Diploma Programme

Psychology teacher support material

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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.

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The purpose of this teacher support material

Welcome to the Diploma Programme (DP) psychology teacher support material (TSM). This publication is designed to assist both new and experienced teachers to build or revise their course design. It is intended to add insight, inspiration and guidance to the teacher and student journey by:

- supporting experienced and inexperienced teachers alike in structuring and delivering the course
- supporting teachers with the organization of experimental work
- complementing International Baccalaureate (IB) professional development.

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.

This TSM supports the teaching of the course and is structured to cover areas such as the approaches to learning and approaches to teaching, and how these relate to psychology. The TSM also covers subject-specific guidance such as:

- a history of psychology in the context(s) of the DP psychology syllabus
- connections with the DP core
- teaching sensitive topics
- moving towards concept-based teaching and assessment
- approaches to organizing the course
- ethics and class practicals
- assessment, including support transitioning to paper 3 section C and the internal assessment (IA) markbands.

There are a number of downloadable attachments throughout the TSM. These are marked with the following icon.

This TSM contains recommendations for practical teaching and classroom activities throughout. It should be noted that these are not compulsory, and teachers are free to use other resources. While they are intended to be interactive group activities, many can be modified to form written exercises.

An overview of the changes to the syllabus and assessment for DP psychology (first assessment 2027) is available in the following attachment.

Changes to the syllabus (PDF)

Acknowledgement

The IB would like to thank the educators who contributed time and resources to the development of the DP *Psychology guide* and TSM.

A brief history of psychology in the contexts

Historically, folk psychology, philosophical psychology and scientific psychology have been identified as the three types of psychology (Yang, 2012). Folk psychology comprises the assumptions, beliefs, concepts, theories, norms and practices acquired through socialization. Philosophical psychology investigates the philosophical foundations of the field of psychology. Scientific psychology differs from folk and philosophical psychology in that it uses psychological knowledge and the scientific method to construct knowledge and study behaviour (Yang, 2012). This form of psychology was primarily developed in Europe and the United States of America and is based on behavioural data studied by psychologists (Azuma, 1984).

The term indigenous psychology arose from the Philippines and Taiwan out of the perception that western psychology was not appropriate for Asian and other cultures (Jahoda, 2016). Theories from indigenous psychology tend to be "bottom up"—drawing from local phenomena and experiences (Allwood, Berry, 2006). According to Darlaston-Jones and Dudgeon, all psychologies are indigenous to the place, context, time, and sociocultural and political realities for which they emerge (Darlaston-Jones & Dudgeon, 2019).

This chapter gives historical overviews of the four contexts studied in DP psychology. These are mostly from a western perspective, and students and teachers can investigate indigenous approaches and perspectives along with the psychology of their local country or culture(s).

Health and well-being

Well-being is the ability to manage stress, to have good mental health, a high life satisfaction and a sense of meaning or purpose. The idea of mental, as opposed to physical health, is relatively new, and until the last few hundred years people suffering from mental health issues were deemed insane or even possessed by evil spirits. Many people were locked up and endured cruel "treatments". In the 1800s, institutes or asylums where people with mental health problems were treated began to replace physical restraints with seclusion and there was a movement to try and treat patients as rational human beings, led by social reformers such as Harriet Martineau and Samuel Tuke. Hysteria, coming from the Greek word for the womb or uterus, was seen as a mainly female disorder, while obsession and melancholia were taken as signs of madness in men. The link between poor mental health and trauma began to be established in the aftermath of the First World War, when soldiers returning from the front line exhibited shellshock, and male hysteria became more commonly known and understood. During the 20th century, the treatment of mental disorders gradually became dominated by biological psychiatry and the development of new drugs to treat severe psychological disorders and mild-to-moderate anxiety and depression.

The most recent turning point in the field of mental health has been the investigation of the mind–body connection, especially through the discovery of the role of the hormone leptin in eating behaviour, and the active role that the microbiome–gut–brain axis plays in affecting mood and behaviour. The benefits of mindfulness techniques and whole-body relaxation are a reminder that physical health and mental health are intimately related. There are increased number of psychological studies investigating the role of mindfulness, many investigating Tibetan monks' neural activity.

Human development

Piaget (1936) represented a turning point in theories of human cognitive development. He was one of the first scientists to identify that child and adult thought processes are different, and he proposed that intelligence is something that grows and develops through a series of stages. He argued that biological readiness is needed for cognitive development, and the child is active in their own learning. Some years later, Erikson (1963) noted that development did not end at childhood but was more dependent on social interaction than biological readiness, and he developed another stage theory wherein the person proceeds

by resolving inner conflicts. Finally, Piaget's contemporary, Vygotsky moved away from an individualistic approach to development to show how we learn in interaction with others and cultural differences affect how we learn. The IB approach to learning can be seen in his statement that, "Learning is more than the acquisition of the ability to think; it is the acquisition of many specialized abilities for thinking about a variety of things" (Vygotsky, 1978).

Human relationships

Interest in how individuals behave when part of a group was sparked in a large part by Lewin (1947), who developed the concept of group dynamics as early as the 1940s. His research centre for group dynamics is still operating at the University of Michigan. The psychology of human relationships expanded with the growth of social psychology from the 1960s onwards. Researchers examined the influence of relationships on mental health, and humanistic psychology and existentialism inspired the idea that relationships could be improved through effective communication. This was also when research into bystanderism and social responsibility began, as psychology became focused on individuals in their social contexts.

Learning and cognition

The 20th century has to be seen as a century of focus on learning, from the expansion of education to be ever more inclusive and eventually compulsory, to the development of behaviourism, with its learning through trial-and-error approach. While an interest in the relationship between mind and body dates back many centuries, it was an insistence in the 1950s by psychologists that the core of learning was understanding, not mere remembering, that pushed the behaviourist stimulus-response theories of learning aside for theories that looked at the internal processing of information in order to render it meaningful. Cognitive and social models of learning were developed, and in the 21st century the role of technology in learning has been acknowledged. Learning today is different from even 50 years ago. Today, learners are expected to construct new knowledge based on past learning and experiences, and perform model-based reasoning, reflection and metacognition—thinking about their own thinking.

The science of psychology

The difference between psychology and pseudoscience

Figure 1

Behaviour explanation statements

Statements like those in figure 1, which attempt to explain behaviour, can be heard everywhere today. If the goals of psychology are to describe, explain, and predict behaviour and mental processes, then are crystal healing, phrenology and astrology also part of psychology?

Psychology is the scientific study of behaviour and mental processes. Psychology follows the scientific method, where its principles and applications are based on empirical evidence from rigorous and standardized research methods. From these, theories that are grounded in scientific principles develop.

Pseudoscience or pseudopsychology do not follow the same valid research standards. They are systems that attempt to explain human behaviour, but the evidence is not scientific or empirical in nature—rather it is anecdotal. Pseudopsychology practices include phrenology, graphology, crystal healing, homeopathy, past-life therapies, psychic powers and astrology.

It is the job of psychology educators to teach students to distinguish between psychological practices and treatment, and those of pseudoscience or pseudopsychology. In this digital age of social media, the internet is awash with many practices—both ancient and modern—that are rooted in misinformation, and anecdotal stories that are offered as remedies or supplements for mental health. It therefore becomes a responsibility to segregate psychology from pseudoscience.

The following table sets out the main differences between the science of psychology and pseudoscience.

Psychology	Pseudoscience
Psychology follows the **scientific method**—its principles and applications are based on **empirical evidence** from rigorous and standardized research methods.	Pseudoscience **claims to be scientific** but does not follow the parameters of the scientific method. It does not follow the same valid research standards. There are systems that attempt to explain human behaviour, but evidence is **anecdotal** and from personal testimonies or rooted in cultural beliefs, rather than being scientific or empirical in nature.

Psychology	Pseudoscience
Scientific psychological claims must be **falsifiable**. This means they are **testable** and can be challenged through empirical research. When new evidence arises, existing theories are evaluated and can be revised if the new evidence is strong enough. **Note:** psychologists and research findings do not prove anything, but rather "support" or "challenge" previous claims.	Pseudoscientific claims are often ambiguous and **not falsifiable**. Often, this is because they are **not testable** via empirical methods.
Research published in scientific psychology undergoes **rigorous peer review**. Expert panels review and evaluate the validity and reliability of the research and theories, before publishing the research in journals where it is made accessible to the public.	Pseudoscientific claims may not undergo rigorous scientific peer review processes. They may be published on platforms with **low scientific standing**.

In some ways, pseudoscientific practices can be entertaining. It may be amusing to think of how people could ever be convinced that personality traits were predicted by the bumps on someone's head or that ancient astronauts visited the Earth. In some respects, modern pseudoscience can be more accessible and less expensive than practices born out of the scientific method where practitioners have invested time and money in education and training.

However, it is important to emphasize that pseudoscience can also be dangerous, and some psychologists believe social media and celebrity endorsements are to blame for their proliferation.

Popular examples of pseudoscience in psychology include parapsychology, phrenology and subliminal advertising. A number if authors have created lists to help differentiate pseudoscience from psychology that include: the overuse of ad hoc hypotheses; the absence of self-correction; exaggerated claims; overreliance on anecdotes; and psychobabble. One useful example is *How to Think Straight About Psychology* (Stanovich, 2021), which covers important topics like falsifiability, the role of chance and probabilistic reasoning.

How can educators encourage students to see the difference?

The answer to this question lies in intentional critical thinking. Students must be encouraged to make reasoned, meticulous and logical evaluations of claims, and arrive at logical conclusions.

For example, apply critical thinking to the question "Can astrology be considered part of psychology?".

Many see astrology as an amusing diversion. Others take it quite seriously, often choosing to base entire life decisions on it. Some examples of critical thinking questions that can be asked are as follows.

- Does the claim "planetary bodies influence people's behaviour based on their birth date" provide sufficient and logical explanations for human behaviour?
- Astrologers often use astrology to predict future events. But do repeated celestial movements have true and consistent predictive validity?
- How do you test claims made about your zodiac sign in the natural world?
- Do the writings of revered astrologers undergo a screening and scrutiny process of peer review before publishing? Why is this important?
- How generalizable are astrology remedies? Do they work on specific populations consistently enough to be prescribed? Is there empirical and reliable evidence for this?

Addressing pseudoscience in the psychology classroom

Psychology students need to learn the nature of pseudoscience so they can understand the scientific method better and understand clearly how to distinguish the field of psychology from pseudopsychology. Knowledge of pseudoscience also helps students address the misinformation and misconceptions that may

be prevalent in society by educating others. It can also personally benefit students, as they can make informed decisions about their well-being, avoiding wasting time and money on pseudoscientific practices that are at best ineffective, or that could potentially be harmful.

Ethical guidelines in the practice and research of psychology emphasize the importance of evidence-based approaches. It is important to convey this to students, as psychologists have the responsibility to provide accurate information and interventions. As potential professionals in psychology, students must uphold this ethical practice, continue challenging pseudoscientific claims and advocate for rigorous scientific research methods. This increases the credibility and validity of the field of psychology.

Connecting psychology to TOK

DP psychology can be linked to theory of knowledge (TOK) in many ways. Foremost, as psychology is considered a **human science**, TOK helps with the understanding of how knowledge is produced and acquired within this discipline. Furthermore, as psychology is interdisciplinary, it is also closely related to the **natural sciences** through its scientific methodology, neuroscientific aspects and use of animal research. Through its extensive use of statistical methods, psychology also relates to **applied mathematics**.

One way of linking TOK to DP psychology is through its concepts. TOK and psychology share the concepts of **perspective** and **responsibility**, but the DP psychology concept of **bias** is also closely related to what is covered in the TOK course.

Responsibility

As a human science, psychology is concerned with knowledge questions, such as to what extent ethical considerations limit knowledge production in this discipline and whether there should be separate ethical considerations when doing research with animals compared to with humans.

Perspective and bias

Examples of TOK questions that can be discussed in psychology in relation to perspective and bias include the following.

- Is it possible to remove the observer effect when pursuing knowledge in the human sciences? (Hawthorne effect)
- How can human scientists protect against human error and bias? (research methodology)
- How do we decide between two competing paradigms' differing explanations of a phenomenon?
- To what extent is the reductionist approach valuable in producing knowledge in the human sciences?
- How might the beliefs and interests of human scientists influence their conclusions?" (researcher bias)

The psychology course also lends itself well to discussion of whether our culture determines what we know, and whether as outsiders we can know and understand the knowledge of another cultural group—through its exploration of emic and etic cultural research approaches as well as through research on the effect of enculturation on cognition (this also relates to the indigenous knowledge theme). Finally, the data analysis and interpretation section of the psychology course may be highly conducive to discussions on how we can be misled by statistics, and possible reasons for the replication crisis in the human and natural sciences—statistical problems of studies with low statistical power and publication bias.

Knowledge and technology

DP psychology can provide partial answers to knowledge questions such as the following.

- Has technological advancement had the greatest impact on how we know, what we know or how we store knowledge? (e.g. transactive memory, Google effect/digital amnesia)
- To what extent does technology extend or transform different modes of human cognition and communication? (relates to the HL extension on the effect of technology on cognition)

More information about developing technological literacy can be found in the cross-programme resources *Learning, teaching and leading with technologies* and *The IB and artificial intelligence (AI) tools*.

Knowledge and language

When students are exploring this theme and knowledge questions such as whether people share innate linguistic knowledge, or in what ways language can be used to influence, persuade or manipulate people's emotions (also related to the politics and knowledge theme), they can be aided by research from the psychology course—such as compliance techniques in the human relationship context or critical periods in the human development context. Other knowledge questions that are relevant to explore in psychology

concern how the use of language in questionnaires and surveys may influence responses, and indirectly the conclusions reached.

Knowledge and indigenous societies

The TOK course includes the option to study knowledge and indigenous societies, allowing for a detailed exploration of knowledge bound to a particular group, culture or society. Similarly, the psychology curriculum encourages the study of indigenous cultures when investigating the concept of perspective or the sociocultural approach within the content sections.

International-mindedness

The IB refers to international-mindedness as the way of "thinking, being, and acting characterized by an openness to the world and a recognition of our deep interconnectedness to others". Within TOK, the development of international-mindedness occurs through considering different perspectives, and exploring the influence of knowledge and culture. The psychology course allows for the extension of TOK teaching on international-mindedness through the concept of perspective, the sociocultural content and the HL extension investigating the role of culture in shaping human behaviour.

Teaching sensitive topics in psychology

Psychology teachers should be aware of the risks associated with dealing with sensitive topics in psychology. While these topics may be important to fully understand human behaviour, there are also implications of introducing specific examples or situations that may cause student distress or discomfort. Completion of the curriculum can be achieved without addressing topics considered taboo or inappropriate for some cultural contexts. Maintaining ethical standards in the teaching of psychology can ensure student enjoyment and comfort in learning about human behaviour and cognition.

Adolescence is a time when students are exploring many facets of their identities as their brains continue to develop. For this reason, students in a classroom may be at different levels of cognitive, emotional and biological development, and may have questions and emotions about certain topics. Some students may be studying psychology to help them understand and cope with personal difficulties. However, given their age and developmental stage they may be finding it difficult. Prior to the teaching of psychology, it may be beneficial to remind students of your role as the teacher. Psychology teachers are not meant to be trained professional counsellors and students should contact a school counsellor or other pastoral care staff member to discuss personal topics causing distress.

Sensitive topics are not always predictable and may vary from location to location. Getting to know the students in class assists in identifying psychology content that could be personally distressing. To help identify potential issues, students could be asked to anonymously provide any potential topics they would find sensitive due to personal experience.

