

MYP: From principles into practice

2014 (Updated August 2022)

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Middle Years Programme

MYP: From principles into practice

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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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MYP programme documentation

MYP: From principles into practice provides a guide to learning and teaching in the context of the International Baccalaureate (IB) Middle Years Programme (MYP). This guide explains the requirements of the programme.

How to use this guide

The principles and practices detailed in this guide apply to all teachers in all IB World Schools offering the MYP. All staff involved in the programme should have access to, and be familiar with, this guide.

Teachers and school leaders must have individual access to, and must use, current IB publications.

Additional MYP publications

This guide is part of a larger collection of MYP documents that fully describe the programme and its implementation in IB World Schools.

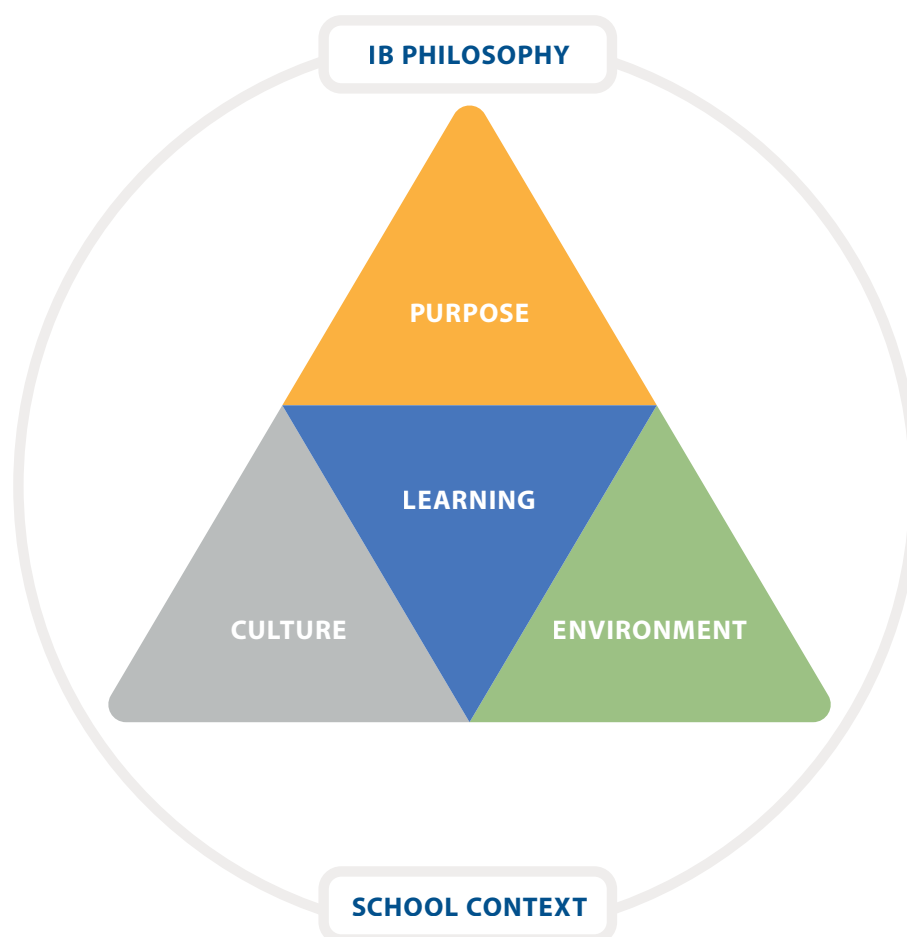
MYP publication	Contents
<i>Rules for IB World Schools</i>	Legal document that sets forth the legal relationship between the IB and IB World Schools delivering the MYP
<i>Programme evaluation guide</i> and <i>Self-study questionnaire</i>	Expectations for IB World Schools and the IB in the formal reflection process that supports ongoing development of the programme
<i>General regulations: Middle Years Programme</i>	Legal document that sets forth the relationship between the IB and IB students and their legal guardians
<i>Programme standards and practices</i>	Criteria against which IB World Schools and the IB can evaluate success in the implementation of all programmes, including the MYP
<i>Middle Years Programme Assessment procedures</i> (updated annually)	Essential information for heads of school and MYP coordinators about the administration of the programme
Subject-group guides <i>Personal project guide</i> <i>Community project guide</i> <i>Interdisciplinary teaching and learning in the MYP</i>	Aims, objectives, prescribed concepts and assessment criteria; additional subject-specific guidance for learning and teaching
Teacher support material	Practical assistance for teachers, including sample unit plans, assessments and subject-group overviews

MYP publication	Contents
Guide to school authorization	Description of the process and requirements for becoming an IB World School offering the MYP
Rules for candidate schools	Requirements, procedures and terms for schools applying for candidacy and implementing the MYP on a trial basis

Alignment with *Programme standards and practices*

The IB document [Programme standards and practices](#) includes common practices for all IB programmes as well as specific requirements for each programme. It provides a set of criteria against which both the school and the IB can measure success in the implementation of the programme. IB World Schools make a commitment to work towards meeting all programme standards and practices.

The IB's programme standards provide the structure for this guide.



History of the programme

The IB Diploma Programme (DP) was established in 1968 to provide an international education that would enable young people to better understand and manage the complexities of our world, and to provide them with the skills and attitudes to take action to improve it. Such an education was grounded in the more progressive educational thinking of the time but also in the belief that the world could be made better through an education that focused on concepts, ideas and issues that crossed disciplinary, cultural, national and geographical boundaries.

With the introduction of the MYP in 1994 and the Primary Years Programme (PYP) in 1997, the IB realized a continuum of international education for students aged 3–19. A decade later, the adoption of the IB learner profile across the continuum, and a profile of an internationally minded learner, provided important common ground for three strong, stand-alone programmes, each developed as a developmentally appropriate expression of the IB's educational approach. The introduction of the IB Career-related Programme (CP) in 2012 builds further on the continuum by providing another choice of pathways of international education for 16–19-year-old students in addition to the DP.

The MYP has been designed as a coherent and comprehensive curriculum framework that provides academic challenge and develops the life skills of students from the ages of 11 to 16. These years are a critical period in the development of young people. Success in school is closely related to personal, social and emotional well-being. At a time when students are establishing their identity and building their self-esteem, the MYP can motivate students and help them to achieve success in school and in life beyond the classroom. The programme allows students to build on their personal strengths and to embrace challenges in subjects in which they might not excel. The MYP offers students opportunities to develop their potential, to explore their own learning preferences, to take appropriate risks, and to reflect on, and develop, a strong sense of personal identity.

Implementation of the MYP is considered to be a whole-school activity that prepares students for further successful study. The programme is designed to be inclusive; the IB believes that all students can benefit from the programme.

The MYP began as an initiative formulated by groups of practising teachers and administrators in international education who wanted to develop a curriculum for the middle years of schooling. It was intended that this curriculum would share much of the same philosophy as the DP and would prepare students for success in that programme. The first draft of the MYP curriculum was produced in 1987 when a group of practitioners created a framework that allowed for a degree of diversity. In this framework, emphasis was placed on developing the skills and attitudes, the understanding of concepts and the knowledge needed to participate in an increasingly global society.

The MYP grew out of the work and vision of practising teachers in schools. Details regarding key individuals, groups and research influences behind the development of the MYP from the first ideas in 1980 can be found in *History of the Middle Years Programme* (2010).

The programme has developed significantly since its inception and will continue to do so in response to the needs of students and schools, the demands of a rapidly changing world and our changing understandings of human development and the process of learning. Information about the programme review is available on the website [Enhancing the MYP: A collaborative project](#).

From fundamental concepts to the IB learner profile

From its beginning, the MYP was guided by three principles that have had special currency for learners aged 11–16, inspired by the IB mission: holistic learning, intercultural awareness and communication. These fundamental concepts of the programme provided a strong foundation for learning and teaching in the MYP. They represent an early attempt to establish a philosophy of international education that the IB now recognizes more fully with the adoption of the IB learner profile across the IB continuum.

Holistic learning, intercultural awareness and communication are implied in, or are a part of, the IB learner profile, especially in the attributes “balanced”, “open-minded” and “communicators”.

Contemporary MYP educators have continued to focus on how best to meet the needs of adolescents, who are confronted with a vast and often bewildering array of choices in a complex and rapidly changing world. A focus on higher-order thinking skills gives students opportunities to explore their expanding concerns and their growing awareness of themselves and the world in ways that develop sound judgment.

Compatibility with other systems

There are many curriculums, including national models, that schools may have to, or choose to, apply within the framework of the MYP. The MYP curriculum framework allows schools to meet national, state, provincial or other subject-specific curricular requirements while fulfilling the IB mission and implementing IB philosophy. Every IB World School offering the MYP must ensure that the MYP requirements for each subject group are met while also meeting external requirements as necessary.

The MYP has been implemented very successfully in a variety of schools with differing external requirements and curricular demands. These successful schools have found solutions to issues such as:

- the choice of subjects available to students
- time allocation provided for subjects
- the organization of learning and teaching
- the school’s structure
- alignment of external requirements with the concepts, objectives, skills and knowledge of the corresponding subject group in the MYP
- teaching approaches used to help students achieve the aims and objectives of the MYP.

Programme model

IB programme models highlight important shared features of an IB education.

- Developing the attributes of the learner profile
- Approaches to teaching and approaches to learning
- Age-appropriate culminating experiences
- An organized and aligned structure of subject groups or disciplines
- Development of international-mindedness as a primary aim and context for learning

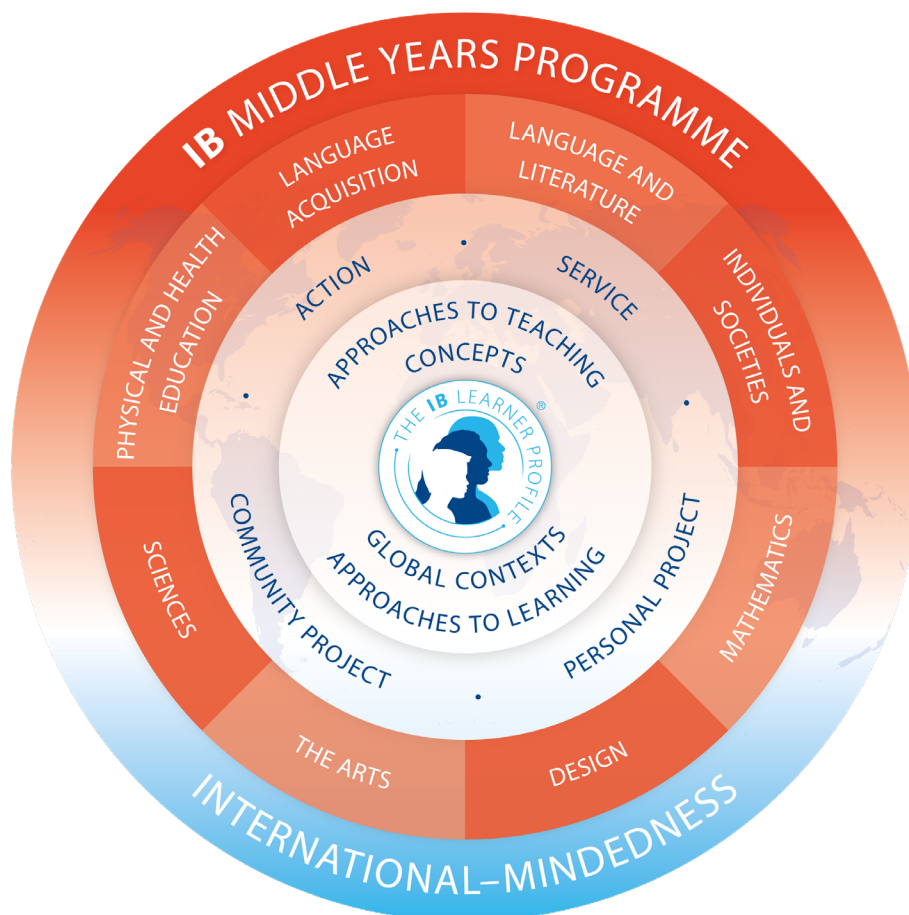


Figure 1
The programme model

In the programme model for the MYP, the first ring around the student at the centre describes the features of the programme that help students develop disciplinary (and interdisciplinary) understanding.

- Approaches to learning (ATL)—demonstrating a commitment to approaches to learning as a key component of the MYP for developing skills for learning.
- Approaches to teaching—emphasizing MYP pedagogy, including collaborative learning through inquiry.

- Concepts—highlighting a concept-driven curriculum.
- Global contexts—showing how learning best takes place in context.

The second ring describes some important outcomes of the programme.

- Inquiry-based learning may result in student-initiated action, which may involve service within the community.
- The MYP culminates in the personal project (for students in MYP year 5) or the community project (for students in MYP years 3 or 4).

The third ring describes the MYP's broad and balanced curriculum.

- The MYP organizes learning and teaching through eight subject groups: language and literature, language acquisition, individuals and societies, sciences, mathematics, arts, physical and health education, and design.
- In many cases, discrete or integrated disciplines may be delivered and assessed within a subject group: for example, history or geography within the individuals and societies subject group; biology, chemistry or physics within the sciences subject group.
- The distinction between subject groups blurs to indicate the interdisciplinary nature of the MYP. The subject groups are connected through global contexts and key concepts.

The community project and the personal project

Schools offering an MYP programme including years 3, 4 and 5 may choose to offer students the opportunity to engage in both the community project and the personal project. The community project and the personal project are known together as MYP projects.

The *community project* focuses on community and service, encouraging students to explore their right and responsibility to implement service as action in the community. The community project gives students an opportunity to develop awareness of needs in various communities and address those needs through service learning. As a consolidation of learning, the community project engages in a sustained, in-depth inquiry leading to service as action in the community. The community project may be completed individually or by groups of a maximum of three students.

The *personal project* encourages students to practise and strengthen their ATL skills, and to develop an area of personal interest. The personal project provides an excellent opportunity for students to produce a truly personal and often creative product/outcome and to demonstrate a consolidation of their learning in the MYP. The project offers many opportunities for differentiation of learning and expression according to students' individual needs. The personal nature of the project is important; the project should revolve around a challenge that motivates and interests the individual student. Each student develops a personal project independently.

MYP projects are student-centred and age-appropriate, and they enable students to engage in practical explorations through a cycle of inquiry, action and reflection. MYP projects help students to develop the attributes of the IB learner profile; provide students with an essential opportunity to demonstrate ATL skills developed through the MYP; and foster the development of independent, lifelong learners.

Schools must ensure that all staff, parents and students understand the central importance of the community or personal project, its aims, objectives and assessment criteria. Detailed guidelines on the aims, objectives, organization and assessment of the projects are provided in the community project and personal project guides. Schools are expected to make suitable provision for all students to complete the appropriate MYP project according to these guidelines.

MYP in the IB continuum

All schools need to align the MYP with students' prior and subsequent educational experience. In schools that implement more than one IB programme, this alignment is especially important.

Schools are responsible for organizing a coherent curriculum that provides carefully planned transitions between stages of education, including the transition between IB programmes. Alignment of programmes is an agreement in principle and practice between the shared values and aspirations for learning (designed/planned curriculum), how teachers work (delivered curriculum) and the way students demonstrate their learning (assessed curriculum).

Transition from the PYP

The nature of learning and teaching in the PYP is concept-based, transdisciplinary and largely delivered by a single classroom teacher. IB World Schools offering the MYP have a responsibility to ensure that:

- there is a smooth transition from the transdisciplinary model into a model that focuses on disciplinary and interdisciplinary learning
- teaching is appropriate for students with a range of individual learning needs.

As students move from a primary or elementary school setting into a secondary or middle school, schools have a responsibility to facilitate this transition at a variety of levels, including curriculum design.

Transition to the DP

Students intending to continue their IB education in the DP after the MYP must be counselled by the school concerning their subject choices in years 4 and 5 in order to ensure appropriate preparation. MYP subject groups form an important common foundation for all students undertaking the MYP globally and provide strong alignment points for students progressing into the DP, allowing them to acquire the necessary skills, knowledge and attitudes to be successful.

Schools preparing students for entry into the DP have a responsibility to ensure that the content of the curriculum, aligned under each subject group's final objectives, provides for continuity and progression from year 5 of the MYP into the two-year DP. In developing the curriculum content for each subject, MYP schools should consult the relevant DP subject guides and MYP teacher support materials.

Articulation of ATL across the programmes also offers a powerful strategy for increasing students' readiness for the DP and their success in further study.

Transition to the CP

The CP was developed to address the needs of students interested in pursuing a career-related education at the upper secondary school level. The CP provides the basis for effective participation in the changing world of work; improved mobility and flexibility in employment; additional training; further education; and lifelong learning.

Students intending to continue their IB education in the CP after the MYP must be counselled by the school concerning their subject choices in years 4 and 5 in order to ensure appropriate preparation. ATL skills developed and demonstrated in the MYP can be aligned with those of the CP. The MYP personal project supports progression towards the CP reflective project.

What is an IB education?

An IB education is the result of a dynamic interaction between IB learners (who), learning and teaching in the IB (how), global contexts for learning and teaching (why) and the pursuit of significant knowledge and understanding (what). The IB's philosophy of education is informed by research and by over 40 years of practical experience in international education. This philosophy remains open to reflection and review; the IB has always championed a stance of critical engagement with challenging ideas, one that both values the past and remains open to innovation.

IB learners and the IB learner profile

At the centre of international education in the IB are students with their own learning styles, strengths and limitations. Students come to school with combinations of unique and shared patterns of values, knowledge and experience of the world and their place in it.

Promoting open communication based on understanding and respect, the IB encourages students to become active, compassionate lifelong learners. An IB education is holistic in nature—it is concerned with the whole person. Along with cognitive development, IB programmes and qualifications address students' social, emotional and physical well-being. They value and offer opportunities for students to become active and caring members of local, national and global communities; they focus attention on the processes and the outcomes of internationally minded learning described in the IB learner profile.

The learner profile is the IB's mission in action. It requires IB learners to strive to become inquirers, knowledgeable, thinkers, communicators, principled, open-minded, caring, risk-takers, balanced and reflective. These attributes of internationally minded people represent a broad range of human capacities and responsibilities that go beyond a concern for intellectual development and academic content. They imply a commitment to implement standards and practices that help all members of the school community learn to respect themselves, others and the world around them.

The learner and the IB World School

The IB learner profile brings to life the aspirations of a community of IB World Schools dedicated to student-centred education. IB programmes promote the development of schools that:

- create educational opportunities for students that promote healthy relationships, individual and shared responsibility, including interpersonal competencies that support effective teamwork and collaboration
- help students make informed, reasoned, ethical judgments and develop the flexibility, perseverance and confidence they need in order to effect change that matters
- inspire students to frame their own inquiries, pursue personal aspirations, set challenging goals and have the persistence to achieve them
- foster the development of rich personal, academic and cultural identities.

The relationships between teachers and students and the approaches to teaching profoundly shape educational outcomes: teachers are intellectual leaders who can empower students to develop the

confidence and personal responsibility needed to deepen understanding. IB programmes emphasize “learning how to learn”, helping students interact effectively with the learning environments they encounter, and encouraging them to value learning as an essential and integral part of their everyday lives.

IB programmes support inclusion as an ongoing process to increase access and engagement in learning for all students. Learning communities become more inclusive as they identify and remove barriers to learning and participation. Commitment to access and inclusion represents another aspect of the IB learner profile in action.

Developing the learner profile within a community of learners

All IB World Schools are learning communities that encourage school leaders, teachers, students, parents and local community members to value learning as an essential and integral part of their everyday lives. For students, IB World Schools support lifelong learning when they emphasize “learning how to learn”, helping students interact effectively with the learning environments they encounter in school and beyond. Communities are bound together by a common sense of purpose and identity. The IB community shares a common purpose: making a better world through education. This goal, expressed in the IB mission statement, creates a series of interrelated aspirations, educational outcomes and shared values in the IB learner profile. The learner profile informs the IB’s educational philosophy and stands as a clear and concise statement of the values that inform a community that encourages the development of international-mindedness.

Learning and teaching in the IB

Learning and teaching in the IB grows from an understanding of education that celebrates the many ways people work together to construct meaning and make sense of the world. Represented as the interplay between asking (inquiry), doing (action) and thinking (reflection), this constructivist approach leads towards open classrooms where different views and perspectives are valued. An IB education empowers young people for a lifetime of learning, both independently and in collaboration with others. It prepares a community of learners to engage with complex global challenges through a dynamic educational experience framed by inquiry, action and reflection.

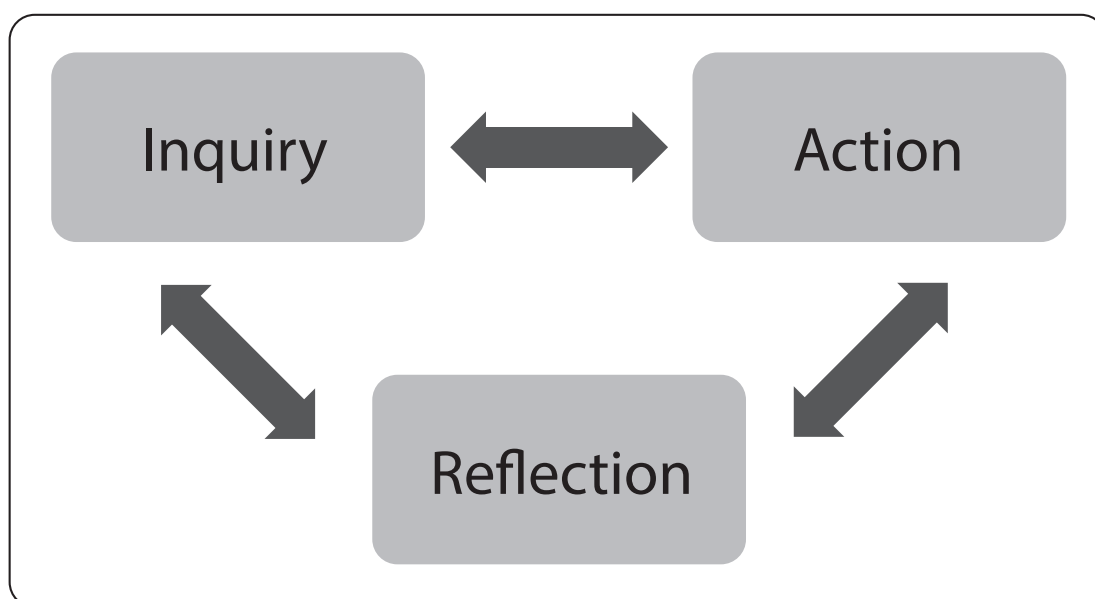


Figure 2

Inquiry

Sustained inquiry frames the designed/planned, delivered and assessed curriculum in IB programmes. IB programmes feature structured inquiry, drawing from established bodies of knowledge and complex problems. In this approach, prior knowledge and experience establish the basis for new learning, and students' own curiosity, together with careful curriculum design, provide the most effective stimulus for learning that is engaging, relevant, challenging and significant.

Action

Principled action, as both a strategy and an outcome, represents the IB's commitment to learning and teaching through practical, real-world experience. IB learners act at home, as well as in classrooms, schools, communities and the broader world. Action involves learning by doing, enhancing learning about self and others. IB World Schools value action that encompasses a concern for integrity and honesty, as well as a strong sense of fairness that respects the dignity of individuals and groups.

Challenging learning environments help students to develop the imagination and motivation they require in order to meet their own needs and the needs of others. Principled action means making responsible choices, sometimes including decisions not to act. Individuals, organizations and communities can engage in principled action when they explore the ethical dimensions of personal and global challenges. Action in IB programmes may involve service learning, advocacy and educating one's self and others.

Reflection

Critical reflection is the process by which curiosity and experience can lead to deeper understanding. Learners must become critically aware of the way they use evidence, methods and conclusions. Reflection also involves being conscious of potential bias and inaccuracy in their own work and in the work of others.

An IB education fosters creativity and imagination. It offers students opportunities for considering the nature of human thought and for developing the skills and commitments necessary not only to recall information but also to analyse one's own thinking and effort in terms of the products and performances that grow from them.

Driven by inquiry, action and reflection, IB programmes aim to develop a range of skills and dispositions that help students effectively manage and evaluate their own learning. Among these essential approaches to learning are competencies for research, critical and creative thinking, collaboration, communication, managing information and self-assessment.

Global contexts for education

In our highly interconnected and rapidly changing world, IB programmes aim to develop international-mindedness in a global context. The terms "international" and "global" describe that world from different points of view.

- "International" refers to the perspective of the world's constituent parts, nation states and their relationships with each other.
- "Global" refers to the perspective of the planet as a whole.

Sharp distinctions between the "local", "national" and "global" are blurring in the face of emerging institutions and technologies that transcend modern nation states. New challenges that are not defined by traditional boundaries call for students to develop the agility and imagination they need for living productively in a complex world.

An IB education creates learning and teaching communities and opportunities that help students increase their understanding of language and culture, and become more globally engaged. Education for international-mindedness relies on the development of learning environments that value the world as the broadest context for learning. IB World Schools share educational standards and practices for philosophy, organization and curriculum that can create and sustain authentic global learning communities. In school, students learn about the world from the curriculum and from their interactions with other people. Learning and teaching in global contexts supports the IB's mission "to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect". Using global contexts in planning and teaching helps learners by providing relevance and meaning, which may lead to increased student engagement.

Multilingualism and intercultural understanding

Learning to communicate in a variety of ways in more than one language is fundamental to the development of intercultural understanding in the IB. IB programmes, therefore, support complex, rich, dynamic learning across a range of language domains. All IB programmes mandate that students learn another language.

Intercultural understanding involves recognizing and reflecting on one's own perspective, as well as the perspectives of others. To increase intercultural understanding, IB programmes foster learning how to appreciate critically many beliefs, values, experiences, forms of expression and ways of knowing. The goal of understanding the world's rich cultural heritage invites the IB community to explore human commonality, diversity, personal identity and interconnection.

Global engagement

Global engagement represents a commitment to address humanity's greatest challenges in the classroom and beyond. It can develop from the use of global contexts in inquiry leading to principled action. IB programmes provide for sustained inquiry into a wide range of issues and ideas of significance locally, nationally and globally. IB students and teachers are encouraged to engage the world through developmentally appropriate explorations of local and global concerns, including the environment, development, conflicts, rights, and cooperation and governance. Globally engaged people critically consider power and privilege, and recognize that they hold the Earth and its resources in trust for future generations.

The IB aspires to empower people to be active learners who can empathize and pursue lives of purpose and meaning, and who are committed to service. An IB education aims to develop the consciousness, perspectives and competencies necessary for global engagement, as well as the personal values that can lead to principled action and mutual understanding.

Significant content

An IB education encompasses disciplinary knowledge and understanding that meets international university standards for rigour in terms of depth and breadth. IB programmes offer students opportunities to engage with a curriculum that is broad and balanced, conceptual and connected.

Broad and balanced

An IB education represents a balanced approach, offering students access to a broad range of content that spans academic subjects.

Conceptual

Conceptual learning focuses on powerful organizing ideas that have relevance within and across subject groups. Concepts reach beyond national and cultural boundaries. They help to integrate learning, add coherence to the curriculum, deepen disciplinary understanding, build the capacity to engage with complex ideas and allow transfer of learning to new contexts. PYP students encounter key and related concepts, and students in the MYP, CP and DP further develop these conceptual understandings.

Connected

IB curriculum frameworks value learning. Students encounter many subjects, approaching concepts from a variety of perspectives throughout their programmes of study; they learn to draw connections and pursue rich understandings about the interrelationship of knowledge and experience across many fields. Course aims and programme requirements offer authentic opportunities to learn about the world in ways that can reach beyond the scope of individual subjects through interdisciplinary learning.

In the MYP, students study a range of disciplines within subject groups and often bring together two or more established areas of expertise to build new interdisciplinary understanding.

In IB programmes, assessment forms an integral aspect of learning and teaching. To understand what students have learned, and to monitor their progress, teachers use a range of assessment strategies that provide meaningful feedback. IB assessment supports good classroom practice by encouraging authentic performances of understanding that call for critical and creative thinking.

In IB programmes, assessment is ongoing, varied and integral to the curriculum. Assessment may be formal or informal, formative or summative, internal or external; students benefit from assessing their own work and the work of others. IB students demonstrate their learning through a variety of assessments and consolidations of learning, culminating in the MYP with the community project or the personal project.

