

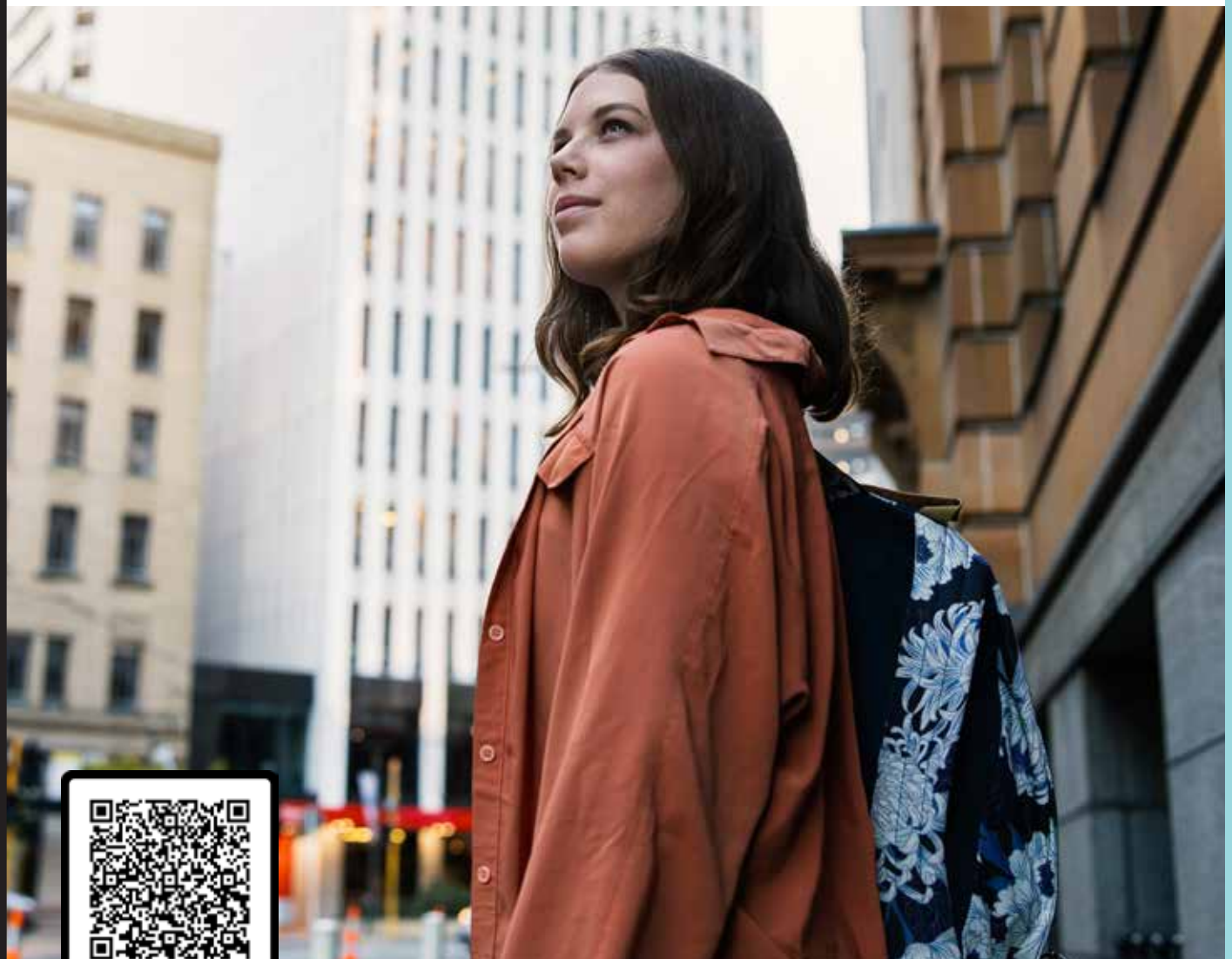


New
innovations
and support

See inside!

International AS/A Levels

Psychology



First teaching September 2015

Choosing Pearson Edexcel as your school's International AS/A Level (IAL®) partner

Equipping your students to reach the world's best universities and compete for global employment opportunities will happen throughout their school life, but is even more key when it comes to choosing their International A Levels. We want to reassure you that with Pearson as your qualifications partner, you can be certain both you and your students are setting yourselves up for future success.

In this guide, you'll learn more about who we are, the recognition and progression our Pearson Edexcel international qualifications enjoy, and we'll take a closer look at International A Level Psychology.