As psychology studies human behaviour and cognition, classroom discussions may touch upon sensitive subjects. A number of approaches are identified in this chapter, but as human experience is so vast, there can always be more.

The following is a list of recommendations for ways teachers might navigate situations involving potentially sensitive topics.

- Share a list of potentially sensitive topics at the start of the course so the necessary accommodations can be made for students to miss a lesson and, for example, stay in the library to study independently.
- Encourage students to contact you if they feel they want to speak about their experiences in class or if they are not comfortable with a topic being covered in class. This is also applicable if the student may not have had direct experience but knows someone who has lived through a particular situation—for example, a family member who has experienced divorce or depression.
- It may be helpful to speak to a student in your class if it is known that a topic touches upon a medical/family/other issue that is known to the school. The student can be spoken to confidentially to check they are comfortable with the topic(s) being discussed in class. School or year heads may also be consulted to determine the best course of action, which could include, for example, studying an alternate topic separate from the class in the library.
- In discussions, exercise caution about sharing personal opinions on controversial or sensitive topics. Avoid generalized statements such as “self-harm is a type of emotional regulation”. If sharing psychological perspectives, base them on research and be careful in how they are expressed—for example, “there are multiple underlying reasons for self-harm, but some research suggests that …”.
- If there is a group discussion on sensitive topics in class, set clear expectations for respectful and non-judgemental behaviour that must be observed by all students. For maximum impact, set these expectations before commencing the discussion. Emphasize the importance of active listening, practising empathy and perspective-taking. Students must avoid derogatory comments and personal attacks. They must respond respectfully to differing opinions. They should be encouraged to use “I” statements, ask clarifying questions and provide relevant examples and evidence in support of their viewpoints. If conflicts arise, help students in resolving them constructively and respectfully.

- Be honest about your level of expertise in the topic. It could be beneficial for students to know that although you have a genuine interest and general expertise in the subject and are a skilled teacher, you may not be a trained psychology practitioner or hold a PhD. Therefore, there may be certain specialized fields that you have less knowledge in.
- It is important to fully consider cultural contexts and taboos where you are teaching. It is also appropriate to adapt the content taught to class demographics. If there is a question mark about whether a certain topic is appropriate, it may be worth checking with senior staff or school management.
- Be mindful of the language and terms that are used—for example, not using terms such as "mentally retarded/challenged", "insane", "mad" or "crazy". It is more respectful to use the actual diagnosis or general terms such as "individuals with intellectual disability", "individuals with a mental health issue/condition/challenge or psychiatric/psychological illness or disorder". In general, it is more respectful to separate the individual from their mental health condition by not using psychological disorders as nouns to describe them. Therefore, it is more appropriate to say "a person with a schizophrenic disorder" and "a person with obesity" rather than "a schizophrenic" or "an obese individual". Encourage students to use the appropriate language in their spoken and written communication.
- Avoid any films, games, quizzes, clips, or memes that trivialize or make fun of sensitive topics.
- Keep abreast of any emerging or ongoing political and cultural topics that may impact students.

Sensitive topics and CAS

Linking psychology with creativity, activity, service (CAS) may mean working with sensitive topics or vulnerable populations. The points made in this section offer valuable guidance, but in CAS experiences/projects it is also a good idea to examine any preparation involved during the risk assessment stage. More information about working with the community can be found in the CAS guide and TSM available on the Programme Resource Centre.

Potentially sensitive topics

Examples of potentially sensitive topics in the health and well-being context
• Suicide/self-harm • Mental illness • Genetic diathesis and any reporting of such conditions through any identifying documents/publications • Sensitive situations when talking about treatments (e.g. medications students may be prescribed) • Obesity or eating disorder (if any students are personally experiencing these) • Grief, loss and/or trauma

Examples of potentially sensitive topics in the human development context
• Suicide, mental illness • Neurodivergence, such as ADHD, dyslexia and Tourette's syndrome • Gender identity • Environmental factors—adoption, parental divorce, bereavement, family relationships, relationships with parents/caregivers, insecure attachment styles • Grief, loss and trauma (any highly stressful event) • Socioeconomic status, such as poverty and wealth • Acts of violence

Examples of potentially sensitive topics in the human development context
• Sex and sexual development

Examples of potentially sensitive topics in the human relationships contexts
• Romantic relationships (e.g. Hazan and Shaver love quiz) and sex
• Termination of relationships, such as infidelity
• Insecure attachment relationships during childhood (for those students who may have had difficult family relationships or grew up away from their families)
• Family relationships
• Racism and stereotypes
• Cultural, political and religious beliefs
• Divorce
• Immigration and refugee crisis
• Potential political scenarios (either current or historical)
• Bullying

Examples of potentially sensitive topics in the learning and cognition context
• Learning difficulties
• Reconstructive memory—testimonies of crime, sexual assault
• Sensitive situations when discussing ethnic or racial backgrounds of those who are suspected as the assailants in crimes
• Flashbulb memories—triggers of sensitive memories

Concept-based learning, teaching and assessment

Conceptual understanding in the IB is a non-linear, ongoing process, resulting from consciously organizing connections between prior and new knowledge by connecting factual, procedural and metacognitive knowledge. Through conceptual understanding, students become aware and critical of their own knowledge and skills while applying knowledge, skills and understandings to new or different contexts. The IB mission is supported though conceptual understanding as it enables students to conceive multiple solutions to a problem, imagine multiple perspectives on an issue and understand more deeply how ideas change in different contexts. More information about concepts and conceptual understandings can be found in "Programme standards and practices realized".

The DP psychology syllabus is intended to be taught using a concept-based approach, encouraging the use of concepts to organize information.

A concept-based approach to learning and teaching:

- aims to extend students' understanding of the facts and skills learned in DP psychology so they can be applied beyond what has been taught in the classroom
- distinguishes between factual and conceptual knowledge while engaging students in higher-order thinking
- allows for students to transfer their conceptual understandings within different areas of psychology, as well as at an interdisciplinary level to other subjects in their DP studies.

A concept-based approach to teaching encourages curiosity as students tackle complex issues through creative problem-solving and transferring of their learning. Through concepts, behaviour and mental processes can be studied across contexts and promote an awareness for the interrelatedness of concepts within psychology.

Through developing conceptual understandings students will be able to:

- describe a concept and related terminology
- explicitly link context and content
- effectively apply research studies to their learning and/or demonstrate with examples
- discuss links, relationships and connections between concepts, contexts and content
- develop a critical approach to the discussion of concepts.

Recommendations for concept-based teaching

This section contains a set of practical recommendations and considerations for engaging in a concept-based approach to learning and teaching.

Include research in teaching, but with a focus on critical analysis and transfer of knowledge as opposed to memorization.

Psychology is an empirical science, and the only way to truly understand psychological ideas is through the research that was used to investigate them. It is the relationship between empirical evidence and theoretical generalizations that makes psychology what it is.

Consider the following points when selecting research.

- **Does it provide an opportunity to exercise skills?**

  Studies should present an opportunity to exercise diverse critical thinking skills and apply different contexts. A study could be selected because it raises an interesting ethical issue that could be applied to other studies. Alternatively, a study's experimental design may present a good opportunity for students to apply their knowledge of research methodology. Be aware that one study cannot tick all

the boxes, but all research a student is exposed to during the course should provide them with an opportunity to exercise their skills and acquire knowledge that can be transferred to other situations.

- **Does it represent typical challenges?**

  Research studies should represent some typical challenges that researchers encounter. It is this understanding of challenges typical to an entire research area that students should acquire, as opposed to knowledge of stand-alone research studies. The Glanzer and Cunitz study (1966) has educational value not only because it "supports the multi-store memory model", but also because it highlights the common challenges in supporting cognitive models in general. For example, it is only possible to test one aspect of the model in a stand-alone study, not the model in its entirety, but there may be several explanations that fit the observed data equally well, and studies are usually conducted in artificial conditions with unnatural cognitive tasks.

- **Does it feature links to concepts?**

  Although providing students with an up-to-date state of psychological knowledge in each of the areas of the course is desirable, it is also important to understand that this task falls far outside the scope of DP psychology. Most topics in psychology are debated and there exists no single consensus. Most phenomena have multiple explanations and different theories have been proposed to provide such explanations. Individual studies cannot be relied upon to arrive at conclusions. Multiple research studies are aggregated in meta-analyses, and the answer to research questions is usually much more complex than "yes" or "no" because it depends on the specific combination of mediating variables in the specific case. A fully objective answer to research questions is not the goal of a psychology teacher. The goal is to demonstrate some typical research in this area and outline the key challenges. The aim should also be to consider all of this through the lens of the key concepts, which should allow students to establish conceptual links with other topics in psychology (and also between psychology, other subjects and TOK).

Provide ample opportunities for practising transfer of knowledge to new situations.

This could be achieved by the following types of tasks.

- Discuss what strengths and limitations of a research study are likely to represent a common situation in a given area of research (and therefore be applicable to other similar studies in this area).
- Formulate a key research question for a given topic and design a hypothetical research study (how you would have approached research in this area); do this prior to learning about existing studies in order to be able to compare.
- Compare and contrast the key challenges illustrated by two research studies from two randomly selected topics.
- Analyse a given research study in the context of the given topic and through the lens of the given key concept (e.g. causality, responsibility).

Encourage students to formulate conceptual understandings/key takeaways.

It is important that students are able to generalize and summarize key learning statements from the studied material. These are best when they take the form of conceptual understandings—brief statements of relationship between two or more concepts. Such key messages are the "so what?" of learning, the crucial understanding that remains once you strip away all details. It is good practice to create summaries consisting of 3–5 such statements per topic. In most cases, students find it easier to write longer summaries with a larger number of statements, but they should be encouraged to aggregate the takeaways even further until they arrive at 3–5 statements capturing the essence of their learning with the topic. They can then be asked to illustrate each of the statements with a real or hypothetical study or a real or hypothetical situation.

Practise writing essays without research studies.

In the previous psychology course, students often simply memorized research studies in preparation for examinations, and essay responses were dominated with accounts of details of research. What students struggled with were the links between the study and the examination question, between the study and the

theory or concept that it was supposed to illustrate. "Link back to the question" was perhaps the most common examiner feedback to students.

One strategy that may assist with teaching students how to move away from essays that are dominated by a description of research studies is to ask them to write essays with no studies at all. This could be a good formative assessment technique to help isolate elements of critical thinking associated with analysing a particular study from elements of critical thinking that go beyond that.

Teach students to ask good questions.

When examination questions cannot be predicted, students need to be prepared for whatever question is on the paper. This is only possible when students dissect information, look at it from multiple angles, search for links with what they already know, identify gaps in their own understanding and actively try to fill them, either by searching for new information or reasoning. No textbook will ever be enough for a student to prepare for such examinations if it is viewed as a static repository of information to be remembered. If students ask good questions, they will constantly construct their own knowledge based on inquiry, and the material discussed in class will simply serve as a starting point for such inquiry.

A good question has the following characteristics.

- **It makes you think.**

  For example, suppose a student who just learned about neuroplasticity asks "Why does neuroplasticity decline with age?". There may be different explanations and different sides to this process, and even the question itself may not be entirely appropriate (because it does not decline in all parts of the brain and not equally in all people). But the question makes the student think and makes them try and use what they already know to suggest plausible answers. Compare it to a question such as "Which part of the brain is responsible for spatial memory?". This one is purely informational and does not ignite any further curiosity in the topic.

- **It helps you identify what you do not know.**

  A good question will make it clear to the student that there are some aspects in their understanding that are probably missing. Consider the question "Why are there six cultural dimensions in Hoefstede's theory, not five or seven?". Asking this question is likely to trigger students' inquiry into how survey data is analysed.

- **It encourages you to make links.**

  A good question transcends the boundaries of an individual topic and prompts the student to think of how content from various areas is related. For example, "I just learned about neuroplasticity, which is a type of influence of the environment on the brain. In what other ways can the environment affect biological variables?".

The six key concepts can be scaffolded to create good questions. The question "Why does neuroplasticity decline with age?" is related to the concept of causality, and the question about cultural dimensions is probably related to the concept of measurement.

Leverage the power of technology to assist students in their learning journey and truly personalize it.

The human mind and digital technology already exist in a kind of a symbiotic relationship. For example, according to the "Google effect", sometimes known as digital amnesia, there is a tendency to forget information because it can be summoned very quickly through search engines using handheld devices. Technology is changing the way people process information.

Creating a concept-based toolbox

Exploring conceptual questions

The development of conceptual questions can be incorporated into lesson planning to consider when and where concepts could be introduced. Each conceptual question could be an area of inquiry within a lesson or unit. Questions may develop from factual questions to conceptual questions depending on when the

different tiers of concepts are introduced. Provocative questions can also be planned to inspire discussion and support students to integrate the key concepts within the context and content being explored.

The following is an example of the types of questions that could be investigated when studying health and well-being (treatment for one disorder) using the concept of measurement and causality. The integrated content would come from the biological approach and research methodology.

Conceptual question	Why is an **experiment** the only method that allows **cause-and-effect** inferences to be made?
Factual question	How do randomized control trials create **cause-and-effect** inferences in establishing the effectiveness of treatments for depression?
Provocative question	Should all research used to investigate mental health disorders be **experimental**?

Visual organizers

During a lesson focused on concepts, students can use visual organizers to document how research or examples help to understand, or connect to, the concepts.

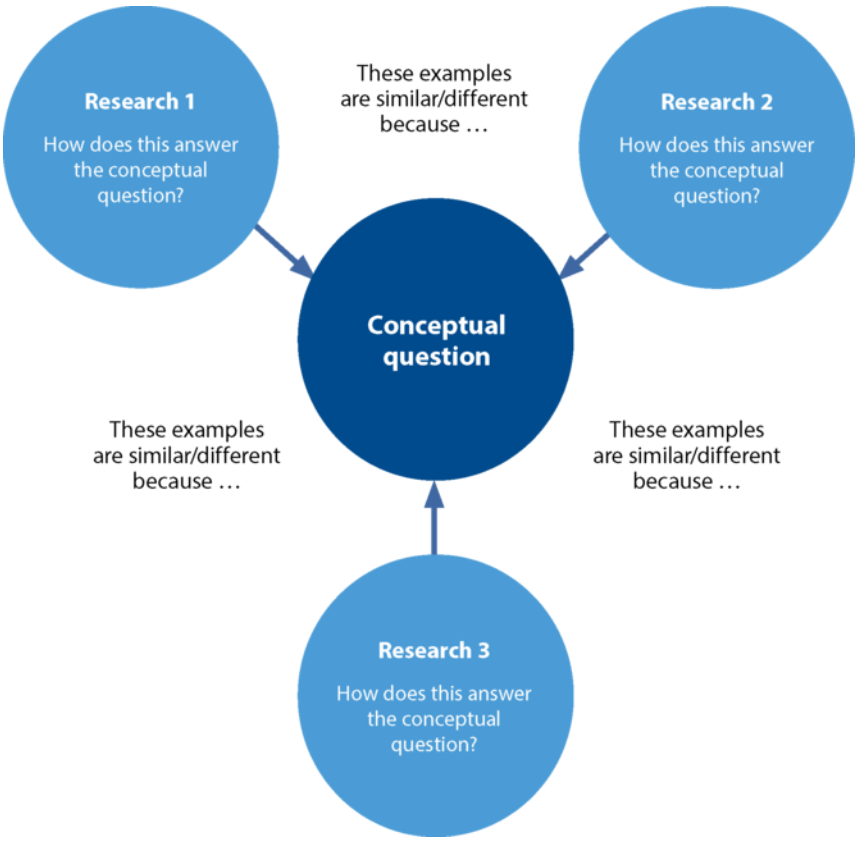
Concept wheels

This activity helps students focus on the conceptual question at the heart of a classroom discussion.