Final (optional) external assessments for MYP students are internationally benchmarked, balancing valid measurement with reliable results.

IB philosophy in the MYP

This philosophy, framed in *What is an IB education?* (2019), is expressed through all aspects of the MYP. The programme has been developed with developmentally appropriate attention to:

- conceptual understanding
- learning and teaching in context
- approaches to learning (ATL)
- service as action (community service)
- language and identity
- learning diversity and inclusion.

Conceptual understanding

Conceptual understanding in IB programmes

The International Baccalaureate (IB) values education more as the transformation of personal understanding and the collaborative construction of meaning, and less as the transmission of knowledge and rote memorization of facts. Consequently, conceptual understanding is a significant and enduring goal for learning and teaching in IB programmes.

IB programmes offer curriculum frameworks and courses that are broad and balanced, conceptual and connected. In the Primary Years Programme (PYP) and MYP curriculum frameworks, students engage with a defined set of key and related concepts. Each course in the Diploma Programme (DP) has a prescribed syllabus that outlines how students develop their conceptual understanding. Over time, students grow in the sophistication of their understanding as schools create challenging opportunities for them to encounter new ideas in engaging learning environments.

A concept is a “big idea”—a principle or notion that is enduring, the significance of which goes beyond particular origins, subject matter or a place in time (Wiggins and McTighe 1998). Concepts represent the vehicle for students’ inquiry into the issues and ideas of personal, local and global significance, providing the means by which they can explore the essence of a subject.

Concepts have an essential place in the structure of knowledge. They require students to demonstrate levels of thinking that reach beyond facts or topics. Concepts are used to formulate the understandings that students should retain in the future; they become principles and generalizations that students can use to understand the world and to succeed in further study and in life beyond school.

The exploration and re-exploration of concepts lead students towards:

- deeper understanding of the subject group
- appreciation of ideas that transcend disciplinary boundaries
- engagement with complex ideas, including the ability to transfer and apply ideas and skills to new situations (Erickson 2008).

Students gradually work towards a deepening of their conceptual understanding as they approach concepts from a range of perspectives. The concept-driven curriculum frameworks of the MYP help learners to co-construct meaning as they become increasingly competent critical and creative thinkers, able to transfer knowledge and take responsibility for their own learning.

Teaching through concepts encourages teachers to work across national and cultural boundaries. Concepts promote a broad approach to education that can encompass many ways of thinking, inspire a variety of experiences, and open doors to exciting and highly relevant interdisciplinary learning.

The structure of conceptual understanding in the MYP

MYP programme design uses two kinds of concepts.

- *Key concepts*, contributed from each subject group, provide interdisciplinary breadth to the programme. Key concepts are broad, organizing, powerful ideas that have relevance within and across subjects and disciplines, providing connections that can transfer across time and culture.
- *Related concepts*, grounded in specific disciplines, explore key concepts in greater detail, providing depth to the programme. They emerge from reflection on the nature of specific subjects and disciplines, providing a focus for inquiry into subject-specific content.

Concepts can be interpreted differently and explored from various perspectives and at different levels of complexity. As students develop and deepen their understanding, they can use concepts to innovate, address challenges and solve problems.

Key concepts are powerful, abstract ideas that have many dimensions and definitions. They have important interconnections and overlapping concerns. Key concepts engage students in higher-order thinking, helping them to connect facts and topics with more complex conceptual understanding. Key concepts create “intellectual synergy” (Erikson 2007) and provide points of contact for transferring knowledge and understanding across disciplines and subject groups.

Related concepts promote depth of learning and add coherence to the understanding of academic subjects and disciplines. They are grounded in specific subjects and disciplines, and they are useful for exploring key concepts in greater detail. Inquiry into related concepts helps students to develop more complex and sophisticated conceptual understanding. Related concepts may arise from the subject matter of a unit or the craft of a subject—its features and processes.

The MYP identifies prescribed key and related concepts. These concepts ensure the development of a rigorous curriculum and promote a shared community of practice among IB World Schools offering the MYP. These required concepts also form the basis of the curriculum externally assessed by (optional) MYP eAssessments, which can lead to IB MYP course results and contribute to the awarding of the IB MYP certificate. Teachers can develop additional concepts to meet the needs of their students or local circumstances.

The nature of a concept-driven curriculum

What matters is not the absorption and regurgitation either of facts or of predigested interpretations of facts, but the development of powers of the mind or ways of thinking which can be applied to new situations and new presentations of facts as they arise.

(Alec Peterson, first IB Director General 2003: 47)

A concept-driven curriculum encourages idea-centred learning and teaching. The MYP prescribes key concepts (overarching) and related concepts (subject-specific) to better ensure a common basis of conceptual understanding is developed in MYP schools that will provide students with a sound foundation for future learning.

According to Erickson (2008), concepts range from macro to micro in terms of scope, but all concepts meet the following criteria.

- Valued and meaningful across time, place and space
- Abstract
- Concise (represented by one or two words, or a short phrase)
- Express common attributes of specific examples

Concepts are used at different levels of generality and complexity, serving different purposes in learning and teaching. Erickson (2007: 72–78) describes a concept-based curriculum as “three-dimensional”, focusing on concepts, facts and skills rather than the traditional “two-dimensional” curriculum that considers only facts and skills. Concept-driven curriculum models value student inquiry and experiences in which students create personal meaning by making connections and applying their learning in unfamiliar situations.

A concept-based model is used in the MYP because it encourages students to:

- process factual knowledge at a deeper intellectual level as they relate the facts to concepts and essential conceptual understandings; this synergistic thinking (interplay between factual and conceptual thinking) engages the intellect on two levels—factual and conceptual—and provides greater retention of factual knowledge because synergistic thinking requires deeper mental processing
- create personal relevance, as students relate new knowledge to prior knowledge, and promote understanding of cultures and environments across global contexts through the transfer of knowledge
- bring their personal intellect to the study as they use a key concept to personally focus on the unit topic in order to increase motivation for learning
- increase fluency with language as students use factual information to explain and support their deeper conceptual understanding
- achieve higher levels of critical, creative and conceptual thinking as students analyse complex global challenges, such as climate change, international conflicts and the global economy, and create greater subject depth through the study of discipline-specific related concepts.

A concept-driven curriculum framework works when teachers see that academic disciplines have a conceptual structure.

The model allows teachers to group together issues or topics in a wide-ranging curriculum under the critical concepts and understandings in each subject group. In a concept-based teaching model, teachers use knowledge as a tool to help students grasp transferable concepts and understandings. Knowledge provides the foundation and support for deeper, conceptual thinking. Teachers ensure that assessment includes understanding and application of the prescribed concepts.

Learning and teaching in context

The heart of contextual teaching and learning is the connection that leads to meaning. When young people can connect the content of an academic subject ... with their own experience, they discover meaning, and meaning gives them a reason for learning. Connecting learning to one's life makes studies come alive.

(Johnson 2002)

Learning and teaching in the MYP involves understanding concepts in context. All learning is contextual. A learning context is a specific setting, event or set of circumstances, designed or chosen, to stimulate learning. The context, therefore, should have a relationship to the learner, the learner's interests and identity, or the learner's future. Learning that occurs out of context is often shallow and short term in character.

Concepts are abstract and applicable over many times and circumstances; contexts are specific, varied and highly situational. Concepts are powerful ideas that have universal application, but the meaning of concepts can change as people experience and interpret them in different contexts. Contexts offer the possibility of new perspectives, additional information, counter-examples and refinements of understanding. The existence of multiple contexts for learning and teaching underscores the fact that all concepts are open to interpretation. Concepts are not neutral but, rather, are subject to contest and conflict. Concepts are not prescriptive and inert but dynamic and interact with the world. When concepts are set in context, they are less likely to become prescriptive checklists of "facts by another name". Contexts help to create productive discussion within and outside of the classroom.

The nature of a contextual curriculum

Effective learning and teaching in context helps students and teachers to:

- plan concrete, memorable engagements that can be tailored to individual students and their learning styles, diverse backgrounds and cultures
- illustrate and provide concrete examples of conceptual and theoretical ideas
- offer pathways towards authentic assessment (performances of understanding)
- model open-mindedness and intellectual risk-taking valued by the IB learner profile
- inspire critical and creative thinking as students encounter multiple, and sometimes conflicting, value systems and cultural perspectives, including concepts that are open to different interpretations such as citizenship, identity and globalization
- provide lenses through which to compare various conceptions (and misconceptions) of reality
- promote inquiry-based teaching strategies (for example, problem-based learning)
- lead towards work awareness, vocational planning and the exploration of school-to-career pathways
- link classroom learning to action and service learning
- promote self-regulation as students learn to find their own personal contexts and make meaning for themselves
- become more autonomous, strategic and self-motivated

- build up the skills and experience necessary to transfer learning from one context to another
- explore the many ways the application of concepts can vary among human cultures, and draw attention to our common humanity—including the search for universal cultural understanding.

MYP global contexts

In the MYP, learning contexts should be (or should model) authentic world settings, events and circumstances. Contexts for learning in the MYP are chosen from global contexts to encourage international-mindedness and global engagement within the programme.

Students at the MYP age range learn best when their learning experiences have context and are connected to their lives and to the world that they have experienced. When learning becomes meaningful and relevant, students are more likely to be engaged. Teachers can impact on student learning by providing engaging and inspiring global contexts that contribute towards development of the attributes of the IB learner profile. Learning in global contexts enables learners to directly link concepts with their own lives and put knowledge into action (Westera 2009). This contextual learning helps teachers and students answer the important question “Why are we learning this?” Often, students’ motivation to learn depends on the teacher’s ability to successfully answer this question.

IB programmes aim to develop internationally minded people, and MYP learning environments value the world as the broadest context for learning. Educators use a variety of models and a range of vocabulary to prepare students to live in the highly globalized societies of the 21st century. In broad terms, learning and teaching in global contexts requires MYP schools to develop

the capacity and the inclination to place people, objects, situations with which [they] come into contact ... within the broader matrix of our contemporary world ... [to be] attuned to daily encounters with world cultures, landscapes and products; [to] place such encounters in a broader narrative or explanatory framework of contemporary global processes; and [to] perceive [themselves] as an actor in such a global context.

(Boix-Mansilla and Gardner 2007)

Learning in context requires careful preparation. In some cases, contextual learning may be uncomfortable for those accustomed to less student-focused approaches. It requires ongoing monitoring for understanding (formative assessment), and it can call on unfamiliar classroom management skills.

In a world of increasing interconnection and complexity, learning in context provides students with opportunities to explore multiple dimensions of meaningful challenges facing young people in the world today, encouraging them to develop creative solutions and understanding. The MYP encourages teachers to design units around a range of ideas and issues that are personally, locally, nationally, internationally and globally significant.

As adolescents develop their intellectual and social identities during the MYP years, they become increasingly aware of their place in the world. Working in global contexts requires a sophisticated combination of understanding, practical skills and personal dispositions that work together to define global competence (Boix-Mansilla and Jackson 2011). Global competence calls for deep, engaged learning. To prosper in the world, students must not only be able to understand globalization, but also be able both to reflect critically on its promise and peril and to act responsibly to make that world a better place for themselves and for the communities in which they live.

The MYP identifies six global contexts for learning and teaching that are developed from, and extend, the PYP’s transdisciplinary themes.

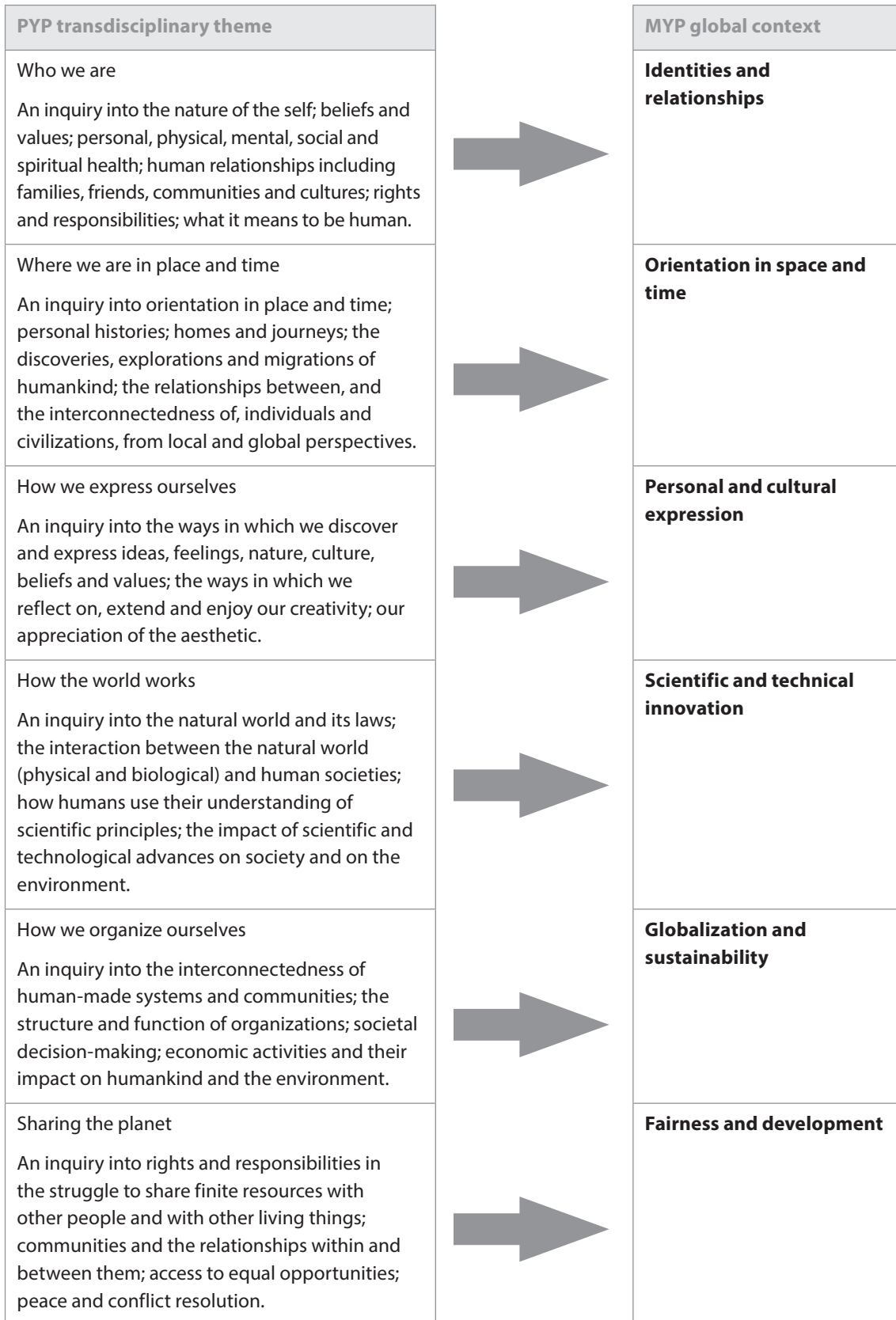


Figure 3

Schools can develop additional global contexts to meet the needs of students and their communities.

Approaches to learning (ATL)

Through ATL in IB programmes, students develop skills that have relevance across the curriculum that help them “learn how to learn”. ATL skills can be learned and taught, improved with practice and developed incrementally. They provide a solid foundation for learning independently and with others. ATL skills help students prepare for, and demonstrate learning through, meaningful assessment. They provide a common language that students and teachers can use to reflect on, and articulate on, the process of learning.

IB programmes identify five ATL skill categories, expanded into developmentally appropriate skill clusters.

ATL skill categories	MYP ATL skill clusters
Communication	I. Communication
Social	II. Collaboration
Self-management	III. Organization
	IV. Affective
	V. Reflection
Research	VI. Information literacy
	VII. Media literacy
Thinking	VIII. Critical thinking
	IX. Creative thinking
	X. Transfer

The focus of ATL in the MYP is on helping students to develop the self-knowledge and skills they need to enjoy a lifetime of learning. ATL skills empower students to succeed in meeting the challenging objectives of MYP subject groups and prepare them for further success in rigorous academic programmes like the DP and the CP.

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. In order 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 provide formative assessment.

The most effective way to develop ATL is through ongoing, process-focused disciplinary and interdisciplinary learning and teaching. Teachers can use a wide range of content, developed through MYP key and related concepts and global contexts, as a vehicle for teaching effective learning strategies. Likewise, ATL skills can be powerful tools for exploring significant content. This dual focus (content and process, knowledge and skills) promotes student engagement, deep understanding, transfer of skills and academic success.

All teachers in MYP schools are responsible for integrating and explicitly teaching ATL skills.

Over time, students should develop clear and sophisticated understandings of how they learn best and how they can evaluate the effectiveness of their learning. This kind of self-regulated (independent and autonomous) learning helps students:

- reflect purposefully on their learning (metacognition)
- understand the diversity of human learning needs
- evaluate and provide evidence of their learning
- meet MYP subject group aims and objectives
- share responsibility for creating productive, cooperative and safe learning environments
- develop the confidence to try new strategies and explore new concepts and contexts for learning
- prepare for further study and responsible participation in local and global communities.

ATL skills are informed by, and support the development of, the attributes of the IB learner profile.

Appendix 1 provides a **suggested** framework of important ATL skills for MYP students. Schools can identify additional disciplinary and interdisciplinary skills within this framework that meet the needs of students as well as local or national requirements.

Service and action

Service and action in IB programmes

Action (learning by doing and experiencing) is a key component in constructivist models of education, including the kind of learning and teaching common to all IB programmes. Service, as a subset of action, has always been a shared value of the IB community. IB learners strive to be caring members of the community who demonstrate a personal commitment to service, and act to make a positive difference to the lives of others and to the environment. IB World Schools value service with others as an important way to engage in principled action across a range of overlapping local and global communities. Through responsible action, tightly connected with sustained inquiry and critical reflection, young people and adults can develop the kinds of attributes described by the learner profile that are essential for success in future academic pursuits and for adult life.

In the PYP, action has a specific meaning as an element of the programme in which there is an expectation that successful inquiry will lead to responsible action, initiated by the student as a result of the learning process. This kind of student action may have a wider social impact, and it always represents a voluntary demonstration of a student's empowerment.

Action in the MYP builds upon the action initiated in the PYP and continues as an essential component of the learning process, both as part of the programme's educational philosophy and as a practical outcome of students' learning. The MYP aims to help students develop their personal understanding, their emerging sense of self and their developmentally appropriate responsibility in their community. In the IB continuum, this continues with the service component of the DP's creativity, activity, service (CAS) requirements, in which students continue to increase their awareness of their own strengths and areas for growth, undertake new challenges, plan and initiate activities, work collaboratively with others, show perseverance and commitment, engage with locally and globally significant challenges and consider the ethical implications of their actions.

As students become more aware and acquire a better understanding of the context, and of their responsibilities, they become empowered to make choices about how to take thoughtful and positive action. This action will be different from student to student and from context to context. The action may involve students in:

- feeling empathy towards others
- making small-scale changes to their behaviour
- undertaking larger and more significant projects
- acting on their own
- acting collaboratively
- taking physical action
- suggesting modifications to an existing system to the benefit of all involved
- lobbying people in more influential positions to act.

The service as action continuum could be summarized by the following diagram.

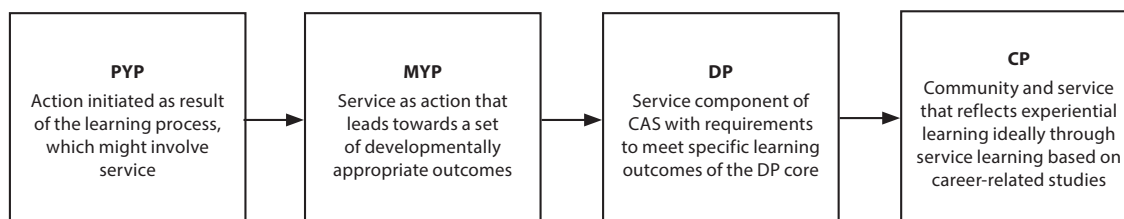


Figure 4

Service requires that students are able to build authentic connections between what they learn in the classroom and what they encounter in the community. When connected to classroom learning, the experience of service offers opportunities to apply concepts, skills and knowledge. Students explore the community in its complexity as they gain personal insight and become more confident and responsible. Through service as action they become “actors” in the “real world” beyond school.

Teachers can engage students in applying subject matter to developing plans and partnerships to meet real identified needs using a service learning model. Experiencing a service learning approach within an academic class becomes a critical and essential process for students. Having this experience, particularly when the service learning process is made explicit, provides a reliable model for students to use as a means and method for taking more independent initiative with an idea for service.

Guided or classroom learning that leads to action addressing an authentic community need is most meaningful when allowing for student initiative that incorporates their interests, skills and talents. The process also provides structured time for both formal and informal reflection on the service experience. When the service experience has meaning and purpose for all involved, participating in reflection is also seen as rewarding. By reflecting on their service experience, students may gain a greater awareness of the community and world they live in, and their role and responsibility in improving the lives of themselves and others.

Service for and with others

Service activities should evolve beyond doing for others to engaging with others in a shared commitment towards the common good. Meaningful service requires understanding of an underlying issue such as poverty, literacy or pollution, and authenticating the need for this service. Meaningful service includes interaction, such as building links with individuals or groups in the community. To align with the general principle that the rights, dignity and autonomy of all those involved in service are respected means that identification of needs towards which a service activity will be directed has to involve prior communication and full consultation with the community or individual concerned. This approach, based on a collaborative exchange, maximizes the potential benefits for all the people involved, including learning opportunities for students as they develop and strengthen communication abilities.

When schools have long-term established relationships with community partners that are the foundation of service experiences, students must still have a role in understanding the current need for these relationships and verify how their actions will benefit others. They can examine and refine prior plans to be more relevant and integrate their particular set of abilities and expanding knowledge.

MYP learning outcomes for service

With appropriate guidance and support, MYP students should, through their engagement with service as action:

- become more aware of their own strengths and areas for growth
- undertake challenges that develop new skills
- discuss, evaluate and plan student-initiated activities
- persevere in action
- work collaboratively with others
- develop international-mindedness through global engagement, multilingualism and intercultural understanding
- consider the ethical implications of their actions.

These learning outcomes identify the substance of students' self-reflection on service as action. All of these learning outcomes are closely associated with IB learner profile attributes and ATL skills. Through their participation in service, students can become more confident, self-regulated learners.

Planning for service as action

MYP schools are responsible for planning opportunities for students' involvement in service with the community. These opportunities should be aligned with MYP learning outcomes for service.

Opportunities for service in the community often require additional detailed curriculum planning. Service activities should be appropriately adapted to local circumstances, and they should take into account students' development, aptitudes and preferences. Students in the final years of the programme should, with proper guidance, develop the scope and nature of service activities and have responsible roles in planning, organizing and implementing service activities to reflect their growing maturity and autonomy.

Action can become part of the MYP unit-planning process at several points: adding specific learning engagements (using a service learning model) to meet curriculum objectives through principled action through service with others; providing students with ideas and opportunities through which they might choose to take or organize action themselves through service with others; using global contexts that invite students to initiate their own inquiry into local expressions of global challenges.

The considerations and choices about what community issues to address can extend directly from the curriculum. Classes can discuss how what they are learning is reflected in the world around them, and investigate related needs. As issues and needs present, students can determine where and how to apply their skills and talents in service that makes a contribution, improves a situation or otherwise has impact. Local service allows students an experience that can more easily extend over time to build continuity, allows for the development of relationships, and provides a vantage point to observe and participate in sustained change, challenge and collaboration. From the local, students can consider the global implications of their actions, and extend their thinking and knowledge to global awareness and understanding.

If students are planning a service experience with global emphasis, it is highly recommended they consider ways to include and integrate local action. Students can also consider extending local actions to global impact through partnerships with students in other cities and towns, countries and continents. Technology affords a myriad of opportunities for networking, sharing of initiatives, partnerships and impact.

Good practices developed by schools with successful MYP service programmes include:

- high levels of student involvement in planning for action that helps students demonstrate learning outcomes
- authentic connections with the curriculum
- regular and varied opportunities for self-directed student reflection, using student-chosen media and methods (art, music, a brief narrative, conversations, blogs, photographs, drama, or other methods that engage creative thinking)
- consideration of ethical issues that arise from engaging in service activities, including responsibility for acting with personal and institutional integrity
- guided practice in critical reflection, including models and strategies that help students create meaning from their experience in service activities, as well as meaningful feedback from peers, teachers and other adults
- emphasis on the quality of service, rather than on a system of counting hours devoted to service activities
- diverse opportunities for service with others throughout the programme, which can include learning about important issues, informing others, engaging in advocacy, organizing and taking individual and collaborative action
- clear understanding of the principles of mutual exchange, along with sustainable activities and relationships.

MYP schools are responsible for determining qualitative expectations for students' participation in service as action, in line with the learning outcomes for service in this guide.

Fulfillment of the school's expectations for participation in community service is a requirement of the IB MYP certificate.

Language and identity

During adolescence, the role of language in identity affirmation is of particular significance as a pedagogical principle.

Identity is dynamic and shifts as relationships alter over time. Furthermore, the physical and emotional changes that take place during adolescence have enormous influence on the personal, social and cultural identities of MYP students. The role of language in how students perceive themselves in relation to others in various contexts is important in determining whether the social outcome is optimally positive or not. Specifically, this concerns the role of language in such areas as promoting group cohesion and inclusion, in negotiating power and status in relationships in those groups, in contributing to academic success and in developing the ability to reflect critically on all aspects of identity.

Human beings are typically social beings and, as group members, share certain cultural norms, expectations and ways of knowing. Language is key for the interpersonal communicative skills necessary to express group membership. Language development in the middle years is therefore crucial for building a bank of linguistic resources or a multilingual profile that gives as many choices as possible in identifying with, and belonging to, a range of appropriate groups.

Adolescents need to create and belong to a group with which they can identify, feel empowered and affirmed. In their quest for community, they will often develop particular ways of expressing themselves that differ from established forms of discourse. For instance, bilingual students may code switch or change language even within one sentence. Teachers sometimes automatically interpret code switching as a sign of unwelcome behaviour and respond by attempting to eradicate the practice. However, unless the motive is to use the language to exclude or create a culture to empower bullies, it may not necessarily be negative. Peer bonding is natural, and one way of expressing solidarity is through language. Understanding when to express this solidarity is what is important. Ideally, in an IB school community there would be an ethos that provided opportunities for discussions and critical reflection about appropriate language use for various contexts.

Of course, for MYP students to be able to make valid linguistic choices that consider purpose and audience within the full range of sociocultural and academic contexts they will encounter, they have to be empowered with proficiencies across various language domains, including those that require academic language proficiency.

In order for students to be sufficiently supported in language learning, schools must ensure that provisions are in place to support mother-tongue development as applicable, to support the learning of the host country or regional language and culture as applicable, to support students who are not proficient in the language of instruction and to encourage learning of languages already present in student body as applicable.

Moving from the primary to middle years presents challenging literacy demands for students. It is a school's responsibility to ensure there is sufficient time and pedagogical expertise for staff to allow for the development of literacy for all students so they are able to manage the academic demands of the MYP. Multilingual learners who are still developing threshold literacy skills in the language of instruction in the middle years are likely to have resources in their mother tongue that should be maintained and developed.

Language is central to learning. The IB's stance is explained in more detail in *Language and learning in IB programmes* (2011).

Learning diversity and inclusion

In IB World Schools, all students in the IB programmes should have meaningful and equitable access to the curriculum. IB programme principles and practices call for schools to be organized in ways that value student diversity and respect individual learning differences. Valuing diversity and difference is a key aspect of becoming more internationally minded and is an important goal of all IB programmes.

Among educators, the ongoing process that increases access and engagement of all learners in learning has become known as *inclusion*. Inclusive education involves responding positively to each student's unique learning profile, including students with diverse learning needs. There is a shift from specialist teachers being solely responsible for students with learning differences to collaborative planning by all teachers who are part of a student's education along the learning continuum.

Inclusion in the MYP

The MYP is intended to be an inclusive programme that can cater to the needs of all students. Thus, the IB strongly encourages schools to offer the MYP inclusively and schools must explain situations in which the programme is not available to all students. The central place of approaches to learning (ATL) helps teachers and students respond in a flexible way to individual learning needs, including the needs of those who are learning in a language other than their first language or who have learning support requirements. The MYP is designed to include students with learning support requirements.

