions used to obtain information from a respondent about a topic of interest, such as attitudes, behaviours, personality or values. A survey or questionnaire may be administered with pen and paper, in a face-to-face interview or online. For the purposes of DP psychology, the two terms are interchangeable.
synthesis	The process of combining different pieces of information or ideas to create a new, integrated understanding. It involves taking separate elements and merging them into a coherent whole, often to generate new insights or theories.
theory	A systematic and organized set of principles or ideas that explain and predict behaviour or phenomena. Theories are used to understand and make sense of various psychological phenomena and are often tested through research to evaluate their validity.
thematic analysis	A qualitative research method that involves systematically identifying, analysing and interpreting recurring patterns within data such as interviews, surveys or texts. It aims to uncover the underlying meanings and a deeper understanding of the participants.
transferability	Term used in qualitative research to mean the extent to which findings from a study can be applied or generalized to other contexts or settings beyond the specific study's participants or conditions. It assesses the applicability of research findings to different situations.
transfer skills	The ability to apply knowledge and understanding gained in one situation or context to another, unfamiliar situation.
true experiment	A controlled experiment where researchers manipulate an independent variable to observe its impact on a dependent variable, using random allocation of participants to conditions to ensure causation.
type I error	Also known as a false positive, this occurs in hypothesis testing when a null hypothesis that is actually true is rejected. Therefore, it represents the conclusion that there is a significant effect or relationship when there is not.
type II error	Also known as a false negative, this occurs when a null hypothesis that is actually false is not rejected. It represents the conclusion that there is no significant effect or relationship when there is one.
unstructured interview	A qualitative research method where one or two open-ended questions are used to start a conversational interview. This allows participants to express

Glossary term	Glossary definition
	themselves freely and it is often used to explore personal experiences and perspectives.
validity	Internal validity—the extent that a measurement conducted within a study accurately measures or assesses what it claims to measure. External validity—the extent to which findings from a study can be generalized to a different setting or population.
variable	Any factor or characteristic that can vary and is subject to measurement or manipulation in research. Variables are used to investigate and describe various aspects of human behaviour. Usually identified most clearly in experiments as independent variables (manipulated), dependent variables (measured) and controlled variables (held stable).
wait-listing	A research design wherein participants are placed on a waiting list to receive a treatment or intervention at a later time. It is used in experiments to compare the behaviour of a group of participants receiving an intervention or treatment to the behaviour of those who have not yet received it.

Bibliography

This bibliography lists the principal works used to inform the curriculum review. It is not an exhaustive list and does not include all the literature available: judicious selection was made in order to better advise and guide teachers. This bibliography is not a list of recommended textbooks.

American Psychological Association. (2014). *Developmental psychology studies humans across the lifespan*. APA. Retrieved February 8, 2024, from https://www.apa.org/education-career/guide/subfields/developmental

Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences, 12*, 1–49.

Cranney, J., & Dunn, D. S. (Eds.). (2011). *The psychologically literate citizen: Foundations and global perspectives*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199794942.001.0001

Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualised as an attachment process. *Journal of Personality and Social Psychology, 52*, 511–524.

Loftus, E. F., & Palmer, J. C. (1974). Reconstruction of auto-mobile destruction: An example of the interaction between language and memory. *Journal of Verbal Learning and Verbal Behavior, 13*, 585–589.

Masuda, T., & Nisbett, R. E. (2001). Attending holistically versus analytically: Comparing the context sensitivity of Japanese and Americans. *Journal of Personality and Social Psychology, 81*(5), 922–934. https://doi.org/10.1037/0022-3514.81.5.922

Neirotti, R. A. (2021). The importance of asking questions and doing things for a reason. *Brazilian Journal of Cardiovascular Surgery, 36*(1), I–II. https://doi.org/10.21470/1678-9741-2021-0950

Rauscher, F. H., Shaw, G. L., Levine, L. J., Wright, E. L., Dennis, W. R., & Newcomb, R. L. (1997). Music training causes long-term enhancement of preschool children's spatial-temporal reasoning. *Neurological Research, 19*, 2–8.