The graphic organizer in figure 2 aims to have a conceptual question as the central focus of a lesson. Students could be tasked to investigate three examples of empirical research that could provide a perspective to answer this question. Once students have discovered appropriate evidence, they are required to analyse this in relation to the conceptual question to provide further context to building their understanding of a concept. Following this connection to the conceptual question, students explain the similarities and differences between the pieces of evidence selected. To build on this activity, students could then connect a concept wheel surrounding research methods or ethics to link the two conceptual questions.

Figure 2

Graphic organizer activity example



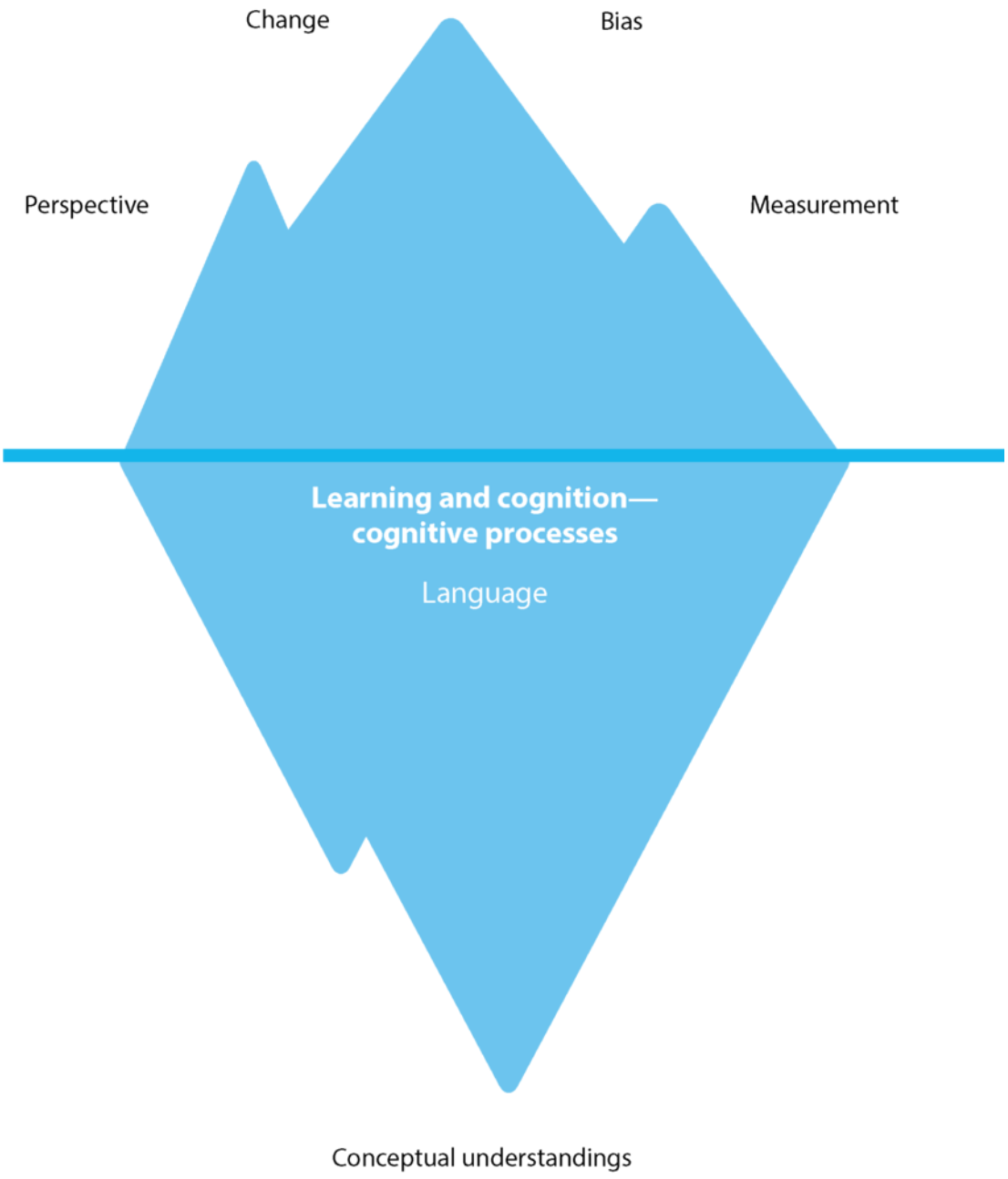
Iceberg visual representation

This activity helps students engage with conceptual understandings.

After selecting the area of study within a context, students or teachers can select 3–6 concepts to explore their meaning, connections and what this looks like in psychology. Figure 3 is an example of how students or teachers could create their own iceberg visual representation selecting the concepts for the study of language within the context of learning and cognition—cognitive processes. In this example, students could discuss different perspectives in language and perception, and how bias can affect measurement and perspective. Students may also discuss how language changes over time because of technological influences (HL extension material). The iceberg representation could also be a starting point for developing concept maps or making hexagon connections.

Figure 3

Iceberg visual representation example



Hexagon connections

This activity can be used to review a topic or unit to see what connections students have made between the content, context and concepts.

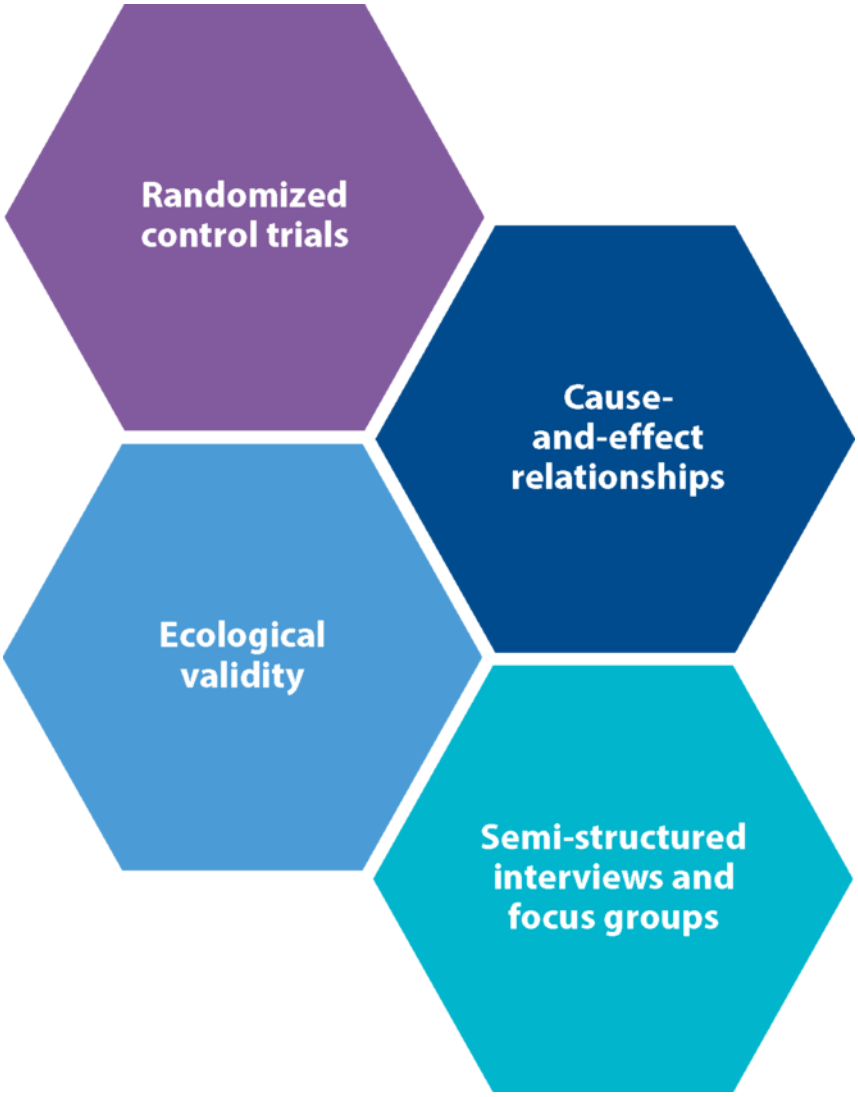
Students could be provided with a set of blank hexagon outlines and asked to write a word related to the content in one hexagon. Then, they can find another word that connects to that and link it to another hexagon. Students can use as many hexagons as they wish, and the number of connections will depend on what is being reviewed. Once they have completed their hexagon connections, they present their ideas to a

partner in the classroom/group and explain the connections between the words. This activity is useful to address any misconceptions that have been made within a unit, as well as to see how students have interacted with the content in different ways. Examples can be drawn upon to support students building appropriate understandings of the key concepts.

This example uses the context of health and well-being.

Figure 4

Hexagon connections example



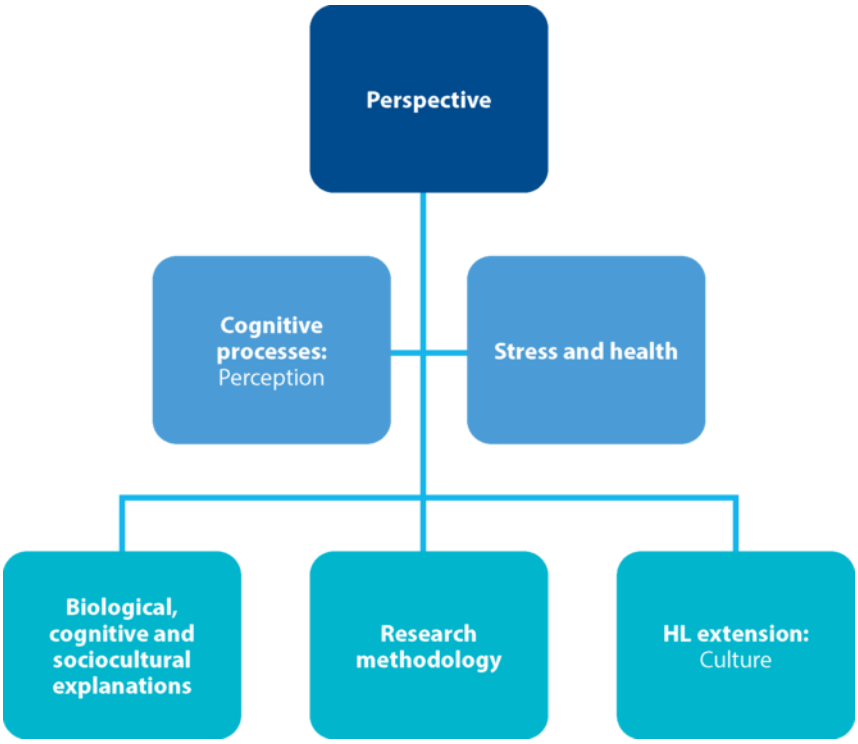
A student may explain their hexagon connections stating: "Randomized control trials may help to determine a cause-and-effect relationship between a treatment and reduction of symptoms. However, there remain issues relating to ecological validity, and these trials also rely on a patient experiencing depression to report on their own symptoms. Research methods such as interviews and focus groups cannot be used to establish the cause of recovery from treatment. However, these methods can measure an understanding of why treatments may or may not be successful for individual patients, and can take into account personal factors and background".

Concept maps

This activity helps learners create a visual representation of information. There are many ways to use the concept map by linking content and contexts to a concept or using two concepts to demonstrate how the concepts are connected.

Figure 5

Concept map example



Students can create their own concept maps to demonstrate their understanding of, and connections in, a unit. It is important that students go beyond a traditional spider diagram and attempt to explain the connections between the concepts. To do this, they could use one verb or a small phrase to show the connection(s).

The following is a list of example words students could use when engaging in this activity.

accelerates	agrees with	allows	assists
blocks	can be	challenges	concludes
contradicts	correlates	corresponds	creates
develops	demonstrates	goes against	illustrates
increases	overcomes	possibly links	prevents
raises issues	represents	requires	similar
suggests	supports		

Using the example in figure 5, students may state that perspective is a concept that can be used to investigate perception within the context of learning and cognition, and the context of health and well-being (stress). The biological, cognitive and sociocultural approaches **assist** in **developing** various perspectives to explain perception, stress and health. Different research methodologies can be used **demonstrate** the importance of animal models in **assisting** the understanding human behaviour, particularly around stress. Perspectives of stress and health can be investigated from the point of view of many cultures using the dimensions of culture as a framework. **Similarly**, culture and perception can be linked to **demonstrate** various perspectives in viewing the world.

Finding and evaluating psychology research

Psychology is the scientific study of human behaviour and cognition. For this reason, it is relevant to use empirical research when studying each of the contexts. A list of open access journals, in various languages, is included in the appendices of this TSM to assist students and teachers in locating psychological research relevant to their contexts. Engaging with psychological research provides opportunities to evaluate psychology theories within the course contexts but also to explore the six course concepts.

The following are examples of questions that can be used when evaluating psychological research studies.

Concept	Questions for evaluating psychological research studies
Bias	• **Generalizability:** To what groups of people and in what contexts can the theory be applied? • **Evidence:** What research evidence is there in support of the different perspectives and theories? What is the methodological quality of the evidence? Are the findings mixed or inconsistent? • **Reductionism/holism:** Is the theory reductionistic or does it emphasize the influence of many factors on behaviour (interactionism)?
Causality	• **Simplicity:** Is the explanation, theory or approach to behaviour too simplistic? Is it reductionistic and deterministic or does it emphasize interaction, agency and motivation?
Change	• **Applicability:** Is the theory useful? Can it be applied to understand and positively change human behaviour? How well can it predict behaviour? • **Determinism:** Does the theory have a deterministic view on human behaviour, or does it emphasize agency and motivation?
Measurement	• **Testability:** Are all aspects of the theory provable or testable?
Perspective	• **Alternative explanations:** Are there any complementary or alternative theories/ perspectives on the issue?
Responsibility	• **Assumptions of the theory:** To what extent does the theory assume human autonomy and freedom in behaviour? Does it have a positive view on human potential? • **Harm versus benefit:** Are there any potential benefits versus risks of applying the theory? • **Empirical research:** Is the theory based on ethically just and solid empirical evidence? (It is not ethical to apply the findings of unreliable research.) • **Cultural diversity:** Does the theory consider cultural and contextual factors of behaviour as well as individual differences?

When evaluating research evidence, the following questions might be considered.

Concept	Questions for evaluating research evidence
Bias	• **Internal validity:** How was the procedure of the study executed to reduce possible influences of researcher and participant biases? • **Credibility:** For qualitative research, has credibility been established through triangulation, peer review and/or member checking? • **Demand characteristics/participant bias:** Are there any potential participant biases in the study, such as participants potentially figuring out the aim of the study or social desirability bias during self-report?