Students with learning support requirements, as defined by the IB, may:

- display difficulties or live with conditions that are a barrier to learning and therefore need particular teaching strategies for classroom management and effective education
- display a higher than average aptitude in one or more subjects that requires adaptation and extension of the curriculum.

Students with learning support requirements, as defined by the IB, may:

- have the aptitude to meet all curriculum and assessment requirements but require support to reach their full potential in learning and assessment
- require support to access learning and teaching including planned strategies to access curricular instruction and inclusive assessment arrangements to access assessment.

As schools implement the MYP inclusively, teachers design learning experiences that allow students across a range of needs to meet their learning objectives (see [Meeting student learning diversity in the classroom](#) (2019)). Differentiated teaching practices can build opportunities in which each student can develop, pursue and achieve appropriate individual learning goals. This may involve utilizing collaborative and cooperative learning, a variety of learning practices, creative approaches to learning and approaches to teaching, differing formats and modes of exploring and presenting knowledge and understanding being made available to the students.

Inclusion succeeds when a school-wide culture of collaboration encourages and supports inquiry and problem-solving. Increasing participation in the MYP is an important place to begin. Schools should ensure equality of access to the curriculum and provide students with the support they need in order to set and meet challenging educational goals.

Just as schools differ in their size, facilities and available resources, so provisions may vary for students with learning differences. Some state, provincial or national education authorities require specific legal procedures and documentation, and it is good practice everywhere to document learning interventions and individual progress. The inclusion policy developed by the school should be public and readily available to staff, parents and students. Schools and school employees are advised to respect the confidential nature of the students' educational records.

The inclusion of all students requires a school to address differentiation within the designed/planned curriculum and delivered curriculum, demonstrated in the unit planner and in the teaching environment, which is reviewed during programme authorization and evaluation.

For more information, please refer to the "Inclusive education" section of the programme resource centre (<https://resources.ibo.org>). For references to learning support requirements and external assessment, refer to the Middle Years Programme *Assessment procedures*.

School structures

Whole-school planning for learning

This guide should serve as a focus for whole-school planning of the MYP and for teachers' continuing professional development.

Successful implementation of the MYP depends on the support and practical involvement of the school's leadership (including its governing body, administrators and pedagogical leaders), particularly in setting up an organizational infrastructure.

Leadership and management for change

The MYP's educational approach is broad and inclusive. It provides a framework that can accommodate a wide variety of teaching strategies and styles, provided they are driven by a clear sense of purpose and a commitment to student inquiry.

Administrators and teachers should recognize that:

- school-wide adoption of the MYP approach will require change not only in the classroom but throughout the school
- the process, as with any change that requires people to examine and modify their practice and thinking, is likely to be slow and challenging
- engaging in this process of change will have a beneficial impact on the whole school, individual teachers and, most significantly, on the quality of student learning
- the process of change in teaching practices will require substantial support from all teachers and administrators.

In IB World Schools, all staff as well as students should be committed to learning and to developing international-mindedness. To achieve this, staff and students must be encouraged to identify problems and seek solutions in the pursuit of continuous improvement towards common goals.

In implementing the MYP, three main strands initiate and drive school change.

1. **The MYP unit-planning process:** As part of the designed/planned curriculum, all teachers must use a unit-planning process that focuses on inquiry, conceptual understanding and global contexts for learning.
2. **Collaborative planning:** The requirement for collaborative planning both within and across subject groups ensures common understandings and common approaches to learning and approaches to teaching in the school, leading to a coherent learning experience for students. Collaborative planning also allows for the development of interdisciplinary learning initiatives, demonstrating to students the need to use concepts, knowledge and skills from different disciplines in order to solve problems.
3. **MYP assessment:** Assessment in the MYP is criterion-related and directly linked to the aims and objectives of the subject groups. MYP criterion-related assessment leads to learning and teaching that is grounded in inquiry, while maintaining disciplinary rigour.

Schools with languages of instruction other than English, French or Spanish

If the language of instruction of the school is not one of the IB working languages (English, French, Spanish), the pedagogical leadership team must develop plans to ensure the consistent implementation and development of the programme. The MYP coordinator and at least one teacher per subject group must be bilingual, including one IB working language, so that they are able to attend training and access IB documentation. The school must put in place structures and systems to ensure that all teachers are given the opportunity to understand the philosophy and implementation of the programme, regardless of their language profile.

The IB language policy describes the support for the translation of IB documentation to schools and teachers for the implementation of its programmes in the languages defined as *working* or *access languages*. There are five levels of support defined in the IB language policy. The IB aims to provide materials and services of comparable high quality in all the languages supported. Support given in particular languages is reviewed on a regular basis and, if certain conditions are met, the level of support could be increased or decreased.

The IB language policy, as published on the IB website (www.ibo.org), provides a framework that will ensure the IB's values and aims in relation to access and multilingualism are reflected in the organization's activities. The policy defines the ways in which the IB provides support to schools and teachers for the implementation of its programmes in different languages. It also provides guidelines to MYP schools that are implementing the programme in languages not supported by the organization.

School leadership structures and responsibilities

Leadership structures in schools vary widely according to local requirements and context. In order to implement the programme effectively, schools may need to review their leadership structures. Implementing the MYP requires schools to focus on the development of leadership and structures that support learning and teaching. This may, in some cases, imply a move from a leadership structure that is more focused on management to one more focused on pedagogical leadership.

School leaders are responsible for informing and securing ongoing support from their governing body or educational authority.

An IB World School offering the MYP is required to carry out a process of programme evaluation every five years. The process includes a self-study, which involves all stakeholders and is organized according to the *Programme standards and practices*.

Key roles

There are a number of key roles in any school offering the MYP successfully. It is critical to the success of any school programme that the school develops and documents ways of monitoring and evaluating its organizational structure and key roles.

The MYP coordinator

MYP coordinators play a key role in the development of the MYP. The IB requires the appointment of an MYP coordinator for each school or school partnership implementing the programme.

MYP coordinators must be proficient in one of the working languages of the IB (English, French or Spanish).

The specific responsibilities of the MYP coordinator will vary depending on the number of students and teachers, the type of school and its management structure. However, the MYP coordinator must have a job description, release time, support and resources to carry out the responsibilities of the position and must be part of the school pedagogical leadership team.

Successful implementation of the programme can include the creation of an **MYP educational team**, or steering committee, to assist the MYP coordinator and ensure involvement of the school leadership. At times, the MYP educational team may include parents and students. The MYP educational team's function can be to consider implementation and development issues, such as:

- creating and reviewing the school's action plan
- allocating resources and establishing priorities
- allocating meeting time for planning, timetabling or scheduling
- orienting and training new teachers
- assessing professional development needs
- providing individual teacher support
- reviewing the curriculum and curriculum documentation and development in the school
- planning for the personal project (or the community project), including the allocation of supervisors
- preparing for regular programme evaluation.

The MYP coordinator is responsible for monitoring the effective implementation of key and related concepts and global contexts in the curriculum. In turn, this monitoring allows the collective discussion of, and adjustments to, the ways in which the school uses and implements this essential dimension of the MYP.

MYP coordinators and individual teachers within the school can use a number of tools to help them monitor implementation of the MYP curriculum framework.

- Evidence of reflection in student work, process journals, portfolios and self-assessment documents
- Evaluation of action projects and service learning results
- Staff reflection on MYP units and unit planning
- Review of subject-group overviews

Subject-group leadership

School organizational structures must include leadership for curriculum development in subject groups. Subject leaders (in some schools, department heads or chairs) can provide a strong foundation in the development of the designed/planned curriculum in terms of:

- bringing together subject teachers in collaborative teams to develop MYP units
- leading the development of the vertical articulation for the subject group, which includes planning for the MYP aims and objectives, key and related concepts and content, knowledge and skills
- ensuring and leading the regular revision of the designed/planned curriculum
- developing and coordinating assessment strategies
- organizing standardization of assessment within the subject group.

Subject-group leaders are usually members of the MYP educational team.

Approaches to learning (ATL) leadership

The IB does not require schools to appoint teacher(s) to lead the planning of ATL. However, responsibility for planning ATL in all years of the MYP includes:

- ensuring that teachers understand ATL skills and their role in the programme
- helping to decide how ATL can be addressed by subject-specific content and special activities
- developing a plan for the vertical articulation of ATL skills across all years of the programme
- supporting teachers in developing teaching strategies for ATL skills.

Leadership for service as action

The IB does not require schools to appoint teachers to lead service. However, the school's organizational structure must support students' involvement in service as action and its qualitative monitoring.

Advisory (pastoral care) and year leaders

As part of the provision of care to their students, schools may have a pastoral care or advisory structure that might include homeroom teachers, advisors and class- or year-level leaders. In many schools, year leaders facilitate student transitions, and they may also have key roles in horizontal planning, including considering opportunities for interdisciplinary units within the year level.

Personal project supervision

During the fifth year of the programme, all MYP students must complete a personal project. The IB does not require schools to appoint a coordinator for the personal project. However, the school's organizational structure must support implementation of the personal project. Schools are required to appoint a supervisor to work with each student on the personal project. The supervisor should be an appropriately qualified person within the school but need not be a specialist in the particular field of study chosen by the student.

Community project supervision

All students in schools that end the programme in MYP year 3 or year 4 must complete a community project. The IB does not require schools to appoint a coordinator for the community project. However, the school's organizational structure must support its implementation. Schools are required to appoint a supervisor to work with each group of students on the community project. The supervisor should be an appropriately qualified person within the school but need not be a specialist in the particular field of study chosen by the students.

The MYP *Personal project guide* (2021) and the *Community project guide* (2021) give supervisors more guidance on all aspects of the personal project and the community project.

Librarian

Schools offering the MYP must ensure that:

- students have easy access to a library in the school
- the library is equipped to support the programme and there is a plan to continue improving its resources
- the library resources support the languages offered by the school
- the library has resources on global issues and diverse perspectives.

In MYP schools, librarians can play a vital role in collaborative curriculum development and implementation. They should be knowledgeable on all key MYP curriculum documents. MYP librarians have key roles in supporting planning, leading collaboration and literacy development, and providing resources.

Librarians' expertise in research makes them a vital asset in planning for the integration of ATL skills into the curriculum. MYP librarians' knowledge of resources and of student skill development is also helpful in assisting teachers to plan meaningful and challenging assessment tasks.

Teachers can work with librarians to ensure the vertical and horizontal planning of ATL skills in all subjects. Librarians can be valuable in helping teachers to develop inquiry across the curriculum, including the development of critical thinking, creativity and collaborative skills. Librarians can also play a role in promoting academic integrity, particularly with technical skills such as citing or referencing.

Librarians can be a valuable resource in planning, but also in team or shared teaching. **Collaborative teaching** with the librarian need not be restricted to the library, but can take place in any learning spaces within the school.

MYP librarians can also play a key role in promoting reading for pleasure, which, as a by-product, will promote ATL skills, language acquisition and intercultural understanding. Librarians should ensure that the books in the library reflect the inclusive nature of the school.

The MYP librarian plays a vital role in working with teachers to **ensure that the curriculum is supported with a variety of current, relevant resources** that support the subject-group aims and objectives. Librarians should also work to identify and plan for access to resources that support the variety of student learning styles and interests, as well as language profiles of the student body. After being involved in the initial planning stages, and following discussions with teachers about students' needs, librarians can help to select resources that support student learning and allow students to move quickly through the locating phase into working with information and gaining deeper understanding. Resource lists might include print materials, websites, videos and other relevant information that can be placed on class wikis or blogs.

Counsellor

Many MYP schools have dedicated counsellors to serve MYP students, while others rely on members of staff to support and advise students. Although structures may differ, all IB World Schools offering the MYP must have systems in place to guide and counsel students through the programme and towards further studies. Staff who counsel students in an MYP school play an integral role in supporting students through their social and emotional learning, as well as with the demands of IB programmes (including assessment). In collaboration with year-level leaders and other staff, counsellors can be effective in integrating developmentally appropriate and timely topics into homeroom and advisory schemes in an effort to promote the development of balanced learners. Counsellors serve as a link between school, families and the curricular and non-curricular aspects of the programme, and are effective in maintaining a holistic balance towards addressing student needs.

Counsellors can integrate lessons on ATL skills into homeroom and/or advisory schemes, working with parents, who will serve as partners in the process. Counsellors can implement schemes that address the affective and physiological responses to school-related stress and how to manage the demands and expectations of the programme. MYP counsellors have special responsibilities for helping students to make successful transitions and subject choices, and for supporting students in MYP projects.

Counsellors can be involved in the process of **facilitating well-organized orientation and transition initiatives**. An effective transition involves sharing and disseminating relevant information and concerns to appropriate staff, being aware of individual student needs, and communicating regularly with parents and legal guardians.

In an effort to facilitate the **transition from the MYP to the DP**, counsellors should maintain consistent communication with both MYP and DP coordinators, as well as any DP counsellor(s). MYP counsellors should hold transition meetings with staff to discuss how students' needs and interests can be connected with subject choices, programme requirements and academic expectations in further study.

MYP counsellors are responsible for **facilitating student choices** in years 4 and 5 of the MYP in light of their choices for further studies, whether they are moving on to the DP, CP or other further education. The MYP counsellor will need to be knowledgeable about options for further education after the MYP, and the requirements for entry, in order to guide students appropriately.

Counsellors can facilitate homeroom/advisory sessions on career studies in the way that they relate to university choices and prerequisites, through course selection for further study (including the DP and CP), and achievement in the MYP. Parents should be kept abreast of such orientation initiatives so that they can be informed partners in the process of guiding students towards their future success. In collaboration with the DP coordinator and DP counsellor(s), sessions should be held to inform parents about the structure of the DP and what changes to expect.

Counsellors play an important role in **supporting students through the personal project and community project**. MYP projects represent significant milestones, as well as daunting tasks for many students. Counsellors can be effective in raising awareness of students' academic and/or emotional needs, and how they might interplay with the challenges of the MYP projects. Counsellors might strategically place students of concern with carefully chosen supervisors. Supervisors will then benefit from better understanding the students' needs and challenges, and how to address them throughout the completion of the project.

All students generally benefit from sessions on long-term planning and time management as they relate to the personal or community project. MYP counsellors can be effective in planning and implementing such sessions in collaboration with other members of staff, including the librarian.

Implementation policies

The implementation and development of the MYP can be supported and put into practice in everyday school life through the collective consideration, adoption and approval of appropriate school policies. Ideally, policy documents will be developed collaboratively. In many schools, it is usual for the school leadership to develop and propose policies to the board for adoption and approval. In the case of schools that are part of a district or foundation, policies may be created at district or foundation level for a group of schools.

In all schools offering the MYP, the bodies creating policies will need to be aware of the implications that their policies may have for the programme. School leadership must ensure that the governing body understands the principles of the programme. The school leadership should consider the provision of in-school training for school boards, and should invite board members to special events, such as themed days or personal project fairs.

All schools offering the MYP must develop and implement language, assessment, inclusion, academic integrity, and access and/or admissions policies that are consistent with IB expectations.

It is a requirement that every IB World School implements and reviews an access and/or admissions policy that clearly describes the conditions for participation in the school's programme(s). The policy needs to clearly reference MYP.

When policies are approved, school leaders will usually have the responsibility of creating procedures to enact the policies. Best practice has shown that the decision-making process should include staff input, as teachers will usually be in a position to advise administrators of potential issues and solutions.

During the implementation and development of the MYP, school policies come under regular review, and essential agreements may be used to develop procedures that uphold the principles of the programme.

Making a policy a working document

Once a policy has been constructed, further steps should be taken in order to ensure that it becomes a working document and that it remains up to date with the needs of the student population and in line with national and local legislation with regard to meeting learning needs.

Step 1: Establish a review process

The timing and responsibilities associated with a review process should be stipulated in the policy. As new ideas are developed, the results of research are gathered and as the school proceeds on its journey, the policy should be reviewed. The review procedure should also include roles and responsibilities for the evaluation of the effectiveness of the policy as a working document.

Step 2: Link the policy to other documents

The policy should be explicitly linked to other working documents.

Step 3: Communicate the policy

There should be consideration of how to keep the whole school community informed of the policy process and how they might make contributions. The roles and responsibilities for training new teachers should be clear.

Further guidance on developing school policies for language, assessment, inclusion and academic integrity are outlined in the following sections.

Developing a language policy

The IB document *Guidelines for developing a school language policy* (2008) contains detailed information on how to create and use effective policies that support multilingualism in all IB World Schools. A school language policy provides a dynamic framework for promoting the development of interpersonal communicative skills, threshold literacy that leads towards academic language proficiency, and confident identities. The language policy must include (as applicable):

- support for mother tongues
- support for students who are not yet proficient in the language of instruction
- learning of the host country or regional language and culture.

The language policy takes into account the needs of students in language and literature and language acquisition courses.

Developing an assessment policy

An assessment policy is derived from the school's and the IB's assessment philosophy and principles, which must be consistent with each other. It is constructed around educational and pedagogical values and, therefore, represents a statement of intent and action describing principles and practices for achieving educational goals relating to all aspects of assessment.

Constructing and implementing an assessment policy helps schools engage meaningfully with IB assessment expectations and to develop them in the context of the school's unique circumstances.

The assessment policy must include:

- a philosophy of assessment that supports student learning
- common practices in using the MYP assessment criteria and determining achievement levels
- common practices in recording and reporting student achievement
- implementation of formative and summative assessment consistent with IB expectations
- (for schools with local/state/national requirements) an explanation of the relationship of MYP assessment principles and practices with required systems for grading and reporting.

Effective assessment policies also consider assessment timelines and the demands they place on students and teachers, including workloads and personal well-being, plans for sharing information about MYP assessment with school staff and the broader school community, a process for gathering feedback, and a system to review the policy on a regular basis.

Everyone concerned with assessment, including students, teachers, parents and administrators, should have a clear understanding of the purposes of assessment and its practical application in the programme.

For detailed information about MYP assessment, see the section “Assessment for learning” in this guide.

Developing an inclusion policy

Schools must develop and implement an inclusion policy that is consistent with IB expectations and in accordance with local legislation and the school’s admission policy.

Steps for developing an inclusion policy

The following questions can be used to assist a school in developing an inclusion policy.

- What are the local, national and international legal obligations on inclusion that have to be met?
- What is the school’s philosophy on inclusion and how does this articulate with its admissions policy?
- How do the school’s philosophy on inclusion and its policy on admissions align with the school’s mission statement?
- Are the financial implications balanced with the school mission and inclusion policy?
- Is the policy consistent with IB expectations (*Programme standards and practices*)?

The following questions can be used to assist a school in developing inclusive procedures.

- How do we articulate inclusion in our school?
- Who is responsible for inclusion in our school?
- Is there an inclusion manager and what is their role in relation to supporting teachers and students?
- How are we promoting the value of inclusion to the school community?
- What are the local, national and international legal requirements of teachers in meeting the needs of all their students?
- What is the extent of our students’ learning needs at present?
- What expertise do we already have access to?
- What expertise will we need?
- How are we meeting the needs of existing students?
- Which testing or screening tools do we have access to?
- Which tests are our staff qualified to administer?
- Who will be responsible for notifying parents, students and teachers of testing results?
- How will we document our inclusive education provision?
- How will the provision for inclusion be structured, coordinated and monitored?
- How will our provision for inclusion be supported by our professional development?
- What information should we hold on our students? Is any of the information confidential? Where should it be held? Who should manage it?
- Who will have access to student files?
- How will we coordinate the passing on of information at transition stages—changing schools, changing sections within schools, changing campuses?
- Where do we need to improve our provision?

Developing an academic integrity policy

It is a requirement that every IB World School offering the MYP has a policy to promote academic integrity. Academic integrity in the IB is a principle informed by the attributes of the IB learner profile. In teaching, learning and assessment, academic integrity serves to promote personal integrity and engender respect for others and the integrity of their work. Upholding academic integrity also helps to ensure that all students have an equal opportunity to demonstrate the knowledge and skills they acquire during their studies.

As stated in the IB learner profile, all members of the IB community must strive to be “principled”, acting with “integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere”. MYP students must demonstrate academic integrity and avoid any form of academic misconduct.

A school policy on academic integrity must at least include:

- appropriate reference to the IB learner profile, particularly to striving to be *principled*
- the IB definitions of academic misconduct and its different categories
- advice on and/or examples of what constitutes academic misconduct, intellectual property and authentic authorship
- examples of conventions for citing and acknowledging original authorship
- guidance on the distinction between legitimate collaboration and unacceptable collusion.

Students need to learn and practise academic integrity as part of their ATL skill development, receive an age-appropriate copy of the policy and be aware that the coordinator and teachers are available to offer further advice and guidance.

Procedures for implementing the academic integrity policy, for example, instituting a requirement for students to sign an “honour code”, are at each school’s discretion.

All subject groups should be included in the development of a policy on academic integrity so that students gain a clear idea of the purpose of correct citation and referencing in a variety of disciplines. The need to acknowledge the source of data, works of art, computer programs, photographs, diagrams, illustrations, maps, and so on, must also be made clear to students by their subject teachers. The policy should be focused on prevention and must be a means of promoting good practice: a practical reference that is used and perceived in a positive way.

In addition to subject teachers and the school librarian, parents and legal guardians are important partners in promoting academic integrity.

The IB does not prescribe which style(s) of referencing or citation method should be used by students. However, the minimum information required in the MYP for identifying sources includes the name of the author, date of publication, title of source, and page numbers, as applicable.

For information about academic integrity and misconduct, see the sections “Teaching academic integrity” and “Understanding academic misconduct” in this document, and the [Academic integrity policy](#) and Middle Years Programme *Assessment procedures* (published annually).

Resources

Resources available to schools vary widely and influence the facilities and support that can be given to the implementation of the programme. In addition to the allocated budget for annual programme fees, the school must be able to provide the resources necessary to implement the programme, including:

- teachers who are qualified to teach the subjects offered by the school
- IB-recognized professional development required at authorization and evaluation
- dedicated meeting time for teachers' collaborative planning
- facilities for physical education, sciences, arts and design that allow for the MYP subject-group aims and objectives and the requirements of the programme to be met
- access to a library in the school that is equipped to support the programme; includes resources that support the languages offered by the school, as well as resources on global issues and diverse perspectives; and includes plans for continual improvement of the library resources
- resources to supervise and coordinate the personal project (or community project if students complete the programme in MYP years 3 or 4).

Schedule and subject-group flexibility

The MYP's holistic philosophy of education provides the basis for a broad and balanced curriculum that includes eight subject groups. The MYP is designed to help students develop disciplinary and interdisciplinary understanding through delivered courses in each subject group in each year of the programme.

The MYP requires at least 50 hours of teaching time for each subject group in each year of the programme. In practice, more time is often necessary to meet subject group aims and objectives and to provide for the sustained teaching that enables interdisciplinary study.

For students pursuing IB MYP course results that can contribute to the awarding of the IB MYP certificate, the IB recommends at least 70 teaching hours in each of the final two years of the programme (MYP year 4 and MYP year 5).

Combined subject groups in MYP years 1–3

In MYP years 1–3, if local circumstances impose scheduling constraints that prevent the programme's designed implementation, schools can combine learning and teaching for a subject group into one or more other regularly timetabled/scheduled subject group(s). Any subject group that is not delivered independently must continue to meet MYP requirements.

- All subject groups must include at least 50 subject-specific, clearly identified teaching hours.
- Schools must provide adequate collaborative planning time for teachers.
- Students must complete disciplinary or interdisciplinary summative assessment tasks that allow them to meet the objectives of all subject groups at the highest achievement levels.
- Teachers must use the required subject-specific assessment criteria to evaluate and report on student achievement.

Subject-group flexibility in MYP years 4 and 5

Whenever possible, schools should continue to provide all students with opportunities to engage in the study of eight subject groups in MYP years 4 and 5. If students are better served in years 4 and 5 by studying fewer than eight subject groups, schools may offer subject-group flexibility, provided the following conditions are met.

- Students must be able to choose courses from at least six subject groups, which must include:
 - language and literature
 - language acquisition (or a second language and literature course, delivered in a different language)
 - individuals and societies
 - sciences
 - mathematics
 - one additional subject group (arts, design, or physical and health education).
- These six subject groups must be studied.
- Subject groups in MYP years 4 and 5 must be delivered independently.

Schools can offer students the opportunity to choose subjects or disciplines in MYP year 5 that are different from those they have studied in MYP year 4, including a different additional subject group (arts, design or physical and health education). Student achievement in MYP year 5 must be assessed against the required subject-specific criteria. For students pursuing IB-validated grades through MYP eAssessment, the IB recommends 70 teaching hours for each subject or discipline studied in each of the final two years of the programme.

Students' subject choices should reflect their plans for further study, including adequate preparation for the DP and CP, where appropriate.

Planning a coherent curriculum

The MYP's coherent curriculum comprises three interrelated components.

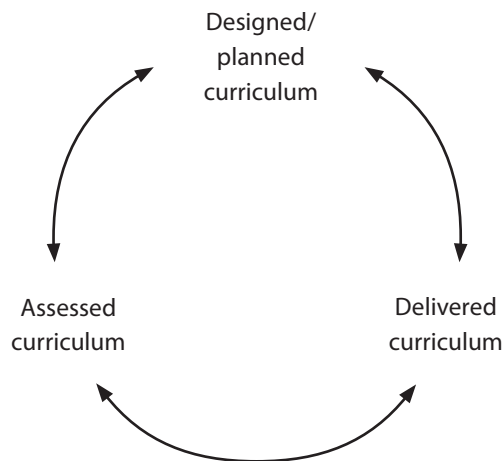


Figure 5
The curriculum model

In the MYP curriculum model, each component has equal value. In figure 5, the double-headed arrows indicate that developing, implementing and monitoring the school's designed/planned, delivered and assessed curriculums is an integrated process. Consideration for all three components is woven together throughout the process of planning for learning.

The designed/planned curriculum

The designed/planned curriculum is a formal, comprehensive, school-wide set of documents written by the school that describes what will be delivered in each subject to each age group. The MYP presents schools with a framework within which schools are expected to develop their own designed/planned curriculum, whether this includes external requirements or not. It is acknowledged that many schools will not have autonomy in deciding subject content. The development of learner profile attributes, conceptual understanding, incorporation of global contexts and approaches to learning (ATL) skills is a school-based process.

Curriculum development centres on four major elements.

- Key and related concepts
- Global contexts
- ATL skills
- Subject-group objectives

From these elements, documents such as subject-group overviews and unit planners will be developed through vertical and horizontal planning. In the designed/planned curriculum, MYP teachers can plan for service activities arising from inquiry that will be engaging and relevant to students.

The delivered curriculum

Learners have beliefs about how the world works that are based on their experiences and prior knowledge. Those beliefs, models or constructs are revisited and revised in the light of new experiences and further learning. As students try to create meaning in their lives and the world around them, they will continually construct, test, confirm or revise their personal models of how the world works and their personal values.

Consequently, the delivered curriculum in a school should emphasize the construction of meaning so that students' learning will be purposeful. When planning to teach a subject as part of the MYP, it is important to ascertain students' prior knowledge, and to provide experiences through the curriculum that give students opportunities to test and revise their models, to make connections between their previous and current perceptions, and that give them the opportunity to construct their own meaning. The MYP encourages teachers to provide opportunities for students to build meaning and refine understanding through structured inquiry. As the learning process involves communication and collaboration, this inquiry may take many forms, with students working on their own or collaboratively with partners or larger groups, within the classroom or beyond.

The structuring of new experiences by teachers, and the support teachers give to students' ideas about new experiences, are fundamental to students' conceptual development. The MYP encourages conceptual development that applies across and beyond subject groups.

The assessed curriculum

MYP assessment gives teachers and students reliable and valid information on student learning. Integrated with the designed/planned curriculum and delivered curriculum, the assessed curriculum is considered throughout the processes involved in planning for learning. Assessment in the MYP is largely an internal (school-based) process. Teachers in IB World Schools develop, administer and provide feedback on assessment tasks that meet the programme requirements (including mandatory assessment criteria). The IB validates student achievement on the personal project through a process of external moderation. Optional MYP eAssessments provide students with additional opportunities to demonstrate their learning and receive IB-validated grades.

The MYP provides teachers with examples of the development of a range of authentic and targeted assessment strategies and tools that are focused on learning. Such strategies are communicated through subject-group guides, teacher support materials and workshop materials. These strategies and tools can be used to design assessment tasks that bring balance and integrity to the curriculum.

