

MYP unit planner

In the context of the MYP curriculum, a *unit* can be defined as a period of study that concludes with a summative assessment. This section describes the process of planning inquiry-based, subject-specific units (disciplinary learning) using the MYP unit planner.

There are three aspects of developing an MYP unit: establishing the purpose of the unit; defining the process of teaching and learning through inquiry; and reflecting on the planning, process and impact of the inquiry. These aspects are developed by placing elements of “backwards planning” (Wiggins and McTighe 2005) in an MYP context. The relationship between these aspects of teaching and learning is dynamic, and any aspect might provide the point from which teachers begin their planning. In planning curriculum, teachers often move among inquiry, action and reflection; these inquiry-based aspects of curriculum planning are iterative and interrelated rather than strictly linear, as shown in figure 8.

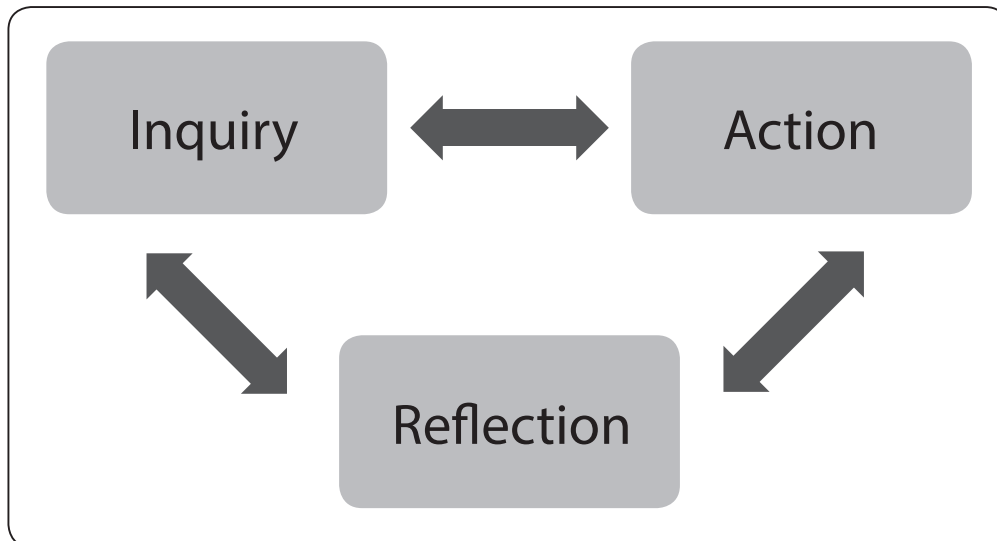


Figure 8

The dynamic aspects of MYP unit development

Unit plans are an essential component of the MYP written curriculum and must include the following elements.

Inquiry: Establishing the purpose of the unit

- Key and related concepts
- Global contexts
- Statement of inquiry
- Inquiry questions
- Subject-group objectives
- Summative assessment
- Approaches to learning (ATL)

Action: Teaching and learning through inquiry

- Content (selected or required)
- Description of the learning process
 - Learning experiences and teaching strategies
 - Formative assessment
 - Differentiation
- Resources

Reflection: Considering the planning, process and impact of the inquiry

- Prior to teaching the unit
- During teaching
- After teaching the unit

Teachers planning MYP units might begin with reflection on previously developed units of work, required content, a successful teaching strategy, an effective summative assessment, or an important ATL skill. From any of these starting points, teachers can use the unit planner to extend and coordinate their thinking about how to develop students' skills and understanding, and how to meet the subject group's aims and objectives.

The MYP unit-planning process helps teachers move collaboratively towards a fully developed written, taught and assessed curriculum. Many teachers find it helpful to use the MYP unit planner as an organizer for more detailed lesson plans developed to meet the needs of local teaching practices and requirements. Schools must use the MYP unit-planning process but can adapt the specific format of unit planning to meet their needs and to promote effective teaching and learning in a variety of local and national circumstances.