Right Question Institute (2024). *The Right Question Institute*. Retrieved February 8, 2024, from https://rightquestion.org

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science, 185*(4157), 1124–1131. https://doi.org/10.1126/science.185.4157.1124

Vögele, C. (2022). Health and well-being from a psychological perspective. In A. Heinen, R. Samuel, C. Vögele, & H. Willems (Eds.), *Wohlbefinden und Gesundheit im Jugendalter.* Springer VS. https://doi.org/10.1007/978-3-658-35744-3_2

Updates to the publication

This section outlines the updates made to this publication over the past two years. The changes are ordered from the most recent to the oldest updates. Minor spelling and typographical corrections are not listed.

Changes for December 2025

Throughout the publication

Alignment of language with other IB documentation.

The term "dual processing model" has been replaced with "dual processing theory".

The term "drug misuse or abuse" has been replaced with "substance misuse or abuse".

Syllabus content > Concepts

Amendment in response to stakeholder feedback.

The phrase in the final bullet point, "It is recommended that three to four relevant concepts should be selected when studying the contexts", has been removed to keep the guide focused on what to teach rather than how to teach it.

"Causality"

Amendment in response to stakeholder feedback.

The term "mundane realism" has been removed from the list of related terms.

"Measurement"

Amendments in response to stakeholder feedback.

The sentence "Evidence may be anecdotal, empirical or self-reported." has been removed.

The term "anecdotal" has been removed from the list of related terms.

Syllabus content > Content

"Biological approach"

Alignment of language with other IB documentation.

In table 3.1, the learning objective "The value of animal research in the study of human behaviour and the ethical considerations in the use of animals in research." now reads: "The use of animal research in the study of human behaviour and the ethical considerations in the use of animals in research."

In table 3.1, the learning objective "The value of using one or more brain imaging techniques in investigating human behaviour." now reads: "The use of one or more brain imaging techniques in investigating human behaviour."

In table 3.1, the learning objective "The role of localization of function in explaining human behaviour and cognition and the limitations of the argument that behaviour is localized." now reads: "The role of localization of function in explaining human behaviour and cognition."

In table 3.1, the learning objective "The process of neuroplasticity and the role of environmental factors on brain development." now reads: "Neuroplasticity and its role in human behaviour."

In table 3.1, the learning objective "The process of neurotransmission and how an understanding of the process of neurotransmission allows psychologists to improve health and wellness." now reads "The process of neurotransmission and its influence on human behaviour."

"Cognitive approach"

Alignment of language with other IB documentation.

In the second paragraph, "memory models and language development" has been replaced with "memory models and models of language development".

"Sociocultural approach"

Alignment of language with other IB documentation.

In table 3.3, the learning objective "The value of emic approaches in researching human behaviour." now reads: "The use of the emic approach in researching human behaviour."

In table 3.3, the learning objective "One or more theories of enculturation for one or more behaviours." now reads: "The role of enculturation in one or more human behaviour."

In table 3.3, the learning objective "The limitations of etic approaches to researching human behaviour." now reads: "The use of the etic approach in researching human behaviour."

In table 3.3, the learning objective "The application of social identity theory to change or explain behaviour." now reads: "The application of social identity theory to explain and change behaviour."

"Research methodology"

Alignment of language with other IB documentation.

In table 3.4, in the row "Data analysis and interpretation", the learning objective "Data is represented and analysed in different forms …" now reads: "Understand that data is represented and analysed in different forms …"

In table 3.4, in the row "Research methods", the learning objective "The advantages and disadvantages of different research methodologies." now reads: "The advantages and disadvantages of different research methods."

Amendment in response to stakeholder feedback.

In table 3.4, the following two bullet points were added to the learning objectives for data analysis and interpretation.