Table 1 summarizes the purpose and inquiry focus of the designed/planned, delivered and assessed curriculum in the MYP.

Curriculum	Purpose	Inquiry focus
Designed/planned	The identification of a framework of what is worth knowing	What do we want to learn?
Delivered	The theory and application of teaching through inquiry	How best will we learn?
Assessed	The theory and application of effective assessment	How will we know what we have learned?

Table 1
Curriculum summary

Whole-school curricular planning

Schools need to demonstrate that all learning and teaching for which they are responsible is seen as an interpretation of the MYP in action. The MYP should have an explicit impact on all aspects of the functioning of the school community. Schools must ensure that the experience of its MYP students creates coherence in their learning.

The MYP requires schools to plan the curriculum in a whole-school setting. Collaborative curricular planning requires:

- supportive leadership
- time to meet, share ideas, plan and reflect collaboratively
- commitment to planning in subject teams and in flexible teams of year-level teachers
- opportunities for professional development that furthers each teacher's understanding of their subject needs and of ATL and the global contexts.

For the successful implementation of the programme, planning the curriculum is considered to have vertical and horizontal components. As a result of vertical and horizontal planning, teachers will be in a position to develop subject-based and interdisciplinary MYP units within a whole-school curriculum framework.

The identity of a school is reflected in its designed/planned curriculum. A designed/planned curriculum that includes co-curricular activities will better reflect a holistic view of school values and mission. (Co-curricular activities, however, are not part of the programme model for the MYP and do not count towards the required teaching hours for each subject group.)

Collaborative planning of co-curricular elements can help schools develop a curriculum that reflects and supports the school's identity, including elements such as education for citizenship, outdoor adventure, experiential education and service within the community.

Meeting time

Schools must provide dedicated meeting time for collaborative planning. In MYP schools, meeting time is crucial, must be managed systematically and effectively, and must involve all teachers. Meeting time must be used to develop vertical and horizontal articulation of the curriculum across and between year levels, and across and within subject groups. ATL skills must be discussed and planned, and key concepts and global contexts considered across years. It is good practice to write unit plans in teams.

Vertical planning

The goal of vertical planning is to sequence learning to ensure continuity and progression from year 1 to year 5 of the programme and beyond.

Horizontal planning

To explore subject content fully using the key concepts and global contexts, a collaborative approach to planning and teaching is essential. This allows teachers to communicate regularly on matters concerning content and pedagogy. Planning horizontally will involve teachers of the same year level working together between and within subject groups to plan the scope of learning in a particular year.

Developing the designed/planned curriculum in groups of schools

Schools that are part of a group of schools, such as districts or foundations, might have part of the designed/planned curriculum planning for a group of schools assigned to them. If this is the case, it is important to consider the need for teachers to develop a measure of ownership of the designed/planned curriculum in the MYP. Without the engagement of the teachers in planning and developing units of work, teaching will lose the depth of conceptual understanding and inquiry that is essential in MYP teaching. Moreover, teachers need to model inquiry and reflection to their students, and this results from their own engagement with the unit plans.

Although it is possible for vertical planning of ATL skills to be developed at a level above the individual school, unit plans and subject-group overviews must be developed by subject teachers.

Teachers as learners

For many teachers, the processes described above will be new when they start teaching the MYP and will involve a learning process. Just as students learn in different ways, so too do teachers. Some will be comfortable in starting to develop units individually or in their teams. Others will want to use models (which might be detailed to the level of lesson plans) to trial in their classes. There is no one “right” way for teachers to approach the learning process. No matter which approach is taken, however, the purpose is for teachers to be empowered to use their creativity and professionalism in developing MYP units of work that engage students in learning the essence of the discipline while engaging with the world around them.

Planning for interdisciplinary learning

As teachers plan collaboratively to integrate global contexts and key concepts with their subject content, two or more subjects can work together to inform the inquiry. As teachers identify complementary content, skills and concepts, they can plan MYP units that address common real-world issues.

Interdisciplinary learning can take place between different subject groups, as well as between different disciplines within a subject group. This kind of learning encourages broader perspectives on complex issues, and encourages deeper levels of analysis and synthesis. Interdisciplinary connections must be meaningful. All MYP teachers are responsible for fostering interdisciplinary understanding.

In the MYP, interdisciplinary learning is generally defined as the process by which students come to understand bodies of knowledge and modes of thinking from two or more disciplines or subject groups and integrate them to create a new understanding.

MYP schools are responsible for engaging students in at least one collaboratively planned interdisciplinary unit that includes more than one subject group in each year of the programme.

Interdisciplinary learning seeks to yield interdisciplinary understanding. Students demonstrate interdisciplinary understanding of a particular topic when they can bring together concepts, methods or forms of communication from two or more disciplines or established areas of expertise to explain a phenomenon, solve a problem, create a product or raise a new question in ways that would have been unlikely through single disciplinary means.

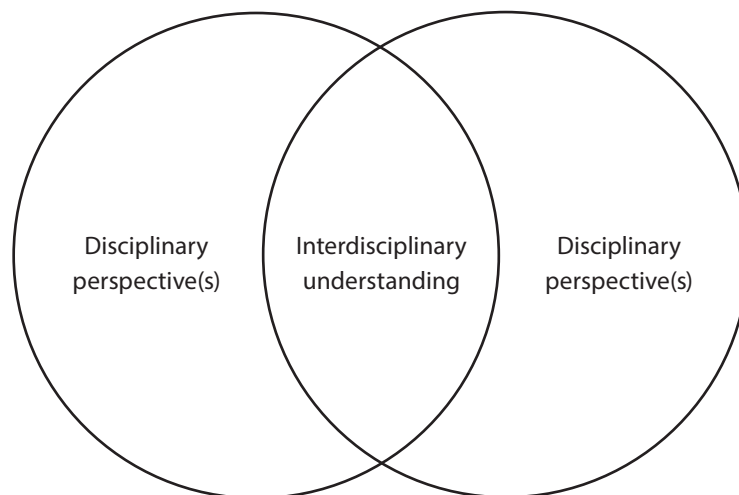


Figure 6
Interdisciplinary understanding

Three key qualities of interdisciplinary understanding follow from this definition. These qualities guide the design of interdisciplinary teaching and assessment of student work in the MYP. Interdisciplinary learning is purposeful, integrative and grounded in disciplines (see figure 7).

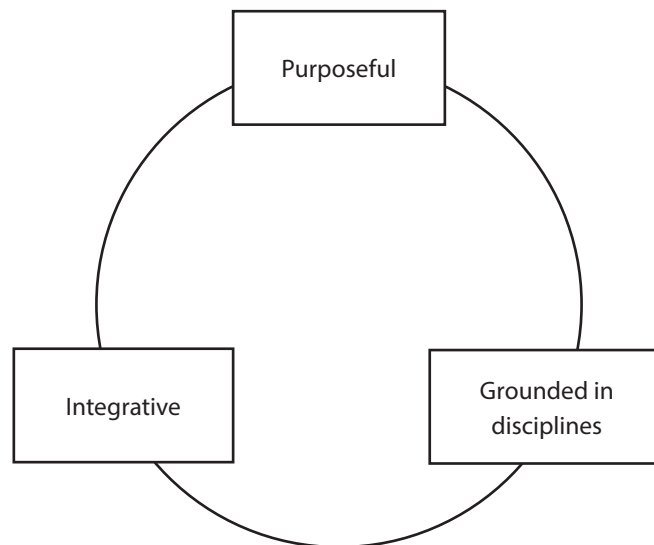


Figure 7
Key qualities of interdisciplinary learning

The complexity of real life requires interdisciplinary perspectives that can help students to:

- address biases and consider diverse interpretations and points of view
- engage personal interest and increase their motivation for learning
- broaden their awareness of circumstances that have personal impact
- develop critical- and conceptual-thinking skills by gathering and evaluating relevant data, analysing alternatives, considering potential consequences and drawing conclusions
- take action in ways that are age-appropriate and develop dispositions to take responsible action as citizens of local, national and global communities.

For further guidance on interdisciplinary teaching, schools should consult the IB publication *Interdisciplinary teaching and learning in the MYP* (2021).

Documenting the MYP curriculum

Developing the designed/planned curriculum for a school is a comprehensive and iterative mapping process that needs to take place using a series of coherent documents at appropriate levels. The documents are presented in a certain hierarchy; however, the information presented in one may inform another. These documents are working documents under constant reiteration and revision. For example, the unit-planning process might lead teachers to identify different concepts to explore or additional ATL skills that students can learn and practise.

The MYP **required documentation** for the designed/planned curriculum consists of:

- unit plans
- subject-group overviews
- ATL planning.

Unit plans

Teachers create MYP unit plans based on the required components and planning process. Although the IB does not require MYP teachers to develop lesson plans associated with each unit, many teachers find it helpful to do so. The MYP unit-planning process is described in detail in this guide (in the section “Developing MYP units”) and teacher support material for each subject group provides samples developed in collaboration with IB World Schools.

Subject-group overviews

The subject-group overview provides evidence of vertical and horizontal planning, documenting the designed/planned curriculum in each subject group across all years of the programme. The overview includes the unit title, key and related concepts, global context, statement of inquiry, objectives, and ATL skills and content.

Unit title	Key concept	Related concept(s)	Global context	Statement of inquiry	MYP subject-group objective(s)	ATL skills	Content (topics, knowledge, skills)

Subject-group overviews allow teachers and school leaders to reflect on the vertical articulation of the designed/planned curriculum. Through collaborative planning, schools can, over the years of the programme, ensure that the curriculum has:

- addressed all required key concepts
- addressed all related concepts

- explored the complete range of MYP global contexts
- appropriately developed all ATL skill categories
- offered students opportunities to meet all subject-group objectives in a balanced way.

This reflection can lead to action in terms of modifying units and ATL planning.

Subject-group overviews can also provide a horizontal view, allowing teachers to reflect upon:

- common concepts or contexts among subject groups of a particular year level that could provide the basis for interdisciplinary learning
- the scope and variety of key concepts, global contexts and ATL skills in a particular year level.

Schools can adjust overviews to add further information that might be useful, including local, state or national requirements and standards. Subject-group overviews also provide a record of how the school organizes the subject group through courses of study in various subjects and disciplines.

ATL planning

Using the ATL skills framework, teachers can develop a progression of ATL skills to be taught and formatively assessed at different stages of the programme.

Review of the designed and planned curriculum

Schools must put in place the necessary systems for the regular review of the designed and planned curriculum, including individual units of work as well as the planning of approaches to learning (ATL), through reflection upon subject-group overviews.

When undertaking curriculum review, schools need to ensure continued alignment and coherence. When the IB publishes revised MYP subject-group guides, schools need to ensure that teachers review subject-specific content in the light of any changes to the objectives. When possible, schools can align their curriculum review cycles with those of the MYP.

If the school does not have English, French or Spanish as a language of instruction, the school will need to develop strategies to ensure that all teachers have access to information from current IB publications.

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 learning and teaching 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 learning and teaching 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.

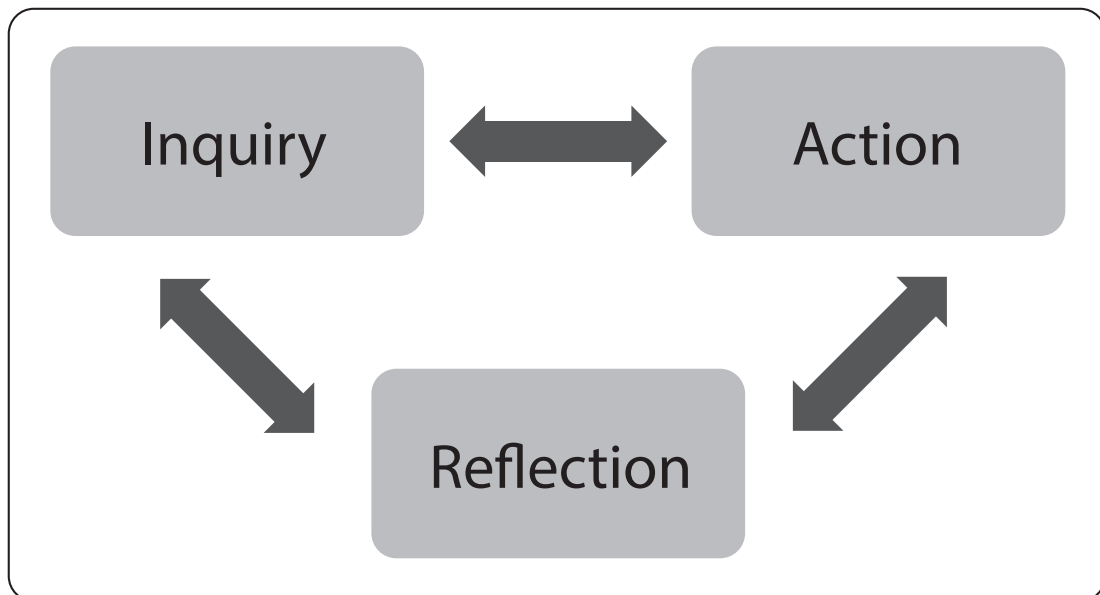


Figure 8

The dynamic aspects of MYP unit development

Unit plans are an essential component of the MYP designed/planned 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: Learning and teaching 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 designed/planned, delivered 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 learning and teaching in a variety of local and national circumstances.

MYP unit planner

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

Inquiry: Establishing the purpose of the unit

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

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

Action: Learning and teaching 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	Systems	Time, place and space

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 work. Teachers identify one key concept that drives the unit’s development.

The following broad descriptions apply across subject groups, and MYP subject-group 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** 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.
- **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.
- The intrinsically linked concept of **time, place and space** 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”).

Related concepts

Related concepts and their definitions are found in each MYP subject-group 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(s) 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. In a 5-year programme, 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.
- Schools offering a programme that lasts less than 5 years should address a reasonable number of prescribed related concepts as suggested in the table below.

Number of MYP years	Number of prescribed related concepts
5	All 12
4	At least 9
3	At least 7
2	At least 5

- 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 achievement levels 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

Learning and teaching 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 learning and teaching. 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 learning and teaching in the PYP, creating relevance for adolescent learners.

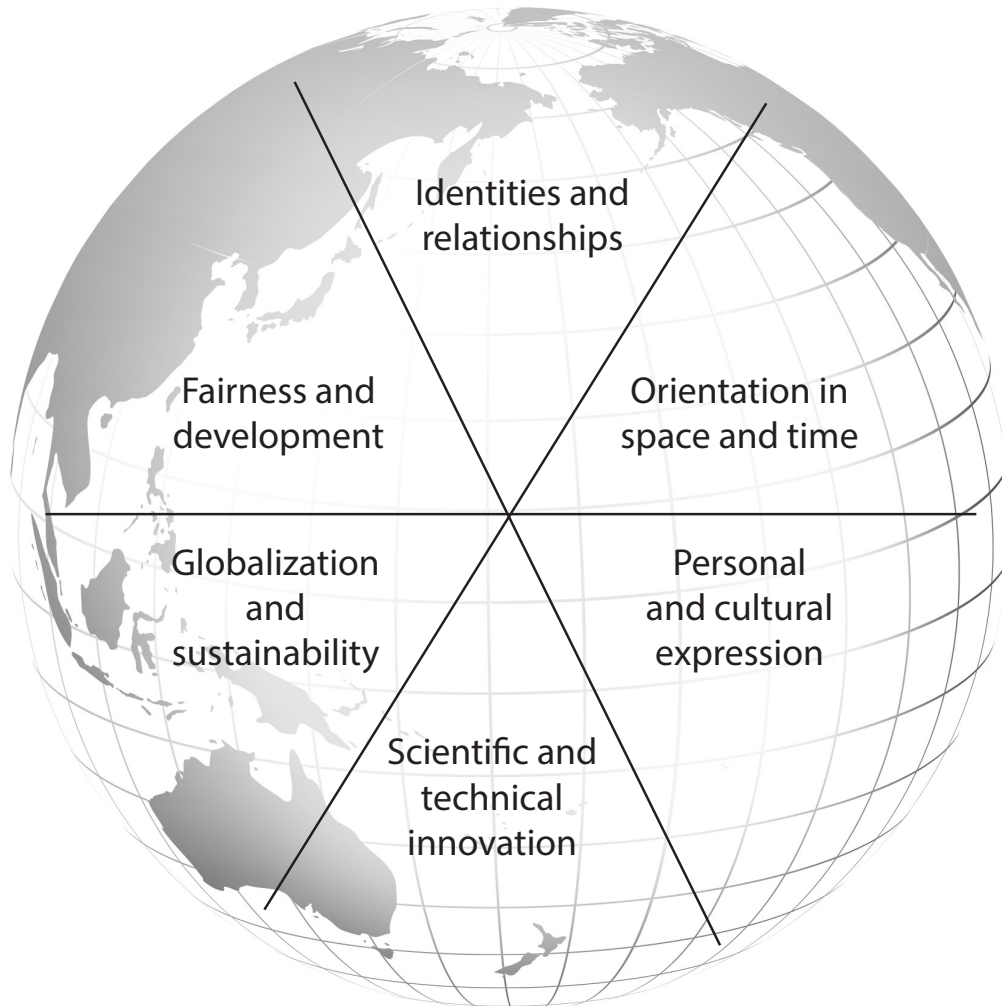


Figure 9
MYP global contexts

These and other contexts for learning and teaching 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 learning and teaching 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 • Indigenous understanding

Global context	Focus question(s) and description	Example explorations
Personal and cultural expression	<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>	Possible explorations to develop <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
Scientific and technical innovation	<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>	Possible explorations to develop <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
Globalization and sustainability	<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>	Possible explorations to develop <ul style="list-style-type: none"> • Markets, commodities and commercialization • Human impact on the environment • Commonality, diversity and interconnection • Consumption, conservation, scarcity; natural resources and public goods • Population and demography • Urban planning, strategy and infrastructure • Data-driven decision-making

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 • Ecology and disparate impact • 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 group state the specific targets that are set for learning in that subject group. 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 learning and teaching. 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 subject 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 designed/planned 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: Learning and teaching through inquiry

The “Action” section of the MYP unit planner identifies the delivered 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 learning and teaching 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 delivered 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 learning and teaching 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. Learning and teaching 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 delivered 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 delivered. 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 learning and teaching, as illustrated in figure 10.

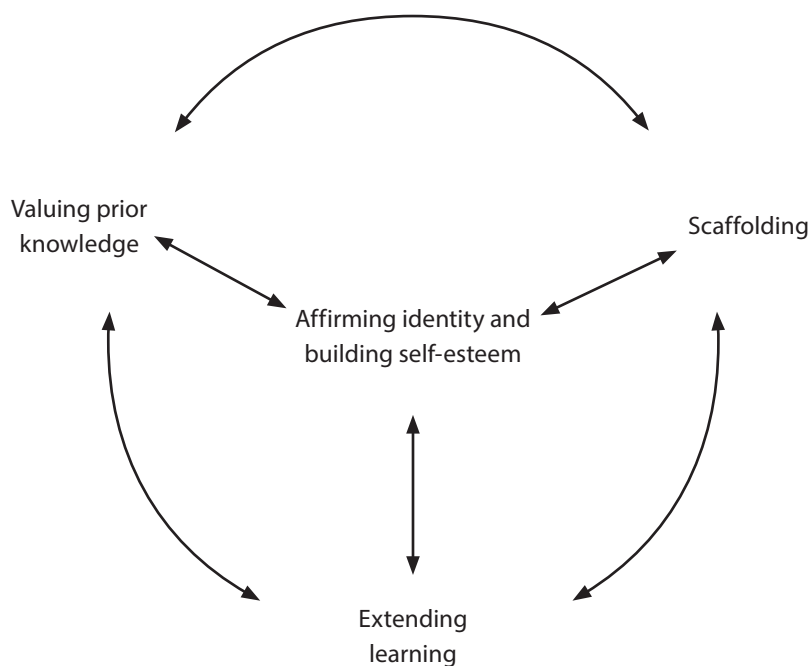


Figure 10

Principles of good practice for differentiated learning

For detailed information, see the IB publications *Learning diversity and inclusion in IB programmes* (2016) 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 learning and teaching 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 delivered. 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 learning and teaching.

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 learning and teaching 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

- What were the learning outcomes of this unit?
- How well did the summative assessment task serve to distinguish achievement levels?
- 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.

Building Quality Curriculum

The Building Quality Curriculum¹ service supports learning and teaching in MYP schools by providing feedback on their MYP unit plans. It offers guidance for continual improvement of the designed/planned, delivered and assessed curriculum. Feedback is based on *Evaluating MYP unit plans* (2016) and *Evaluating MYP interdisciplinary unit plans* (2016).

Participation in Building Quality Curriculum involves the submission of two unit plans, accompanied by self-evaluations from each subject group delivered in the programme, plus two interdisciplinary units (along with an associated self-evaluation document for each unit submitted). Typically, schools submit 18 unit plans for review, including at least one unit plan from each year of the MYP delivered in the school. The units submitted must have been delivered in the school and teachers must complete all required elements of the MYP unit planning process, including the “Reflection” section.

Feedback to schools supports collaboration, professional discussion and student achievement. Feedback from Building Quality Curriculum aims to prompt critical reflection that can lead to more effective learning and teaching.

Participation in the Building Quality Curriculum service is required for schools that cannot or choose not to register at least one student for eAssessment as a candidate for the IB MYP certificate.

There are three Building Quality Curriculum sessions offered annually, and schools must select a session that allows sufficient time to analyse and incorporate feedback into action plans prior to submitting self-studies for programme evaluation. Schools may use Building Quality Curriculum reports received up to two years before submission of the self-study.

Building Quality Curriculum is also available as an optional service to support subject-specific learning and teaching, as well as ongoing school improvement. MYP schools may register for the optional service in any session, for any subject group(s), in any year of the programme.

Full submission guidelines and session schedules are available within the document *Building quality curriculum* on the programme resource centre.

¹ Please note that the Building Quality Curriculum (BQC) service has been discontinued as of February 2024 in light of the upcoming Enhancing the MYP review unit planning process changes. Revised guidance will be published reflecting all changes to the Middle Years Programme (MYP) policies and services upon completion of the review.

Inquiry-based curriculum

Approaches to teaching in IB programmes

Teaching in IB programmes is:

- inquiry-based—provoking curiosity in order to structure and sustain exploration
- concept-driven—planning and teaching through concepts that are transferable to new contexts
- contextualized—reaching beyond the scope of individual subjects to establish relevance
- collaborative—promoting effective teamwork and purposeful/productive collaboration
- differentiated—providing access to learning for a diversity of learners
- informed by assessment—balancing assessment of, and for, learning.

Inquiry is a central idea in IB approaches to teaching. Inquiry, interpreted in the broadest sense, is the process initiated by students or the teacher that moves students from their current level of understanding to a new and deeper level of understanding.

The attributes of the IB learner profile promote inquiry, as do IB perspectives on language and learning and the focus on the development of intercultural awareness and international-mindedness in learning communities.

With inquiry there is a greater focus on the student starting from a position of knowledge—they already bring knowledge and understanding with them—and there is a reduced emphasis on the teacher being the keeper and transmitter of knowledge. There is an acknowledgment that a collaborative process of creating knowledge takes place in a learning community, as recognized in constructivist pedagogy.

IB programmes recognize and value students' efforts to construct meaning when exploring the world around them. To support this, the MYP requires teachers to provide learning experiences that draw on students' prior knowledge and provide the time and opportunity for reflection and consolidation. This constructivist approach respects students' ongoing development of ideas, and their understanding, transfer and application of these ideas to wider contexts. Constructivism implies a pedagogy that includes student inquiry into concepts through content in authentic global contexts. This pedagogy leads to the most substantial and enduring learning.

The construction of meaning and the development of conceptual understanding are supported in the MYP by the acquisition of knowledge and the development of skills and attitudes in context. This is the way in which students learn best; they should be invited to investigate personally and globally significant issues by:

- formulating their own questions
- designing their own inquiries
- assessing the various means available to support their inquiries
- proceeding with research, experimentation, observation and analysis that will help them find their own responses to the issues.

The starting point is students' current understanding, and the goal is the active construction of meaning by building connections between that understanding and new information and experience, derived from the inquiry into new content.

The nature of inquiry

Inquiry can take many forms, yet the most successful is when students' explorations and investigations are genuine and take them from existing knowledge to new levels of understanding. An explicit expectation of the MYP is that successful inquiry will lead to meaningful reflection and to responsible action initiated by the students as a result of the learning process. This action may extend the students' learning, or it may have a wider social impact. Both inquiry and action can look very different from age 11 to 16.

Not all approaches to teaching in the MYP will take place in an inquiry setting. The MYP promotes balance and a meaningful choice in teaching strategies that can include lectures, demonstrations, memorization and individual practice. However, learning and teaching through inquiry helps students to grow in their capacity to:

- make connections between previous learning and current learning
- experiment and play with various possibilities
- make predictions and take action to see what happens
- collect data and report findings
- clarify existing ideas and reappraise perceptions of events
- deepen understanding through the application of a concept
- make and test theories
- research and seek information
- take and defend a position
- solve problems in a variety of ways.

In all IB programmes, the inquiry cycle is used in a number of ways including the exploration of concepts, through ATL skills, in unit planning, product design and experiential learning. In the MYP, global contexts are at the heart of inquiry and active learning, and can encourage students to take responsible action in a variety of situations encountered through the curriculum. For teachers and students, global contexts provide a means to inquire into subject content by questioning, explaining, discovering and doing.

The development of metacognitive skills and critical thinking through inquiry in the MYP can help to prepare students for theory of knowledge (TOK) in the DP, with its more structured focus on understanding how "knowing" is constructed in human societies. The MYP can provide valuable experiences that help students engage in sophisticated inquiry into questions about the nature, limits and value of knowledge. Inquiry-based approaches to teaching encourage students to share ideas with others and to listen to, and learn from, what others think. In this process, students' thinking and their understanding is shaped and enriched.

Creating learning environments

Schools must strive to provide secure learning environments in which the individual student is valued and respected. Learning experiences promote the development of attributes of the IB learner profile, and this is best achieved in a safe and supportive environment. Schools need to ensure that the relationships students establish with each other and with teachers, which are of central importance to development and learning, will flourish. Student learning is best supported through strong, communicative relationships between teacher, student and parent. In all schools offering the MYP, parents are informed, involved and welcomed as partners with a clear role to play in supporting the school and their own children.

The role of the teacher

Teachers, collectively and individually, play a key role in the creation of educational environments that encourage students to take responsibility, to the greatest possible extent, for their own learning. To create these environments, teachers must provide resources and support for each student to become involved in inquiry, using the tools and strategies that best fit the student's development and ways of learning.

The teacher must be familiar with, and responsive to, the needs and interests of individual students, and must be aware of the cultural and social contexts in which they live and learn. In the learning environment, the role of the teacher is to facilitate connections between the student's prior knowledge and the knowledge available through new experiences. The range of development and learning demonstrated by each member of a group of students will inform which practices the teacher will need to implement to meet the needs of both the group and the individual.

All MYP teachers are language teachers. Teachers need to develop awareness of approaches to learning (ATL) materials and teaching practices that take account of diversity in cultural and language backgrounds across the curriculum.

In the MYP classroom, the teacher facilitates student learning by creating opportunities for, and supporting, student inquiries; by asking carefully thought-out, open-ended questions; and by encouraging students to ask questions of each other as well as of the teacher. The learner profile provides a clear and explicit statement of what is expected of students, teachers and school leaders in terms of learning, and what is expected of parents in terms of support for that learning. In learning and teaching, teachers make explicit reference to the development of learner profile attributes.

Using good classroom practice

All MYP classrooms operate as microcosms of the larger institution.

An MYP classroom is itself a model of a community—it is a lively place, characterized by collaborative and purposeful activity. Within this community, students are empowered to do their best, for themselves, and to contribute to the learning and well-being of others. They are supportive of each other and will come to establish their personal set of beliefs and values. The community encourages reflection, and values thoughtful consideration of issues, problems and success.

An MYP classroom is also a balanced classroom, in the sense that teachers balance the pursuit of understanding and the construction of meaning with the acquisition of knowledge, skills and attitudes. To do this, teachers use a range of teaching and assessment strategies and resources to meet the needs of each student. In this setting, students are actively engaged in planning and assessing their own learning. MYP classrooms are dynamic learning environments, with students moving from group work to individual work in response to their needs and the needs of their inquiries.