MYP unit planner

Teacher(s)	Subject group and discipline		Unit duration (hrs)
Unit title	MYP year		

Inquiry: Establishing the purpose of the unit

Key concept	Related concept(s)	Global contexts
Statement of inquiry		
Inquiry questions		
Factual—		
Conceptual—		
Debatable—		

Objectives	Summative assessment	Approaches to learning (ATL)
	<p>Outline of summative assessment task(s) including assessment criteria:</p>	
	<p>Relationship between summative assessment task(s) and statement of inquiry:</p>	

Action: Teaching and learning through inquiry	
Content	Learning process
	Learning experiences and teaching strategies
	Formative assessment
	Differentiation
Resources	

Reflection: Considering the planning, process and impact of the inquiry

Prior to teaching the unit	During teaching	After teaching the unit

Inquiry: Establishing the purpose of the unit

The “Inquiry” section of the MYP unit planner identifies the purpose of the unit to ensure its alignment with MYP philosophy and requirements. The components of this section of the MYP unit planner are: concepts, global contexts, statement of inquiry, inquiry questions, subject-group objectives, summative assessment and ATL.

Concepts

Key concepts

The MYP identifies 16 key concepts to be explored across the curriculum. These key concepts, shown in Table 2, represent understandings that reach beyond the eight MYP subject groups from which they are drawn.

Aesthetics	Change	Communication	Communities
Connections	Creativity	Culture	Development
Form	Global interactions	Identity	Logic
Perspective	Relationships	Time, place and space	Systems

Table 2
MYP key concepts

Teachers use key concepts from their own subject group(s)—as well as key concepts from other subject groups—to plan disciplinary and interdisciplinary units of inquiry. Teachers identify one key concept that drives the unit’s development.

The following broad descriptions apply across subject groups, and MYP subject guides suggest further subject-specific understandings. These concepts are not only “key” in the sense of being important; they also provide a key—a way into a body of knowledge through structured and sustained inquiry. They place no limits on breadth of knowledge or on depth of understanding, and therefore provide access to every student, regardless of individual aptitudes and abilities.

Inquiry into MYP key concepts will further develop (and lead to debate on) the meaning of these significant ideas.

- *Aesthetics* deals with the characteristics, creation, meaning and perception of beauty and taste. The study of aesthetics develops skills for the critical appreciation and analysis of art, culture and nature.
- *Change* is a conversion, transformation or movement from one form, state or value to another. Inquiry into the concept of change involves understanding and evaluating causes, processes and consequences.
- *Communication* is the exchange or transfer of signals, facts, ideas and symbols. It requires a sender, a message and an intended receiver. Communication involves the activity of conveying information or meaning. Effective communication requires a common “language” (which may be written, spoken or non-verbal).

- *Communities* are groups that exist in proximity defined by space, time or relationship. Communities include, for example, groups of people sharing particular characteristics, beliefs or values as well as groups of interdependent organisms living together in a specific habitat.
- *Connections* are links, bonds and relationships among people, objects, organisms or ideas.
- *Creativity* is the process of generating novel ideas and considering existing ideas from new perspectives. Creativity includes the ability to recognize the value of ideas when developing innovative responses to problems; it may be evident in process as well as outcomes, products or solutions.
- *Culture* encompasses a range of learned and shared beliefs, values, interests, attitudes, products, ways of knowing and patterns of behaviour created by human communities. The concept of culture is dynamic and organic.
- *Development* is the act or process of growth, progress or evolution, sometimes through iterative improvements.
- *Form* is the shape and underlying structure of an entity or piece of work, including its organization, essential nature and external appearance.
- *Global interactions*, as a concept, focuses on the connections among individuals and communities, as well as their relationships with built and natural environments, from the perspective of the world as a whole.
- *Identity* is the state or fact of being the same. It refers to the particular features that define individuals, groups, things, eras, places, symbols and styles. Identity can be observed, or it can be constructed, asserted and shaped by external and internal influences.
- *Logic* is a method of reasoning and a system of principles used to build arguments and reach conclusions.
- *Perspective* is the position from which we observe situations, objects, facts, ideas and opinions. Perspective may be associated with individuals, groups, cultures or disciplines. Different perspectives often lead to multiple representations and interpretations.
- *Relationships* are the connections and associations between properties, objects, people and ideas—including the human community’s connections with the world in which we live. Any change in relationship brings consequences—some of which may occur on a small scale, while others may be far-reaching, affecting large networks and systems such as human societies and the planetary ecosystem.
- The intrinsically linked concept of *time, space and place* refers to the absolute or relative position of people, objects and ideas. Time, place and space focuses on how we construct and use our understanding of location (“where” and “when”).
- *Systems* are sets of interacting or interdependent components. Systems provide structure and order in human, natural and built environments. Systems can be static or dynamic, simple or complex.