We wish you the best of success for your International Advanced Level journey!

IAS = International Advanced Subsidiary.
IAL® = International Advanced Level.
IAL is a registered trademark of Pearson Education Ltd in the UK and other countries.

Pearson Edexcel IAL® qualifications are available to students attending International Schools (outside the UK) and any students attending Online Schools. They are not available to schools in the UK, the Channel Islands, the Isle of Man or in British Armed Forces schools overseas.



Inside this guide

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Key International Advanced Level Psychology highlights



Additional resources

From December 2024, curriculum-matched Student Books for Psychology will be available for the first time.

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Modular approach

Learn about the popular modular approach to Pearson Edexcel International A Levels, which gives students the flexibility to sit examinations when they feel fully prepared and ready.

See page 10

Welcome to Pearson

We're pleased to meet you!

Pearson is the world's leading learning company. We provide world class qualifications, assessments, digital content and learning experiences to international schools all over the world to enable more effective teaching and learning and to help learners increase their skills and global employability prospects.

We partner with more than 6,500 schools, universities, and employers worldwide:

- **at school level**, to offer Pearson Edexcel International and UK qualifications to over 3.5 million students annually;
- **at university level**, to ensure Pearson Edexcel qualifications are recognised and accepted by universities all over the world;
- **and with employers**, by building 21st century skills into our qualifications at the outset, to ensure learners have transferable skills alongside the knowledge they need to progress into the careers of their choice.

Our qualifications heritage stretches back over 150 years

Pearson's qualifications heritage stretches back over 150 years, our qualifications are offered in over 100 countries worldwide and we mark over 10 million exam scripts per year on behalf of the UK Department for Education.

Pearson Edexcel is regulated by Ofqual, ensuring our curricula meet the highest standards and our exams follow carefully controlled procedures at every stage of their development, delivery, marking and reporting.

As the largest exam board in the UK, Pearson Edexcel regularly achieves the highest marking accuracy of all UK boards.

What this means for you

You can trust Pearson Edexcel International Advanced Level qualifications. Thousands of students around the world take these same qualifications every year, progressing from our popular International GCSEs and on to the world's most respected universities.

"Cambridge Colleges welcome applications from those taking International A Levels... and these are recognised as equivalent to UK Board AS and A Levels."

The University of Cambridge



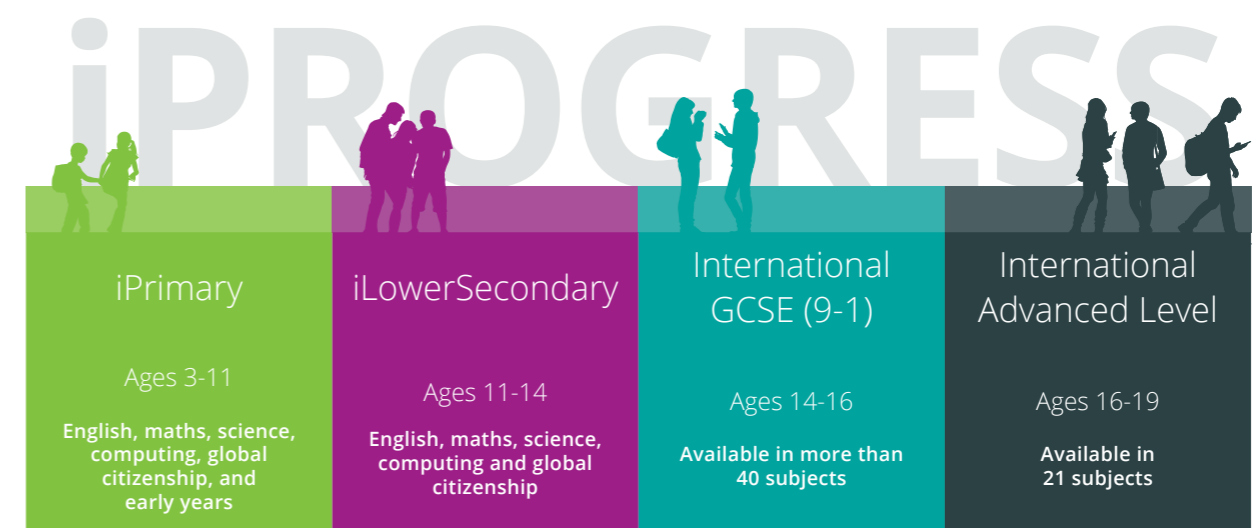
Modern, progressive International A Level qualifications

For globally minded learners aged 16 - 19

Renowned across the world for academic excellence, Pearson Edexcel International Advanced Levels provide learners with the skills and knowledge they need to progress onto the most prestigious universities across the world.