In summary, an MYP classroom is a place for thinking and where the expectations are high. It is an environment that is focused on learning.

Education outside the classroom

Classrooms and school buildings are important learning environments, but outdoor activities and environmental studies also provide powerful learning opportunities. Education beyond the classroom contributes to a range of important societal goals that can promote health and well-being, pro-social behaviour and community cohesion.

Outdoor adventure can be another valuable component in a well-rounded and rich educational experience, providing settings in which young people can engage in self-discovery and develop environmental awareness. MYP students benefit from regular opportunities to learn in outdoor settings, understand a natural place over time, and put theory into practice beyond the classroom.

Education outside the classroom often incorporates responsible action and critical reflection in ways that are essential in the process of learning through inquiry.

Teaching academic integrity

Academic integrity is the responsibility of all schools, teachers and students in IB programmes and must be developed across the curriculum as part of a school's approaches to learning. From an early age, students can be taught in the PYP to recognize ownership of work and attribute accordingly. As students gain experience they can be taught a range of academic integrity skills so that by the time they meet externally validated assessment in the MYP or the DP /CP, they have well-developed skills and can avoid pitfalls.

MYP students should learn key ATL skills such as citing and referencing, and be given opportunities to make mistakes and learn from them so that they are well prepared for further studies after the MYP. This section should be read in conjunction with the "ATL skills framework" (Appendix 1) and the "Developing an academic integrity policy" section of this guide.

Academic integrity must be seen as a set of values and skills that promote personal integrity and good practice in teaching, learning and assessment. It is influenced and shaped by a variety of factors including peer pressure, culture, parental expectations, role-modelling and taught skills. Although it is probably easier to explain to students what constitutes academic dishonesty, with direct reference to plagiarism, collusion and cheating in examinations, whenever possible the topic must be treated in a positive way, stressing the benefits of properly conducted academic research and a respect for the integrity of all forms of student work in the MYP.

All MYP students must understand the basic meaning and significance of concepts that relate to academic integrity, especially intellectual property and authenticity. However, a conceptual understanding alone is not sufficient; students must have the knowledge and practical skills to apply such concepts to their work.

The concept of intellectual property is potentially a difficult one for students to understand because there are many different forms of intellectual property rights, such as patents, registered designs, trademarks, moral rights and copyright. Students must at least be aware that forms of intellectual and creative expression (for example, works of literature, art or music) must be respected and are normally protected by law. By implementing measures to prevent plagiarism, schools are helping to combat illegal out-of-school activities (for example, illegal music downloads, peer-to-peer/P2P file sharing) for which students could face legal proceedings.

In both conceptual and practical terms, students may not understand the difference between collaboration and collusion, and therefore require guidance. Collaboration may be loosely defined as working together on a common aim with shared information, which is an open and cooperative behaviour that does not result in allowing one's work to be copied or submitted for assessment by another. Collusion occurs when a student uses fellow learners as an unattributed source.

An authentic piece of work is one that is based on the student's individual and original ideas, with the ideas and work of others fully acknowledged. Therefore, all assignments for assessment, regardless of their format, must wholly and authentically use that student's own language, expression and ideas. Where the ideas or work of another person are represented within a student's work, whether in the form of direct quotation or paraphrase, the source(s) of those ideas or the work must be fully and appropriately acknowledged.

Although the IB defines plagiarism as the representation of the ideas or work of another person as the student's own, this definition alone does not provide students with sufficient information or guidance on what constitutes plagiarism and how it can be avoided. Students must receive guidance on when and how to include acknowledgments in their work. Similarly, the practice of paraphrasing is an ATL skill that must be taught so that students do not simply copy a passage, substitute a few words with their own and then

regard this as their own authentic work. When using the words of another person, it must become habitual practice for a student to use quotation marks, indentation or some other accepted means of indicating that the wording is not their own. Furthermore, the source of the quotation (or paraphrased text) must be clearly identified, along with the quotation, and not reside in the bibliography alone. Using the words and ideas of another person to support one's arguments is a fundamental part of any academic endeavour, and how to integrate these words and ideas with one's own is an important skill that should be explicitly delivered as an ATL skill.

Principles of MYP assessment

Assessment is integral to all learning and teaching. MYP assessment requires teachers to assess the prescribed subject-group objectives using the assessment criteria for each subject group in each year of the programme. In order to provide students with opportunities to achieve at the highest level, MYP teachers develop rigorous tasks that embrace a variety of assessment strategies.

In the MYP, teachers make decisions about student achievement using their professional judgment, guided by mandated criteria that are public, known in advance and precise, ensuring that assessment is transparent. Across a variety of assessment tasks (authentic performances of understanding), teachers use descriptors to identify students' achievement levels against established assessment criteria. MYP internal (school-based) assessment uses a "best-fit" approach in which teachers work together to establish common standards against which they evaluate each student's achievement holistically.

This "criterion-related" approach represents a philosophy of assessment that is neither "norm-referenced" (where students must be compared to each other and to an expected distribution of achievement) nor "criterion-referenced" (where students must master all strands of specific criteria at lower achievement levels before they can be considered to have achieved the next level).

Assessment in the MYP aims to:

- support and encourage student learning by providing feedback on the learning process
- inform, enhance and improve the teaching process
- provide opportunity for students to exhibit transfer of skills across disciplines, such as in the personal project and interdisciplinary unit assessments
- promote positive student attitudes towards learning
- promote a deep understanding of subject content by supporting students in their inquiries set in real-world contexts
- promote the development of critical- and creative-thinking skills
- reflect the international-mindedness of the programme by allowing assessments to be set in a variety of cultural and linguistic contexts
- support the holistic nature of the programme by including in its model principles that take account of the development of the whole student.

Assessment practices in the MYP can sometimes represent significant challenges to existing school practices. Some key features of MYP assessment include:

- distinction between internal summative assessment and the supporting formative processes
- attention to the most accurate demonstration of student performance, rather than mechanically and uncritically averaging achievement levels over given reporting periods
- assessment of student understanding at the end of a course, based on the whole course and not individual components of it.

Students must be able to recall, adapt and apply knowledge and skills to new questions and contexts. Students need to understand assessment expectations, standards and practices, which teachers can introduce early and naturally in teaching, as well as in class and homework activities.

The aim of MYP assessment is to support and encourage student learning. The MYP places an emphasis on assessment processes that involve the gathering and analysis of information about student performance and that provide timely feedback to students on their performance. MYP assessment plays a significant role in the development of ATL skills, especially skills that are closely related to subject-group objectives. The MYP approach to assessment recognizes the importance of assessing not only the products, but also the process, of learning.

MYP **internal assessment** includes tasks, strategies and tools that are designed, developed and applied by teachers working with students in their schools. Teachers are well placed to assess the work of their MYP students; this assessment model supports the professional judgment of teachers in deciding the achievement levels of individual students.

MYP assessment encourages teachers to monitor students' developing understanding and abilities throughout the programme. Through effective **formative** assessment, teachers gather, analyse, interpret and use a variety of evidence to improve student learning and to help students to achieve their potential. Student peer and self-assessment can be important elements of formative assessment plans.

Internal (school-based) **summative** assessment is part of every MYP unit. Summative assessments are designed to provide evidence for evaluating student achievement using required MYP subject-group-specific assessment criteria.

Internal summative and formative assessments are closely linked, and teachers must use their knowledge of IB assessment expectations and practices to help students improve performance through consistent, timely and meaningful feedback.

By assessing students as they develop disciplinary and interdisciplinary understanding, teachers identify student learning needs in order to better inform the learning process. Assessment in the MYP is not confined to the final part of a learning period, such as the end of a unit. Formative assessments can be planned from the start of a unit, although they may change as teachers engage with students to determine the next stages of learning.

In summary, when creating MYP units, teachers must ensure that assessments:

- are integral to the learning process
- are aligned with subject-group objectives
- gather information from a variety of perspectives, using a range of tasks according to the needs of the subject and the nature of the knowledge, skills and understanding being assessed
- are appropriate to the age group and reflect the development of the students within the subject
- provide evidence of student understanding through authentic performance (not simply the recall of factual knowledge).

Using MYP assessment criteria

The MYP assessment criteria across subject groups can be summarized as follows.

	A	B	C	D
Language and literature	Analysing	Organizing	Producing text	Using language
Language acquisition	Listening	Reading	Speaking	Writing
Individuals and societies	Knowing and understanding	Investigating	Communicating	Thinking critically
Sciences	Knowing and understanding	Inquiring and designing	Processing and evaluating	Reflecting on the impacts of science
Mathematics	Knowing and understanding	Investigating patterns	Communicating	Applying mathematics in real-world contexts
Arts	Investigating	Developing	Creating/performing	Evaluating
Physical and health education	Knowing and understanding	Planning for performance	Applying and performing	Reflecting and improving performance
Design	Inquiring and analysing	Developing ideas	Creating the solution	Evaluating
Community project	Investigating	Planning	Taking action	Reflecting
Personal project	Planning	Applying skills	Reflecting	
Interdisciplinary	Evaluating	Synthesizing	Reflecting	

Schools must regularly report student progress towards the MYP objectives using the prescribed subject-group assessment criteria. The criteria for 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. Assessment criteria for years 1, 3 and 5 of the programme are provided in MYP subject-group guides, and their use is mandatory.

In practice, schools often introduce objectives and criteria for MYP years 3 and 5 in the previous year so that students in MYP years 2 and 4 become familiar with, and begin working towards, stated requirements, adapting and interpreting them in ways that are developmentally appropriate.

Alignment of assessment criteria with subject-group objectives

In figure 11, a graphic representation of a particular subject group, MYP objectives are described in terms of what students should know, understand and be able to do at the end of the programme. Each objective is aligned with its corresponding assessment criterion: objective A is aligned with criterion A, objective B with criterion B, and so on.

The general description of objective A is reflected in the general information provided about criterion A. The general information gives teachers guidance on how the criterion should be used to design appropriate tasks and how it should be applied to measure student performance. This alignment is shown by arrow 1.

Arrow 2 shows how the various strands of objective A, shown in bulleted form, are aligned with the descriptors of one of several achievement levels. Each achievement level describes student performance in ways that teachers can use to determine how successfully each student has met the objective.

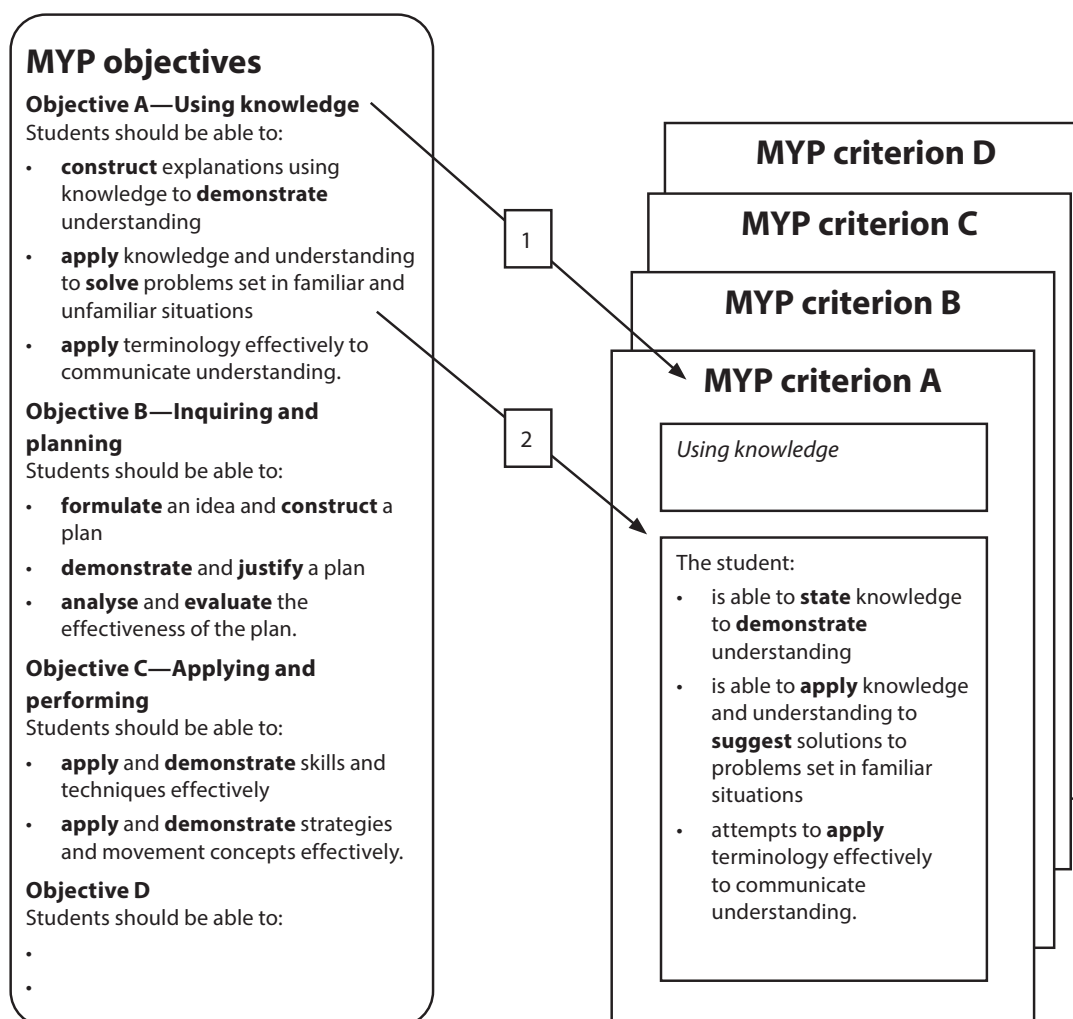


Figure 11

The relationship of a subject group's objective A to the same subject group's assessment criterion A and its descriptors of the various achievement levels

All strands of an objective must be addressed in order to determine a final achievement level.

Achievement levels

Each criterion is divided into various achievement levels (numerical values) that appear in bands, and each band contains general, qualitative value statements called level descriptors. The levels 1 and 2 appear as the first band, levels 3 and 4 as the second band, and so on. Level 0 is available for work that is not described by the band descriptor for levels 1 and 2. All criteria have four bands and a maximum of eight achievement levels. All MYP subject groups have four assessment criteria divided into four bands, each of which represents two achievement levels. MYP criteria are equally weighted.

The level descriptors for each band describe a range of student performance in the various strands of each objective. At the lowest levels, student achievement in each of the strands will be minimal. As the numerical levels increase, the level descriptors describe greater achievement levels in each of the strands.

MYP command terms

Command terms are embedded in the objectives and assessment criteria of each subject group in the MYP. The outcome of using command terms is that students understand and know what to do when asked to “describe” as opposed to “discuss”, or to “infer” as opposed to “explain”. An understanding and mastery of the command terms is an ATL skill that can be applied in new situations across the MYP subject groups as well as in further study, including in the DP and CP.

Schools should provide opportunities for the explicit explanation of command terms within the context of the subject groups and the development of interdisciplinary ATL skills. By sharing command terms with students, teachers are able to give opportunities to practise relevant skills; to check understanding of the terms used to direct tasks; and to discuss what is expected or required, and the steps involved in completing tasks successfully. Each command term refers to specific thinking skills, practices and processes that constitute a subject or discipline, along with its content. In order to understand a discipline, which is a particular way of knowing, it is necessary to be fluent in the relevant command terms. Most command terms are applicable across subject groups.

Teachers use command terms when giving instructions, when questioning students, when posing problems and when eliciting responses from a class. Students are expected to understand and be able to respond effectively to the command terms present in teaching instructions, questions and problems presented to them. While the definitions for the command terms remain the same, the expectation for the level of sophistication of students’ understanding, responses and performances is expected to progress with students’ maturity and intellectual development.

Having a consistent definition of a command term enables students to understand the meanings and their application across disciplines. This clarity of terminology is especially important for students with diverse learning needs and complex language profiles. Consistent application of command terms reduces stress and confusion about their meaning, and empowers students to manage their own learning and transfer cognitive processes and academic skills.

Appendix 3 lists the MYP command terms, which are fully aligned with the command terms used in DP assessment.

Building shared understanding of MYP criteria

With reference to the published MYP assessment criteria, the descriptors of the various achievement levels and the qualitative value statements within each descriptor, teachers need to meet in subject teams to:

- identify individual similarities and differences in their understanding of the statements, using student work to provoke and promote discussion
- consult reference materials, such as IB-published teacher support materials and workshop materials
- agree on working definitions of the various statements as they apply to their situations.

For example, teachers of an MYP subject would need to agree, in the context of a particular assessment task, on the meaning of qualitative statements found within a strand of a particular criterion by discussing their expectations and using examples of student work to exemplify various achievement levels.

Internal standardization

Where more than one teacher is teaching the same subject group, the process of internal standardization must take place before final achievement levels are awarded. Internal standardization of assessment is also required for the personal project (or the community project if the school's programme ends in MYP years 3 or 4). The process involves teachers meeting to come to a common understanding on the criteria and achievement levels and how they are applied. In so doing, teachers increase the reliability of their judgments.

Standardization throughout the school year promotes consistency and builds common understandings about student achievement with respect to MYP objectives.

Determining achievement levels

At the end of a period of learning, teachers must make judgments on their students' achievement levels in each subject-group criterion. To determine these achievement levels, teachers must gather sufficient evidence of achievement from a range of learning experiences and assessments. Teachers need to ensure that this evidence comes from the performance of the student over the duration of the units delivered.

A carefully constructed assessment task on an individual unit may provide evidence of achievement in all strands of a criterion or criteria.

When applying the assessment criteria to student performance, the teacher should determine whether the first descriptor describes the performance. If the student work exceeds the expectations of the first descriptor, the teacher should determine whether it is described by the second descriptor. This should continue until the teacher arrives at a descriptor that does not describe the student work; the work will then be described by the previous descriptor. In certain cases, it may appear that the student has not fulfilled all of the descriptors in a lower band but has fulfilled some in a higher band. In those cases, teachers must use their professional judgment in determining the descriptor that best fits the student's performance.

The descriptors, when taken together, describe a broad range of student achievement from the lowest to the highest levels. Each descriptor represents a narrower range of student achievement. Teachers must

use their professional judgment to determine whether the student work is at the lower or the higher end of the descriptor, and award the lower or higher numerical level accordingly. Some other factors may also influence the teacher's decision on an achievement level, including the following.

- Student support—students will experience varying levels of support in their units, since peer-conferencing, formative assessment with feedback from the teacher, editing and correcting are all essential learning tools. Teachers should be mindful that achievement levels accurately reflect what students can do.
- Group work—teachers need to document carefully the input of individuals working in a group situation so that the achievement levels for individual students can be determined.

In these ways, at the end of a period of learning, evidence of student learning, gathered from a range of learning experiences in each of the objectives, can be matched to the appropriate assessment criteria to determine the student's achievement level.

Reasonable adjustments

Students with learning support requirements may require reasonable adjustments to access the MYP curriculum framework, including internal and external assessments. A reasonable adjustment is an action taken to remove or decrease a disadvantage faced by students with learning support requirements. A reasonable adjustment could be unique to a specific student and may include changes in the presentation of the test or method of response. Where reasonable adjustments involve changes to specific aspects or specific criteria of the assessment, the overall learning outcome must remain the same.

Modification of the curriculum

Students with more challenging learning support requirements may require modifications to subject-group objectives/assessment criteria or assessment criteria descriptors. If students participate in the programme with modifications to the required MYP curriculum framework, the IB is not able to validate grades or award the IB MYP certificate. Students who complete the personal project or school-based community service requirements in MYP year 5 are eligible to receive IB MYP course results.

Planning assessment

In the initial stage of planning units, teachers design statements of inquiry that drive the unit. Choosing from a range of assessment strategies, teachers can devise assessment tasks that give students adequate opportunities to show clearly what they can achieve in relation to inquiry questions, and hence the subject-group objectives for that unit. Teachers can ensure that they assess their students' performances fairly, fully and appropriately by selecting and using various assessment tools.

Assessment strategies

The MYP values the use of a variety of assessment strategies during the programme. The following list of strategies is not exhaustive, and the strategies themselves are not mutually exclusive; indeed, they should be used in conjunction with one another to provide a more balanced view of student achievement.

Observation

Teachers may choose to observe all students regularly and often, taking a wide-angle view (for example, focusing on the whole class) or a close-up view (for example, focusing on one student or one activity). Teachers can observe from the point of view of a non-participant (observing outside the task) or of a participant (observing when engaging in the task with the student). Observation will be particularly useful when assessing some behaviours and skills.

Selected response

Tests and quizzes are the most familiar examples of this form of assessment. Selected responses allow the teacher to ask general or specific questions to elicit responses from students that will indicate understanding and, possibly, misunderstanding. This strategy is particularly useful during the course of a unit, in formative assessment, as it is usually quick and straightforward to administer and can provide instant feedback for students and teachers.

Open-ended tasks

This strategy allows teachers to present students with a stimulus and ask them to communicate an original response. The response could take many forms, such as a presentation, an essay, a diagram or a solution to a problem. Open-ended tasks may be combined with other strategies, such as performance assessments.

Performance

The MYP assessment model provides opportunities for teachers to devise assessment tasks that enable students to demonstrate the range of knowledge, skills, understandings and attitudes that they have developed in the classroom. Performance assessments can allow students to perform the learned skills and show their understanding in real-world contexts.

Teacher-designed performances of understanding may take the form of a composition, a research report, a presentation or a proposed solution. Such performances serve two functions: they build student

understanding, and they make such understanding visible and available for assessment. Teachers can use the information to find out how to support students further (formative assessment) and whether the student has achieved the learning objectives (summative assessment).

Teachers should consider the distinction between activities or tasks and performances of understanding that are more effective in building deep understanding. Performances of understanding allow students both to build and demonstrate their understanding in and across subjects. They are based on the theory that understanding is not something we have—like a set of facts we possess—but rather is something we can do. In unit designs, performances of understanding take different forms depending on where in the unit they are placed (beginning, middle or end) and whether they target disciplinary or interdisciplinary understandings.

The MYP uses the term “performance” in its widest sense to describe all forms of assessment where students are assessed on their ability to demonstrate predetermined learning objectives.

Process journals

Reflection is an essential element of effective learning. The MYP objectives for all subject groups require students to develop higher-order thinking skills and conceptual understanding. Student reflection and metacognition are essential aspects of that process.

Through ATL, all teachers are responsible for actively involving students in all stages of the learning process. The use of process journals (required in some subject groups, such as the arts or design) can allow the teacher and student to communicate about the processes of learning, and can be used for meaningful and purposeful reflection. Regular recorded reflections by the students about key issues or important activities can lead to enhanced understanding of the concepts. For example, process journals can allow students to detail their service and action, and to reflect on the impact of these.

Portfolio assessment

Portfolios can be used by students and teachers to record their learning achievements and express their identity. Students and teachers will choose pieces of work, or include observations or evidence from other assessment strategies, that show their levels of knowledge and understanding, and that demonstrate their skills and attitudes. Portfolios are useful ways to involve students in their own learning and the assessment of that learning.

Teachers and administrators may wish to explore different models of portfolios for use in their own particular schools, and take into consideration the format of the portfolio, such as whether it should be a physical folder or a virtual folder on the school website. Storage issues, among others, will arise with either format.

Assessment tasks

These assessment strategies, and others, can all be used to develop suitable and appropriate performances of understanding. Tasks will be specific to MYP objectives, although various categories of task exist that are broadly represented by the following list.

- Compositions—musical, physical, artistic
- Creation of solutions or products in response to problems
- Essays
- Examinations
- Questionnaires

- Investigations
- Research
- Performances
- Presentations—verbal (oral or written), graphic (through various media)

The MYP subject-group guides provide more information on assessment tasks and their applicability to certain criteria.

Appropriateness of tasks

The assessment tasks developed for each unit should address at least one MYP subject-group objective. Student work that stems from these tasks is then assessed using the appropriate criteria. It is essential that tasks be developed to address the objectives appropriately; it is **not** valid to assess summatively pieces of work that do not address at least one of the objectives.

Assessment tasks should take into account the requirements of students with learning support requirements. Consideration of the appropriateness of the task should also be made for those who are learning in a language other than their mother tongue. Where students will not be able to meet MYP objectives, tasks can be differentiated or modified as appropriate, but parents and students need to be informed.

Creating sufficiently rigorous tasks

Teachers will need to ensure that assessment tasks not only address an objective, but allow students access to all the achievement levels in the corresponding criterion. Without careful planning, some tasks, for example, might not permit access to the highest achievement levels for a variety of reasons. Similarly, some tasks may only allow very competent students access to any of the achievement levels; other students may not be able to achieve even the lowest levels simply because the task did not permit this.

Teachers will need to understand fully the implications of each criterion and the achievement levels before designing assessment tasks. Many of the highest level descriptors require teachers to design open-ended tasks so that students can choose, for example, which techniques or skills to apply.

Developing task-specific clarifications

MYP-published assessment criteria and the school-based modified criteria are described as holistic, in that they offer general, qualitative value statements about student achievement.

Task-specific clarifications can be useful in bringing a level of specificity to the assessment criteria. Each task-specific clarification will be based on a published MYP assessment criterion. Developing task-specific clarifications requires teachers to study the assessment criteria and to redraft the value statements within the level descriptors in terms of the specific assessment tasks in the MYP unit.

The value of the time invested in the process of task-specific clarification is that those produced:

- are an integral part of the learning process
- support learning by guiding instruction
- can be used with example materials to deepen understanding
- bring transparency to the processes of assessment for teachers, students and parents
- provide clear and measurable evidence of learning
- can be used again in subsequent years
- can be modified themselves as the units change over time

- contribute to teacher reflections on the MYP unit
- can be useful in curriculum review or monitoring when used collectively, as they can help to identify the specific content actually delivered during a learning period.

When developing task-specific clarifications, teachers will need to clarify the expectations of any given task with direct reference to the published assessment criteria. For example, in individuals and societies, teachers would need to clarify exactly what a “wide range of terminology” means in the context of a given assessment task. This might be achieved by:

- changing some wording to match the task
- an oral discussion of expectations
- a task sheet that explains expectations.

Importantly, teachers and students should develop specifications and establish clear expectations at the beginning of each summative assessment process. When clarifying expectations for MYP assessments, teachers must ensure that they do not alter the standard expected in the published criteria or introduce objectives beyond those developed in the unit.

Recording assessment data

Teachers have a responsibility to document assessment data on all their students. During the course of MYP units, teachers will need to record assessment data using appropriate technology to support the determination of an achievement level.

Teachers will need to take all the data into account when determining a summative achievement level for a student in each criterion. Summative assessment data must be recorded as an achievement level as described within a criterion.

Assessment tools

The assessment strategies described earlier in this guide may be used to devise and develop assessment tasks. The following tools can be used to collect evidence of student achievement in each unit. They can be used to document learning.

<p>Anecdotal records</p>	<p>Anecdotal records are brief written notes based on observations of students. Records on the whole class, on smaller groups or on individual students can help the teacher identify areas of understanding or misunderstanding.</p> <p>Anecdotal records need to be systematically compiled, documented and organized, and teachers should consider various ways, including the use of information and communication technologies, to do so.</p> <p>Teachers can use anecdotal records for reflection on student learning and for formative assessment. They will be invaluable in planning the next phases of learning. Anecdotal records can be very useful for teachers to identify learning skills, values and attitudes.</p>
<p>Continuums</p>	<p>Continuums provide visual representations of developmental stages of learning, and can be very useful for teachers and students when applied to skills development. They show a progression of achievement and can identify where a student has reached in relation to that learning process.</p> <p>When used in a similar way to anecdotal records, continuums identify the next stages of learning that can lead to mastery of skills. Continuums are particularly useful when used for ATL skills, as they can be developed by teams of teachers from a range of grade or year levels and can then be used across all subjects in all years of the programme.</p>

Examples	<p>Samples of students' work can serve as concrete standards against which other samples are judged. Generally, there should be at least one example for each achievement level in an assessment rubric. These can then serve as benchmarks for the particular task.</p> <p>Schools are encouraged to select examples that are appropriate and usable within their particular context. Following standardization by subject teachers, student work from one unit may serve as example material for the same unit the next year, if suitably anonymized and appropriate, and could be used by students in self-assessment.</p>
Checklists	<p>These are lists of attributes or elements that should be present in a particular response to a task. A markscheme for an examination is a type of checklist.</p> <p>Checklists are useful when used formatively, as they could be applied by either the teacher or student. Checklists have the potential to be used in self-assessment and can support the development of ATL skills.</p>

Reporting student achievement

During the five years of the programme, all schools offering the MYP are required to communicate student achievement in each subject group to parents at regular intervals. Usually, this will be during and at the end of each school year, although it may vary considerably depending on local regulations and the school's organization of studies for each year of the MYP.