Related concepts

Related concepts and their definitions are found in each MYP subject guide, along with examples of how they are used to develop MYP units. Teachers can develop additional related concepts to meet the needs of students and local or national curriculum requirements. For each unit, teachers identify one or more related concept that extend(s) learning, lead(s) to deeper understanding, or offer(s) another perspective from which to understand the identified key concept(s).

Using key and related concepts

Since key and related concepts describe the most important ideas for teaching in the subject, teachers can use them as a framework for vertically articulating the curriculum. For example, teachers can begin by identifying the key and related concepts that will be addressed in each year of the programme, and then map the development of those concepts with respect to MYP subject-group objectives. Alternatively, teachers can begin by developing their understanding of subject-group objectives over the years of the programme, then identify key and related concepts for specific units.

When planning a unit of work and determining the conceptual understandings for students to explore through the unit, it is important to note the following.

- Students need multiple opportunities to explore the concepts defined for each subject or discipline. Students should have meaningful inquiry into all of the key and related concepts for each relevant subject group at least once over the course of the MYP.
- Over the course of the programme, students need to develop an understanding of the key and related concepts at increasing levels of sophistication and abstraction.
- Summative assessments should offer students opportunities to reach the highest levels of achievement with regard to their conceptual knowledge and understanding.
- Related concepts can have different levels of abstraction and disciplinary specificity (Erickson 2008). In some cases, key concepts can function like related concepts. For example, in a unit entitled “Balance in complex organisms requires the effective interaction of systems”, the related concepts balance and interaction bring disciplinary depth to the key concept of systems—and also deepen understanding of the subject.

Global contexts

Teaching and learning in the MYP involves understanding concepts in context. Global contexts provide a common language for powerful contextual learning, identifying specific settings, events or circumstances that provide more concrete perspectives for teaching and learning. When teachers select a global context for learning, they are answering the following questions.

- Why are we engaged in this inquiry?
- Why are these concepts important?
- Why is it important for me to understand?
- Why do people care about this topic?

MYP global contexts, illustrated in figure 9, provide common points of entry for inquiries into what it means to be internationally minded, framing a curriculum that promotes multilingualism, intercultural understanding and global engagement. These contexts build on the powerful themes of global significance that structure teaching and learning in the PYP, creating relevance for adolescent learners.