Pearson Edexcel International Advanced Levels are part of iProgress, our complete series of academic qualifications for 3 to 19 year-old learners at international schools following a UK curriculum.

At every stage, our iProgress continuum delivers a consistent learning journey with world class support, assessments and teaching and learning resources for students and teachers, everywhere in the world.



Qualifications for globally minded learners

Introducing Pearson Edexcel International AS/A Levels

Pearson Edexcel International AS/A Levels, also known as Advanced Subsidiary Level/Advanced Levels, have been developed in consultation with the international school community specifically for international learners.

They take the popular and flexible modular approach* where exams are taken at the end of each unit of study, throughout the programme of study when a student feels prepared and ready, or all together at the end of the course. This flexibility, together with exam series in January, June and October, for most subjects, means that students have more opportunities to get feedback to improve their performance and get the grade they need to progress.

Available in 21 popular subjects, they offer progression from International GCSEs, and are comparable to the linear UK A Level, equipping students for progression to university and employment.

*for all subjects except Law

World class assessment design for international students

Pearson Edexcel qualifications go through a rigorous world class assessment design process, which ensures that the content is relevant for international learners, and that there is a clear and consistent relationship between command words, marks and skills. With logical progression of difficulty throughout and consistency in template and design, our question papers are clear and provide suitable challenge and support for students of all abilities.

“I wanted to study subjects that were relevant to a future career. Pearson Edexcel iAL provides learners with a firm knowledge base.”

Nasim Mirzajani, now studying Chemical Engineering at Yale University, USA



Recognised worldwide for academic excellence

Opening doors to the world's best universities

Pearson Edexcel sets the standard for worldwide recognised qualifications aligned to the British educational system. Accepted by over 650 higher education institutions across the world – including top universities such as Oxford, Cambridge, Columbia University and Yale University – and with 21st century skills embedded in the curriculum, you can be confident students will have qualifications, skills and knowledge that admissions teams and employers are looking for.

Read about some of our IAL learner journeys with Pearson Edexcel [here](#).

Learn more at qualifications.pearson.com/progress-to-uni

	Pearson Edexcel GCE AS Level (UK AS Level)	Pearson Edexcel International AS Level (IAS)	Pearson Edexcel GCE A Level (UK A Level)	Pearson Edexcel International A Level (IAL®)
Structure	Linear (all exams taken at the end of a one year programme) Standalone qualification and no longer contributes to GCE A Level grades	Modular and flexible structure with all units examined Contributes 50% to the IAL grade or can be a standalone qualification	Linear (all exams taken at the end of a 2 year programme)	Modular and flexible structure with all units examined Typically studied over a 2 year period
Assessment	Mainly examination based* May/June examinations only	100% examination based Examinations in January, May/June and October	Mainly examination based* May/June examinations only	100% examination based Examinations in January, May/June and October
Grading	A – E		A* – E	
Regulator	Regulated by Ofqual	Regulated by Pearson and confirmed by UK NARIC to be comparable to UK AS standard	Regulated by Ofqual	Regulated by Pearson and confirmed by UK NARIC to be comparable to UK A Level standard

*Other types of assessment used only where needed to test essential skills.

Pearson Edexcel International A Level Psychology qualifications

Clear and engaging

Broad base of studies

The qualification uses famous, traditional and contemporary studies.

Maths skills

There is 10% mathematical content and students are allowed to use a calculator in examinations, reflecting the skills needed in the modern world, and allowing them to focus on problem solving rather than crunching the numbers.

Broad and deep development of learners' transferable skills

We designed the International Advanced Level qualifications to extend learners' knowledge by broadening and deepening skills, for example students will develop:

- **Critical thinking skills:** a critical perspective on psychology by analysing the way psychological theory and research can be critically evaluated.
- **Self-monitoring:** ability to work autonomously, be self-motivating and self-monitoring, reflecting on psychological learning and drawing on their ability to apply concepts coherently and with reasoned logic.
- **Interpersonal skills:** provide opportunities for students to engage with others to discuss and debate psychological explanations of human behaviour and the issues surrounding the use of psychology within society.

Clear and straightforward question papers

Our question papers are clear and accessible for students of all ability ranges. Our mark schemes are straightforward so that the assessment requirements are clear.