MYP reports of student achievement should communicate the student's achievement level for each assessment criterion. This practice provides students and their parents with information about the student's engagement with the objectives of each subject group and should be supported with advice for improvement, where applicable.

All schools are required to organize learning and assessment that is consistent with the prescribed MYP objectives and criteria. The assessment criteria, and their published achievement levels, must be used by all schools for any final internal assessment for MYP students and for predicted grades reported to the IB.

Using professional judgment

To determine the final achievement level in each of the criteria for each student, whether at the end of a marking period or the end of a year, teachers must gather sufficient evidence from a range of assessment tasks to enable them to make a professional and informed judgment. All units include summative tasks that are assessed according to one or more MYP criteria to ensure continuous assessment and feedback of students' performance against the MYP objectives. The planning of units and assessment tasks should ensure all criteria have been included over time, providing balanced evidence that is sufficient for determining a final achievement level.

The judgments will reflect the teacher's professional opinion on the achievement level of each student in each of the criteria at the end of the marking period or year. In gathering the evidence for the judgment to be made, teachers will analyse the achievement levels of students over the course of the marking period or year, which represents their summative performance for that period, paying particular attention to patterns in the data (such as an increasing level of performance), consistency and mitigating circumstances.

During the formulation of school-wide agreements on assessment in its assessment policy, schools can develop common understandings about how they will determine final achievement levels and grades.

Determining a grade during the programme

In addition to communicating achievement levels in each of the criteria, schools may decide to award and communicate grades. Some schools may need to award grades in order to meet national or other requirements.

If a school does award and communicate grades:

- the school must continue to communicate student achievement levels in each of the criteria
- grades must be based on the levels achieved in all of the criteria in that particular subject

- these processes must be open, transparent and understood by all stakeholders
- schools may use equivalent local, state or national grading scales to report student achievement, or they may adopt the MYP 1–7 grading scale. The MYP 1–7 grading scale should be used in conjunction with the associated general grade descriptors and grade boundary guidelines.

Inappropriate grading practices

The following grading practices are inappropriate and are counter to MYP assessment principles.

- Determining grades using a proportion of scores for classwork, homework and tests
- Determining grades by averaging summative performance scores over the year
- Using single pieces of work to determine final grades

Reporting format

There is no specific report format mandated for the MYP. Schools communicate assessment data to parents in a variety of ways, but they must do so formally, using a clear process, and at frequent intervals. The following ways of reporting to parents have been used by schools offering the MYP and have proved effective. However, in practice, a school's reporting system may make use of all three ways, and possibly others, and will depend on the needs of the school.

- **Report cards**—in which all teachers contribute assessment data from their subject, and which may or may not include grades.
- **Parent conferences**—in which teachers communicate assessment data to parents openly and transparently, possibly supported by examples of each student's work.
- **Student-led conferences**—in which students share assessment data about their learning with their parents, possibly supported with a portfolio of achievement.

In addition to providing data on student achievement as measured by MYP criteria, schools may consider reporting on other elements of the MYP, for example, service learning.

Aligning the MYP internal assessment model with external requirements

Schools may be required by some national or other systems to use a norm-referenced model, or a variant of it, to satisfy certain requirements. Where possible, schools in this situation are encouraged to align the assessment requirements of the national or other system with the MYP assessment model. If there are enough similarities (and flexibility in the national or other system requirements), schools can use MYP assessment criteria and criterion levels totals to determine grades. (If schools use MYP grades and choose to add additional criteria to meet local requirements, they must develop their own grade boundary guidelines. However, predicted grades submitted to the IB must be based only on MYP criteria.)

Schools can determine MYP grades and then convert them to grades for other systems. It is not acceptable to determine grades for other systems and then convert these to MYP grades.

Where the two systems are incompatible, schools must determine and report any MYP grades separately.

MYP general grade descriptors

To arrive at a criterion levels total for each student, teachers add together the student's final achievement levels in all criteria of the subject group.

Schools using the MYP 1–7 scale should use the grade boundary guidelines table that follows to determine final grades in each year of the MYP. The table provides a means of converting the criterion levels total into a grade based on a scale of 1–7.

Grade	Boundary guidelines	Descriptor
1	1–5	Produces work of very limited quality. Conveys many significant misunderstandings or lacks understanding of most concepts and contexts. Very rarely demonstrates critical or creative thinking. Very inflexible, rarely using knowledge or skills.
2	6–9	Produces work of limited quality. Expresses misunderstandings or significant gaps in understanding for many concepts and contexts. Infrequently demonstrates critical or creative thinking. Generally inflexible in the use of knowledge and skills, infrequently applying knowledge and skills.
3	10–14	Produces work of an acceptable quality. Communicates basic understanding of many concepts and contexts, with occasionally significant misunderstandings or gaps. Begins to demonstrate some basic critical and creative thinking. Is often inflexible in the use of knowledge and skills, requiring support even in familiar classroom situations.
4	15–18	Produces good-quality work. Communicates basic understanding of most concepts and contexts with few misunderstandings and minor gaps. Often demonstrates basic critical and creative thinking. Uses knowledge and skills with some flexibility in familiar classroom situations, but requires support in unfamiliar situations.
5	19–23	Produces generally high-quality work. Communicates secure understanding of concepts and contexts. Demonstrates critical and creative thinking, sometimes with sophistication. Uses knowledge and skills in familiar classroom and real-world situations and, with support, some unfamiliar real-world situations.
6	24–27	Produces high-quality, occasionally innovative work. Communicates extensive understanding of concepts and contexts. Demonstrates critical and creative thinking, frequently with sophistication. Uses knowledge and skills in familiar and unfamiliar classroom and real-world situations, often with independence.
7	28–32	Produces high-quality, frequently innovative work. Communicates comprehensive, nuanced understanding of concepts and contexts. Consistently demonstrates sophisticated critical and creative thinking. Frequently transfers knowledge and skills with independence and expertise in a variety of complex classroom and real-world situations.

Understanding academic misconduct

The IB defines academic misconduct as behaviour that results in, or may result in, the student or any other student gaining an unfair advantage in one or more assessment components.

Academic misconduct includes:

- plagiarism—the representation, intentionally or unwittingly, of the ideas, words or work of another person without proper, clear and explicit acknowledgment
- collusion—supporting academic misconduct by another student, as in allowing one’s work to be copied or submitted for assessment by another
- duplication of work—the presentation of the same work for different assessment components
- any other behaviour that gives an unfair advantage to a student or that affects the results of another student (falsifying data, misconduct during an examination, creating spurious reflections).

For most MYP assessments, students are expected to work independently but with appropriate support from teachers and other adults, although there are many occasions when collaboration with other students is an important part of the learning process.

Details of IB policies and procedures to support academic integrity as part of the external assessment process are available in the annual publication *Middle Years Programme Assessment procedures*.

Moderation of the personal project

All MYP students in schools with the fifth year of the programme demonstrate consolidation of their learning through completion of a personal project. If the programme ends in MYP year 3 or year 4, students in the last year of the programme at the school must demonstrate consolidation of their learning through the community project.

The majority of work for the personal project should be conducted during the fifth (final) year of the programme. The official validation of personal project grades is mandatory, and requires a process of external moderation of teachers' internal assessment.

Moderation offers students an external, international recognition of their achievement in the personal project, creates a reliable international standard of achievement, and helps to inform learning and teaching throughout the programme.

Schools are required to register all MYP year 5 students for personal project moderation.

MYP eAssessment

MYP eAssessment offers students opportunities to demonstrate disciplinary and interdisciplinary understanding, international-mindedness, critical and creative thinking, problem-solving skills and the ability to apply knowledge in unfamiliar situations. On-screen examinations and ePortfolios provide a balanced model of assessment for schools seeking IB-validated grades.

Official IB recognition of achievement in the MYP is only available for students who participate in and successfully complete the required eAssessments.

Introduction

The Middle Years Programme (MYP) is a framework for learning and teaching, organized around teachers' judgment of achievement against pre-published criteria. Formal recognition of achievement for MYP year 5 students is provided by the IB via eAssessment.

eAssessment comprises three strategies for assessing what students know and are able to do:

- **ePortfolios** of carefully defined coursework in arts, design, language acquisition, and physical and health education, using a process of dynamic sampling to moderate results to a global standard
- **on-screen examinations** for selected courses in language and literature, language acquisition, individuals and societies, sciences, mathematics, and interdisciplinary learning
- **personal project**: a student-centred and age-appropriate extended project in which students consolidate their learning throughout the programme. While other eAssessments are optional for schools, all MYP year 5 students must take part in personal project eAssessment.

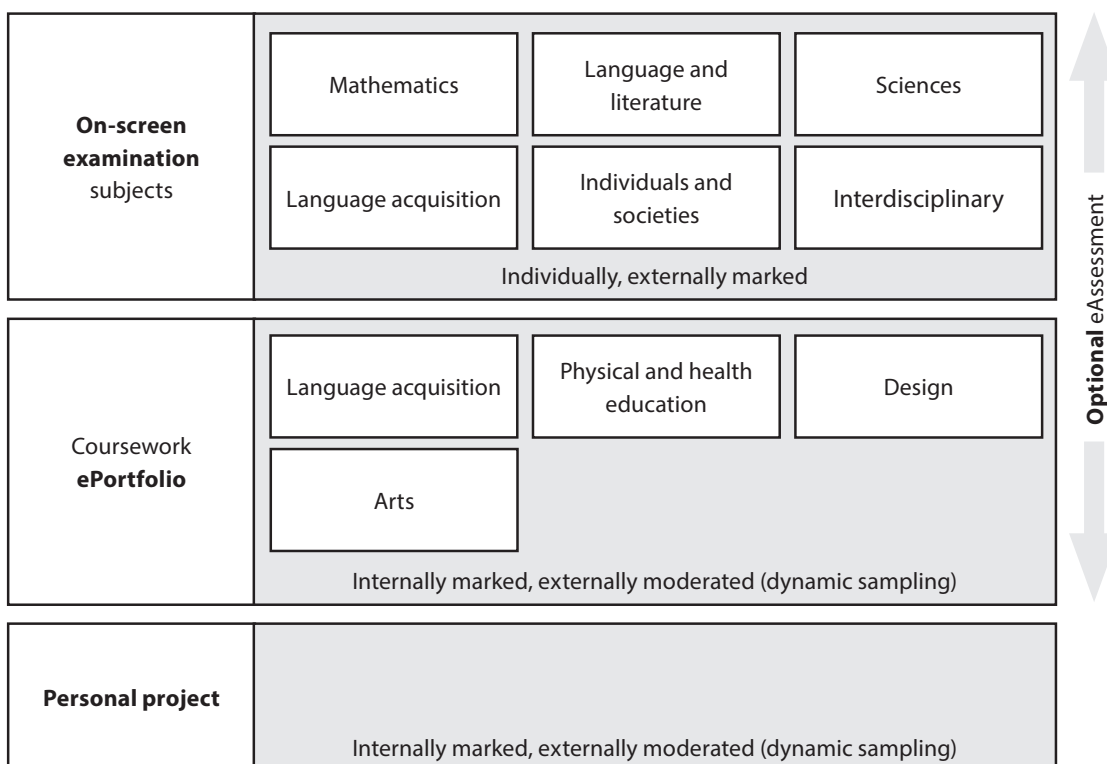


Figure 12
MYP eAssessment model

Common features of on-screen examinations

On-screen examinations comprise three extended tasks and a series of stimulus materials or background resources to engage students with interesting scenarios and problems. Background resources are available in a range of multimedia formats, and students will be able to respond in various ways using tool sets selected to support subjects and question types.

Each task targets at least one assessment criterion, and each question is carefully written to stimulate a response that demonstrates student achievement with respect to strands within those criteria. The tasks pose a range of questions—from open-ended prompts that cover multiple strands within a criterion to shorter strand-specific questions. Tasks are designed to offer students opportunities to reach the highest levels of achievement and to distinguish performance across those levels. Each examination has an equal distribution of demand and marks across the four MYP subject-group criteria.

Each task begins by explicitly identifying its key and related concepts. Each task has a single key concept, but may engage multiple related concepts. At least two different key concepts will be covered somewhere in each on-screen examination.

The MYP structures sustain inquiry by developing conceptual understanding in global contexts. Each examination series will focus on a specified global context. At least one task on each assessment will be developed in light of this global context. The global context for each session will be published in November for schools undertaking assessment in May, and May for those assessed in November.

Topic lists

For the purpose of external assessment, the MYP identifies a range of subject-specific topics that constitute one of the variables that authors consider when they create on-screen examinations. These topics are at a lower level of specification than the formal syllabus of a similar subject in the IB Diploma Programme, and they leave considerable leeway for schools to develop their own designed/planned curriculum according to MYP requirements.

These topics define the examinable subject matter for MYP on-screen examinations. In their local development of the MYP curriculum, schools are not limited to these topics. This list does not constitute an exclusive IB-approved curriculum for MYP years 4–5.

For mathematics, on-screen examinations are written with the expectation that students have completed the skills framework.

Examination blueprints

MYP on-screen examinations are constructed as a series of tasks that sample, simulate or replicate internal assessment practices. The assessments follow an agreed structure that provides a clear framework for developing each examination. The distribution of marks within each eAssessment may vary by no more than three marks from those displayed in the blueprint.

As part of an ethical assessment model, these assessment blueprints ensure consistency and transparency, and they guarantee a balanced approach in measuring students' achievement with respect to MYP objectives. MYP on-screen examination blueprints document the close connection of large-scale assessment with subject-group objectives, classroom learning engagements and the programme's rigorous internal assessment requirements.

These blueprints enable teachers and students to review the nature and purpose of MYP eAssessment. They provide an important resource for helping students to prepare for on-screen examinations, focusing attention on subject-group criteria and assessment strategies in each subject group.

Subject-specific grade descriptors

Subject-specific grade descriptors serve as an important reference in the assessment process. Through careful analysis of subject-group criteria and the general grade descriptors, they have been written to capture and describe in a single descriptor the performance of students at each grade for each MYP subject group.

For on-screen examination subjects, teachers are required to submit predicted grades. When considering predicted grades, teachers should consider their own assessment of students during MYP 4 and the first part of MYP 5 and allowing for subsequent academic development, teachers are asked to predict the outcome of eAssessment for their students with reference to the subject-specific grade descriptors. This prediction helps the IB to check the alignment between teachers' expectations and the IB's assessment outcome and, as such, forms an essential strategy for ensuring reliable results.

Subject-specific grade descriptors are also the main reference used to select grade boundaries for each discipline in each assessment session. During this process, the grade award team compares student performance against descriptors of achievement at grades 2 and 3; 3 and 4; and 6 and 7 (other boundaries are set at equal intervals between these key transitions). The grade award process is able to compensate for variations in challenge between examinations and in standards applied to marking (both between subjects and for a particular subject across sessions) by setting boundaries for each discipline and examination session, with reference to real student work.

Subject-specific grade descriptors tie eAssessment to criterion-related assessment and to MYP assessment criteria and level descriptors, which put the programme's criterion-related assessment philosophy into practice.

Preparing for MYP on-screen examinations

Teachers are encouraged to be familiar with the content of this document and ensure that students are familiar with the requirements for assessment for their subject group. As they progress through MYP years 4 and 5, students benefit from analysis of specimen materials and materials from previous sessions, as well as multiple opportunities to practise using the on-screen environment to communicate their knowledge, understanding and ideas. However, as the examinations are designed to be highly valid MYP assessments, the best preparation for students is good MYP classroom practice that helps students to:

- understand and demonstrate achievement against all strands of MYP subject-specific criteria
- generate and answer their own factual, conceptual and debatable questions
- develop confidence in applying what they know in unfamiliar situations
- think critically and creatively about MYP key and related concepts and the relationships among them
- practise approaches to learning (ATL) skills in communication and presentation on-screen, and under examination conditions
- explore multiple facets of ideas and phenomena within a range of global contexts
- use multiple perspectives to analyse issues and challenges
- adapt, modify and expand on what they already know, based on additional information
- learn how to generalize, generate new methods, and use procedural knowledge flexibly to solve complex problems
- attend to, and be able to explain, their reasoning and problem-solving process.

Possible response objects

A response object is the space where students produce their answers to the questions or tasks posed in MYP on-screen examinations. Response objects may be linked so that a candidate's response dynamically influences another object (for example, completing a table may populate a graph or bar chart).

Response objects may include:

- rich text boxes (the size of the text box indicates the length of an expected or typical response; some tasks may have recommendation regarding length of response in words or characters, in which case a word count will be provided)
- equation editors (for writing equations)
- scientific calculator screen captures
- tables (designating structure, adding data, labelling)
- graphs (designating type, labelling)
- drawing tools with default standard shapes and according to the context of the question, an additional shape library (the drawing tool is used for a number of purposes where constructing a visual response is required such as in electrical circuits, chemical bonds, drag and drop, equipment drawing tool, flow charts, energy cycles and constructing infographics)
- MCQs (multiple-choice question responses)

- text highlight
- matching two items (such as image and label)
- link (connecting with a defined relationship).

On-screen examinations will include a spellcheck function, and some operating systems will provide their own version to which candidates will have access. In an on-screen environment, the use of various spellcheck operations is a contemporary communications skill that requires its own management, flexible thinking and critical analysis of results.

Marks versus levels

MYP classroom assessments use a wide range of assessment strategies, which can be effectively and holistically assessed using achievement level descriptors and totals. In large-scale assessment, based on examinations, marks instead of criterion levels are typically used to make judgments about student performance on specific questions. Marks allow for a discrete analysis of performance on individual questions and optimizes reliability between examiners.

The award of marks is made with close reference to task-specific markschemes, which in turn have been interpreted from the particular strand(s) from the subject-group criteria being assessed. Through careful construction, on-screen examinations assess and award marks to candidates across all the subject-group criteria in proportion to the level of achievement demonstrated in those criteria.

Quality assurance

Marking is carefully quality checked through a rigorous qualification and seeding process. The principal examiner and a small number of their senior team of examiners mark a number of eScripts before live marking begins. The marks awarded by these examiners, the definitive marks, are recorded in the e-marking system and these eScripts are then used in order to monitor examiners' marking accuracy. Before examiners begin live marking, they are required to demonstrate that they are able to appropriately apply the markscheme and must qualify to mark. They have the opportunity to mark some practice eScripts first, but must then complete qualification eScripts and mark these within a pre-determined tolerance in order to be able to mark live eScripts. If examiners are unable to mark within tolerance, it is likely that they will not be allowed to mark any live eScripts. Examiner-marking accuracy is also monitored once an examiner is live marking. An examiner who marks out of tolerance will have their marking reviewed, where it may be deemed necessary to stop them from further marking.

Seeding and its preceding practice and qualification stages ensure that examiners are all marking to the same standard as the principal examiner; that is, they adjust their own marking to the principal's marking standard.

Reliability is further enhanced through the use of question item grouping (QIGing), which separates each candidate's responses into groups. This helps examiners focus on specific areas of the examination and promotes objectivity.

Academic integrity

Participation in on-screen examinations requires careful planning by IB World Schools offering the MYP to safeguard the integrity of the examination. For further details, refer to the publication *Middle Years Programme Assessment procedures*.

The publication *The conduct of IB Middle Years Programme on-screen examinations* provides full details for the preparation and requirements for the on-screen examination and includes a list of incidents that could represent academic misconduct.

Candidates with assessment access requirements

The on-screen examinations are designed and developed in a manner that they are accessible to a diverse spectrum of candidates with learning support requirements. The examinations are built with a range of accessibility features such as extra time, compatibility with a screen reader, alternative accessible font and change of background with font colour changes. Requests for these arrangements have to be made to the IB Global Centre, Cardiff. For more details on the procedure for requests and the details on the criteria for eligibility for inclusive assessment arrangements, please refer to the document *Middle Years Programme Assessment procedures*.

Preparing for and administering on-screen examinations

On-screen examination packages are made available for download from IBIS in advance of the subject examination date, and are subsequently deployed to all candidate devices by the coordinator or designated IT specialist. Schools are required to administer the on-screen examinations in accordance with the booklet *Conduct of IB MYP on-screen examinations*. This document provides rules and regulations pertinent to the administration of examinations, such as examination room layout, candidate seating, invigilation and academic misconduct.

Each time a candidate completes an on-screen examination, an output file—known as a “response file”—will be generated. If the device running the examination is connected to the internet, the response file will automatically upload and save to a secure repository. If there is no internet connection, it will be necessary to upload it manually via the Administration Console, which is a secure website accessible via a link on IBIS.

Schools undertaking on-screen examinations for the first time must ensure that sufficient IT infrastructure is in place. The document [MYP on-screen examinations: IT requirements and school responsibilities](#) provides the minimum specification requirements for administering on-screen examinations.

Schools should consult both documents mentioned above, which are available on the programme resource centre, in preparation for an examination session.

Common features of ePortfolios

Subjects assessed by ePortfolio require an extended coursework product or a performative element to their assessment and, as such, are less amenable to assessment by examination. For these subjects, partially completed unit planners are presented in each session to support teachers as they plan for and deliver a final unit of work to be completed in April (for a May assessment session) or October (for a November session). The partially completed unit planners are designed to allow for flexibility so that teachers can meet the needs of their own school context while still ensuring that the evidence submitted to the IB for assessment allows for fair and valid judgments to be made against the criteria.

ePortfolios are marked by teachers and externally moderated by the IB, so teachers must make judgments about their own students’ performance against the published criteria for the subject. Judgments about each of the four subject criteria are added together to produce a criterion level total (called “teacher assessed totals” on IBIS) which, when entered into IBIS, results in a sample of ePortfolios being requested by the IB. ePortfolios are then distributed to MYP examiners for moderation—that is, to either establish that the work has been marked to the correct standard or (where necessary) to produce another criterion level total that accurately reflects the students’ achievement. The moderation process will adjust the achievement level totals submitted by each school mathematically to one global standard, ensuring that achievement is recognized fairly across the community.

Using partially completed unit planners

Partially completed unit planners contain the following completed sections, which must remain unchanged in their development by schools.

- Global context and exploration
- Key concept
- Related concept(s)
- Statement of inquiry
- A factual, conceptual and debatable inquiry question (indicative of additional questions that may be developed and added to by teachers and students)
- Summative assessment task(s)
- Relationship between summative assessment tasks and statement of inquiry

Upon their publication, the IB unit plans are to be completed by the teacher responsible for teaching the unit and managing the summative assessment. Where more than one teacher is involved, this should be done collaboratively.

During the teaching period, teachers should support the learning process as usual, providing appropriate formative feedback that guides students in developing and improving their work. Teachers are responsible for using principled professional judgment when determining the nature and extent of feedback they provide on students' ePortfolio tasks. It is appropriate to provide general guidance rather than extensive annotations, detailed edits, or extended critiques.

In order to ensure fairness and to prevent undue influence, teachers' feedback on ePortfolio tasks must only advise students generally on how to approach and complete their work. As a shared standard of good practice, teachers must provide only one round of formal feedback on candidates' work for each task. Once students have submitted the final version of their ePortfolio for school-based assessment, it cannot be retracted or redone.

Teachers must ensure that all student work submitted for eAssessment is prepared according to IB requirements. In particular, students and teachers are responsible for understanding all IB academic integrity requirements, especially those relating to authenticity and intellectual property. Teachers must explain clearly to students and parents that all work submitted for school-based assessment—including MYP ePortfolios—must be the candidate's own authentic and individual work. Teachers must use appropriate means to ensure that each candidate's work is, in their professional judgment, authentic. If a candidate does submit work for assessment that is not authentic, the school must follow its internal policy for dealing with academic integrity issues.

Plagiarism and collusion are unprincipled breaches of IB regulations, potentially subjecting candidates to consequences for academic misconduct. In addition, inauthentic student work can distort assessment results and potentially disadvantage all students in the school's cohort by unfairly skewing its moderation sample.

When awarding criterion level totals, teachers must base their judgment of student achievement entirely on the completed candidate work that is to be presented for moderation. Reported achievement levels

should not be influenced by the teacher's previous experience with the candidate or by work that is not represented in the candidate's ePortfolio.

If more than one teacher is responsible for assessment, an internal standardization process should be used to ensure that all candidates are marked to the same standard. Teachers are encouraged to keep a record of their comments about the candidate's work to explain the levels they have awarded (especially where marginal judgments are made) as they help the examiner support the teacher's judgments. Teacher comments should be uploaded with work that is selected as part of the moderation sample.

Once criterion level totals have been submitted for all candidates, IBIS will select which ePortfolios must be uploaded for moderation by the IB. The content of each ePortfolio is limited to the summative assessment task(s) required by the IB's partially completed unit planner for the relevant session.

Submission file types

All ePortfolio subjects use the same tool to upload students' work. The file types and the maximum sizes that may be submitted are shown below. **Please note** that each ePortfolio subject has subject-specific requirements regarding the nature and size of material that is to be uploaded; information about specific requirements and upload limits can be found in the "MYP eAssessment" section of relevant subject-group guides.

File type	Maximum file size
Text file (DOC, DOCX, PDF, RTF, TXT)	50 Mb
Audio file (AAC, M4A, MP3)	60 Mb
Video file (F4V, FLV, M4V, MOV, MP4)	500 Mb
Image file (JPG, GIF)	5 Mb

Quality assurance

Examiners appointed and trained by the IB will carefully analyse each ePortfolio and establish whether work submitted meets the standards required for each level awarded. The examiner will recognize where the teacher's judgment is supported by the evidence presented in the ePortfolio. If the examiner disagrees with the teacher's judgment, three outcomes are possible depending on the size and consistency of the disagreements.

- Each subject or discipline will have a tolerance level set by the IB. Where disagreements for the initial sample are small and within that tolerance, the IB will accept the teacher's levels awarded for all candidates. For example, where a tolerance of two has been set by the IB, the teacher's criterion level total can differ by up to two for the initial sample without a moderation factor being applied to the teacher's totals. Only if one or more of the level totals are outside of that tolerance, will further work be considered.
- Where disagreements are outside of the tolerance, but show a consistent pattern, a moderation factor will be generated and applied to the teacher's level totals for all candidates (including those not seen in the moderation sample), so that the new total is consistent with the global standard. No additional upload is required for this to take place.
- Where disagreement between the teacher and examiner are beyond the set tolerance and an unpredictable pattern is found between these two judgments, further samples may be requested from the school to enable a suitable adjustment to be found, or all work may be re-marked by the examiner. This outcome is likely to be the least satisfactory as the grades awarded for candidates will differ from the teacher's, and students' expectations.

Academic integrity

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

For further information on academic integrity in the IB including the MYP, please consult the following IB publications.

- *MYP: From principles into practice*
- *Middle Years Programme Assessment procedures*
- *General regulations: Middle Years Programme*
- *Academic integrity policy*
- *Effective citing and referencing*

Candidates with assessment-access requirements

Accessibility and inclusion have been considered during the design and conceptualization of ePortfolio summative assessment tasks. Candidates who require access to any of the ePortfolio summative assessment tasks, such as speaking and listening, can be authorized inclusive assessment arrangements. For more details, please refer to the document *Middle Years Programme Assessment procedures* on the programme resource centre.

Uploading ePortfolios

Criterion level totals (referred to as teacher assessed totals on IBIS) are entered into IBIS when the unit and assessment is complete for all candidates. On receipt of these level totals, IBIS will automatically generate a list of samples for upload. Once samples have been selected by IBIS, the programme coordinator or the teacher will upload the relevant candidate files. The eCoursework system will be used to upload the ePortfolios and is only accessible via IBIS.

Further detail about this process will be available in the document *Middle Years Programme Assessment procedures*.

MYP awards

IB MYP course results

Students who complete MYP year 5 are eligible to receive IB MYP course results that report their achievements in the programme, including successful completion of the personal project and the school's expectations for community service. IB MYP course results provide official documentation of successful grades that have been externally-validated by MYP eAssessment.