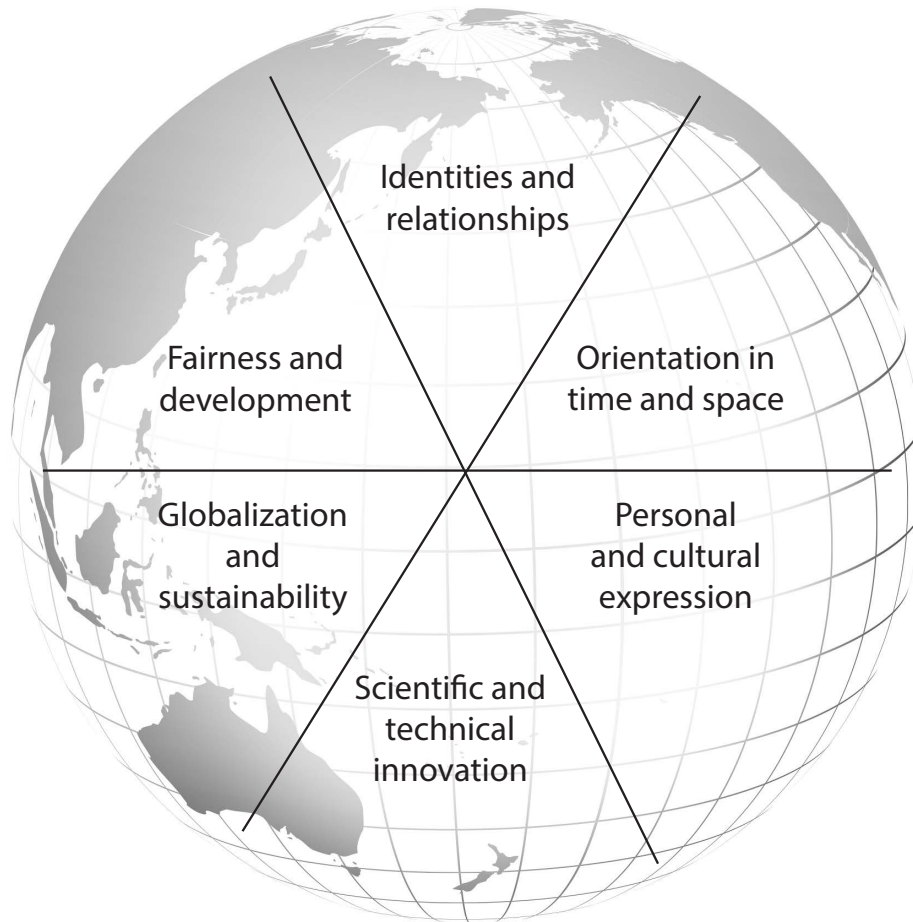


Figure 9
MYP global contexts

These and other contexts for teaching and learning inspire explorations of our common humanity and shared guardianship of the planet. They invite reflection on local, national and global communities, as well as the real-life issues and concerns of 11- to 16-year-old students. For each MYP unit, teachers should identify one global context that establishes a focus for meaningful teaching and learning in a programme of international education. Over the course of their study, students should encounter all six global contexts.

Table 3 contains explanations of the MYP global contexts and some of the many explorations that they can inspire.

Global context	Focus question(s) and description	Example explorations
Identities and relationships	<p>Who am I? Who are we?</p> <p>Students will explore identity; beliefs and values; personal, physical, mental, social and spiritual health; human relationships including families, friends, communities and cultures; what it means to be human.</p>	<p>Possible explorations to develop</p> <ul style="list-style-type: none"> • Competition and cooperation; teams, affiliation and leadership • Identity formation; self-esteem; status; roles and role models • Personal efficacy and agency; attitudes, motivation, independence; happiness and the good life • Physical, psychological and social development; transitions; health and well-being; lifestyle choices • Human nature and human dignity; moral reasoning and ethical judgment; consciousness and mind
Orientation in space and time	<p>What is the meaning of “where” and “when”?</p> <p>Students will explore personal histories; homes and journeys; turning points in humankind; discoveries; explorations and migrations of humankind; the relationships between, and the interconnectedness of, individuals and civilizations, from personal, local and global perspectives.</p>	<p>Possible explorations to develop</p> <ul style="list-style-type: none"> • Civilizations and social histories, heritage, pilgrimage, migration, displacement and exchange • Epochs, eras, turning points and “big history” • Scale, duration, frequency and variability • Peoples, boundaries, exchange and interaction • Natural and human landscapes and resources • Evolution, constraints and adaptation

Global context	Focus question(s) and description	Example explorations
<p>Personal and cultural expression</p>	<p>What is the nature and purpose of creative expression?</p> <p>Students will explore the ways in which we discover and express ideas, feelings, nature, culture, beliefs and values; the ways in which we reflect on, extend and enjoy our creativity; our appreciation of the aesthetic.</p>	<p>Possible explorations to develop</p> <ul style="list-style-type: none"> • Artistry, craft, creation, beauty • Products, systems and institutions • Social constructions of reality; philosophies and ways of life; belief systems; ritual and play • Critical literacy, languages and linguistic systems; histories of ideas, fields and disciplines; analysis and argument • Metacognition and abstract thinking • Entrepreneurship, practice and competency
<p>Scientific and technical innovation</p>	<p>How do we understand the world in which we live?</p> <p>Students will explore the natural world and its laws; the interaction between people and the natural world; how humans use their understanding of scientific principles; the impact of scientific and technological advances on communities and environments; the impact of environments on human activity; how humans adapt environments to their needs.</p>	<p>Possible explorations to develop</p> <ul style="list-style-type: none"> • Systems, models, methods; products, processes and solutions • Adaptation, ingenuity and progress • Opportunity, risk, consequences and responsibility • Modernization, industrialization and engineering • Digital life, virtual environments and the Information Age • The biological revolution • Mathematical puzzles, principles and discoveries
<p>Globalization and sustainability</p>	<p>How is everything connected?</p> <p>Students will explore the interconnectedness of human-made systems and communities; the relationship between local and global processes; how local experiences mediate the global; the opportunities and tensions provided by world-interconnectedness; the impact of decision-making on humankind and the environment.</p>	<p>Possible explorations to develop</p> <ul style="list-style-type: none"> • Markets, commodities and commercialization • Human impact on the environment • Commonality, diversity and interconnection • Consumption, conservation, natural resources and public goods • Population and demography • Urban planning, strategy and infrastructure