Concept	Questions for evaluating research evidence
	• **Generalizability:** How generalizable is the research supporting the perspectives? In what contexts and for what populations is it applicable? Is the sample large or small? Homogeneous or heterogeneous? Is the sampling method random or non-random? Are there any possible sampling, gender or cultural biases in the sample?
Causality	• **Simplicity:** Is the conclusion of the study on the cause of the behaviour too simplistic or reductionistic? • **Internal validity:** Is the procedure of the study sufficiently reliable to establish a cause-and-effect relationship?
Change	• **Application:** To what extent can the findings of the study be used to understand or improve behaviour? • **Short-term versus long-term study:** Was change in behaviour studied over a longer period of time?
Measurement	• **Construct, face and content validity:** Does the test, survey or research study measure the behaviour that it is supposed to measure? • **Reliability and replicability:** Has the research been replicated? Is the measurement of the behaviour reliable? • **Internal and external validity:** Is the procedure of the study controlled enough for a valid measure of the behaviour? To what extent does the measurement of behaviour in this study reflect behaviour in the real world or other settings (ecological validity and generalizability)? • **Triangulation versus repeated measures:** Were there different methods of measurement in the study? Was the measurement repeated?
Perspective	• **Alternative explanations or contradictory/complementary research:** Are there any alternative explanations to the conclusion of the study? Are there any other studies using different methods with contradictory or complementary findings? Is the research supporting previous views or is it offering a new, complementary perspective?
Responsibility	When considering the ethics of a research study or treatment, consider the following. • **Consent:** Did the participant or guardian consent to the treatment and/or were they informed about their rights and the complete purpose of the study? • **Deception:** Was there any deception in the study? Was there full disclosure of aims? If deception, was it mild and were participants fully debriefed afterwards? • **Withdrawal:** Did participants have the right to withdraw from the study? • **Confidentiality:** Were the identities of participants protected? • **Risk of harm:** Was there any risk of harm for participants in the study/undergoing any treatment (such as side effects or labelling)? • **Debriefing and follow-up:** Were participants fully debriefed on the aim of the study? Did the practitioner follow up with the patients afterwards to check on well-being and improvement of symptoms. • **Ethics review board:** Was the research study reviewed and approved by an ethics review board before it was conducted? When considering the ethics of an animal study or the use of animal models, consider the following. • **Reduction:** Was the study economical on the use of animals? (This is dependent on available technology at the time of the study.)

Concept	Questions for evaluating research evidence
	• **Refinement:** Did the study attempt to minimize suffering, discomfort and pain for the animal through less invasive methods, humane treatment and satisfactory living conditions both during and after the experiment? Were animals who were suffering euthanized? • **Replacement:** Were/are there alternative techniques, such as computer models, human volunteers or cell cultures? • **Harm versus benefit:** Did the research have potential societal benefits that justified possible animal harm? • **Ethics review board:** Was the research study reviewed and approved by an ethics review board before it was conducted?

Conceptual focus in examinations

The DP psychology course is focused on conceptual learning rather than memorization. This is evidenced by the fact that knowledge of details of research studies is no longer required to obtain full marks in examinations. This section suggests ways to transition from teaching based on research studies to concept-based teaching.

In questions in **paper 1 section A** students are expected to provide short responses that explain a psychological idea and illustrate it with an example. While it is allowed to use a real and existing research study to support the answer, it is also acceptable to use a practical real-life or hypothetical situation instead of a study, as long as it is plausible and relevant to the psychological idea being explained.

Assessment items in paper 1 section A are relatively predictable as questions are limited to the content terms listed in tables 3.1–3.3 of the *Psychology guide*. Students may choose to recall a study to support the content, however, knowledge of the study's details is not assessed. Additionally, the format and duration of paper 1 section A is such that the expected length of the response is short, with a focus on understanding the key psychological idea and clearly explaining it.

In questions for **paper 1 section B** students will be provided with a description of a situation and asked to explain how a particular psychological idea applies to it. The focus of assessment in this paper is on the ability to transfer knowledge to new situations. To prepare for this paper, teachers and students can apply psychological content and concepts to real-world occurrences/examples.

In questions in **paper 1 section C** the focus is on conceptual understanding. The questions will be anchored in a specific context's area of study and include one of the six concepts. Each question will be a combination of one of the six concepts, one of the content units and one of the contexts. Again, although students can and probably will use some research studies to support their responses, the use of studies is not required and knowledge of study details is not assessed. Moreover, there are many possible combinations that can be asked and multiple ways in which the questions can be formulated, making them sufficiently unpredictable to prevent students from trying to rely on memory.

It is important that students demonstrate their knowledge of how a particular concept can be applied. For example, if the question is about problems of measurement in the study of stress and mental health, students will need to identify the relevant aspects in the content and explain their connection to the concept of measurement. They could write about common problems associated with measuring mental health (e.g. social media addiction questionnaires), problems with using self-report data, limitations of correlational studies that dominate this area of research, the importance of considering mediating variables, the abundance of potentially confounding variables that need to be controlled, and so on. All these points may be illustrated with real-world examples or empirical studies.

Teachers and students are encouraged to use research studies in class because it is through analysis of research that we understand how psychology "works". However, in practice, students will probably remember the key ideas behind these studies but forget the details (e.g. names of researchers, composition of the sample, exact results). It is the common challenges in the entire area of research that are relevant,

and not so much the details of individual studies. Evidence of critical thinking also can and should be demonstrated over and beyond evaluation of individual research studies.

Paper 2 section A will be focused on class practicals. The paper requires understanding of research methods in psychology, their relative strengths and limitations. Although questions in this paper are more predictable, there is no content to memorize.

Paper 2 section B will be based on an unseen research study provided as a part of the stimulus material. Students will be given a set of key concepts and will be required to analyse the given study through the lens of these concepts. It is only possible to achieve a high level on this paper if the student has acquired in-depth understanding of concepts and is able to transfer this understanding across situations, identifying relevant links in the given content. Again, it is a matter of critical understanding and practice, not a matter of memory.

Paper 3 will also be based on unseen material—provided in the stimulus material as part of the examination question. Although questions can be practised with real-life examples and empirical research, it is impossible to memorize responses because the material to be analysed is always new. Students will be successful if they have reached an in-depth understanding of data analysis and interpretation, and if they have practised analysing results in other studies.

Overall, this represents a big change from the previous syllabus where the nature of examination papers was such that essay questions could be more easily predicted and assessment rubrics included the requirement to support all responses with research studies as well as details of research. In practice this often meant, especially for weaker students, that preparation for examinations was reduced to making a list of studies and response outlines, and memorizing these studies (or response outlines) for each topic.

Planning the course

DP psychology provides plenty of scope for teachers to develop a course that suits their school's context and their students' interests. This chapter provides guidance on how teachers might plan the delivery of the course. The following table provides one route and includes a short, optional introduction that could be included for students new to the subject. This plan is meant to provide a suggestion only and is not prescriptive.

Course structure	
Introduction to psychology (5 hours)	Introduction to research methodology and content • Activity to introduce research methodology and data analysis (e.g. comparing visual to auditory memory). • Biological approach—create a human neural network using the hand/arm as a neuron model. Send a message (squeeze shoulder) and see how fast the network takes to arrive back to the sender. • Cognitive approach—Stroop test/memory. • Sociocultural approach—engage in an experiment on social facilitation. Engage in a puzzle or other activity to time how long it takes both individually and in a group setting.
Contexts Use the unit plan or concept/content/context diagram for planning instruction. Divide the remaining time among the study of the contexts and implementing class practicals.	Introductory unit: Area of study within a context • Demonstrate or model a class practical from an area of study within a context. • Instruct students to collaborate in the investigation of another class practical related to an area of study within a context. • Students present their findings to the class and engage in their own class practical (formative assessment opportunity).

Creating unit plans using concepts, content and contexts

There are numerous ways to structure the DP psychology course. One approach is to use the contexts as the foundation of a unit and incorporate related content and concepts into the learning. A second approach is to teach the content first so there is a base of knowledge to apply in the contexts. A third approach is to use the concepts to organize the study of contexts and content. Selecting an approach to teaching the course should be based on what works for the teacher and students in their unique context.

This chapter provides examples of approaching the teaching of the course through graphic organizers and tabular structures. These approaches may be useful for students who wish to investigate topics within the psychology curriculum or topics beyond the taught curriculum—for example, criminology, organizational psychology, environmental psychology, indigenous psychology. The use of graphic organizers and tables can also assist students in developing their internal assessment (IA) proposal.

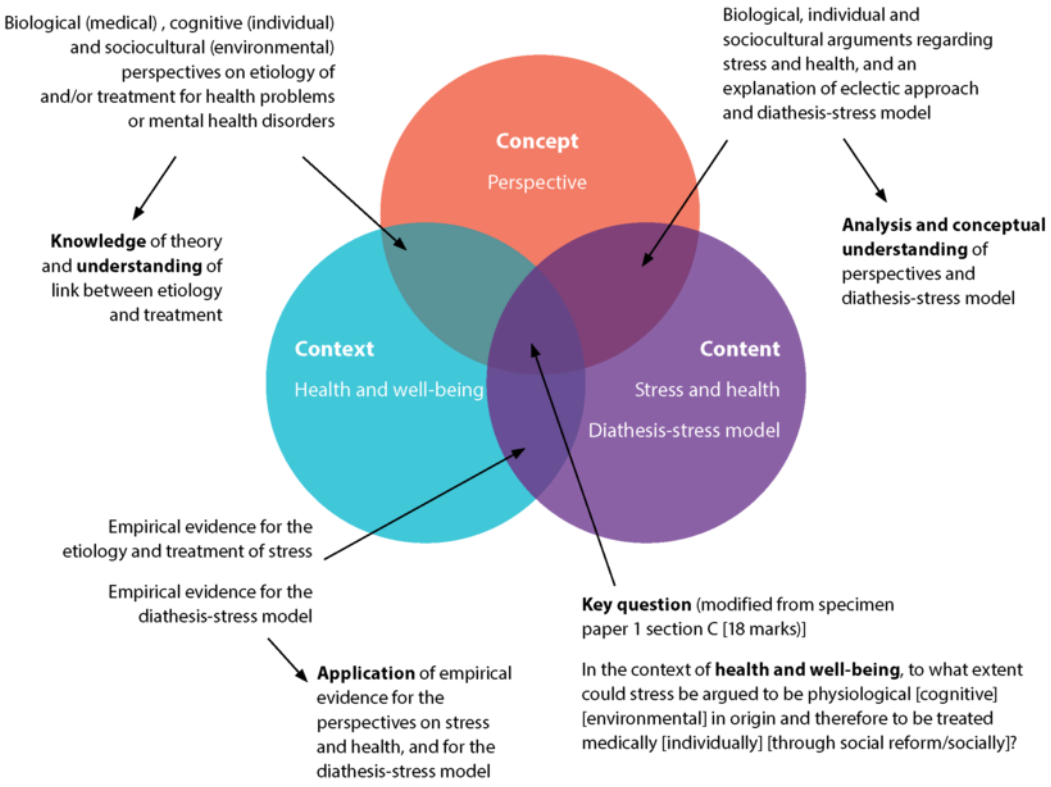
- For the purpose of this TSM, examples of specific content will be listed but the discussion of concepts is not limited to these content sections. Teachers are encouraged to use these as examples as a guide to develop and create their own lesson and unit plans.
- It is not required that concepts are taught in isolation, teachers can encourage students to identify and explain connections and relationships between concepts. Teaching the concepts in this way is not the only way to address the curriculum and prepare students for assessment.
- Each concept should be discussed in relation to a context, students may use a range of content points to demonstrate an understanding of a concept. Students are not limited to using the given examples.
- Each concept has been linked to a specific content point from a sampled context. A list of guiding questions is provided, including a broad conceptual question, specific factual questions that aid the exploration of the conceptual question and a provocative question that supports critical thinking development. Examples of lesson activities that aid inquiry into these guiding questions are also provided.
- The questions used in these examples are guiding questions that can be used within a unit or lesson plan, and are **not examples of how questions will be asked in the assessments**.

Example 1

One way of building the course is to create a diagram linking the concept, content and context. Next, identify links between the concept and content; the concept and context; and the context and content. Finally, create questions allowing students to practise responding to assessment-style questions. The diagram in figure 6 demonstrates the integration of the concept perspective when studying the health and well-being context. The content included in this diagram includes the areas of study for the context, which also integrate content from the biological and sociocultural approaches to understanding human behaviour.

Figure 6

Concept, context and content unit planning



Example 2

Example 2 demonstrates how to integrate concepts and content into the study of a context. The following are examples of how to organize the teaching within each of the contexts. Each example features a graphic organizer and approaches for teaching. These organizers may be helpful when transitioning to a concept-based curriculum. Using the context as an anchor, the areas of study within the context, the concepts, content and HL extensions are considered.

The examples provide suggestions for how to integrate a concept when teaching the class practicals. While many of the concepts may link to the class practical, students and teachers can use the concepts they perceive as most applicable in that case. The examples concerning human development and human relationships cover the topic broadly, while the health and well-being example focuses on one subject within that topic.

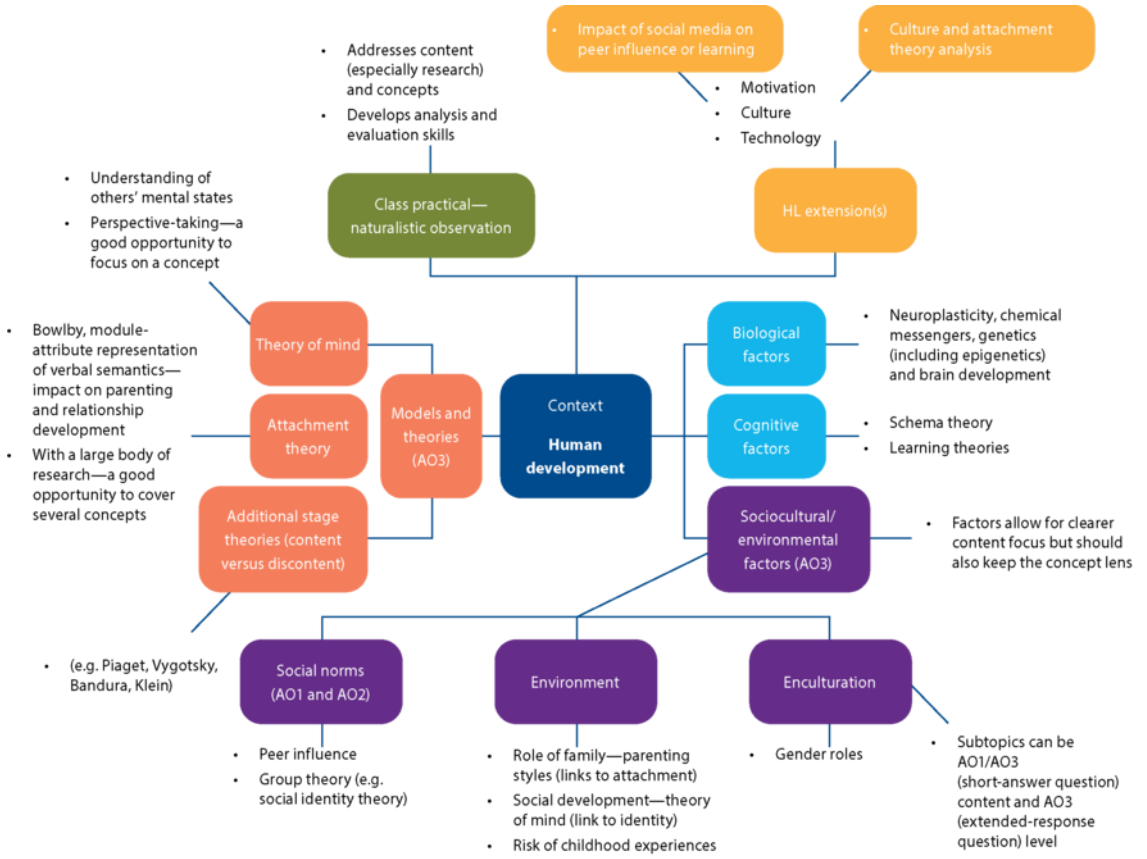
Each of the unit plans provides a detailed description of organizing the concepts, content and contexts while using the tools to develop conceptual understandings.

Context: Human development

A sample unit using human development is shown in graphic form in figure 7. This is not necessarily exhaustive, nor must a teacher cover these specific models, theories or topics. Instead, it attempts to lay out how concept, context and content could interweave throughout a unit focused on development and where topics and research (theories and studies) may come into focus.