IB MYP certificate

Students whose IB MYP course results meet certain conditions are also eligible to receive the IB MYP certificate. This award requires participation in the final year of the programme, with recommended participation for two years, and successful results from:

- six on-screen examinations (one from each of five required subject groups, plus an interdisciplinary assessment)
- one ePortfolio from a course in physical and health education, arts or design
- the personal project.

In order to obtain the IB MYP certificate, students must meet the school's expectations for community service.

The MYP bilingual certificate additionally requires successful results from on-screen examinations for one of the following.

- A second language and literature course (instead of a course in language acquisition)
- One (or more) science, individual and societies, or interdisciplinary examination(s) in a language other than the student's chosen language and literature course

MYP record of participation

To achieve the MYP record of participation, students in schools that end the programme in MYP year 3 or year 4 must:

- participate in the programme for at least two years and complete requirements in year 3 or year 4
- complete the community project.

This school-based award is not validated by the IB.

Full details of MYP awards and IB recognition are available in the IB publications *General regulations: Middle Years Programme* and *Middle Years Programme Assessment procedures*.

Appendix 1: ATL skills framework (Suggested)

The MYP extends IB approaches to learning (ATL) skills categories into 10 developmentally appropriate clusters. This framework provides common ground from which schools can develop their own ATL planning based on MYP units, student needs, and local circumstances and requirements.

ATL skills are often interconnected. Individual skills and skills clusters frequently overlap and may be relevant to more than one skill category.

Some of the key questions to be answered by students with respect to ATL skills include the following.

- What are my present skills in this area and what evidence do I have of my development?
- What skills can I improve?
- What new skills can I learn?

When specific ATL skills become an explicit focus for learning and teaching, students can begin to take responsibility for their own development. Over time, students can identify themselves and their competence in any learning strategy using terms like the following.

- Novice/beginning—students are introduced to the skill, and can watch others performing it (observation)
- Learner/developing—students copy others who use the skill and use the skill with scaffolding and guidance (emulation)
- Practitioner/using—students employ the skill confidently and effectively (demonstration)
- Expert/sharing—students can show others how to use the skill and accurately assess how effectively the skill is used (self-regulation)

A concept-driven curriculum that uses ATL skills effectively enables all students to become stronger, more self-regulated learners.

The tables include a suggested list of skills.

Communication	
I. Communication skills	
<p>How can students communicate through interaction?</p>	<p>Exchanging thoughts, messages and information effectively through interaction</p> <ul style="list-style-type: none"> • Give and receive meaningful feedback • Use intercultural understanding to interpret communication • Use a variety of speaking techniques to communicate with a variety of audiences • Use appropriate forms of writing for different purposes and audiences • Use a variety of media to communicate with a range of audiences • Interpret and use effectively modes of non-verbal communication • Negotiate ideas and knowledge with peers and teachers • Participate in, and contribute to, digital social media networks • Collaborate with peers and experts using a variety of digital environments and media • Share ideas with multiple audiences using a variety of digital environments and media
<p>How can students demonstrate communication through language?</p>	<p>Reading, writing and using language to gather and communicate information</p> <ul style="list-style-type: none"> • Read critically and for comprehension • Read a variety of sources for information and for pleasure • Make inferences and draw conclusions • Use and interpret a range of discipline-specific terms and symbols • Write for different purposes • Understand and use mathematical notation • Paraphrase accurately and concisely • Preview and skim texts to build understanding • Take effective notes in class • Make effective summary notes for studying • Use a variety of organizers for academic writing tasks • Find information for disciplinary and interdisciplinary inquiries, using a variety of media • Organize and depict information logically • Structure information in summaries, essays and reports

Social	
II. Collaboration skills	
How can students collaborate?	<p>Working effectively with others</p> <ul style="list-style-type: none"> • Use social media networks appropriately to build and develop relationships • Practise empathy • Delegate and share responsibility for decision-making • Help others to succeed • Take responsibility for one's own actions • Manage and resolve conflict, and work collaboratively in teams • Build consensus • Make fair and equitable decisions • Listen actively to other perspectives and ideas • Negotiate effectively • Encourage others to contribute • Exercise leadership and take on a variety of roles within groups • Give and receive meaningful feedback • Advocate for one's own rights and needs
Self-management	
III. Organization skills	
How can students demonstrate organization skills?	<p>Managing time and tasks effectively</p> <ul style="list-style-type: none"> • Plan short- and long-term assignments; meet deadlines • Create plans to prepare for summative assessments (examinations and performances) • Keep and use a weekly planner for assignments • Set goals that are challenging and realistic • Plan strategies and take action to achieve personal and academic goals • Bring necessary equipment and supplies to class • Keep an organized and logical system of information files/notebooks • Use appropriate strategies for organizing complex information • Understand and use sensory learning preferences (learning styles) • Select and use technology effectively and productively

IV. Affective skills	
<p>How can students manage their own state of mind?</p>	<p>Managing state of mind</p> <ul style="list-style-type: none"> • Mindfulness awareness <ul style="list-style-type: none"> – Practise focus and concentration – Practise strategies to develop mental focus – Practise strategies to overcome distractions – Practise being aware of body–mind connections • Perseverance <ul style="list-style-type: none"> – Demonstrate persistence and perseverance – Practise delaying gratification • Emotional management <ul style="list-style-type: none"> – Practise strategies to overcome impulsiveness and anger – Practise strategies to prevent and eliminate bullying – Practise strategies to reduce stress and anxiety • Self-motivation <ul style="list-style-type: none"> – Practise analysing and attributing causes for failure – Practise managing self-talk – Practise positive thinking • Resilience <ul style="list-style-type: none"> – Practise “bouncing back” after adversity, mistakes and failures – Practise “failing well” – Practise dealing with disappointment and unmet expectations – Practise dealing with change

V. Reflection skills	
How can students be reflective?	<p>(Re)considering the process of learning; choosing and using ATL skills</p> <ul style="list-style-type: none"> • Develop new skills, techniques and strategies for effective learning • Identify strengths and weaknesses of personal learning strategies (self-assessment) • Demonstrate flexibility in the selection and use of learning strategies • Try new ATL skills and evaluate their effectiveness • Consider content <ul style="list-style-type: none"> – What did I learn about today? – What don't I yet understand? – What questions do I have now? • Consider ATL skills development <ul style="list-style-type: none"> – What can I already do? – How can I share my skills to help peers who need more practice? – What will I work on next? • Consider personal learning strategies <ul style="list-style-type: none"> – What can I do to become a more efficient and effective learner? – How can I become more flexible in my choice of learning strategies? – What factors are important for helping me learn well? • Focus on the process of creating by imitating the work of others • Consider ethical, cultural and environmental implications • Keep a journal to record reflections

Research	
VI. Information literacy skills	
<p>How can students demonstrate information literacy?</p>	<p>Finding, interpreting, judging and creating information</p> <ul style="list-style-type: none"> • Collect, record and verify data • Access information to be informed and inform others • Make connections between various sources of information • Understand the benefits and limitations of personal sensory learning preferences when accessing, processing and recalling information • Use memory techniques to develop long-term memory • Present information in a variety of formats and platforms • Collect and analyse data to identify solutions and make informed decisions • Process data and report results • Evaluate and select information sources and digital tools based on their appropriateness to specific tasks • Understand and use technology systems • Use critical-literacy skills to analyse and interpret media communications • Understand and implement intellectual property rights • Create references and citations, use footnotes/endnotes and construct a bibliography according to recognized conventions • Identify primary and secondary sources
VII. Media literacy skills	
<p>How can students demonstrate media literacy?</p>	<p>Interacting with media to use and create ideas and information</p> <ul style="list-style-type: none"> • Locate, organize, analyse, evaluate, synthesize and ethically use information from a variety of sources and media (including digital social media and online networks) • Demonstrate awareness of media interpretations of events and ideas (including digital social media) • Make informed choices about personal viewing experiences • Understand the impact of media representations and modes of presentation • Seek a range of perspectives from multiple and varied sources • Communicate information and ideas effectively to multiple audiences using a variety of media and formats • Compare, contrast and draw connections among (multi)media resources

Thinking	
VIII. Critical-thinking skills	
How can students think critically?	<p>Analysing and evaluating issues and ideas</p> <ul style="list-style-type: none"> • Practise observing carefully in order to recognize problems • Gather and organize relevant information to formulate an argument • Recognize unstated assumptions and bias • Interpret data • Evaluate evidence and arguments • Recognize and evaluate propositions • Draw reasonable conclusions and generalizations • Test generalizations and conclusions • Revise understanding based on new information and evidence • Evaluate and manage risk • Formulate factual, topical, conceptual and debatable questions • Consider ideas from multiple perspectives • Develop contrary or opposing arguments • Analyse complex concepts and projects into their constituent parts and synthesize them to create new understanding • Propose and evaluate a variety of solutions • Identify obstacles and challenges • Use models and simulations to explore complex systems and issues • Identify trends and forecast possibilities • Troubleshoot systems and applications

IX. Creative-thinking skills	
<p>How can students be creative?</p>	<p>Generating novel ideas and considering new perspectives</p> <ul style="list-style-type: none"> • Use brainstorming and visual diagrams to generate new ideas and inquiries • Consider multiple alternatives, including those that might be unlikely or impossible • Create novel solutions to authentic problems • Make unexpected or unusual connections between objects and/or ideas • Design improvements to existing machines, media and technologies • Design new machines, media and technologies • Make guesses, ask “what if” questions and generate testable hypotheses • Apply existing knowledge to generate new ideas, products or processes • Create original works and ideas; use existing works and ideas in new ways • Practise flexible thinking—develop multiple opposing, contradictory and complementary arguments • Practise visible thinking strategies and techniques • Generate metaphors and analogies
X. Transfer skills	
<p>How can students transfer skills and knowledge across disciplines and subject groups?</p>	<p>Using skills and knowledge in multiple contexts</p> <ul style="list-style-type: none"> • Use effective learning strategies in subject groups and disciplines • Apply skills and knowledge in unfamiliar situations • Inquire in different contexts to gain a different perspective • Compare conceptual understanding across multiple subject groups and disciplines • Make connections between subject groups and disciplines • Combine knowledge, understanding and skills to create products or solutions • Transfer current knowledge to learning of new technologies • Change the context of an inquiry to gain different perspectives

Appendix 2: MYP related concepts

Language and literature			
Audience imperatives	Character	Context	Genre
Intertextuality	Point of view	Purpose	Self-expression
Setting	Structure	Style	Theme
Language acquisition			
Phases 1–2			
Pronunciation	Audience	Context	Conventions
Form	Function	Meaning	Message
Patterns	Purpose	Structure	Word choice
Phases 3–4			
Audience	Context	Conventions	Empathy
Function	Idiom	Meaning	Message
Point of view	Purpose	Structure	Word choice
Phases 5–6			
Argument	Audience	Bias	Context
Empathy	Idiom	Inference	Point of view
Purpose	Stylistic choice	Theme	Voice
Individuals and societies			
Economics			
Choice	Consumption	Equity	Globalization
Growth	Model	Poverty	Power
Resources	Scarcity	Sustainability	Trade
Geography			
Causality (cause and consequence)	Culture	Disparity and equity	Diversity
Globalization	Management and intervention	Networks	Patterns and trends
Power	Processes	Scale	Sustainability

History			
Causality (cause and consequence)	Civilization	Conflict	Cooperation
Culture	Governance	Identity	Ideology
Innovation and revolution	Interdependence	Perspective	Significance
Integrated humanities (drawn from economics, geography and history)			
Causality (cause and consequence)	Choice	Culture	Equity
Globalization	Identity	Innovation and revolution	Perspective
Power	Processes	Resources	Sustainability
The MYP <i>Individuals and societies</i> guide contains suggested related concepts for business management, philosophy, psychology, sociology/anthropology, political science/civics/government and world religions.			
Sciences			
Biology			
Balance	Consequences	Energy	Environment
Evidence	Form	Function	Interaction
Models	Movement	Patterns	Transformation
Chemistry			
Balance	Conditions	Consequences	Energy
Evidence	Form	Function	Interaction
Models	Movement	Patterns	Transfer
Physics			
Consequences	Development	Energy	Environment
Evidence	Form	Function	Interaction
Models	Movement	Patterns	Transformation
The related concepts for modular sciences courses			
Balance	Consequences	Energy	Environment
Evidence	Form	Function	Interaction
Models	Movement	Patterns	Transformation

Mathematics			
Change	Equivalence	Generalization	Validity
Approximation	Models	Patterns	Quantity
Representation	Simplification	Space	Systems
Arts			
Visual arts			
Audience	Boundaries	Composition	Expression
Genre	Innovation	Interpretation	Narrative
Presentation	Representation	Style	Visual culture
Performing arts			
Audience	Boundaries	Composition	Expression
Genre	Innovation	Interpretation	Narrative
Play	Presentation	Role	Structure
Physical and health education			
Adaptation	Balance	Choice	Energy
Environment	Function	Interaction	Movement
Perspective	Refinement	Space	Systems
Design			
Adaptation	Collaboration	Ergonomics	Evaluation
Form	Function	Innovation	Invention
Markets and trends	Perspective	Resources	Sustainability

Appendix 3: MYP command terms

MYP command terms define a range of learning objectives and assessment criteria in MYP subject groups; they indicate the level of thinking and type of performance (or behaviour) that is required of students. They are closely related to general and subject-specific ATL skills, and they make explicit a shared academic vocabulary that informs learning and teaching in the MYP.

The MYP incorporates the command terms used to establish learning outcomes and assessment objectives in the DP. Terms specific to the MYP are identified with an asterisk.

Command term	Definition
Analyse	Break down in order to bring out the essential elements or structure. (To identify parts and relationships, and interpret information to reach conclusions.)
Annotate	Add brief notes to a diagram or graph.
Apply	Use knowledge and understanding in response to a given situation or real circumstances. Use an idea, equation, principle, theory or law in relation to a given problem or issue. (See also "Use".)
Calculate	Obtain a numerical answer showing the relevant stages in the working.
Classify	Arrange or order by class or category.
Comment	Give a judgment based on a given statement or result of a calculation.
Compare	Give an account of the similarities between two (or more) items or situations, referring to both (all) of them throughout.
Compare and contrast	Give an account of the similarities and differences between two (or more) items or situations, referring to both (all) of them throughout.
Construct	Display information in a diagrammatic or logical form.
Contrast	Give an account of the differences between two (or more) items or situations, referring to both (all) of them throughout.
Create*	Evolve from one's own thought or imagination, as a work or an invention.
Critique*	Provide a critical review or commentary, especially when dealing with works of art or literature. (See also "Evaluate".)
Deduce	Reach a conclusion from the information given.
Define	Give the precise meaning of a word, phrase, concept or physical quantity.
Demonstrate	Make clear by reasoning or evidence, illustrating with examples or practical application.
Derive	Manipulate a mathematical relationship to give a new equation or relationship.

Command term	Definition
Describe	Give a detailed account or picture of a situation, event, pattern or process.
Design	Produce a plan, simulation or model.
Determine	Obtain the only possible answer.
Develop*	Improve incrementally, elaborate or expand in detail. Evolve to a more advanced or effective state.
Discuss	Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.
Distinguish	Make clear the differences between two or more concepts or items.
Document*	Credit sources of information used by referencing (or citing) following a recognized referencing system. References should be included in the text and also at the end of the piece of work in a reference list or bibliography.
Draw	Represent by means of a labelled, accurate diagram or graph, using a pencil. A ruler (straight edge) should be used for straight lines. Diagrams should be drawn to scale. Graphs should have points correctly plotted (if appropriate) and joined in a straight line or smooth curve.
Estimate	Obtain an approximate value for an unknown quantity.
Evaluate	Make an appraisal by weighing up the strengths and limitations. (See also "Critique".)
Examine	Consider an argument or concept in a way that uncovers the assumptions and interrelationships of the issue.
Explain	Give a detailed account including reasons or causes. (See also "Justify".)
Explore	Undertake a systematic process of discovery.
Find	Obtain an answer showing relevant stages in the working.
Formulate	Express precisely and systematically the relevant concept(s) or argument(s).
Hence	Use the preceding work to obtain the required result.
Identify	Provide an answer from a number of possibilities. Recognize and state briefly a distinguishing fact or feature.
Interpret	Use knowledge and understanding to recognize trends and draw conclusions from given information.
Investigate	Observe, study or make a detailed and systematic examination, in order to establish facts and reach new conclusions.
Justify	Give valid reasons or evidence to support an answer or conclusion. (See also "Explain".)
Label	Add a title, labels or brief explanation(s) to a diagram or graph.
List	Give a sequence of brief answers with no explanation.

Command term	Definition
Measure	Obtain a value for a quantity.
Organize*	Put ideas and information into a proper or systematic order.
Otherwise	It is suggested that the preceding work is used, but other methods could also receive credit.
Outline	Give a brief account or summary.
Plot	Mark the position of points on a diagram.
Predict	Give an expected result of an upcoming action or event.
Present	Offer for display, observation, examination or consideration.
Prioritize*	Give relative importance to, or put in an order of preference.
Prove	Use a sequence of logical steps to obtain the required result in a formal way.
Recall*	Remember or recognize from prior learning experiences.
Select*	Choose from a list or group.
Show	Give the steps in a calculation or derivation.
Show that	Obtain the required result (possibly using information given) without the formality of proof. "Show that" questions do not generally require the use of a calculator.
Sketch	Represent by means of a diagram or graph (labelled as appropriate). The sketch should give a general idea of the required shape or relationship, and should include relevant features.
Solve	Obtain the answer(s) using algebraic and/or numerical and/or graphical methods.
State	Give a specific name, value or other brief answer without explanation or calculation.
Suggest	Propose a solution, hypothesis or other possible answer.
Summarize*	Abstract a general theme or major point(s).
Synthesize*	Combine different ideas in order to create new understanding.
To what extent	Consider the merits or otherwise of an argument or concept. Opinions and conclusions should be presented clearly and supported with appropriate evidence and sound argument.
Trace	Follow and record the action of an algorithm.
Translate*	Express the meaning of a text in another language or dialect.
Use	Apply knowledge or rules to put theory into practice. (See also "Apply".)
Verify	Provide evidence that validates the result.
Write down	Obtain the answer(s), usually by extracting information. Little or no calculation is required. Working does not need to be shown.

*Not used in DP

Appendix 4: Glossary of MYP terms

Term	Definition
Achievement level	The level given when the student work reflects the corresponding descriptor. Achievement levels are shown in the left-hand column of the assessment criteria.
Aggregated examination period*	The period comprising the pre-examination session, the examination session and the post-examination session defined by the IB on an annual basis. Normally this will be 15 March–15 October (for the May examination session) and 15 September–15 April the following year (for the November examination session).
Aim	An aim states, in a general way, what the teacher may expect to teach or do, what the student may expect to experience or learn and how the student may be changed by the learning experience.
Alignment	Agreement in principle and practice between shared values and aspirations for learning (designed/planned curriculum), how teachers actually work (delivered curriculum) and what students actually learn (assessed curriculum).
Approaches to learning (ATL)	Concerned with the development of thinking skills, strategies and attitudes and the ability to reflect on one's own learning.
Articulation	Correlation and logical progression of learning objectives from year to year (vertical) and from course to course (horizontal), including transitions between institutions and courses of study/ formal curriculum boundaries.
Assessment access requirements*	A candidate with assessment access requirements is one who requires changes in assessment conditions to demonstrate their level of attainment.
Assessment component*	An assessment component is made up of one or more tasks that are collected together, comprising part of the overall assessment (for example, an examination, portfolio of work, or project report).
Assessment criteria	Criteria against which a student's performance is measured. MYP guides provide assessment criteria required for use in years 1, 3 and 5 of the programme.
Assessment rubric	The grid that connects levels and descriptors.
Assessment strategy	The method or approach that teachers use when gathering information about student learning (for example, observation, open-ended tasks or selected responses).
Assessment task	The activity or series of activities with which students engage in order for assessment to take place.

Term	Definition
Assessment tool	A method of collecting information about a learner's performance and understanding.
ATL leader	Schools may designate leaders for ATL; they are entrusted with liaison between the teachers involved, parents, students and, if necessary, the community.
At-risk checking*	The process of re-marking a candidate's response where a candidate has performed significantly lower than predicted and whose marks fall close to a grade boundary for a higher grade.
Atypical response*	An answer to a task that is significantly different from those usually received. Examples of atypical responses include incomplete work, non-compliant work, unanticipated responses, problematic work or malpractice.
Authentication*	Process and proof that the work has been undertaken by the candidate. Examples include signatures from the teacher and candidate that provide provenance for the candidate's response.
Bias*	If one group (that is, a racial or ethnic group or gender) performs lower on a specific question than the average, then the question is biased against that particular group.
Bilingual certificate*	See IB MYP bilingual certificate .
Candidate*	A student registered for assessment.
Candidate registration*	Process undertaken by MYP coordinator to register candidates for external assessment.
Chief examiner*	The most senior examiner who is responsible for ensuring that standards are maintained over time and between disciplines within a subject group (for example, sciences).
Combined subject groups	A scheduling option in MYP years 1–3 in which schools, where required by local circumstances, embed the required teaching hours of one subject within one or more scheduled/timetabled courses from (an)other subject group(s).
Communities of practice	The online communities of practice are places for IB World Schools and candidate schools to communicate, collaborate and coordinate their approaches to improving student learning experiences. They give teachers, coordinators and other members of the school community a web-based platform on which to share ideas, experiences, resources, contexts and more with their counterparts from around the world. The communities can be accessed from the programme resource centre or through your My IB login.
Community service	Students serve the community by understanding and acting with mutual responsibility to meet their own needs and the needs of others.

Term	Definition
Comparability	The degree to which a particular outcome can be considered the same as another outcome. It is typically used between years (that is, is a grade 7 this year the same as a grade 7 last year?) or between subjects (that is, is a grade 5 in mathematics the same as a grade 5 in art?). It can also be used between IB qualifications and other qualifications (that is, is a top grade in an IB subject more or less demanding than a top grade in other subjects?).
Construct relevance	The degree to which the assessment actually tests the skills and knowledge that it is intended to. An example of a low level of construct relevance would be testing a student's practical skills with a written exam.
Course	A prescribed number of classes, lessons or teaching hours within a defined period of study. Schools organize learning and teaching of MYP subjects through disciplinary and interdisciplinary courses.
Course results*	See IB MYP course results .
Coursework	Internal assessment work undertaken by a student over the duration of the course.
Criterion levels total	The sum of the final levels awarded for each individual criterion in any given subject group.
Criterion-related assessment	An assessment process based on determining levels of achievement against previously agreed criteria. The standard is therefore fixed rather than depending on the achievement of entire cohort of students. MYP assessment is criterion-related.
Curriculum framework	An organized plan for learning and teaching. The MYP curriculum framework establishes structures and pedagogical approaches that identify and rigorously assess the level to which students achieve aims and objectives. In the MYP, essential aspects of the curriculum framework include conceptual understanding, global contexts, approaches to teaching and approaches to learning, and significant content across a broad and balanced range of disciplines.
Definitive mark*	The mark awarded by the principal examiner for a particular piece of student work. This represents the mark that every other examiner should be aiming to replicate. (See also the Quality model .)
Descriptors	Achievement level descriptors describe the features of student work expected to be seen at each achievement level.
Differentiation	Planning for different levels of ability.
Differentiation (in assessment)*	To distinguish between candidates demonstrating different levels of competency.

Term	Definition
Discipline	A branch of learning or field of academic study; a way of ordering knowledge for the purpose of instruction (known generally for practical purposes of assessment in the MYP and DP as subjects). Some MYP subject groups and subjects can comprise multiple disciplines. For example, the MYP subject group arts includes disciplines like visual arts, drama, music, media and dance. The subject integrated sciences includes three disciplines: biology, chemistry and physics.
Discipline registrations—excluding withdrawals*	The total number of individual subject-level registrations made by candidates for the examination session, excluding any candidates who might have withdrawn.
Discipline registrations—including withdrawals*	The total number of individual subject-level registrations made by candidates for the examination session, including any candidates who might have withdrawn.
Dynamic sampling*	A refinement of the moderation process, which allows better use of quality checks. It applies the "tolerance" quality model to both teachers' and examiners' marks. For teachers, if the initial sample is within tolerance, then no moderation factor will be applied. It also means moderators (examiners) receive student work individually, which allows for "seed scripts" to be included to maintain a consistent standard. It also allows examiners to be allocated the necessary additional scripts if there is evidence that the teacher marking does not match the overall standard.
eAssessment*	Assessment carried out through a computer or similar device. See MYP eAssessment .
eAssessment instructions*	Candidate instructions on which and how many questions to answer. For example: "Answer 3 questions from 5".
eAssessment language*	The language in which the examination is sat.
eMarking*	The process by which examiners mark examination material directly on the computer screen.
Enquiry upon results (EUR)*	Review of levels (marks) undertaken at a school's request.
ePortfolio coversheet*	The first page of an ePortfolio package containing candidate details, which is attached to a candidate's response to provide provenance to the content of the coursework. There is more than one type of coversheet depending on the coursework component.
ePortfolio response*	A term used to describe all material produced by a candidate in response to the ePortfolio assessment material. This will usually be electronic files that the MYP coordinator or the teacher has uploaded to the IB eCoursework system.
ePortfolio submission*	The system/process by which the MYP coordinator or the teacher uploads the internally assessed examination/coursework material to be externally moderated by the IB.
eScript*	The candidate's responses (answers) to an eAssessment.

Term	Definition
Examination invigilator*	Individual who supervises and controls the exam environment.
Examination session*	The period during which exams are taken and marked. The IB has two MYP sessions a year, in May and November.
Examiner*	Individual who assigns marks to the candidate's external assessment.
Examiner re-mark*	The process of re-marking an examiner's allocation of eResponses where their marking is found to be inconsistent or deviates significantly from the required standard. This often occurs as a result of moderation failure.
External assessment*	Assessment that is set and marked by the IB and not by a student's teacher.
External moderation*	See moderation .
Externally assessed*	Work that is assessed/graded wholly by the IB.
Familiarization tool*	A generic simulation of an examination that candidates can take in order to learn how to use the on-screen examination environment and toolsets.
Final assessment*	The summative assessment of student work at the end of the fifth year of the MYP.
Formative assessment	Ongoing assessment aimed at providing information to guide teaching and improve student performance.
Global engagement	Inquiring, acting and reflecting on global challenges in local, national and international dimensions.
Grade (IB)	The description of student achievement. Final grades for student work in the MYP range from 1 (lowest) to 7 (highest). The grade represents the IB's judgment on the overall qualities that the candidate has demonstrated and is consistent between years and subjects.
Grade award*	Meetings held in the month following the examination session during which senior examiners decide the grade boundaries for each subject/component.
Grade award team*	The team responsible for establishing grade boundaries and at-risk marking.
Grade boundary	The point at which student achievement moves from one grade to another. It is often used to indicate the lowest or highest criterion levels totals or marks that correspond to a particular grade.
Grades (school-based)	The numbers and/or letters assigned to standards of student achievement as determined and reported annually by IB World Schools in accordance with MYP assessment philosophy.
Horizontal planning/ horizontal articulation	Planning horizontally involves a team of teachers of the same grade level working together to plan for learning.