Global context	Focus question(s) and description	Example explorations
Fairness and development	<p>What are the consequences of our common humanity?</p> <p>Students will explore rights and responsibilities; the relationship between communities; sharing finite resources with other people and with other living things; access to equal opportunities; peace and conflict resolution.</p>	<p>Possible explorations to develop</p> <ul style="list-style-type: none"> • Democracy, politics, government and civil society • Inequality, difference and inclusion • Human capability and development; social entrepreneurs • Rights, law, civic responsibility and the public sphere • Justice, peace and conflict management • Power and privilege • Authority, security and freedom • Imagining a hopeful future

Table 3
Global contexts and explorations

The selected global context will inform the questions that teachers and students ask throughout the unit. However, many explorations of global contexts are closely related and, in the course of the unit, questions that relate to other global contexts may also be encouraged, developed and considered.

Inquiring into subject content through a global context enables students to develop a deeper understanding of both the subject and its application in the real world. Repeated cycles of inquiry, action and reflection can lead students from academic knowledge towards practical understanding, developing positive attitudes towards learning as well as a sense of personal and social responsibility.

Statement of inquiry

Teachers construct the statement of inquiry for a unit by combining a key concept, one or more related concepts, and a global context for the unit into a meaningful statement that students can understand. This statement expresses the relationship between concepts and context; it represents a transferable idea supported by factual content. Statements of inquiry facilitate synergistic thinking, synthesizing factual and conceptual levels of mental processing and creating a greater impact on cognitive development than either level of thinking by itself (Erickson 2007; Marzano 2009).

The statement of inquiry:

- represents a contextualized, conceptual understanding
- describes a complex relationship that is worthy of inquiry
- explains clearly **what** students should understand and **why** that understanding is meaningful
- can be qualified (using phrases such as “often”, “may” and “can”) if it is not true in all situations, but is still an important idea
- can be formulated at different levels of specificity.

Teachers can make very broad statements more specific, age-appropriate and focused by asking themselves “Why/how does this relationship or principle occur?” and “What are the implications of this understanding?” However, statements of inquiry should not be so specific that they cannot be transferable beyond the content of the unit.

Inquiry questions

Inquiry questions are drawn from, and inspired by, the statement of inquiry. Teachers and students develop these questions to explore the statement of inquiry in greater detail. Students can develop their own questions in ways that satisfy curiosity and deepen understanding. The strands of subject-specific objectives can also be helpful in formulating inquiry questions.

Inquiry questions give shape and scope to a unit of study, and they help to scaffold the objectives that students should strive to achieve. As the unit progresses, both teachers and students can develop additional questions to explore.

Table 4 lists some characteristics of factual, conceptual and debatable questions to consider when planning MYP units.

Factual questions	Conceptual questions	Debatable questions
<ul style="list-style-type: none"> • Knowledge/fact-based • Content-driven • Skills-related • Supported by evidence • Can be used to explore terminology in the statement of inquiry • Frequently topical • Encourage recall and comprehension 	<ul style="list-style-type: none"> • Enable exploration of big ideas that connect facts and topics • Highlight opportunities to compare and contrast • Explore contradictions • Lead to deeper disciplinary and interdisciplinary understanding • Promote transfer to familiar or less familiar situations, issues, ideas and contexts • Encourage analysis and application 	<ul style="list-style-type: none"> • Enable the use of facts and concepts to debate a position • Promote discussion • Explore significant ideas and issues from multiple perspectives • Can be contested • Have tension • May be deliberately provocative • Encourage synthesis and evaluation

Table 4
Characteristics of factual, conceptual and debatable inquiry questions

Subject-group objectives

Each MYP subject-group framework encompasses specific aims and objectives. The aims of all MYP subject groups state what teachers may expect to teach and what students may expect to experience and learn. The objectives of any MYP subject state the specific targets that are set for learning in that subject. They define what the student will be able to accomplish as a result of studying the subject. Each objective is elaborated by a number of **strands**; a strand is an aspect or indicator of the learning expectation.

The objectives of each subject group represent the use of knowledge, understanding and skills that must be taught. They encompass the factual, conceptual, procedural and metacognitive dimensions of knowledge. MYP objectives reflect and offer opportunities to develop the attributes of the IB learner profile.

The objectives for years 1, 3 and 5 of the programme are provided in MYP subject-group guides, and their use is mandatory.

Summative assessment

Summative assessment tasks should be directly linked to the statement of inquiry and provide varied opportunities for students to demonstrate their knowledge, understanding and skills. In planning these assessments of learning, teachers should ask the following questions.