- Descriptive statistics: Analyse and interpret results of typical measures of central tendency (mean, median, mode) and measures of dispersion (range, standard deviation, semi-interquartile range).
- Inferential statistics: Analyse and interpret results of typical tests of difference between two groups or conditions (such as chi-square test, related and unrelated *t*-test, Mann-Whitney test, Wilcoxon test) and tests of relationship between two variables (such as correlation coefficients). Understand the notions of effect size and statistical significance.

Syllabus content > Contexts

Amendment in response to stakeholder feedback.

In the fourth paragraph (boxed), where examples of subheadings have been given, it now reads: "It should be noted that each context section contains subheadings (such as mental health disorders, health problems) that are for convenience of presentation …"

"Health and well-being"

Alignment of language with other IB documentation.

In table 4.1, the learning objective "The value of cognitive models in understanding a mental health disorder." now reads: "The value of one or more cognitive models in understanding a mental health disorder."

In table 4.1, the learning objective "Factors that may explain the difference in prevalence rates for mental health disorders …" now reads: "One or more factors that may explain the difference in prevalence rates for mental health disorders …"

In table 4.1, the learning objective "The role of environmental factors in understanding/explaining mental health disorders." now reads: "The role of one or more environmental factors in understanding/explaining mental health disorders."

In table 4.2, the learning objective "Factors that may explain changes in the prevalence of one or more health problems in a population." now reads: "One or more factors that may explain changes in the prevalence of one or more health problems in a population."

In table 4.2, the learning objective "Factors that may explain differences in the prevalence of one or more health problems between populations." now reads: "One or more factors that may explain differences in the prevalence of one or more health problems between populations."

In table 4.2, the learning objective "The role of social learning in understanding one or more health problems." now reads: "The role of social learning theory in understanding one or more health problems."

In table 4.3, the learning outcome "The effectiveness of one or more prevention and/or treatment strategies for one or more health problems." now reads: "The explanation and effectiveness of one or more prevention and/or treatment strategies for one or more health problems."

Amendment in response to stakeholder feedback.

In the opening paragraph for the "Class practicals" section, the sentence "The class practical in this context is an interview." has been replaced with "The recommended class practical in this context is an interview."

"Human development"

Alignment of language with other IB documentation.

In table 4.5, the learning objective "The influence of sociocultural factors in human development." now reads: "The influence of one or more sociocultural factors in human development."

In table 4.5, the learning objective "The effectiveness of stage theories and continuous models in understanding human development." now reads: "The explanation and effectiveness of one or more stage theories and one or more continuous models in understanding human development."

Amendment in response to stakeholder feedback.

In the opening paragraph for the "Class practicals" section, the sentence "The class practical in this context is an observation." has been replaced with "The recommended class practical in this context is an observation."

"Human relationships"

Alignment of language with other IB documentation.

In table 4.8, the learning objective "Different acculturation strategies and their effect on behaviour and mental health." now reads: "Different acculturation strategies and their effect on human behaviour."

In table 4.8, the learning objective "The application of social learning theory to change group behaviour(s)." now reads: "The application of social learning theory to explain and change group behaviour(s)."

Amendment in response to stakeholder feedback.

In the opening paragraph for the "Class practicals" section, the sentence "The class practical in this context is a survey/questionnaire." has been replaced with "The recommended class practical in this context is a survey/questionnaire."

"Learning and cognition"

Alignment of language with other IB documentation.

In table 4.11, the learning objective "Application of social learning theory to change behaviour." now reads: "Application of social learning theory to explain and change behaviour."

In table 4.12, the learning objective "The value of cognitive models to understand one or more cognitive processes." now reads: "The value of one or more cognitive models in understanding one or more cognitive processes."

In table 4.12, the learning objective "Compare two cognitive models used in understanding one cognitive process." has been removed.

Amendment in response to stakeholder feedback.

In the "Cognitive processes section, "thinking/decision-making" has been added to the list of the cognitive processes, to read: "Students should have an understanding of one or more of the following: attention, memory, perception, thinking/decision-making or language."