Figure 7

Example human development plan



Context: Human development

Concepts: Causality, change, perspective

Content: Biological, cognitive, and social theories, models and factors impacting human development. Research methodologies used to study human development.

Students will explore and be able to analyse and evaluate explanations for how humans develop, using different perspectives. They will be able to effectively evaluate the approaches to research used to understand human development.

Guiding questions

Conceptual questions

- How might a psychologist's bias impact their interpretation of research on development?
- Is one content area (perspective) more effective for understanding development than another?
- What can learning theories tell us about motivation in terms of development? (HL only)

Factual questions

- What research methods are used to study development across content? Evaluate them.
- What are useful applications of research into development?
- Are the gender deficits in development research too substantial to make it widely applicable?

Provocative questions

- Does culture skew our perspective too much to make development research valid and applicable past small samples and populations?
- Does theory of mind, drawn from research on autism and then applied to neurotypical humans, fail to explain daily interactions and misunderstandings?

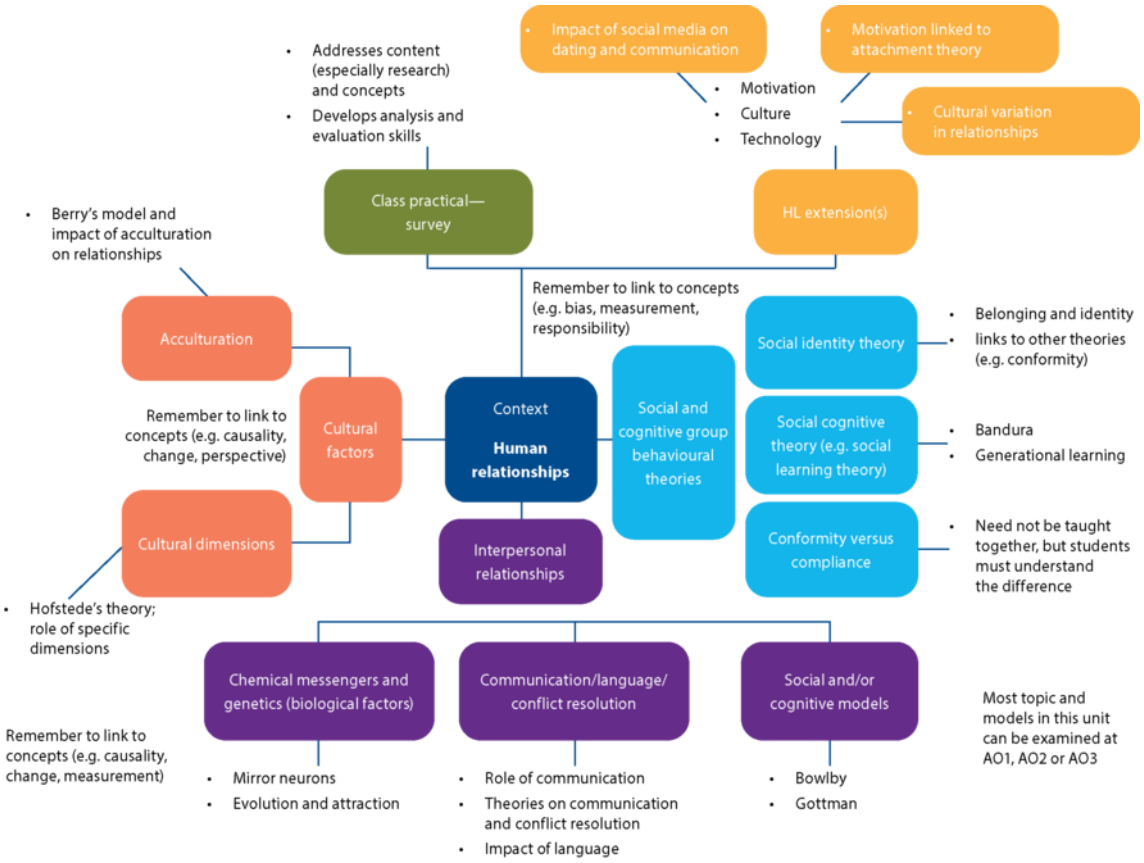
Lesson ideas to explore guiding questions • Compare different stage theories. • Debate and evaluate concepts through the lens of attachment theory. • Consider the impact of social media on peer influence and learning. (HL only)
Evidence of conceptual understanding Students will be able to describe and evaluate different stage theories in development. They will be able to identify if a theory, model or factor is based on social, cultural, biological or cognitive perspectives. Students will be able to recognize, identify and evaluate appropriate research methods for the study of development—and where different methods are more appropriate for different areas of the context of human development. For example, they will be able to identify and evaluate why naturalistic observation works well for studying enculturation but is not useful for studying neuroplasticity. Students will also be able to analyse and assess how concepts interact and impact on content and context. A teacher may choose to use themes to deliver the material, but students would still be able to successfully apply knowledge and understanding, as well as think critically about key research and ideas within the study of development.
Links to other concepts **Note:** These are examples of links that can be made, but this is not an exhaustive list. As well, the concepts will interact with each other. The interactive, cyclical and webbed nature of conceptual learning should be made explicit and reinforced throughout the course. **Causality** Lessons linking to causality will help students to understand and analyse why causality is so difficult in the study of development. As well, they will be able to identify ways to balance control over validity and reliability in approaching research into development. **Change and bias** Change could be linked and approached through research and ethics, but could also be considered in view of the topics and factors. Change is innate to the context of human development. Students will understand the different ways of thinking about change and evaluate what change means for research. Linking it to perspective will help students understand how bias impacts our understanding of change. **Perspective** This could be a theme across the course or unit, or simply a place to return to with questions and to evaluate challenges throughout different topics.
Class practical Naturalistic observation could be explored through a unit on human development, allowing for a deeper look at the approaches to qualitative research and strengthening knowledge in that area.

Context: Human relationships

A sample unit using human relationships (one of four contexts) is shown in graphic form in figure 8. As with the sample unit on human development, it is not necessarily exhaustive, nor must a teacher cover these specific models, theories or topics. It lays out how concept, context and content can be interwoven throughout a unit.

Figure 8

Example human relationships plan



Context: Human relationships

Concepts: Bias, causality, change, measurement, perspective

Content: Biological, cognitive, and social theories, models and factors related to human relationships. Research methodologies used to study relationships.

Students will explore and be able to analyse and evaluate research on how and why relationships develop, change, suffer conflict and break down, using different perspectives. They will be able to effectively evaluate the approaches to research used to understand human relationships.

Guiding questions

Conceptual questions

- How might a psychologist's bias impact their interpretation of research on development?
- Is one content area (perspective) more effective for understanding development than another?
- What can learning theories tell us about motivation in terms of development? (HL only)

Factual questions

- What research methods are used to study development across content? Evaluate them.
- What are useful applications of research into development?
- Are the gender deficits in development research too substantial to make it widely applicable?

Provocative questions

- Does culture skew our perspective too much to make development research valid and applicable past small samples and populations?
- Does theory of mind, drawn from research on autism and then applied to neurotypical humans, fail to explain daily interactions and misunderstandings?

Lesson ideas to explore guiding questions

- Compare/contrast different theories on group behaviour.
- Debate and evaluate conflict resolution strategies and their efficacy.
- Assess cultural impact on relationships.
- Evaluate the role of mirror neurons on relationship development and empathy.
- Consider how social media has affected communication in relationship maintenance. (HL only)

Evidence of conceptual understanding

Students will be able to identify research methods typically used to study human relationships and why they are appropriate. For instance, students may look at what methods are best suited for assessing the impact of attachment styles versus those used to study the effect of mirror neurons or genetics on relational attraction.

Students will understand and be able to evaluate the impact of different factors on attraction and relationship building, maintenance and change or breakdown. They will see the different perspectives on the research in this area and how factors such as culture may change how relationships work.

Students will be able to debate and assess the strengths and weaknesses of different explanatory theories, and ask questions about gaps in our understanding of the psychology of human relationships. They will be able to effectively apply research studies to their analysis.

Students will also be able to analyse and assess how concepts interact and impact on content and context.

A teacher may choose to use themes to deliver the material, but students would still be able to successfully apply knowledge and understanding, as well as think critically about key research and ideas within the study of human relationships.

Links to other concepts

Note: These are examples of links that can be made, but this is not an exhaustive list. As well, the concepts will interact with each other. The interactive, cyclical and webbed nature of conceptual learning should be made explicit and reinforced throughout the course.

Causality and measurement

Relationships research is an ideal area for exploring the challenges of establishing causality and accurately measuring human behaviour, as much of the research is hard to control without losing validity.

Change and bias

These concepts would be valuable to look at with respect to evaluating theories and studies around cultural impact, but also biological research. It is a useful frame for remembering the fallibility of biological studies, which often appear factual rather than theoretical.

Perspective

This could be a theme across the course or unit, or simply a place to return to with questions and to evaluative challenges throughout different topics.

Class practical

A survey would be an effective class practical when studying human relationships—it is appropriate for the topics and would allow for further exploration of qualitative methods.

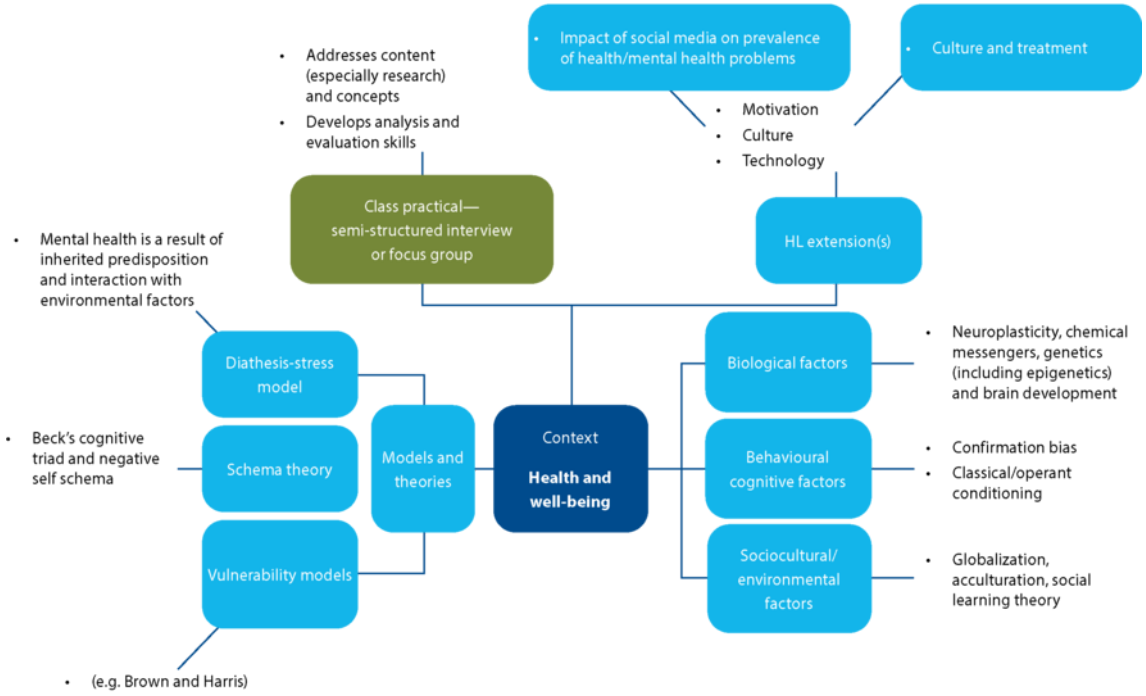
Context: Health and well-being

Mental health disorder: Major depression disorder

Note: The health and well-being plan in figure 9 focuses on mental health disorders as an example of potential ways to link content, context and concept. It does not represent a complete unit and should be viewed with the guidance provided.

Figure 9

Example health and well-being plan



Concept: Causality

Context: Health and well-being **Concept:** Causality **Content:** Biological treatment for one disorder Students will discuss issues of measuring behaviour and issues of causality within health and well-being.
Guiding questions **Conceptual questions** • How do psychologists measure the effectiveness of a biological treatment of a mental health disorder? • How do we determine whether a treatment for a mental health disorder is the cause of reduction of symptoms? **Factual questions** • What research methods can be used to assess the effectiveness of selective serotonin reuptake inhibitors (SSRIs) in treating depression? • What are the strengths and weaknesses of using randomized control trials for measuring the effectiveness of SSRIs? • How do we know what make SSRIs an effective treatment for depression? **Provocative questions** • Why do we need to measure the effectiveness of SSRIs in treating depression? • How can we know if a patient has been cured as a result of a treatment?
Lesson idea to explore guiding questions

- Use the factual questions to guide reading or present a research packet of empirical evidence of SSRIs —explore any issues that may arise.

Evidence of conceptual understanding

Students will be able to identify the different research methods that can be used to measure the effectiveness of treatments for depression. For example, randomized control trials may help to determine a cause-and-effect relationship between a treatment and reduction of symptoms. However, there remain issues relating to ecological validity and reliance on a patient experiencing depression reporting on their own symptoms. Research methods such as interviews and focus groups cannot be used to establish the cause of recovery from treatment. However, these methods can measure an understanding of why treatments may or may not be successful for individual patients, and can take into account personal factors and background.

From exploring these questions with research and examples, students will develop an understanding that determining the cause of reducing symptoms of depression through a treatment is challenging. It is difficult to determine that a biological or psychological treatment is the sole cause of a recovery from a mental health disorder. For example, whilst individuals may be prescribed SSRIs to treat depression, it can be questioned whether a reduction of depressive symptoms is directly a cause of the SSRIs or whether spontaneous remission has occurred. Furthermore, when establishing the causality of recovery from a mental health disorder, there are many variables that may have also contributed to a reduction of symptoms, such as a life-changing event, positive social support or a change in environmental factors. It would be reductionist to consider a biological treatment of depression in isolation of these additional factors, thus demonstrating the complexity of establishing causality in treating a mental health disorder.

Links to other concepts

Note: These are examples of links that can be made, but this is not an exhaustive list. As well, the concepts will interact with each other. The interactive, cyclical and webbed nature of conceptual learning should be made explicit and reinforced throughout the course.

Causality and measurement

This lesson is an opportunity to show the connections between causality and measurement. Students can explore the question "How does measuring the effectiveness of SSRIs in treating depression influence what we know caused depression?".

Responsibility and measurement

When exploring different research methods in the treatments of a mental health disorder, students can identify how some methods raise ethical implications. For example, in randomized control trials, some patients experiencing a mental health disorder will be randomly allocated to the "no treatment" condition. This raises questions about protection from psychological harm.

Class practical

This could be used as an opportunity to discuss the use of different research methods with treatments and explanations of mental health disorders, and why semi-structured interviews may be an appropriate method for this context.

Concept: Bias

Context: Health and well-being

Concept: Bias

Content: Psychological treatment for one disorder

Students will discuss potential biases that arise in the study and application of health and well-being concepts.

Guiding questions

Conceptual question

- How might a psychologist's bias influence their study and application of health and well-being?

Factual question

- What are the implications of cultural bias in the use of cognitive behavioural therapy to treat depression?

Provocative question

- Is there a way to reduce bias from psychological treatments of depression? Will there always be bias?

Lesson ideas to explore guiding questions

- At the beginning of the lesson, ask students to anonymously list their preconceptions about the term "therapy". They can list them individually on a sticky note, and the class can review the potential personal and cultural biases that arise from these preconceptions. For a prompt, students could search for a blog post or article to gain an understanding of cultural stigma and mental health disorders or of providing therapy across different cultures. Examples relevant to local context can be found with simple internet searches.
- Explore research on cognitive behavioural therapy (e.g. Naeem, et al., 2019).