- How does this assessment task relate to the statement of inquiry?
- Which MYP objectives are being addressed?
- How can we create meaningful performances of understanding?
- What evidence of learning will there be?
- How can we collect evidence of learning?
- How will the assessment task demonstrate conceptual understanding?
- How will results be recorded and analysed?
- How and when will students receive feedback?

Approaches to learning (ATL)

Every MYP unit identifies ATL skills that students will develop through their inquiry and demonstrate in the unit's formative (if applicable) and summative assessments. Many ATL skills directly support the attainment of subject-group objectives.

The most effective way to develop ATL is through ongoing, process-focused disciplinary and interdisciplinary teaching and learning. Teachers can use key and related concepts, along with global contexts, as vehicles for teaching effective learning strategies. Likewise, ATL skills can be powerful tools for exploring significant content. This dual focus on content and process promotes student engagement, deep understanding, transfer of skills and academic success.

In the MYP, ATL encompasses both general and discipline-specific skills. Many ATL skills are applicable to all MYP subject groups; these general "tools for learning" can be tailored to meet the specific needs of students and schools. To develop ATL skills that facilitate effective and efficient learning, students need models, clear expectations, developmental benchmarks (or targets) and multiple opportunities to practise. While ATL skills are not formally assessed in the MYP, they contribute to students' achievement in all subject groups. Teachers should provide students with regular, specific feedback on the development of ATL skills through learning engagements and formative assessment.

The structure of ATL skills in the MYP

The MYP extends ATL skill categories into 10 developmentally appropriate clusters. ATL skills are interconnected; individual skills and skill clusters that frequently overlap and may be relevant to more than one skill category. Appendix 1 describes some of the important ATL skills that students should develop in the MYP. Schools can use this list to build their own frameworks for developing students who are empowered as self-directed learners, and teachers in all subjects groups can draw from these skills to identify approaches to learning that students will develop in MYP units.

Approaches to learning are most powerful when teachers plan and students engage with them in relation to significant and relevant content knowledge in order to develop transferable understanding.

In the MYP unit planner, teachers identify ATL skills—general as well as subject-specific—that students will need to develop, through their engagement with the unit's learning experiences (including formative assessments), to meet the unit's objectives. The skills that teachers identify in this section of the planner are used to develop horizontal and vertical planning of ATL to meet MYP requirements for the written curriculum. Students and teachers can also work to identify and develop additional important ATL skills.

ATL skills focus on the process of learning, helping students to become confident, independent, self-managed learners for life. Teachers should teach skills explicitly, and students should have structured opportunities to practise them. Appendix 1 contains a framework for the ATL skills that students may develop in the MYP.

Many ATL skills that have been learned and practised during a unit of work can be integrated in assessment through a variety of tasks and projects involving problem-solving, hands-on approaches (individually and in groups), as well as traditional testing. Assessments involving ATL often require students to use information from different sources critically and to make appropriate use of technology.

Action: Teaching and learning through inquiry

The “Action” section of the MYP unit planner identifies the taught curriculum. Teachers use this section to focus on how students will learn. Teachers plan and record the content, learning process and resources that they use in the course of the unit.

Inquiry-based teaching and learning is not a linear process; the information gathered about one aspect often affects other dimensions of the planning process. For example, a review of available resources might require teachers to plan for different assessment tasks. Similarly, a review of students’ prior learning may mean that teachers need to allocate more time for the development of skills and understanding than originally planned.

Teachers should refer to the statement of inquiry to ensure that concepts and context inform the selection of learning experiences, formative assessment and teaching strategies.

Content

There is space in this section of the planner to list subject-specific content. This content may be mandated by state or national systems; it may come from school-based requirements or the school’s curriculum overview; or it may be derived from a range of education standards.

At the subject-group overview level of planning, content constitutes the disciplinary knowledge and skills to be taught and learned in each year of the programme. Such an overview develops a clear progression of learning, including the disciplinary topics that students encounter in the course of their MYP experience.

The starting point for identifying significant content is students’ current understanding. The goal of teaching and learning in the MYP is the active construction of meaning in which students build connections between their prior understanding and new information and experience that they gain through inquiry. “Front-loading” content (efficiently building background knowledge) can be important, introducing a base from which to teach skills or practise critical thinking. Effective inquiry often is not possible without facts and prior knowledge.