In the opening paragraph for the "Class practicals" section, the sentence "The class practical in this context is an experiment." has been replaced with "The recommended class practical in this context is an experiment."

Syllabus content > Class practicals

Amendment in response to stakeholder feedback.

The sentence "Table 5 details the class practical that must be conducted within each context and gives the minimum sample size for student-led practicals." has been replaced with the following: "Table 5 details the class practicals that must be conducted with their recommended allocation into the contexts. It also gives the minimum sample size for student-led practicals. All four practicals must be conducted, one of each type, but their allocation into contexts may be changed."

Title of table 5, "Class practicals to be conducted within each context", has been replaced with "Class practicals and their recommended allocation into contexts".

In table 5, the column "Context" has been renamed as "Recommended context".

In table 5, the minimum size of participants for the experiment has been changed from "Five participants" into "Five participants (repeated measures) or ten participants (independent measures)".

Syllabus content > HL extensions

Alignment of language with other IB documentation.

In tables 6.1, 6.2 and 6.3, the titles have been renamed from "Contexts and learning objectives for …" to "Contexts and examples of inquiry for …"

"Motivation"

Correction of error in the previous version.

In the third paragraph, the term "Internal motivation" has been replaced with "Intrinsic motivation".

"Data analysis and interpretation"

Correction of error in the previous version.

References to the "Research methodology" section have been replaced with the more specific "in table 3.4".

In the last bullet point, the sentence "Related terms … may be used in examination questions in paper 3." has been replaced with "Related terms … may be used in examination materials in paper 3."

Assessment outline—HL

Alignment of language with other IB documentation.

The phrase "Section B: two compulsory questions asking students to apply their knowledge of content to an unseen situation …" has been replaced with "Section B: two compulsory short-answer questions asking students to apply their knowledge of content to an unseen situation …"

External assessment > External assessment markbands—SL and HL

"Paper 1"

Alignment of language with other IB documentation.

In the second paragraph in Section A, the sentence "Examples may be relevant to the research study or the situation." has been replaced with "Examples may be a research study or a real or hypothetical situation."

Correction of error in the previous version.

In the "Section C" assessment rubric, in all markbands the phrase "Knowledge and understanding of specific content/concept(s) …" has been replaced with "Knowledge and understanding of the area of study/ concept …"

In the "Section C" assessment rubric, in all markbands the phrase "Links between concepts …" has been replaced with "Links between the area of study and the concept …"

"Paper 2"

Correction of error in the previous version.

The numbering of questions in Section A has been changed from "Question 1a", "Question 1b", "Question 1c" and "Question 1d" to "Question 1", "Question 2", Question 3" and "Question 4".

In Section B, the sentence "The study will be provided in the stimulus material." now reads: "The study will be provided in the source material."

In Section B, the sentence "The focus of assessment will be the evaluation of an unseen research study with regard to two or more concepts." has been removed to avoid repetition with the previous paragraph.

Internal assessment > Structure of research proposal

"Data collection"

Alignment of language with other IB documentation.

The bullet point, "The choice of **one** data collection tool to measure behaviour relevant to the aim of the investigation." has been replaced with "The creation of **one** data collection tool to measure behaviour relevant to the aim of the investigation."

Amendment in response to stakeholder feedback.

The sentence "The data collection tool should contain a minimum of five items and a copy of the tool should be provided in the appendix." has been replaced with "Any data collection tool used for a survey/ questionnaire, structured interview or controlled observation should contain a minimum of five items. A copy of the tool should be provided in the appendix."

"The presentation of the research proposal"

Amendment in response to stakeholder feedback.

The second and third bullet points, concerning inclusion of the IB student code and date of submission, have been deleted.

Changes for May 2025

Syllabus > Syllabus content

"Causality"

Correction of error in the previous version.

In the list of related terms under "Causality", the term "significance" was corrected to "statistical significance".