Students can address the following questions.

- Why might culture bias be present in treating depression with cognitive behavioural therapy?
- How do non-western cultures perceive therapy?
- Do Naeem et al's proposed findings effectively address or eliminate culture bias?

Evidence of conceptual understanding

Students will be able to understand the necessity of understanding the role of culture in treating depression. In particular, as symptoms of depression are expressed in different ways across cultures, this will affect the success of a treatment like cognitive behavioural therapy. It is necessary to consider how culture can create barriers in psychological treatment like cognitive behavioural therapy. These barriers are complex and a result of a range of interacting factors, such as socioeconomic status, language and emotional. An emic approach to treating depression is necessary to design a culturally sensitive treatment.

Links to other concepts

Note: These are examples of links that can be made, but this is not an exhaustive list. As well, the concepts will interact with each other. The interactive, cyclical and webbed nature of conceptual learning should be made explicit and reinforced throughout the course.

Responsibility

Students can explore the question "Who is responsible for eliminating biases from treatments of mental health disorders?". It would also be interesting for students to discuss the ethical implications of using a psychological treatment designed in a western culture to treat depression in a patient from a non-western culture.

Concept: Responsibility

Context: Health and well-being

Concept: Responsibility

Content: Biological and psychological treatment for one disorder

Students will discuss the responsibility of psychologists and researchers in the treatment of mental health disorders.

Guiding questions

Conceptual question

- How does responsibility influence how psychologists and researchers approach the treatment of mental health disorders?

Factual question

• What are the necessary ethical considerations that psychologists and researchers must follow in the biological and psychological treatment of depression? **Provocative question** • Is it more important to treat the symptoms of depression rather than the causes of the mental health disorder?
Lesson ideas to explore guiding questions Group presentation • Pick a treatment and a piece of research that demonstrates a biological or psychological treatment of depression. Present to the class how the treatment and research aligns with ethical guidelines. • Class feeds back to raise ethical concerns relating but not limited to: well-being of patient, treatment versus no treatment, suffering and side effects, measuring success of treatment, stigmatization, social sensitivity, confidentiality. • Class votes using Likert scale to assess "responsibility" level of treatment, using ethical considerations to justify choices.
Evidence of conceptual understanding Students will be able to understand the complexity of treating mental health disorders. For example, acknowledging that prescribing SSRIs to treat depression may lead to a reduction of depressive symptoms, and therefore be seen to reduce psychological harm. Alternatively, SSRIs have potential side effects that lead to physical discomfort in a patient. Therefore, psychologists have a responsibility in their decisions when treating mental health disorders to try to reduce suffering as much as possible. This may include a cost–benefit analysis of the side effects versus the potential for protecting a patient from greater harm (such as suicide).
Links to other concepts Note: These are examples of links that can be made, but this is not an exhaustive list. As well, the concepts will interact with each other. The interactive, cyclical and webbed nature of conceptual learning should be made explicit and reinforced throughout the course. **Bias** Students can explore the connection between the responsibility of psychologists and treating mental health disorders. For example, psychologists often report on their own success of treatment and therefore confirmation bias may be present.

Example 3

Context: Health and well-being

One way of organizing the teaching of a context is by using a table to identify the key areas of study and links. The following is an example of teaching mental health disorders and prevention and treatment within the health and well-being context.

The top row of the table indicates the area of study. This is followed by a suggested concept (bias, causality, change, measurement, perspective, responsibility) that frames the learning objectives. Under these learning objectives are suggested content (biological, cognitive, sociocultural approach) relevant to that area of study.

This example module would take 42.5 hours to teach. Given an estimated five hours of psychology teaching per week, this module would be covered in approximately eight and a half weeks.

Research methodology	**Concept** • Learning objectives • *Content*	**Time**	**How does it connect to assessment?**

Mental health disorders	Biological explanations (**bias**) • One or more biological explanations of one mental health disorder • *Brain imaging techniques; neurotransmission; genetic inheritance; diathesis-stress model; biological reductionism* Cognitive models (**change**) • The value of cognitive models in understanding a mental health disorder • *Schema theory; cognitive models (e.g. Beck's cognitive triad); anchoring and confirmation bias* Cultural differences (**perspective**) • 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 • *Emic and etic approach; cultural dimensions* Environmental factors (**measurement**) • The role of environmental factors in understanding/ explaining mental health disorders • *Social learning theory; social identity theory*	10 hours	***Content*** is assessed in **paper 1 section A** in two questions. Application of ***content*** knowledge is assessed in **paper 1 section B** in two questions from two contexts. **Concepts** are assessed in **paper 1 section C** in two extended-responses questions. **Concepts** are assessed in **paper 2 section B** to evaluate a research study.
Prevention and treatment	Biological treatment for one disorder (**bias**) • The explanation of one or more biological treatments of one or more mental health disorders • The effectiveness of one or more biological treatments for treating one or more mental health disorders • *Brain imaging techniques; neurotransmission; genetic inheritance; diathesis-stress model; biological reductionism* Psychological treatment for one disorder (**perspective**) • The explanation of one or more psychological treatments of one or more mental health disorders • The effectiveness of one or more psychological treatments for treating one or more mental health disorders • *Schema theory; cognitive models (e.g. Beck's cognitive triad)* Prevention and/or treatment for one health problem (**change**) • The effectiveness of one or more prevention and/or treatment strategies for one or more health problems • *Cognitive dissonance, enculturation, cultural dimensions*	10 hours	***Content*** is assessed in **paper 1 section A** in two questions. Application of ***content*** knowledge is assessed in **paper 1 section B** in two questions from two contexts. **Concepts** are assessed in **paper 1 section C** in two extended-responses questions. **Concepts** are assessed in **paper 2 section B** in an evaluation of a research study.
HL extensions	Culture • The role of culture in health and well-being • The role of culture in diagnosing and treating mental health issues	7.5 hours	**Paper 3** comprises four source-based questions based on one of the HL extensions.

	• Cross-cultural comparisons of the prevalence of mental health issues Motivation • The different motivational theories underpinning the prevention or treatment of a health problem • The role of motivation in changing behaviour Technology • The role of technology in assisting in the prevention or treatment of health problems • The role of technology in mental health problems • The effectiveness of tele-therapy in the treatment of disorders		
Class practical	Interviews • Structured, semi-structured or focus groups • Thematic analysis • Reflexivity, transferability and credibility • 1 participant in an individual interview or 3–8 participants in 1 focus group	10 hours	**Paper 2 section A** comprises four questions on class practicals.
Approaches to learning skills	Revision Assessment	5 hours	

Standards of good practice

Good ethics are at the heart at DP psychology, as seen with the developing of the psychological literacy of acting ethically. Ethics are integral to the study of concepts, content and contexts in psychology, and engaging in research. Ethical considerations also underpin 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. This chapter contains:

- a sample lesson on ethics that could be used to engage students in real-world experiences when researching psychology
- advice on ethics and designing class practicals
- suggested consent forms.

Note that explicit permission is a requirement for all students taking part in class practicals. Downloadable consent and debriefing forms are given in this section. These are provided as guidance only and teacher-, student- or school-made consent forms may also be used.

Lesson plan: Ethics review board simulation

To ensure ethical standards, universities and other organizations require research proposals be submitted to an institutional review board or research ethics board. Simulating the convening of an ethics board and discussing implications of research is a productive way to encourage students to consider important factors in psychological research. The ethics review board simulation could be used with each of the four class practicals and/or as a peer evaluation of an internal assessment (IA) research proposal.

Before embarking on this activity, students should understand the ethical guidelines of conducting psychological research. Many universities and psychological associations or societies provide an overview of the research standards used to protect participants. Using teacher- or student-created research proposals, students can evaluate the extent the proposal adheres to the standards and identify areas needing further clarification. This activity can be organized for students to undertake in class or modified to be a written task.

Time (minutes)	Activity
5	Ask students to discuss and list the ethical guidelines of their board. They should consider why the board has been established, focusing on the board's role to protect: • participants • researchers • the profession.
5	As a class, review the ethical guidelines from a reputable psychological association suggested in the DP *Psychology guide* in the "Ethics in class practicals" section.
5	Discuss the phrase "the ends justify the means" as a guiding principle for making ethical decisions as a review board.
10–15	Divide students into small groups to suit the class size. Each person in the group is given a copy of a research proposal. These could be a handout from the downloadable attachment at the end of this table or invented to suit the context.

Time (minutes)	Activity
	One person in the group acts as a researcher pitching a proposal of the study to the remaining members, who will act as an ethics review board. This board must ask questions about the study and clarify how the researcher intends to conduct the research. The board then makes a decision about whether the end justifies the means in terms of the research proposal and therefore whether the study can proceed. Students should be given 5 minutes to plan their approach, and a further 5–10 minutes for questioning and to reach a decision.
10	Provide time for students to reflect on: • their understanding of ethics in psychological research • the concepts linked to the activity • their ability to communicate basic understanding and concepts in psychology • their ability to apply psychological principles to a personal, social or organizational problem.

Ethics review board simulation

For this activity, students are split into groups with some acting as researchers and others as an ethics review board. The researchers should work together to outline how they will pursue their study and the ethical guidelines they will follow. Then, the ethics review board will discuss the implications and decide whether the study should proceed.

This downloadable attachment can be given to students.

	Ethics review board simulation (PDF)

Designing a class practical

Example 1

Interviews

Time (minutes)	Activity
5	**Starter** What makes a good or bad interview? Students or teachers can identify a YouTube video fitting their context or use the examples provided below: Watch this short comedy video of interviewers leading the interviewee—youtube.com/watch?v=lEOV88DPvb4. Lead a discussion on why this might lead to a great soundbite, but it is not a good interviewing technique. Concept: Bias. Ensure the issue of bias and how leading an interviewee can allow bias to affect participants' responses is discussed.
10	**Direct instruction**

Time (minutes)	Activity
	Before an interview or focus group consider these issues and, if necessary, explain to students: • different types of interviews (structured, semi-structured or focus groups) • the effect an interviewer has on the interview (refer to given examples) • the role of facilitator in an interview • types of purposive sampling • the interview guide/agenda/schedule • ethical considerations • types of questions • recording methods • different formats of interviews (face to face, over the telephone, online, etc.).
5	**Activity** Present students with a research question. For example, "How do teachers minimize bias when awarding grades to students?". Ask students to develop interview questions to address the research question.
5	**Practice** At the front of the room, set up two chairs facing each other to create a mock interview scenario. Invite students to ask you their questions.
10	**Reflection** Use the mock interview to discuss some of the strengths and limitations of interviews. Consider issues such as the following. • Do participants have control over disclosure? • How can credibility be ensured through respondent validation? • Different data recording techniques • Different transcription methods • Dealing with large amounts of data • The treatment of sensitive issues • How group dynamics affect research
20	**Empirical research** Students read and critically analyse a study in the context of health and well-being that uses interviews (e.g. Dinos et al., 2004). Highlight how interviews are a valid research method in many health and well-being topics as they allow sensitive issues like mental health to be discussed in an ethical and respectful way, and allow psychologists to act **responsibly** within the field and towards participants.
Homework	**Activity preparation** Ask students to identify 3 feasible interviews in the next 7–10 days (these will be conducted in the next step of this activity). To assist this task, some examples could be provided such as: • interviewing a parent/grandparent/guardian about how they protect their mental health • running a focus group of teammates in a sports activity about how it reduces stress • interviewing a pastoral leader at school about what schools do to protect the mental health of teenagers.

Time (minutes)	Activity
	In suggesting examples, avoid the bias of suggesting one approach is better than another.

Focus group discussion

Time (minutes)	Activity
5	**Starter** As a class, watch this short comedy video of a focus groups run by market researchers—youtube.com/watch?v=8YDpvMYk5jA. Form a focus group to discuss teenagers' perception of using a particular social media platform for group chats. Ask students to identify the benefits of a focus group and whether they can learn lessons about good and bad practice. They should try to find examples of: • group dynamics • overbearing group members • artificiality and rigidity • the difference between being a facilitator and an interviewer.
10	**Discussion** Ask students to share their ideas for a focus group study. Invite them to provide feedback on what is feasible and what may be difficult to achieve.
15	**Peer feedback** Arrange students into small groups and invite them to provide feedback on the ideas they have generated in order to improve their research method or questions.
20	**Activity** Provide time for students to develop a focus group protocol and schedule. Ask them to consider what they need to do before, during and after the focus group discussion. Engage students in a discussion on the extent their focus group questions address their research question in an ethical and practical way.
5	**Feedback** Ask students to write down their research question and two to three focus group discussion questions they plan to ask. Collect student ideas and provide feedback on any topics or questions that may be considered a sensitive topic for the activity. Allow students 7–10 days to conduct the focus group they have planned.

Data analysis of interviews and focus group discussions

Time (minutes)	Activity
10	**Discussion** Engage in a whole-class discussion about student experiences conducting interview or focus group discussion. Ask students the following. • What went well? • What seemed unusual or uncomfortable?

Time (minutes)	Activity
	• What did not work? • What are you still wondering about?
10	**Direct instruction** Teach types of qualitative data analysis. • Qualitative content analysis (count the number of times words/codes are mentioned) • Inductive (or thematic) content analysis (look to the data to identify codes/themes) • Deductive content analysis (pre-existing codes/themes) • Coding >> categorizing >> themes Ensure the concept of measurement is referenced and data is measured in qualitative methodologies (like interviews).
20	**Application and practice** Invite students to analyse some of their own interview or focus group data. Ask them to consider the following questions. • How will you analyse the results? • How time-consuming will the process be? • How credible do you think the information that you obtain will be?
10	**Reflection** Ask students: • what have you learned about the interview and focus group discussion process? • how will you summarize important points (considerations before, during and after an interview or focus group; strengths and weaknesses)? • to discuss any other considerations or questions that arise from the discussion.

Example 2

Focus groups

This activity concerns the context of health and well-being. Before the lesson, students should read the abstract and speed-read the Perming et al. study "Adolescents' Experience of Stress: A Focus Group Interview Study with 16–19-Year-Old Students during the COVID-19 Pandemic" (2002).

Time (minutes)	Activity
5	**Starter** Open a discussion on student stress reduction, exploring techniques students may have tried. Ask the class how they would design a focus group to investigate more about the subject. Incorporate: • relevant course elements • concepts—change (in behaviour) and/or responsibility (of the researcher with sensitive topics) • context—health and well-being.
20–30	**Direct instruction**

Time (minutes)	Activity
	The following may require direct instruction to students. • Interviewer effects • Role of facilitator in focus groups • Opportunity sampling of interviewees • Focus group schedule/guide • Ethical considerations • Types and information of questions—start with general questions and move to more specific questions • Data protection and confidentiality • Types of data analysis • Inductive content analysis • Thematic analysis **Discussion question:** Which research methodology (interviews or focus group discussions) would be most effective in getting rich data on student stress?
10	**Participate** Ask students to discuss questions they would like to ask their peers regarding student stress. (Suggest starting broadly with questions about stress in general and being aware of sensitivity of topic.)
10	**Peer feedback** Put students in pairs so they can ask each other the questions they have discussed. **Focus group:** One student acts as facilitator with 4–6 in a group. Students can rotate roles so that each gets the chance to ask questions and respond.
15	**Application** Using the initial prompt study: • guide students towards planning the class practical plan under the headings aim, procedure, sampling technique, and sample and ethical considerations • conduct interviews or focus group discussion • record findings and conclusions.
10	**Reflection** Students reflect on the interview/focus group session, discuss which may be the best for researching student stress and decide as a class which research method will be used. As a class they then consider: • how they will record the interview/focus group discussion • which transcription method will be used • how data will be interpreted (e.g. inductive content analysis) • how group dynamics might affect the focus group discussion.