Schools that follow a national, state or local curriculum need to align the content standards (aims and objectives) or programme of study with MYP requirements. For schools with no required curriculum, teachers are responsible for choosing appropriate content that will enable students to reach MYP subject-group aims and objectives. Schools can expand the scope of topics and depth of treatment according to their individual needs, preferences and possibilities.

Description of learning process

As schools implement the MYP, teachers must design learning experiences that allow students with a range of needs to meet the subject-group aims and objectives. Teaching and learning in all IB programmes is:

- based on inquiry
- focused on developing conceptual understanding

- developed in local and global contexts
- focused on effective teamwork and collaboration
- differentiated to meet the needs of all learners
- informed by assessment (formative and summative).

These pedagogical principles provide flexibility and empower teachers to develop their *approaches to teaching*. Teachers use a wide range of teaching strategies and approaches in the classroom to create student-centred learning that inspires confidence and personal responsibility. Students need to be actively engaged in learning, and the voices of both teachers and learners are essential in an IB education.

Learning experiences and teaching strategies

Teachers should purposefully choose strategies and learning experiences that are aligned with the unit's statement of inquiry; help students meet subject-group objectives; support the development of effective ATL skills; and meaningfully prepare students to achieve high levels of performance in the unit's summative assessment. The specific learning experiences and teaching strategies devised by teachers depend on available resources, the content to be taught and on the subjects themselves.

Teachers should ensure that a range of learning experiences and teaching strategies is:

- embedded in the curriculum
- built upon prior learning
- age-appropriate, thought-provoking and engaging
- based on the differing needs of all students, including those who are learning in a language other than their mother tongue, and students with learning support requirements
- open-ended and involves teaching problem-solving skills.

Teachers should choose strategies that provide for learning through disciplined inquiry and research; involve communication of ideas and personal reflection; and give students the opportunity to practise and apply their new understandings and skills.

Formative assessment

Formative assessment can take place before, during and after the substance of a unit is taught. Teachers need to develop ways of ascertaining students' prior learning so that they can plan appropriate learning experiences and teaching strategies.

Teachers also need to consider how to monitor and support learning as students engage with the unit. Formative assessment (assessment **for** learning) provides teachers and students with insights into the ongoing development of knowledge, understanding, skills and attitudes. *Assessment for learning* is "the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there" (Black et al. 2002). Effective formative assessment also provides teachers and students with a way to explore personal learning styles as well as individual student strengths, challenges and preferences that can inform meaningful differentiation of learning.

Formative assessment can also provide important opportunities for students to rehearse or refine performances of understanding as they prepare to complete summative assessment tasks.

Peer and self-assessment are often valuable formative assessment strategies.

Differentiation

Differentiation (modifying teaching strategies to meet the needs of diverse learners) can build opportunities in which each student can develop, pursue and achieve appropriate personal learning goals. When considering pedagogical approaches to meeting individual learning needs, teachers also need to consider each student's language profile.

The IB identifies four important principles to promote equal access to the curriculum for all learners and to support the development of the whole person through differentiated teaching and learning, as illustrated in figure 10.

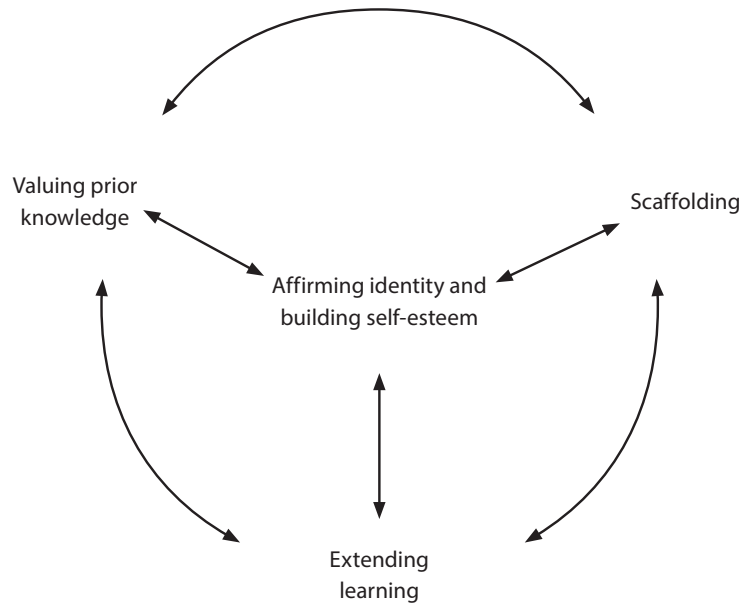


Figure 10

Principles of good practice for differentiated learning

For detailed information, see the IB publications *Learning diversity in the International Baccalaureate programmes* (2010) and *Language and learning in IB programmes* (2011). Universal design for learning also provides a set of principles for curriculum development that gives all individuals equal opportunities to learn.