Seamless progression from International GCSE

Pearson Edexcel International A Level is the next step in the iProgress learning journey after International GCSE, continuing a consistent path for students and teachers, everywhere in the world.

Progression to further study or employment

International Advanced Level qualifications enable successful progression to undergraduate studies, further education or employment. Through our world-class qualification development process we consulted with higher education, Psychology teachers and Psychology professional bodies to validate the appropriateness of these qualifications, including content, skills and the assessment structure.

Aims of the qualifications

The aims and objectives of this qualification are to enable students to:

- develop essential knowledge and understanding of different areas of psychology and how they relate to each other.
- develop and demonstrate a deep appreciation of the skills in using scientific methods, knowledge and understanding of scientific methods.
- develop competence and confidence in using a variety of practical, mathematical and problem-solving skills.
- develop their interest in and enthusiasm for psychology, including developing an interest in further international study and careers associated with psychology.
- appreciate how society makes decisions about scientific issues and how psychology contributes to the success of the economy and society.

Students will

- develop research methods and carry out practical work by using various techniques in appropriate topics.
- learn to apply psychological theory to everyday behaviour and to appreciate the variety of people's characteristics.
- learn how to analyse aspects of their own behaviour in different circumstances.



Psychology: a closer look

Exams in
January and
June

IAS results contribute to IAL grade

An International Advanced Subsidiary qualification can be claimed as a discrete qualification on completion of the two IAS units. The International Advanced Level qualification can be claimed on completion of all four units in the specification.

100%
externally
assessed

IAS Psychology exam structure and content summary

Unit 1 - Social and cognitive psychology

Unit code: WPS01/01	40% of the total IAS	20% of the total IAL
Written examination: 1 hour 30 minutes		Availability: January and June

Content - Students will study:	Assessment - Students answer all questions from three sections.
<ul style="list-style-type: none"> Topic A: Social psychology Topic B: Cognitive psychology 	<p>Section A</p> <ul style="list-style-type: none"> Social psychology, totals 26 marks and comprises short-answer questions and one eight-mark extended open-response question. <p>Section B</p> <ul style="list-style-type: none"> Cognitive psychology, totals 26 marks and comprises short-answer questions and one eight-mark extended open-response question. <p>Section C</p> <ul style="list-style-type: none"> Comprises one 12-mark extended open-response question on either social or cognitive psychology.

Unit 2 - Biological psychology, learning theories and development

Unit code: WPS02/01	60% of the total IAS	30% of the total IAL
Written examination: 2 hours		Availability: January and June

Content - Students will study:	Assessment - Students answer all questions from three sections.
<ul style="list-style-type: none"> Topic C: Biological psychology Topic D: Learning theories and development 	<p>Section A</p> <ul style="list-style-type: none"> Biological psychology, totals 34 marks and comprises short-answer questions and one eight-mark extended open-response question. <p>Section B</p> <ul style="list-style-type: none"> Learning theories and development, totals 34 marks and comprises short-answer questions and one eight-mark extended open-response question. <p>Section C</p> <ul style="list-style-type: none"> Comprises one 12-mark and one 16-mark extended open-response question. The 12-mark question covers either biological psychology or learning theories and development and the 16-mark question covers both biological psychology, and learning theories and development.

IA2 Psychology exam structure and content summary

Unit 3 - Applications of psychology

Unit code: WPS03/01	20% of the total IAL
Written examination: 1 hour 30 minutes	Availability: January and June

Content - Students will study:	Assessment - Students must answer all questions from Section A and all questions from a choice of two topic areas in Section B.
<ul style="list-style-type: none"> Topic E: Developmental psychology <p>Optional topics (students must study one of the following topics):</p> <ul style="list-style-type: none"> Topic F: Criminological psychology Topic G: Health psychology 	<p>Section A</p> <ul style="list-style-type: none"> Developmental psychology, totals 32 marks and comprises short-answer questions and two eight-mark extended open-response question. One eight-mark question focuses on developmental psychology. One eight-mark synoptic question is based on developmental psychology and issues from Units 1 and 2. <p>Section B</p> <ul style="list-style-type: none"> Presents students with a choice of one from either criminological or health psychology. Each section totals 32 marks and comprises short-answer questions and two eight-mark extended open-response questions.