Student resources for class practicals

The purpose of class practicals is to provide a safe space to engage in research and formative assessment of student understanding under teacher supervision. Ethics in psychological research is of upmost importance, and thus engaging in class practicals outside the classroom should be done safely and on non-sensitive topics. Community engagement is an important element of an IB education and thus the IB recognizes relationships established between schools, teachers and the community. For this reason, students wishing to engage in a practical outside the classroom setting must receive permission from their teachers. The following form is to be completed and approved by the student's teachers. This document does not need to be submitted to the IB, but it is good practice to keep the completed forms on record and in a secure location until the end of the course. These forms are intended to ensure the ethical engagement of research and student well-being.

	Request for permission form (Word)

This section contains downloadable forms that may be given to students. They are offered as suggestions only and are provided as editable Word documents that may be adapted to suit circumstances. Teachers are free to use their own forms as long as they comply with informed consent guidelines.

	Participant consent form (Word)
	Participant debrief form (Word)
	Reflection worksheet (Word)
	Research comparison worksheet (Word)

Overview of assessment components

Assessment in psychology consists of the following components.

Paper	Duration	Weighting SL	Weighting HL
Paper 1 section A	1 hour 30 minutes	35%	25%
Paper 1 section B			
Paper 1 section C			
Paper 2 section A	1 hour 30 minutes	35%	25%
Paper 2 section B			
Paper 3 (HL only)	1 hour 45 minutes	–	30%
Internal assessment	20 hours	30%	20%

Assessment objectives

The following table provides an overview of assessment objectives (AOs)—what students are expected to demonstrate—and how they will be assessed.

AO	Where is the AO addressed?	How is the AO addressed?
AO1—knowledge and understanding	Paper 1 section A	Two short-answer questions from two of the three content areas—biological approach, cognitive approach and sociocultural approach. One question assessed at AO1.
	Paper 1 section C	Content knowledge of the concept-based, extended-response questions assessed at AO1.
	Paper 2 section A	Four questions concerning the research methods used in the class practicals. One question assessed at AO1.
	Paper 2 section B	An extended-response question where students are asked to discuss a research study relevant to one of the four contexts with regard to two or more of the core concepts. Question assessed at AO1 (and AO3).
AO2—application and analysis	Paper 1 section A	Two short-answer questions from two of the three content areas—biological approach, cognitive approach and sociocultural approach. One question assessed at AO2.
	Paper 1 section B	Two questions asking students to apply their knowledge of content to an unseen situation, each from one of four contexts (health and well-being, human development, human relationships, learning and cognition). Assessed at AO2.
	Paper 2 section A	Four questions concerning the research methods used in the class practicals. Two questions assessed at AO2.

AO	Where is the AO addressed?	How is the AO addressed?
	HL paper 3	Four questions asking students to interpret data, analyse the conclusions and then synthesize the findings to draw conclusions. Two questions assessed at AO2.
AO3—synthesis and evaluation	Paper 1 section C	Two concept-based, extended-response questions, each from a different context. Students will choose one of the two questions. Synthesis and evaluation assessed at AO3.
	Paper 2 section A	Four questions concerning the research methods used in the class practicals. One question assessed at AO3.
	Paper 2 section B	An extended-response question where students are asked to discuss a research study relevant to one of the four contexts with regard to two or more of the core concepts. Question assessed at AO3 (and AO1).
	HL paper 3	Four questions asking students to interpret data, analyse the conclusions and then synthesize the findings to draw conclusions. Two questions assessed at AO3.
	Internal assessment	Design a research proposal to investigate a population of interest using one of the four research methods used in the class practicals. Assessed at AO3.

External assessment

This chapter contains information about how external assessment in psychology is organized, along with information on how examination questions will be formulated. It should be read in conjunction with the *Psychology guide* as well as the specimen examination paper found on the Programme Resource Centre.

Paper 1

Section A

Paper 1 section A will include **two** compulsory short-answer questions designed to assess knowledge of theories and content from two of the three content areas (biological, cognitive, sociocultural).

Terms that may be used in the questions are listed in tables 3.1, 3.2 and 3.3 of the guide. Only the first column of each table (psychological terminology) in the relevant syllabus section will be used in formulating the questions. For example, terms from table 3.1 that can be used in examination questions are: "brain imaging techniques", "chemical messenger", "neuroplasticity". The learning objective next to the term "neurotransmission" in table 3.1 states: "The process of neurotransmission and how an understanding of the process of neurotransmission allows psychologists to improve health and well-being". The reference to health and well-being here is merely a suggestion; it is not required to teach neurotransmission specifically in that context and no reference to health and well-being will be made in the examination question because only the first column can be used.

Questions in paper 1 section A may ask students to explain or describe a psychological idea or a theory and provide an example. Examples may be relevant to a real or hypothetical research study or situation.

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. Note that the assessment rubric for this paper simply states: "The example is relevant and explained". There is no requirement to support the response with an existing research study, although of course the student may choose to do so.

Examples of questions include the following.

- Describe how **one** chemical messenger plays a role in **one** human behaviour. (4 marks)
- Explain anchoring bias with reference to **one** example of human behaviour. (4 marks)

Each question is worth 4 marks, for a total of 8 marks for this section. Given that the total number of marks in paper 1 is 35 and that the total duration of the paper is 1 hour 30 minutes, it could be recommended to students that they spend approximately 10 minutes per question in this section.

Section B

Paper 1 section B 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 asked to apply their understanding of content (biological, cognitive, sociocultural) to a context-specific situation or scenario. 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.

Paper 1 section B is an assessment of the same content as in section A, but the nature of the task is different. Students are required to apply the content to a new situation. A simple explanation of the content without any application to the given scenario will not earn any marks. Some basic explanation of the content will probably be necessary in the student's response, but the focus should be on analysing the given situation

rather than explaining the content in general. For example, if students are given a scenario and asked to apply social learning theory to it, it is recommended that they do not spend too much time providing a generic explanation of the theory before applying it to the scenario.

Examples of questions include the following.

- [A description of a research study is provided.] With reference to this study, explain the role of models in the study of cognitive processes. (6 marks)
- As the school psychologist, you have been asked to suggest a strategy to promote empathy and/or prosocial behaviour among children at your school. Explain how social learning theory could be used to achieve this goal. (6 marks).

Each question is worth 6 marks and based on the total duration of paper 1, students could be recommended to spend approximately 15 minutes per question in this section.

Section C

Paper 1 section C will comprise **two** concept-based extended-response questions, each from a different context (health and well-being, human development, human relationships, learning and cognition). Students will choose one of the two questions to answer.

Command terms in this paper will be at the AO3 level—evaluate, discuss, to what extent.

Each question will identify the context area, include one area of study within the context, and link to one of the six concepts.

Example question	Explanation
In the context of **human development**, evaluate **one or more** strategies used by developmental psychologists to **measure theory of mind**.	The context is human development, the concept is measurement, and the area of study within the context is theory of mind (see table 4.5 in the guide).
One claim in **health and well-being psychology** is that one **perspective** is not enough to explain mental health. Discuss this claim with reference to **one** biological explanation of **one or more** disorders.	The context is health and well-being, the concept is perspective, and the areas of study within the context is biological explanations (see table 4.1. in the guide).

Content will be taken from the material in the context tables in the relevant sections.

- Tables 4.1–4.3 for health and well-being
- Tables 4.5–4.6 for human development
- Tables 4.8–4.9 for human relationships
- Tables 4.11–4.12 for learning and cognition

Only the first column in each table ("Area of study") will be used in formulating the question. The second column ("Learning objective") is intended as guidance.

The concept used in the question will be one of the six concepts central to the course (bias, causality, change, measurement, perspective, responsibility). The meaning of these concepts is unpacked in the relevant section of the guide. Only the concept itself (such as "causality") will be used in examination questions. Related concepts (such as "reductionism", "complexity") will not be used in formulating the question. "Related terms" provided in the guide for each of the key concepts are intended as guidance. Students can link concepts to other terms or ideas not listed in the tables and this will be accepted as long as the links are relevant and justified.

It is also understood that one and the same idea may link to different concepts (for example, reductionism may be linked to any of the six concepts). It is the explanation/justification of the link that shows a student's critical thinking and conceptual understanding, and therefore matters for assessment.

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.

This section is worth 15 marks. Based on the allocation of marks, it may be recommended that students spend up to 40 minutes on this section of the paper.

Paper 2

Section A

Paper 2 section A is dedicated to the class practicals that students are expected to engage in when they are studying the contexts.

- Health and well-being: Interview (structured, semi-structured or focus group)
- Human development: Observation (naturalistic or controlled, overt or covert, participant or non-participant)
- Human relationships: Survey/questionnaire (used interchangeably)
- Learning and cognition: Experiment (true or quasi)

The focus of the **four** compulsory questions will be on the research method itself rather than the context in which the practical was conducted. These questions will follow the same structure, but the research method and the concept may be changed.

The format and marks awarded for each question is shown in the following table.

Question number and template	Example question	Marks
1. Describe how [research method] was applied in your class practical, including the aim and procedure.	Describe how you used an interview or focus group in your class practical.	4
2. Explain [concept] in relation to your class practical.	Explain the concept of bias in relation to your interview or focus group class practical.	4
3. Compare and contrast [research method] used in your class practical with [alternate research method].	Compare and contrast the use of an interview or focus group used in your class practical with an experiment.	6
4. Design a research study using [alternate research method] to investigate the same topic as the class practical.	Design an observation to investigate the same topic as you investigated in your class practical.	6

Students can be asked, for example, to "Describe how an interview was applied in your class practical, including the aim and procedure", but they will not be asked about a "semi-structured interview". This is because they might have used a different kind of interview in the practical.

The allocation of research methods to contexts is a recommendation. There will be no penalty if students choose to conduct an interview, for example, in the context of human development rather than health and well-being. However, students must engage with each of the four methods.

The rubrics against which each of these questions will be assessed are provided in the guide.

Given that the total number of marks in paper 2 is 35 and that the total duration of the paper is 1 hour 30 minutes, it could be recommended to students to spend approximately 5minutes on overall planning and 10 minutes per question in this section.

Section B

Paper 2 section B will ask students to discuss a research study with regard to two or more concepts. The study will be provided in the stimulus 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 (bias, causality, change, measurement, perspective, responsibility).

The format and marks awarded for the question is shown in the following table

Question number and template	Example question	Marks
1. Discuss the following study with reference to two or more of the following concepts: [four or more concepts specified in the question].	Discuss the following study with reference to two or more of the following concepts: bias, causality, measurement and/or responsibility.	15

The rubric is provided in the guide. Please also see the full question example in the specimen paper.

Given that the total number of marks in paper 2 is 35 and that the total duration of the paper is 1 hour 30 minutes, it could be recommended to students to spend approximately 5 minutes planning and 40 minutes answering this question.

Paper 3 (HL only)

Paper 3 will include four questions.

Paper 3 is a source-based paper and is focused on the HL extensions. The paper asks students to analyse data and findings from several sources provided in the resource booklet. The sources will reflect one of the following HL extensions 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 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.

The format and marks awarded for each question is shown in the following table.

Question type	Question number and template	Example question (from the specimen paper)	Marks
Interpretation of graphs	1. Explain one issue that limits the interpretation of the data in [source].	Explain **one** issue that limits the interpretation of the data in **source 1**.	3
Data analysis	2. Analyse the findings from [source] and state a conclusion.	Analyse the findings from **source 2** and state a conclusion linked to the claim that use of technology in education may have a negative effect on the mental health of students.	6
Research considerations	3. This is a question on the qualitative research considerations of credibility, bias or transferability. Students will be asked to answer one of the following questions. • Discuss how the researcher could improve the credibility of the findings in [source]. • Discuss how the researcher could avoid bias in [source].	Discuss how the researcher could improve the credibility of the findings in **source 3**.	6

Question type	Question number and template	Example question (from the specimen paper)	Marks
	• To what extent are the findings from [source] transferable to other populations or contexts?		
Synthesis	4. Students will need to interpret at least three of the given sources 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.	Use **at least three** of the sources in the resource booklet (sources 2–5), and your own knowledge, to answer the following question. To what extent can we conclude that the use of technology in education may have a negative effect on the mental health of students?	15

Please see the full question examples in the specimen paper as well as the assessment rubrics provided in the guide.

Given that the total number of marks in paper 3 is 30 and that the total duration of the paper is 1 hour 45 minutes, students could spend approximately 40 minutes reading and planning, 10 minutes on each of the first 3 questions and 45 minutes on the extended response worth 15 marks.

Unpacking the synthesis markband

This section contains further guidance on understanding and using the question 4: synthesis markband.

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.

The interpretation of the sources should show knowledge of research methodology and how that affects the validity of the three or more chosen sources. Knowledge and understanding of one of the HL extension inquiry topics within one of the four contexts will also be expected. Each strand of the descriptor should be marked separately, to arrive at an overall best-fit mark.

Mark	Descriptor	Unpacking the descriptor
0	The work does not reach a standard described by the descriptors below.	This can be used for the bulleted level descriptors, giving a reduced mark in total. If used for all three descriptors, then the total mark for question 4 is 0.
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 shows that the student has not understood exactly what the question is asking. They have little relevant background knowledge and understanding of the HL extension that is the context for the claim.
	• 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.	• The response describes what the sources show without any clear analysis of them. The student shows some knowledge of research methodology regarding one or more of the sources, but this is just at a basic level and not clearly linked to the claim.
	• There is little or no discussion of different points of view. Where a conclusion is included, it is	• The sources are taken individually at face value and not compared or used to discuss the validity of the claim or only used to a very limited extent

Mark	Descriptor	Unpacking the descriptor
	superficial or is not consistent with the rest of the response.	and not in a way relevant to the claim. If there is a conclusion, it does not link to the question or does not follow logically from 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 suggests that the student has partially understood the question. However, they show only limited background knowledge and understanding of the HL extension that is the context for the claim. There is very little reference to 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.	• The response describes what the sources show but with very little analysis of them. Relevant knowledge of research methodology is used to interpret one or more of the sources. However, there are either inaccuracies in this interpretation or it is not explicitly linked to the claim.
	• There is little relevant discussion of different points of view. A simplistic conclusion is included.	• The sources are mainly taken individually at face value and not compared or used in reference to the validity of the claim or only used to a limited extent in a relevant way. A simple conclusion is present.
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.	• While the student has understood the question, they have only partially answered it. They show some background knowledge and understanding of the HL extension that is the context for the claim, or their background knowledge and understanding of this HL extension is unclear. There is some limited reference to 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 relevant analysis of what the sources show, but it needs further development. Relevant knowledge of research methodology is used to interpret two or more of the sources. However, the link to the claim also needs further development.
	• There is some discussion on relevant and different points of view. The response includes a conclusion that is only partially supported by evidence.	• There is some comparison of the sources and relevant use of them in reference to the claim's validity. However, the conclusion is only partly supported by the evidence from the argument presented.
10–12	• The demands of the question are understood and addressed. Knowledge and understanding relevant to the claim have some	• The question is understood and is answered. The student shows partly detailed and partly developed background knowledge and understanding of the HL extension that is the

Mark	Descriptor	Unpacking the descriptor
	detail with some development. There is discussion of the extent to which the claim is valid, but the response lacks some detail.	context for the claim. There is reference to the extent to which the claim is valid, but more detail is needed.
	• 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.	• The student has critically analysed the sources, but the analysis needs further development. Relevant knowledge of research methodology is used to interpret two or more of the sources to support their consideration 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.	• There is some comparison of the sources and use of them in reference to the claim's validity. Evidence from the argument presented supports the conclusion.
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.	• The question is understood and is answered. The student shows relevant, detailed and well-developed background knowledge and understanding of the HL extension that is the context for the claim. They discuss in relevant detail the extent to which the claim is valid.
	• 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.	• The student has critically analysed the sources with a fully developed analysis. Relevant knowledge of research methodology is used effectively to interpret three or more of the sources to support their consideration 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.	• There is full comparison of the sources and evaluation of the claim's validity. The reasoned and clearly stated conclusion is completely supported by the argument presented during this evaluation.