Teachers can differentiate teaching and learning by providing examples (work samples or task-specific clarifications of assessment criteria); structuring support (advance organizers, flexible grouping, peer relationships); establishing interim and flexible deadlines; and adjusting the pace of learning experiences.

All students should be able to access the curriculum through the specific design of the unit and through the strategies that teachers employ to differentiate the content, process and outcomes of learning. Differentiation may include offering students various modes of interpreting materials, whether visually, aurally or kinaesthetically, and allowing students to choose alternate modes of presentation for their performances of understanding (for example, oral presentation, writing, or a practical method such as leading a peer-to-peer workshop).

Resources

Teachers need to investigate available resources and consider what additional resources might be necessary for the unit. Important resources to consider include:

- instructional materials and classroom technologies
- textbooks and other written and visual texts
- teaching materials developed by businesses and not-for-profit organizations
- educational games and simulations
- teaching aids and manipulatives
- learning environments beyond the classroom
- students' diverse languages and cultures
- families, experts and other primary sources in the school and the community
- school, university and community libraries
- digital resources, including the internet.

Reflection: Considering the planning, process and impact of the inquiry

The “Reflection” section of the MYP unit planner provides teachers with an invitation to record their reflection at three important periods in the unit’s development and implementation. Reflection in the unit planner can provide a starting point for collaborative planning, an ongoing reminder for reflective practice throughout the teaching process, and a format in which to evaluate teaching strategies and learning outcomes.

Reflection involves individual and collaborative consideration of the unit’s planning, process and impact. Reviewing each of the required elements of MYP unit planning is a valuable strategy for reflection. Teachers can profitably reflect prior to teaching the unit, during teaching and after the unit has been taught. Including students in reflection on the unit is an important strategy to promote the student-centred approach to education valued in IB programmes.

Questions such as those outlined in table 5 can inspire reflection that leads to effective teaching and learning.

Prior to teaching the unit
<ul style="list-style-type: none"> • Why do we think that the unit or the selection of topics will be interesting? • What do students already know, and what can they do? • What have students encountered in this discipline before? • What does experience tell us about what to expect in this unit? • What attributes of the learner profile does this unit offer students opportunities to develop? • What potential interdisciplinary connections can we identify? • What do we know about students’ preferences and patterns of interaction? • Are there any possible opportunities for meaningful service learning? • What in the unit might be inspiring for community or personal projects? • Could we develop authentic opportunities for service learning? • How can we use students’ multilingualism as a resource for learning?
During teaching
<ul style="list-style-type: none"> • What difficulties did we encounter while completing the unit or the summative assessment task(s)? • What resources are proving useful, and what other resources do we need? • What student inquiries are emerging? • What can we adjust or change? • What skills need more practice? • What is the level of student engagement? • How can we scaffold learning for students who need more guidance? • What is happening in the world right now with which we could connect teaching and learning in this unit? • How well are the learning experiences aligned with the unit’s objectives? • What opportunities are we giving to help students explore the interpretative nature of knowledge, including personal biases that might be retained, revised or rejected? (DP theory of knowledge skills development)

After teaching the unit
<ul style="list-style-type: none">• What were the learning outcomes of this unit?• How well did the summative assessment task serve to distinguish levels of achievement?• Was the task sufficiently complex to allow students to reach the highest levels?• What evidence of learning can we identify?• What artifacts of learning should we document?• Which teaching strategies were effective? Why?• What was surprising?• What student-initiated action did we notice?• What will we do differently next time?• How will we build on our experience to plan the next unit?• How effectively did we differentiate learning in this unit?• What can students carry forward from this unit to the next year/level of study?• Which subject groups could we work with next time?• What did we learn from standardizing the assessment?

Table 5
Possible questions for reflection

Teachers and students need not engage in reflection on every question; choosing a focus for reflection often leads to more meaningful results. Teachers and students should also consider other questions that can help to improve the planning, process and impact of inquiry in the MYP. Reflection will always be shaped by the specific needs of teachers and students in particular contexts.