Unit 4: Clinical psychology and psychological skills

Unit code: WPS04/01	30% of the total IAL
Written examination: 2 hours	Availability: January and June

Content - Students will study:	Assessment - Students must answer all questions from Section A and all questions from a choice of two topic areas in Section B.
<ul style="list-style-type: none"> Topic H: Clinical psychology Topic I: Psychological skills 	<p>Section A</p> <ul style="list-style-type: none"> Clinical psychology, totals 32 marks and comprises short-answer questions <p>Section B</p> <ul style="list-style-type: none"> Clinical psychology, comprises one 16-mark extended open-response question. <p>Section C</p> <ul style="list-style-type: none"> Psychological skills, totals 20 marks and comprises short-answer questions drawing on research methods from other topic areas (except Topics F and G). <p>Section D</p> <ul style="list-style-type: none"> Psychological skills, comprises one eight-mark extended open-response question based on the analysis of a key question from other topic areas (except Topics F and G). <p>Section E</p> <ul style="list-style-type: none"> Psychological skills, comprises one 20-mark synoptic question based on issues and debates from other topic areas (except Topics F and G).

For further information and to download the specification, visit qualifications.pearson.com/ialpsychology

Modular assessment

Why is the modular approach so popular?

The modular assessment structure offers students the flexibility to sit examinations when they feel fully prepared and ready. Once they have sat a unit exam and received a unit grade, that result is banked until they have completed all units. Students then 'cash-in' the completed unit exam results to receive an overall qualification grade.

The structure of Pearson Edexcel IAL qualifications allows teachers to construct a course of study that can be taught and assessed as either distinct modular units or a linear course assessed in its entirety at the end.



How the modular approach works

Bank robust and ongoing evidence of performance

This 'building blocks' approach means that students can 'bank' their unit exam results throughout their period of study. This provides robust evidence of their studies and performance, providing more options to obtain the grade they need to progress.

Multiple exam opportunities throughout the year

Students can take and re-sit individual unit assessments in any series, with examination opportunities in January, June and October in most subjects. This means students have more opportunities to get feedback and get the grades they need to progress.

Students 'cash in' unit results when ready

Once a student has all their unit results for the qualification they are taking, they exchange those for a grade – this is called 'cashing in'. To cash in, all units must have been entered. International AS qualifications can be taken as a separate, standalone qualification, as well as contributing to an Advanced Level qualification.

The benefits of a modular route

A modular approach allows students to take their exams when they feel ready and prepared. They benefit from more exam practice and familiarity. Unit exam results provide formal feedback earlier on in their studies, so students understand the standard required to reach the final level of achievement they are aiming for. This understanding motivates them to improve and builds a sense of ownership through bite-size, short-term goals.

The modular approach can help reduce the mental load and stress at exam time by allowing learners to focus on one year of curriculum content at a time and spread out their high stakes exams over two years and multiple exam series. Learners can also take advantage of multiple re-sit opportunities if needed.

A modular route provides teachers with rich mid-cycle data on learner performance. It offers international schools greater flexibility for exam administration across the school year. And where parents pay exam fees, it helps with budgeting by enabling families to spread their child's exam fees over two years.

The benefits of a linear route

Whilst the modular approach works well for students who want to spread the exam load and bank their performance throughout their studies, doing the exam all in one go at the end of the period of study suits others better.

This approach means assessments for all units are taken together in one exam series so students study all the content and then prepare for all the assessments at the end of their period of study, rather than a more continuous pattern of study and assessment.

"I like the modular nature of IAL, the fact that I can choose whichever core units I want to do, whichever applied units I want to do. It's very comprehensive. It opens up many doors to many international universities."

Wang, Pearson Edexcel International Advanced Level student from Sri Lanka, studying Chemistry, Biology, Physics, and Mathematics.



What this means for you

Pearson Edexcel were the first awarding organisation to introduce the modular International AS/A Levels, so can offer a wealth of experience and support for international schools. The modular approach is so popular with schools, teachers, parents, and students, that we now offer a modular approach for International GCSE which is great preparation for Pearson Edexcel International AS/A Level.

The choice is yours though! The structure of the Pearson Edexcel International A Level qualifications means you can choose the right assessment approach to benefit students and help create a compelling competitive advantage for your school.

Building transferable skills

The most in demand skills are human skills

In recent years, higher education institutions and employers have consistently flagged the need for students to develop a range of transferable skills to enable them to respond with confidence to the demands of undergraduate study and the world of work.

In fact, universities and employers consider transferable skills – otherwise known as Core Competencies, or 21st century skills – to be the largest skills gap overall.



Supporting the development of transferable skills in your school

If you follow Pearson Edexcel IAL specifications, or your students are using our IAL textbooks, you've already started integrating transferable skills into your teaching.