Note: There is a different descriptor strand for knowledge and understanding of the HL extension forming the context for the stated claim, and for knowledge and understanding of the research methodology demonstrated in analysis and interpretation of the sources.

Internal assessment

The nature of the internal assessment

The internal assessment (IA) requires both SL and HL students to individually design a research proposal to investigate a problem faced by a population of interest, showing students that psychological research is conducted with the goal of continuous change and improvement of the human condition. For the purpose of the IA, population of interest can be thought of in terms of those within the school community, the local or the national community.

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.

A free resource is available to assist students in engaging with psychological research. The YouTube series, *Excellence in Student Research,* features experts and students discussing how to engage in psychological research as a student, as well as the benefits that come with it, further resources and paths to getting started—youtube.com/playlist?list=PL_zB-U-iyZtNagc9APVmtFuxNDIPkuM_C

The following downloadable PDFs are designed to assist learning and teaching.

	Planning your IA research proposal (PDF)

Unpacking the IA criteria

This section provides further guidance on understanding and using the IA criteria.

Criterion A: Introduction (6 marks)

Marks	Level descriptor	Unpacking the descriptor
0	The work does not reach a standard described by the descriptors below.	This can be used for the bulleted level descriptors, giving a reduced mark in total. If used for all three descriptors, then the total mark for the criterion is 0.
1–2	• The aim or research question is stated but not clearly expressed or is too broad.	• The aim or research question is stated in the introduction but is unclear or is not focused on the problem experienced by the population of interest.
	• The real-life problem is stated.	• The problem is stated. However, there is no statement regarding the effect on the population of interest.
	• 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.	• Findings and conclusions of two pieces of research are stated in limited detail and/or not made relevant to the real-life problem that is being investigated. Or only one piece of research is included.

Marks	Level descriptor	Unpacking the descriptor
3–4	• The aim or research question is clearly stated but only partially focused.	• The aim or research question is stated in the introduction and is clear. However, it is not completely focused on the problem experienced by the population of interest.
	• The real-life problem is described, but the impact on the population of interest is not addressed.	• The problem is described. However, there is no statement regarding the effect on the population of interest.
	• 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.	• Relevant findings and conclusions of two pieces of research are described, but not explicitly linked to the investigation. Or relevant findings and conclusions of one are described and relevant findings and conclusions of the other are explained.
5–6	• The aim or research question is clearly stated and focused.	• The aim or research question is presented in the Introduction, is clear and is focused on the problem experienced by the population of interest.
	• The real-life problem is described and the impact on the population of interest is explained.	• The problem is described. Why it is a problem and the effect it has on the population of interest is explained.
	• Relevant findings and conclusions of two pieces of research are explained and linked to the investigation.	• Findings and conclusions of two pieces of research are made directly relevant to, and focused on, the investigation and are explained. These findings and conclusions are explicitly linked to addressing the real-life problem.

Criterion B: Research methodology (6 marks)

Marks	Level descriptor	Explanation
0	The work does not reach a standard described by the descriptors below.	This can be used for the bulleted level descriptors, giving a reduced mark in total. If used for all three descriptors, then the total mark for the criterion is 0.
1–2	• The research method is described with errors in understanding.	• *The research method is just stated, but not described. Alternatively, it is described with errors in understanding.
	• The procedure is described but is unclear due to errors or omissions.	• The procedure is described but is unclear due to errors or omissions.
	• Ethical considerations are described but not linked to the investigation.	• Ethical considerations are described, but none are linked to the investigation.
3–4	• The choice of research method is described.	• The research method is described accurately and is appropriate for the investigation.
	• The procedure is described but lacks detail.	• The procedure is described but lacks justification of relevant elements depending on the method used

Marks	Level descriptor	Explanation
		(e.g. sampling technique, sample characteristics, design, setting, process).
	• Relevant ethical considerations are described but some are not linked to the investigation.	• Relevant ethical considerations are described but some are not linked to the investigation.
5–6	• The choice of research method is explained.	• The research method is described, and the choice of research method is explained—the student has said why this research method has been chosen and has justified its use for the investigation.
	• The procedure is explained.	• Relevant aspects of the procedure are explained and include justification of choices made depending on the method used (e.g. sampling technique, sample characteristics, design, setting, process).
	• Relevant ethical considerations are described and explicitly linked to the investigation.	• Relevant ethical considerations are described and their choice as appropriate for the investigation is explained.

*The student should choose a research method from the list of methods given in the "Research methodology" section of the guide. These methods are experiment (true or quasi-); interview (structured, semi-structured or focus group); observation (naturalistic or controlled, overt or covert, participant or non-participant); survey/questionnaire. Care should be taken not to confuse data collection tools with research methods. For example, a questionnaire used as part of an experiment is a data collection tool. The experiment is the research method.

Criterion C: Data collection (6 marks)

Marks	Level descriptor	Explanation
0	The work does not reach a standard described by the descriptors below.	This can be used for the bulleted level descriptors, giving a reduced mark in total. If used for all three descriptors, then the total mark for the criterion is 0.
1–2	• An appropriate data collection tool has been created to measure behaviour, but it contains errors.	• The tool for measuring behaviour and collecting data is relevant to the aim or research question of the investigation, but it contains errors or omissions.
	• 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.	• The student has not described in detail their decisions made when creating this tool, or these decisions and the description 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.	• Problems or difficulties that might be found 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.	• The tool for measuring behaviour and collecting data is appropriate for the research methodology of the investigation.

Marks	Level descriptor	Explanation
	• Decisions made when creating the data collection tool are described and relevant to the aim or research question of the investigation.	• The student has described their decisions made when creating this tool, and these decisions and the description are relevant to the aim or research question of the investigation.
	• Potential challenges when collecting data are described and relevant to the investigation.	• Problems or difficulties that might be found when collecting data are described and are relevant to the investigation.
5–6	• An appropriate and effective data collection tool to measure behaviour has been created.	• An appropriate tool for measuring behaviour and collecting data has been developed. An explanation of how it will be effective has been given.
	• Decisions made when creating the data collection tool are explained and relevant to the aim or research question of the investigation.	• The student has justified their decisions made when developing the tool for measuring and collecting the data in relation to the aim or research question of the investigation.
	• Potential challenges when collecting data are explained and relevant to the investigation.	• Problems or difficulties that might be found when collecting data are explained—stating why the problem may occur. This explanation is relevant to the investigation.

Criterion D: Discussion (6 marks)

Marks	Level descriptor	Explanation
0	The work does not reach a standard described by the descriptors below.	This can be used for the bulleted level descriptors, giving a reduced mark in total. If used for all three descriptors, then the total mark for the criterion is 0.
1–2	• Potential findings of the investigation are described but the implication(s) for policy/ practice are not addressed.	• The student has described the possible findings of the investigation but has not mentioned how they could be applied to policy/practice.
	• One or more examples of researcher bias are identified.	• One or more examples of researcher bias are identified, but they are not described or are not relevant to the investigation.
	• The usefulness of one relevant additional research method is described, without reference to increasing the understanding of the area of investigation.	• The student describes one relevant additional research method and how it could be used. However, they do not state how it could increase the understanding of the problem experienced by the population of interest.
3–4	• Potential findings of the investigation are described and the implication(s) for policy/ practice are partially addressed.	• The student has described the possible findings of the investigation and how they could be applied to policy/ practice.

Marks	Level descriptor	Explanation
	• One or more relevant examples of researcher bias are described.	• One or more examples of researcher bias that are relevant to the investigation are described.
	• The usefulness of one relevant additional research method is discussed without reference to increasing the understanding of the area of investigation.	• The student discusses one relevant additional research method and how it could be used. However, they do not state how it could increase the understanding of the problem experienced by the population of interest.
5–6	• Potential findings of the investigation are described in detail and the implication(s) for policy/practice are explained.	• The student has described in detail the possible findings of the investigation and has explained how they could be applied to policy/practice.
	• One or more relevant examples of how researcher bias may affect the investigation are discussed.	• One or more examples of researcher bias that are relevant to the investigation are discussed, with their implications for the investigation made explicit.
	• The usefulness of one relevant additional research method is discussed with reference to increasing the understanding of the area of investigation.	• The student discusses one relevant additional research method and how it could be used to increase the understanding of the problem experienced by the population of interest.

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Indigenous psychology

For the purpose of the DP psychology course, indigenous psychology is recognized as an approach to, and perspective for, understanding non-western psychologies and can be investigated through each of the four contexts. Classroom discussion on indigenous psychology is encouraged and access to articles can be found online through Google Scholar or from the following list of open access journal articles.

Use these articles or find other indigenous psychology articles from open access journals, Google Scholar or relevant books. These articles can be discussed using the concepts of perspective and measurement, and TOK knowledge of indigenous societies.

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Open access journals

The following is a non-exhaustive list of open-access, peer-reviewed journals and repositories in psychology. This list is meant to help both teachers and students in class and research preparation, for their extended essays and for academic reading.

Journal	Publisher	Related area(s)
Abnormal and Behavioral Psychology	Hilaris SRL	Applied psychology, behavioural psychology
Acta Psychologica	Elsevier	Individual differences, psychology and technology, language psychology
Addictive Behaviors Reports	Elsevier	Addictive behaviour
Advances in Psychological Science	Science Press, Chinese Academy of Sciences	General psychology
AERA Open	SAGE Publications	Developmental and educational psychology
Anuario de Psicología Jurídica	Colegio Oficial de la Psicología de Madrid	Legal psychology
Asian Journal of Social Health and Behavior	Wolters Kluwer Health	Health, medicine, public health, environmental health, occupational health, social psychology
Asian Journal of Sport and Exercise Psychology	Elsevier	Sports and exercise psychology
Australian Journal of Psychology	Taylor and Francis	Cognition, motivation and emotion, personality and social psychology, organizational psychology, health psychology, educational psychology, research methods
BioPsychoSocial Medicine	Springer Nature	Interconnected relationships between the biological, psychological, social and behavioural factors of health
Chronic Stress	SAGE Publications	Stress and stress-related disorders
Cognitive Research: Principles and Implications	Springer Nature	Cognitive psychology, experimental psychology
Comprehensive Psychiatry	Elsevier	Psychiatry, mental health
Computers in Human Behavior Reports	Elsevier	Human computer interactions and the impact of computers on human behaviour

Cultural-Historical Psychology	Moscow State University of Psychology and Education	Patterns of human development across psychology, science, education and anthropology
Current Research in Behavioral Sciences	Elsevier	Behavioural sciences
Eating and Weight Disorders: Studies on Anorexia, Bulimia and Obesity	Springer Nature	Eating disorders, obesity research
European Journal of Investigation in Health, Psychology and Education	Multidisciplinary Digital Publishing Institute	Human development
European Journal of Psychology Applied to Legal Context	Colegio Oficial de la Psicología de Madrid	Legal psychology
Evolutionary Psychology	SAGE Publications	Evolutionary perspectives
Frontiers in Behavioral Neuroscience	Frontiers Media S.A.	Neuroscience work in all animal species and humans to understand behavioural outcomes
Frontiers in Psychology	Frontiers Media S.A.	Health psychology, clinical psychology, cognitive science, personality and social psychology, consciousness research and perception
Genes and Environment	Springer Nature	Genes, environment, epigenetics
Health Psychology Open	SAGE Publications	Health psychology
Human Behaviour and Emerging Technologies	Wiley-Blackwell	General psychology, interdisciplinary research
Human Technology	Centre of Sociological Research	Interaction between humans and technology
Indian Journal of Psychological Science	SAGE Publications	Psychiatry, clinical psychology, social work, law
International Journal of Clinical and Health Psychology	Elsevier https://sciencedirect.com/journal/international-journal-of-clinical-and-health-psychology	Clinical psychology, health psychology, psychotherapy, psychopathology, clinical neurosciences
International Journal of Educational and Psychological Studies	Refaad	General psychology and education in the Middle East
International Journal of Neuropsychopharmacology	Oxford University Press	Biological basis of disorders and treatments
International Journal of Wellbeing	International Journal of Wellbeing Charitable Trust	Well-being
International Review of Social Psychology	Ubiquity Press	Social psychology
JMIR Mental Health	JMIR Publications	Digital health and interventions, technology and digital innovations for mental health, addictions, online counselling

Journal for Person-Oriented Research	Lundh Research Foundation	The individual
Journal of Behavioral Addictions	Akadémiai Kiadó	Addictive behaviour
Journal of Cognition	Ubiquity Press	Cognitive psychology
Journal of Psychology & Psychotherapy	Longdom Publishing	General psychology, including criminal, cultural, positive psychology
Journal of Psychology in Africa	Taylor and Francis	Health and sociocultural development of African communities, both in Africa and around the globe
Journal of Social and Political Psychology	PsychOpen	Intersection of social and political psychology, cultural perspectives
Journal of Umm Al-Qura University for Educational and Psychological Sciences	Umm Al-Qura University	General psychology, education and early childhood
Journal of Work and Organizational Psychology	Colegio Oficial de Psicología de Madrid	Social psychology, organizational psychology
Korean Journal of Psychology: General	The Korean Psychological Association	General psychology
Open Mind: Discoveries in Cognitive Science	The MIT Press	Cognitive psychology, neuropsychology, comparative psychology, behavioural anthropology, psychology related to computer science and mathematics
PLOS ONE *PLOS Mental Health*	Public Library of Science	Advancements in general psychology and mental health
Psicología Educativa	Colegio Oficial de la Psicología de Madrid	Education and related cognitive and affective processes
Psihologijske Teme/Psychological Topics	University of Rijeka, Faculty of Humanities and Social Sciences	Applied psychology, clinical psychology, social psychology
Psychological Studies	Springer Nature	Current debates in psychology, professional practice and contribution to social policy
Psychologie Française	Elsevier	General psychology
Psychologische Beiträge	peDOCS	Developmental, educational and social psychology
Psychology Research and Behavior Management	Dove Medical Press	Psychological aspects of behaviour management and learning
Psychonomic Bulletin & Review	Springer Nature	Experimental research in behavioural and cognitive neuroscience, linguistics, memory, attention and perception, social cognition, cognitive development

Psychosocial Intervention	Colegio Oficial de Psicología de Madrid	Interventions related to social and community problems, public health
Research and Practice in Technology Enhanced Learning	Springer Nature	Education, cognition, learning and technology to improve aspects of technology-based learning
Revista de Psicología Clínica con Niños y Adolescentes	Aitana Research Group	Child and adolescent psychology
Revue Internationale de Psychologie Sociale	Cairn.info	Social psychology
SA Journal of Industrial Psychology	AOSIS OpenJournals	Corporate, organizational and industrial psychology
Social Cognitive and Affective Neuroscience	Oxford University Press	Cognitive neuroscience, neuroimaging research that focuses on treatment of mental disorders
Social Inclusion	Cogitatio Press	Research for policy making on social inclusion
Social Psychological Bulletin	PsychOpen	Basic and applied social psychology
Technology, Mind, and Behavior	American Psychological Association	Human-technology interaction
Zeitschrift für Psychologie	Hogrefe Verlag GmbH & Co. KG	General psychology