That's because our qualifications and resources are mapped to the National Research Council's framework for 21st century skills, which includes cognitive, intrapersonal and interpersonal skills. They are embedded and signposted in the specifications and schemes of work, with accompanying skills mapping and transferable skills definitions for every subject.

Transferable skills are also developed as part of activities in the Student Books. These are clearly labelled, so you and your learners can easily identify the skills they are building.

We help you instil and embed these skills, supporting children to grow into resilient, curious and globally connected young adults.

No.1

9/10
of the most in-demand skills are human skills³

The highest priority for skills training is analytical thinking, followed by creative thinking²

87% of companies say they have skill gaps, or expect to within a few years¹

Supporting you at every stage

We provide an unparalleled level of support services, tools, resources and training alongside our qualifications, making teachers and students lives easier at every stage.

At a glance: support for you at every stage

FREE resources and support	Planning, teaching & learning	Exam preparation and assessment	Results support
Getting started guide	✓		
Component guides for each unit	✓		
Summary of studies for each unit	✓		
Specification and resource mapping documents	✓		
Training (face-to-face, online & downloadable content)	✓	✓	
Subject advisor support	✓	✓	✓
Ask the expert	✓	✓	✓
Community forums	✓	✓	✓
Sample assessment materials	✓	✓	
Examiner reports		✓	✓
Exemplar marked responses		✓	
Past papers		✓	
Mark schemes		✓	
ResultsPlus mock exam analysis		✓	
ResultsPlus		✓	✓
FREE Access to Scripts service (ATS)			✓

Additional paid for resources			
Printed Student Books and digital ActiveBooks	✓	✓	
Online Teacher Resource Pack	✓	✓	

*Available for any exam paper marked online, e.g. Unit 1 and Unit 3. Visit our website for more information on ATS.

¹ McKinsey & Company (2020) Available from: www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/beyond-hiring-how-companies-are-reskilling-to-address-talent-gaps

² World Economic Forum (2023) Future of Jobs Report [online]. Available from: www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

³ Pearson (2022) Pearson Skills Outlook: Power Skills [online]. Available from: plc.pearson.com/en-GB/news-and-insights/pearson-skills-outlook-powerskills



Pre and post exam support for your educators

Supporting you every step of the way - for free

As a Pearson Edexcel centre, you will have free access to a full range of integrated support services, tools and resources to support the delivery of your International A Levels. Unlike some awarding bodies, with Pearson Edexcel there are no additional costs for the following support:

- Easy, all year-round access to our specifications, sample assessment materials and teaching resources.
- **Teacher training** in-person and online including “Welcome to Pearson” sessions to help your educators make the most of our qualifications.
- **Expert subject advisors** on hand to help with any subject-specific queries you may have and available to support your educators throughout the year.
- **ResultsPlus:** our popular online results analysis tool, which also includes an insightful group analysis service.
- **Access to Scripts:** our service that allows you to view your candidates’ marked exam papers for free online or as downloaded PDFs, providing a rich source of information to inform future teaching plans and approaches.
- Plus, local, experienced Pearson Regional Development Managers who are there to support you every step of the way.

Additional paid for support

Mocks Service

We provide exam papers for your students to sit in mock examinations. Marked by Pearson examiners, results are uploaded to ResultsPlus for item level analysis.

Your free subject support

Our subject advisors provide fast, reliable, expert help and aim to answer all emailed questions within 48 hours and resolve 90% of issues phoned in on the first call.

Email teachingpsychology@pearson.com or call **+44 (0) 344 463 2535**

A valued support partner

“One of the good features of ResultsPlus is that it provides the top ten questions that students scored poorly in, so we as the lecturers can actually identify the topics that students found difficult and can incorporate a different approach when teaching our current students.”

Dr Khong Yoke Kum, A Levels Department, HELP Academy, Malaysia

“Because of ResultsPlus, students can learn about their mistakes and rectify.”

Kanagambigai, Chief Counsellor, A levels Department, HELP Academy, Malaysia commenting on the ResultsPlus mocks service.

“I used the website with its course outlines, past papers, summaries of key points, revision notes and mark schemes... they provide great tips about possible exam questions and how you could answer them.”

Alexia Kattavenos, student, The Nicosia Grammar School, Cyprus



What this means for you

We will support you to deliver an outstanding teaching and learning experience for every student taking Pearson Edexcel International A Levels.

With examWizard, they will be able to prepare topic tests and revision activities based on past exam questions to help prepare students for their final assessments, and using ResultsPlus, they will be able to analyse their mock results to pinpoint where they may need further support and can then tailor their teaching to support them.

Post-exams, our Access to Scripts service will allow your educators to review students’ exam papers for free, providing greater visibility and a deeper understanding of individual students’ exam performance and helping them identify skills gaps to tailor teaching plans for future cohorts.

Published teaching and learning resources



Written specifically to support our qualifications

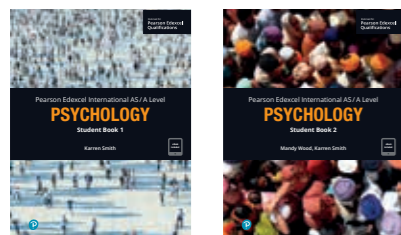
These resources are written for the specifications, so you can be confident that you are providing your students with the best chance of succeeding. With appropriate international content, all resources include a strong focus on progression, recognition and transferable skills, enabling learning in a local context to a global standard.

NEW! Student Books

Available December 2024

- A chart at the beginning of each book shows where each specification point is covered.
- Learning objectives set expectations at the beginning of each chapter and Getting started activities engage students' interest.
- Clear layout, with regular illustrations, diagrams and tables to explain new concepts.
- Definitions of key terms throughout and a glossary at the back of each book.
- Varied activities embed understanding and frequent exam tips link new learning to the final examinations.
- Thinking Like a Psychologist sections encourage deeper thought and application of learning in other contexts.
- Checkpoint questions and exam practice questions facilitate revision at the end of each chapter.

Title	ISBN
Pearson Edexcel International IAS Psychology Student Book	9781292736112
Pearson Edexcel International IAL Psychology Student Book	9781292468068



Online Teacher Resource Pack

This curriculum-matched, up-to-date teacher resource is designed to save you time, enabling you to deliver a high quality experience to your students, ensuring the best possible learner outcomes.

- Available through a two-year subscription.
- Practice exam papers.
- Mark schemes for the mock papers.
- Summative (practice) assessments.
- Exam practice PowerPoints.
- Mapping document.
- Glossary of key terminology.

Title	ISBN
Pearson Edexcel International AS/A Level Psychology Teacher Resource Pack	9781292277646



NEW! Student Books

Learning objectives set expectations at the beginning of each chapter and **Getting started** activities engage students' interest.

CHAPTER 11 METHODS: DESIGNING AND CONDUCTING EXPERIMENTS

LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- design and conduct experiments, including field and laboratory experiments
- understand hypothesis construction and variables
- understand experimental research designs
- recognise problems that arise when conducting experiments
- understand the controls that can be used to ensure reliable and valid research findings.

GETTING STARTED

During this topic we have explored many different types of experiments used to investigate memory. Make a list of some of these experiments, describing the procedures and apparatus used, and the aspects of memory they were testing. In small groups, discuss the different ways of investigating memory and how useful they have been at explaining memory.

KEY TERMS

field experiment: a piece of research that takes place in the setting where the behaviour being studied would naturally occur

laboratory experiment: an experiment conducted in a controlled environment

EXPERIMENTS AND EXPERIMENTAL DESIGN

Memory is difficult to observe or accurately measure using a self-report method, so cognitive psychologists often use experiments to objectively quantify the capacity and duration of each memory store. Traditionally **laboratory experiments** have been used to investigate memory, but increasingly **field experiments** are being used to understand memory in more everyday contexts.

Experiments are investigations where a variable is manipulated or altered and its effect measured, while maintaining control over other variables that might interfere with this situation (see Figure 11.1). Experiments 'set up' a situation where participants are required to perform a task and the performance of this task is measured. The extent to which this task reflects real life or is conducted in a realistic situation depends on the type of experiment being conducted.

Figure 11.1 The experimental method

```

    graph LR
    A[Theory proposed] --> B[Hypothesis/prediction made based on theory]
    B --> C[Variable manipulated (IV)]
    C --> D[Performance measured (DV)]
    D --> E[Theory supported or refuted according to the outcome]
    
```

AIM

The aim of an experiment is a general statement about what area or topic is being researched. An aim typically begins with 'To investigate...'. The aim is a concise and to-the-point statement that directs the overall ambition of the study.

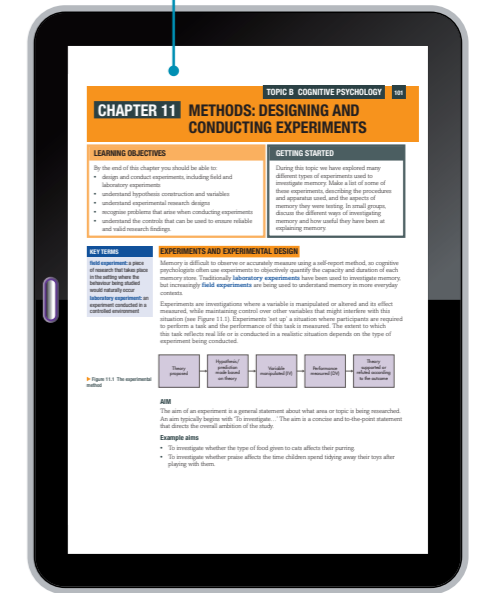
Example aims

- To investigate whether the type of food given to cats affects their purring.
- To investigate whether praise affects the time children spend tidying their room after playing with them.

Definitions of **key terms** throughout and a glossary at the back of each book.

The **embedded transferable skills**, needed for progression to higher education and employment, are signposted so students understand, and can engage with, the skills they're gaining.

Each Student Book comes with 3-year access to an ActiveBook, a **digital version of the Student Book**, which can be accessed online, anytime, anywhere, supporting learning beyond the classroom.



Varied activities embed understanding.

102 TOPIC B COGNITIVE PSYCHOLOGY CHAPTER 11 METHODS: DESIGNING AND CONDUCTING EXPERIMENTS

KEY TERM

operationalisation: defining the variables specifically so that they are directly tested

EXAM TIP

The aim is an important part of a research investigation because it clearly signposts the topic being investigated. An aim should be as clear and precise as a hypothesis. Once you have read about hypotheses and **operationalisation** later in this topic, it is important that you apply the same detail and accuracy to an aim.

HYPOTHESES

Experiments begin with a prediction of what is likely to happen in the investigation based on previous knowledge, research or theory. This prediction of a likely outcome is known as the **alternative/experimental hypothesis**. An alternative/experimental hypothesis is a clear and precise statement predicting the results of the study.

Sometimes we can be certain of the outcome of an experiment because, perhaps, there is strong evidence to suggest the outcome may happen, or it is based on a robust theory. In such cases a **directional (one-tailed) hypothesis** will be predicted. When we are not certain of the outcome of an experiment, because there are conflicting theories or a lack of relevant evidence, a **non-directional (two-tailed) hypothesis** will be predicted. A non-directional hypothesis predicts that a difference or relationship will be found, but not the direction that the difference or relationship will take. (See Figure 11.2.)

Examples of hypotheses

Directional/one-tailed

Directional/one-tailed hypothesis:

- Cats will purr for longer when they are fed tinned food compared to dry food.
- Children will spend longer washing dishes the more praise they receive.

Non-directional/two-tailed

Non-directional/two-tailed hypothesis:

- There will be a difference in the length of time a cat purrs when given tinned and dry food.
- Praise will affect the time children spend tidying away their toys after they have finished playing with them.

Figure 11.2 Differences between hypotheses

SKILLS

COMMUNICATION, ANALYSIS, CRITICAL THINKING

ACTIVITY 1

When getting started you considered some of the memory experiments discussed in this topic. Look again at these experiments and propose a hypothesis that each experiment would have used. In pairs, discuss whether the researcher would have proposed a directional (one-tailed) or non-directional (two-tailed) hypothesis for their experiment.

KEY TERM

null hypothesis: predicts no difference/relationship will be found or that any difference/relationship is due to chance factors

A **null hypothesis** is a default prediction that is supported if there is a greater likelihood of the results occurring by chance. When we conduct research, we often find some difference or relationship; it is rare we would find nothing, but sometimes the difference or relationship found is too small or insignificant to be due to anything other than chance variation. For example, if we are investigating whether praise affects a child's inclination to tidy their bedroom, it is unlikely that we will find no/zero effect of praise on bedroom tidying. However, the change observed in bedroom tidying may not be great enough to be due to praise alone and could be due to chance.



About Pearson

Pearson's qualifications heritage stretches back over 150 years and our qualifications are offered in more than 110 countries worldwide. We also mark over 10 million exam scripts per year on behalf of the UK Department for Education. Pearson Edexcel is regulated by Ofqual, the UK's qualifications regulator, ensuring our curricula meet the highest standards and our exams follow carefully controlled procedures at every stage of their development, delivery, marking and reporting. As the largest awarding organisation in the UK, Pearson Edexcel regularly achieves the highest marking accuracy of all UK boards.

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