Term	Definition
IB MYP bilingual certificate*	<p>An MYP certificate that indicates a candidate has successfully fulfilled at least one of the following:</p> <ul style="list-style-type: none"> • achievement in two language and literature courses at grade 3 or above • achievement in any MYP subject (other than language acquisition) or interdisciplinary learning or personal project at grade 3 or above in a response language that is not the same as that chosen for language and literature.
IB MYP certificate*	<p>The MYP certificate recognizes that the student has achieved all aspects of the MYP. To achieve the certificate, a candidate must:</p> <ul style="list-style-type: none"> • achieve a total of at least 28 points, with no grade 1 or grade 2 in any MYP eAssessment • study the programme for preferably the recommended two years at least, with a minimum of one year, and complete requirements in year 5 • complete the internal assessments and examinations for a minimum of five disciplines from different subject groups and a maximum of eight disciplines from the eight subject groups, which must include the required subjects • complete at least one disciplinary ePortfolio from the arts, physical and health education or design groups • complete the interdisciplinary examination • complete and submit a personal project • complete the IB's minimum requirements for community service.
IB MYP course results*	<p>The IB MYP course results is the primary MYP awards document. It shows each discipline the candidate has taken and the grade achieved (1–7). It also shows the grade achieved in the personal project, interdisciplinary assessment, and that the school's community service requirement has been completed.</p> <p>Finally, the document records the candidate's name, personal code, session number, session in which the awards were achieved, date of issue, name of school registering the candidate (and whether the certificate is a replacement or not, if appropriate). The results document only shows positive achievement.</p>
IBIS*	<p>A system that allows MYP coordinators to complete administrative procedures and obtain news and information from the IB via a password-protected web server.</p>
Inclusion	<p>Inclusion is an ongoing process that aims to increase access and engagement in learning for all students by identifying and removing barriers.</p>
Inclusive assessment arrangements*	<p>Changed or additional conditions during the assessment process for a candidate with assessment access requirements. These enable the candidate to demonstrate their level of attainment more fairly and are not intended to compensate for any lack of ability.</p>

Term	Definition
Integrated learning	An interdisciplinary approach to curriculum planning in which two or more disciplines within an MYP subject group are integrated into a single course. The IB provides external assessment services for MYP courses in integrated humanities and integrated sciences. Schools can also organize integrated approaches to learning and approaches to teaching in design and arts that can be externally moderated by the IB.
Interactive*	Candidate responses in interactive media form such as web spaces, portals, executable files or physical/tangible artifacts such as sculpture, painting or construction.
Interdisciplinary	Combining or involving two or more branches of learning or fields of academic study. In the MYP, interdisciplinary study can be developed both within and between/among subject groups.
Interdisciplinary assessment	Combining or involving two or more branches of learning or fields of academic study within a single assessment. In the MYP, interdisciplinary study can be developed both within and between/among subject groups. MYP external interdisciplinary assessment always involves multiple subject groups.
Internal assessment	Assessment carried out by teachers in the school. In the MYP, internal assessment is required in each subject group. For MYP on-screen examination subjects, teachers use internal assessment to determine predicted grades. For MYP ePortfolio subjects, teachers submit internal assessment for moderation.
Internal standardization*	The process by which all teachers of a particular subject in a school ensure they are assessing to the same standard.
Internally assessed	Work that is marked (assessed) by the students' teachers.
Issue of results*	The process of students receiving grades from the IB, based on their assessments.
Judgment	The consideration of a student's work against an individual assessment criterion.
Language capability*	The language in which the examiner can mark exam papers.
Learning support requirements	Students with learning support requirements, as defined by the IB, may: <ul style="list-style-type: none"> display difficulties or live with conditions that are a barrier to learning and therefore need particular teaching strategies for classroom management and effective education display a higher than average aptitude in one or more subjects that requires adaptation of the curriculum to cater for their accelerated learning needs.
Malpractice	Any practice that subverts the principles of academic integrity (for example, plagiarism or collusion).

Term	Definition
Markscheme	Guidance for awarding criterion levels for a given piece of work. In some cases, the markscheme may be the MYP criteria as published. In other cases, the teacher may need to provide an answer key, indicate question levels on a reading comprehension, or provide criteria that have been clarified to be task-specific.
MCQ*	Multiple-choice question.
Media-based response*	Candidate responses in audio, video, photographic or presentation form.
Middle Years Programme (MYP)	The IB Middle Years Programme, for students aged 11–16, provides a framework of academic challenge that encourages students to embrace and understand the connections between traditional subjects and the real world, and become critical and reflective thinkers.
Missing mark procedure*	A mechanism for providing a grade for students where the IB is not able to access an accurate or fair mark based on the work the candidate has completed. It is appropriate in those circumstances where the reason for the lack of evidence is due to the actions of the IB or third parties (not including the school) and where it would not be reasonable for the student to be asked to complete the assessment on another occasion.
Moderation*	The procedure by which a sample of teacher-assessed totals for personal projects and ePortfolios are reviewed externally and adjusted to ensure agreed interpretations of MYP assessment criteria.
Moderation factor*	An arithmetic adjustment applied to an assessor's criterion levels total to bring it in line with the common assessment standard.
Moderation failure*	An examiner may fail moderation if their marking does not match the common assessment standard. In some cases, it may be possible to apply a moderation factor rather than remark an examiner's scripts.
Moderation sample*	The required sample of student work submitted to a moderator.
Modification of curriculum	Changes to learning objectives and assessment criteria and rubrics in courses where a student is not registered for the eAssessment, that is, where a student will not receive IB-validated grades.
Modified examination	Changes made to an assessment to make it accessible to a student (with specific needs) and allow them to take the assessment on an equal footing with students who do not have these needs. Examples include adapting a question that involves visual processing for a student with vision impairment. Such changes must not change the assessment criteria or rubrics.
Modified paper*	Changes made to an assessment to allow a student (with specific needs) to be able to take the assessment on an equal footing with students who do not have these needs. Examples include changing the shape or style of the type font. Such adjustments must not change the nature of the question being asked.
Mother tongue	The language(s) learned first; the language(s) identified with as a "native" speaker; the language(s) known best; the language(s) used most.

Term	Definition
MYP assessment	Assessment of learning in the Middle Years Programme. It covers ongoing, internal, formative and summative assessments. (See also MYP eAssessment .)
MYP bilingual certificate*	See IB MYP bilingual certificate .
MYP certificate*	See IB MYP certificate .
MYP coordinator	The pedagogical leader of the MYP in the school who oversees the effective development of the programme. The MYP coordinator ensures effective communication about the programme within the school, and between the school and the IB. For assessments, this is the person responsible for registering students and understanding the Middle Years Programme <i>Assessment procedures</i> , meeting deadlines, and so on.
MYP eAssessment*	General term for the MYP external assessments that are taken or submitted through a computer or similar device. See also MYP on-screen examination and MYP ePortfolio .
MYP ePortfolio*	An electronic collection of work that demonstrates student learning across the aims and assessment objectives of the course, resulting in a formal assessment. Arts, physical and health education, and design will be assessed by internally assessed ePortfolios. Samples are uploaded electronically and moderated by the IB.
MYP on-screen examination*	A formal, timed, externally produced, media-rich examination comprising a series of tasks related to the subject designed to be answered in a secure examination environment.
MYP record of participation	<p>The MYP record of participation recognizes that the student has participated in a MYP that ends before MYP year 5. To achieve the IB MYP record of participation, a candidate must:</p> <ul style="list-style-type: none"> participate in the programme for at least two years and complete requirements in MYP year 3 or year 4 (as opposed to at the end of year 5) study a minimum of six disciplines, from eight different subject groups, including their internal assessment if completing MYP in year 4 or study a minimum of eight disciplines from eight different subjects groups if completing MYP in year 3 complete a school-based community project. <p>The school-based record of participation is a document issued by the school based on an IB template available online. Schools do not register for the record of participation.</p>
Objective	One of a set of statements describing the skills, knowledge and understanding that will be assessed. MYP objectives are aligned with assessment criteria for subject groups, interdisciplinary learning and projects.
On-screen examination*	Any examination that is delivered through a computer or similar device. See also MYP eAssessment .
On-screen sat date*	The date on which an on-screen assessment is sat.

Term	Definition
Pass rate*	The percentage of candidates receiving an MYP certificate. This is calculated by counting the number of candidates receiving a passing result and divided by the number of students who received a pass result or a fail result. This will not include students who were not given a result of any kind.
Peer conferencing	Student discussions with fellow students to gain insight into the task, topic, concepts and skills at hand, and to provide feedback and suggestions on draft work.
Performances of understanding	A particular kind of learning experience—one that encourages flexible thinking with knowledge in novel situations. They become “understanding performances” when students are asked to use information deliberately to advance a new understanding. Performances of understanding allow students both to build and demonstrate their understanding in and across subjects. They are based on the theory that understanding is not something we have—like a set of facts we possess—but rather is something we can do.
Personal project	A project that is the culmination of the students’ experience in the MYP and shows their experience of ATL and global contexts. It is completed in the final year of the programme. All registered MYP students complete the personal project (internally marked and externally moderated).
Personal project supervisor	The member of staff within a school who is responsible for working directly with the student on the completion of the personal project.
Pilot	A project to test or “prove” a new qualification, process or system.
Pilot subject	A subject undergoing evaluation, which pending successful evaluation will become generally available.
Points system*	The award of the IB MYP certificate depends (in part) on the candidate achieving points that match the grades for each discipline and add up to 28. The maximum that can be achieved with six disciplines (the minimum required) is 56 points (6 disciplines × grade 7, plus 7 for the interdisciplinary and 7 for the personal project). However, a candidate can register for six, seven or eight disciplines that all contribute to the achievement of the IB MYP certificate.
Policy	Documentation, written collectively, that articulates how implementation and development of the MYP can be supported and put into practice in everyday school life.
Post examination session*	A period of time immediately following each examination session during which any issues arising from the examination session are resolved. Normally, this will be 16 July–15 September for the May session and 16 January–15 March the following year for the November session.
Practice script*	Examples of student work that are identified and marked during standardization and then given to examiners to explain that this is the standard that they should be marking to.

Term	Definition
Principal examiner*	In MYP, the role of principal examiner is slightly different from other examination systems. A principal examiner is the head of a particular discipline and is responsible for leading the team designing the assessment, for setting and maintaining standards and mentoring examiner team leaders.
Programme coordinator	See MYP coordinator .
Programme evaluation	A mandatory process for all IB World Schools offering the MYP, whereby the IB assists schools in their own self-evaluation procedures as well as ensuring the quality of programmes.
Programme resource centre	The programme resource centre is the primary access point for publications relating to the philosophy and implementation of the four International Baccalaureate (IB) programmes: the Primary Years Programme (PYP), Middle Years Programme (MYP), Diploma Programme (DP) and Career-related Programme (CP). It houses the IB's curriculum materials, research reports, support materials, information about assessment and eAssessment, and news items outlining the latest updates and programme developments, as well as information about school authorization and evaluation. The site can be accessed at https://resources.ibo.org or through your My IB login.
QIG*	See Question item group .
Qualification script*	Examples of student work that are selected by the principal examiner and used to formally check that examiners have understood the required standard of marking before they are allowed to mark live student scripts.
Quality model*	The approach that the IB takes to ensure that students receive the correct assessment outcome. The principal examiner sets the correct standard of response for each question and each examiner needs to reproduce this standard. For externally marked assessments, this is done by providing guidance to examiners through standardization, checking their understanding of the standard with qualification scripts and then monitoring their marking regularly through seed scripts.
Question item group (QIG)*	One or more related questions within an examination paper are considered as a group. Examiners are then asked to mark individual QIGs rather than whole papers. This approach provides more reliable marking than whole script approaches.
Reasonable adjustments	Changes or additional conditions to the assessment process that may not be standard and not covered in the list of inclusive assessment arrangements. They are unique to a student based on their requirements.
Reliability*	The degree to which the candidate will receive the same outcome every time their work is assessed. It can refer to the reliability between examiners (that is, do they give the same outcome for the student?) or the reliability of a single examiner (that is, do they give the same outcome every time they look at the student's work?).

Term	Definition
Retake*	A second or subsequent attempt at one or more examinations in the hope of obtaining an IB MYP certificate or increasing the total mark on an IB MYP certificate already received.
RM Assessor*	An electronic marking system supplied by the RM Group. Previously known as Scoris.
Scaffold(ing)	A strategy in which teachers develop and employ a sequence of steps or stages marked by a gradual decrease of support and a corresponding increase in students' responsibility for their own learning.
School code	A six-digit unique identifier of a school within IB systems.
School contact	Head of school, PYP, MYP, DP or CP coordinator, emergency contact.
Scoris*	See RM Assessor .
Seed*	A seed is a script that has already been marked by the principal examiner and is randomly added to a batch of scripts allocated to an examiner for marking. It looks like any other script, so the examiner cannot tell it is a seed. The marks the examiner awards the seed will be checked against those given by the principal examiner, with a certain tolerance to check the examiner is marking to the set standard. Dynamic sampling moderation seeds are used in the same way as part of the moderation process.
Seeding*	The process of randomly introducing a number of pre-selected electronic candidate responses or seeds into the examiner's work list with a view to checking the quality and consistency of their marking.
Senior examiner*	A role describing experienced examiners who support the principal examiner.
Session*	The IB has two examination sessions, in May and November. IB World Schools must declare which of these two sessions is their main session. Note: currently on IBIS, the two MYP sessions are labelled as June and December.
Special consideration*	When a candidate is affected by adverse circumstances, they may be eligible for special consideration, provided that this would not give an advantage in comparison with other candidates. In such cases, if the candidate is within one or two scaled marks of the next higher grade boundary, the candidate's grade in the affected discipline(s) will be raised. This is the only possible accommodation for candidates in the event of adverse circumstances. If a candidate's marks are not within the required range, then no adjustment will be made.
Standard	The performance expected to achieve a particular score, grade or outcome.
Standardization	The collaborative process by which a common standard of assessment is achieved among teachers, moderators or examiners.
Standardization meeting*	A meeting held by the principal examiners to describe the required standard for marking and set seed scripts.

Term	Definition
Standardization team*	The team responsible for supporting the principal examiner in describing the required standard and producing marking exemplars.
Student registration*	See Candidate registration .
Subject	The practical division of single or integrated academic disciplines (and formally constituted interdisciplinary studies). In the MYP and DP, subjects are identified as assessable courses.
Subject group	A collection of related courses grouped into a common category, which together represent a broad and balanced curriculum. The MYP is organized into eight subject groups: <ul style="list-style-type: none"> • language and literature • language acquisition • individuals and societies • sciences • mathematics • arts • design • physical and health education.
Subject-group flexibility	Curriculum option in MYP years 4 and 5 that allows students, if their needs or the needs of the school are better served, to study only six MYP subjects, with certain important conditions.
Subject-group guide	A guide, published by the IB for each MYP subject group, that includes curriculum requirements, prescribed objectives and assessment criteria.
Submission*	The student handing in their final work to the teacher. This is certified by the candidate signing the declaration of authenticity for their work. Once a student has submitted the final version to the teacher for assessment, it cannot be retracted.
Summative assessment	Assessment aimed at determining the competency or level of achievement of a student generally at the end of a course of study or a unit of work.
Task-specific rubric	An example of one type of task-specific clarification. An assessment grid adapted by the teacher, that better identifies how the general achievement level descriptors can be addressed by the students for a given task. Task-specific rubrics are useful in every year of the MYP. Task-specific rubrics are not meant to replace the subject-specific criteria so students should also have access to the originals. The task-specific rubric will help the students to gain further understanding of the generic descriptors.
Teacher-conferencing	Student discussions with the teacher to gain insight into the task, topic, concepts and skills at hand, and to provide feedback and suggestions on draft work.

Term	Definition
Teacher support material	Additional information to help teachers understand what is required by the MYP. Teacher support material published by the IB includes examples of assessed student work for the subject groups and the MYP projects. This material may appear as paper documents or online publications. It is intended to give practical help to aid understanding and implementation of the theory in the subject-group guides.
Teaching hour	The length of teaching periods varies from school to school. For practical reasons, the IB refers to one teaching hour as the equivalent of 60 minutes.
Team leader*	An examiner who leads a team of examiners.
Tolerance*	The small variation from the principal examiner's definitive mark, which the IB believes is close enough to show the examiner is still marking to the correct standard. Tolerances are necessary because marking is a matter of judgment and even experienced markers will vary slightly when re-marking the same piece of student work. Tolerances vary according to the number of marks, the kind of question and the subject.
Total score*	See Points system .
Translation*	The conversion of an exam paper into a preferred language for a non-language component.
Unannounced visit*	A visit to a school to confirm that particular elements of the programme are being conducted appropriately.
Unit	A series of lessons, focused through a statement of inquiry and inquiry questions, designed to enable students to achieve some of the objectives of an MYP subject group.
Validity*	The overall term that describes whether an assessment or the purpose for which the assessment results are being used is fit for purpose.
Vertical planning/ vertical articulation	The goal of vertical planning is to sequence learning (in terms of subject-group objectives and ATL) to ensure continuity and progression from year 1 to year 5.
Weighting	A measure of the relative emphasis of each assessment criterion (and therefore the emphasis of each objective). MYP assessment criteria are equally weighted.
Withdrawn candidate*	A candidate who initially registered for the session, but gave advance notice that some or all of the examinations would not be taken.
Working language*	The languages in which the IB communicates with its stakeholders and in which it is committed to providing a range of services for the implementation of the programmes. They are currently English, French and Spanish.

*MYP eAssessment term

Appendix 5: Teaching with technology

Digital technologies, including the internet, have made many aspects of modern life more efficient—but also often more complex. In many places, today’s world is highly networked and interactive, and people use more technology tools than ever before to learn and do their work. Students need to develop technology literacy in order to thrive in an increasingly digital world.

Technologies, however, are not necessarily digital. Technology is *anything that aids or extends people and their abilities*. Technologies frequently work in tandem with each other, and they exist with various levels of complexity. Individual technologies, or systems of technologies, are suited to different learning experiences and environments. (A pencil is as much “technology” as a computer is, and it is important to use both consciously and to the best purpose.) Technology literacy involves learning how to use known technologies effectively, as well as determining when it is appropriate to use new or different tools.

Students and teachers develop technology literacy in environments in which they can practise, experiment and work creatively with technology tools and concepts. Environments encompass the physical, academic, and social spaces in which people work. Technologically literate people are fluent in their understanding and use of many different technologies across a wide range of familiar and unfamiliar environments. Developing technology literacy does not require access to the newest or most expensive technological tools. Students develop technology literacy most effectively whenever they thoughtfully and critically use technology (including everything from simple tools to sophisticated devices) in environments that invite purposeful and playful experimentation.

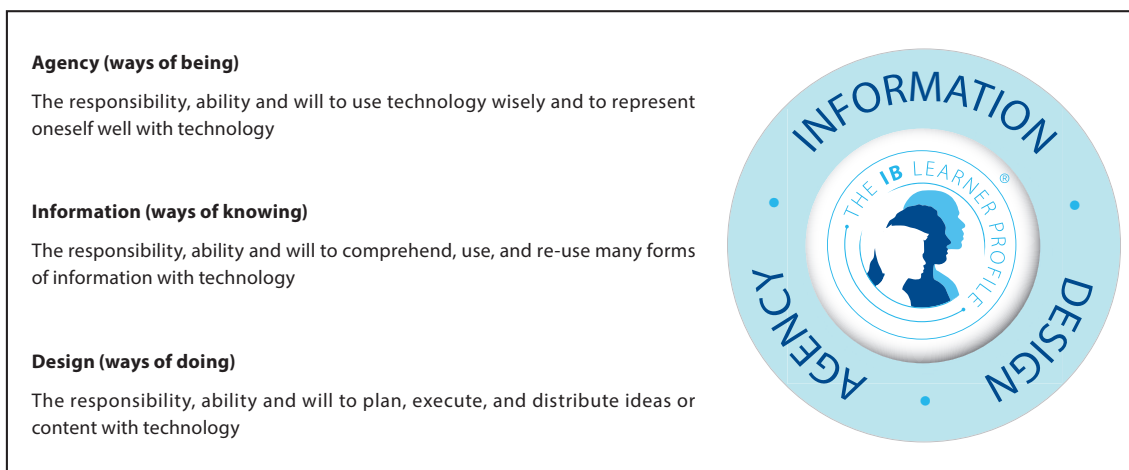
In IB programmes, technology literacy is less an approaches to learning (ATL) cluster or category than it is an important way to empower students and teachers to develop and use a wide range of ATL skills. Technology literacy develops more through the creation of rich learning environments than through participation in carefully orchestrated learning experiences. Teachers create environments that support the development of technology literacy when they:

- help students construct conceptual understanding through practice
- create comprehensive policies about the use of technology in school and in life beyond the classroom
- encourage students to take personal responsibility for their use of technology
- avoid rigidly matching specific tools with tasks
- identify basic technologies teachers and learners will use throughout the course of study
- work collaboratively to develop technology concepts and tools across disciplines
- select devices and digital infrastructures that are aligned with clear, school-wide technology literacy goals
- act as coaches, using smaller, more frequent “teachable moments” for “just-in-time” learning with technology
- sustain technology-rich environments in which to teach complex concepts and uses of technology over time.

Using the Agency, Information and Design model to foster technology literacy

What is Agency Information and Design?

Agency, Information and Design (AID) is a framework that can help students and teachers increase their technology literacy. The AID framework is a powerful lens through which to explore technology literacy in planning and in practice.



Agency (ways of being)

The responsibility, ability and will to use technology wisely and to represent oneself well with technology

Information (ways of knowing)

The responsibility, ability and will to comprehend, use, and re-use many forms of information with technology

Design (ways of doing)

The responsibility, ability and will to plan, execute, and distribute ideas or content with technology

Figure 13
AID framework

In the MYP context, the AID framework can prompt important conversations about **learning how to learn** with technology. As students experiment and interact with technologies, this framework helps them to develop the conceptual understanding and technical skills they need in order to be technologically literate.

Technology literacy requires a combination of conceptual and technical knowledge, so learning how to learn while using technology requires a combination of both thinking and doing. The following table summarizes some of the concepts and skills suggested by the AID framework along with some possible student outcomes.

	Concept	Skill	Outcome
Agency	Intention (What do I want to accomplish? How do I choose to present myself?)	Using technology responsibly (How can I use the technology available to me in a principled way?)	I understand the possibilities and potential problems that technology presents. I am safe and I respect the rights and dignity of others when I use technology.

	Concept	Skill	Outcome
Information	Knowledge (What can I learn with technology?)	Using technology effectively (How can I find out what I need to know about using technology?)	I can demonstrate my knowledge and understanding using technology. I know how to find and use information using a range of technologies.
Design	Creativity (What can I imagine with technology?)	Using technology critically and creatively (How can I create and innovate with technology?)	I make and follow plans that use multiple technologies. I use or create new technologies flexibly to meet my short- and long-term goals.

Table 6
Concepts and skills suggested by the AID framework

Questions and statements like these can inspire lifelong conversation and reflection about technology literacy.

Appendix 6: Updates to the publication

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

Corrections for April 2023

Throughout the publication

Alignment of language with other IB documentation.

In line with the IB's diversity, equity and inclusion statement, the terms "he or she", "his or her" and "him or her" have been replaced with "they", "their" and "them", respectively, including in the MYP eAssessment section.

Corrections for November 2022

Environment and culture: Organizing the programme > Schedule and subject-group flexibility

"Combined subject groups in MYP years 1–3"

Amendment in response to stakeholder feedback.

The last paragraph about semester and trimester requirements and language acquisition was removed to give schools some flexibility in ensuring a coherent curriculum.

Learning: Approaches to assessment: MYP eAssessment

"Introduction"

Correction of error in the previous version.

Figure 12, MYP eAssessment model, was corrected to show that language acquisition is included in on-screen examinations and ePortfolio coursework.

"Preparing for and administering on-screen examinations"

Correction of error in the previous version.

The publication title and hyperlink for the IT requirements document was added to refer to *MYP on-screen examinations: IT requirements and school responsibilities*.

Appendices

“Appendix 2: MYP related concepts”

Alignment of language with other IB documentation.

In language acquisition section of the table, the related concept “accent” was replaced with “**pronunciation**” to align with the language used in the *Language acquisition guide*.

In mathematics section of the table, the related concept “justification” was replaced with “**validity**”, and “measurement” was replaced with “**approximation**”.

Curriculum research in the MYP

Curriculum review in the MYP is informed by a global community of educators who represent a wide range of educational perspectives and expertise. IB curriculum research involves “interpretations in action” in which participant-observers conduct systematic investigations designed to yield dependable evidence (Spradley 1980; Atkinson and Hammersley 1994; Adler and Adler 1994). This process is heuristic, iterative and highly collaborative.

In addition to methodological support for reviews of academic and practice-oriented resources, the IB Global Research Department facilitates position papers, formal literature reviews and discussion documents that contribute to the development of the programme. Written by experts in the field, these studies encourage critical reflection on MYP principles and practices. Programme development research connects expert knowledge with insight from practitioners, exploring theoretical and pedagogical issues that are central to IB educational philosophy.

Some of the research perspectives that inform *MYP: From principles into practice* (2014, updated 2022) include the following.

Daly, K, Brown, G and McGowan, C. 2012. *Curriculum integration in the International Baccalaureate Middle Years Programme: A literature review*. International Baccalaureate Organization.

Elliott, C, Keegan, C and Berger Kaye, C. 2011. *Discussion document for the curriculum review of creativity, action, service*. International Baccalaureate Organization.

Medwell, J, Wray, D, Bailey, L, Biddulph, M, Hagger-Vaughan, L, Mills, G, Oliver, M, and Wake, G. 2019. *Concept-based teaching and learning: Integration and alignment across International Baccalaureate programmes*. International Baccalaureate Organization.

Li, N. 2012. *Approaches to learning: A literature review*. International Baccalaureate Organization.

Singh, M, Bingyi, L, Jing, Q, Castro, P, Lundgren, U and Woodin, J. 2013. *Conceptualizing and assessing international mindedness: An exploratory study*. International Baccalaureate Organization.

Watermeyer, R. 2011. *Curriculum alignment, articulation and the formative development of the learner: Literature review*. International Baccalaureate Organization.

The IB Global Research Department also manages the ongoing investigation of the impact and outcomes of the MYP, including the preparation it provides for the Diploma Programme. For information, visit <http://www.ibo.org/research>.

International curriculum benchmarks

Throughout the curriculum development process, IB staff and educators refer to, and are informed by, many national and local curriculum processes and documents. The IB maintains an independent stance in its curriculum development but benchmarks programmes against a wide variety of educational systems and approaches. Key resources consulted in the development of *MYP: From principles into practice* and subject-group guides include the following.

Association for Experiential Education (AEE). <http://www.aee.org>.

Association for Middle Level Education (AMLE), USA. <http://amle.org>.

Australian Curriculum, Assessment and Reporting Authority (ACARA), Australia. <http://www.acara.edu.au>.

Center for Educator Development in Fine Arts (CEDFA), USA. <http://www.cedfa.org/teach-fine-arts/curriculum/curriculum-frameworks/>.

Collaborative for Academic, Social, and Emotional Learning (CASEL), USA. <http://casel.org>.

Common Core State Standards Initiative, USA. <http://www.corestandards.org>.

Council for the Curriculum Examinations and Assessment, Northern Ireland (UK). <http://www.rewardinglearning.org.uk>.

Council for the Indian School Certificate Examinations, India. <http://www.cisce.org>.

Curriculum for Excellence, Scotland (UK). <http://www.curriculumforexcellencescotland.gov.uk>.

Department for Education, UK. <http://www.education.gov.uk/schools/teachingandlearning/curriculum>.

Estyn. 2002. *Standards and quality in personal and social education in primary and secondary schools in Wales*. UK.

Education Scotland, Scotland (UK). <http://www.educationscotland.gov.uk/thecurriculum/>.

Hong Kong Examinations and Assessment Authority, Hong Kong (China). <http://www.hkeaa.edu.hk/en/hkdse/>.

Indiana Department of Education, Indiana (USA). <http://www.in.gov/education.htm>.

International Bureau of Education (IBE), UNESCO. Educational Practices Series. <http://www.ibe.unesco.org>.

International Society for Technology in Education (ISTE). <http://www.iste.org/standards>.

Massachusetts Department of Elementary and Secondary Education, Massachusetts (USA). <http://www.doe.mass.edu/frameworks/current.html>.

Ministerio de Educación, Cultura y Deporte Spain. <http://www.educacion.gob.es/portada.html>.

Ministry of Education, British Columbia (Canada). <http://www.gov.bc.ca/bced/>.

Ministry of Education and Culture, Finland. <http://www.minedu.fi/OPM/?lang=en>.

Ministry of Education and Research, Sweden. <http://www.sweden.gov.se/sb/d/2098>.

National Association of School Psychologists (NASP), USA. <http://www.nasponline.org>.

National Center on Universal Design for Learning (UDL). USA. <http://www.udlcenter.org>.

National Science Teachers Association (NSTA). Next Generation Science Standards. USA. <http://nsta.org>.

Oxford Cambridge and RSA Examinations (OCR), UK. <http://www.ocr.org.uk>.

Partnership for 21st Century Skills, USA. <http://www.p21.org>.

South Australian Certificate of Education, South Australia (Australia). <http://www.sace.sa.edu.au>.

Texas Education Agency, Texas (USA). <http://www.tea.state.tx.us>.

The Australian Curriculum, Australia. <http://www.australiancurriculum.edu.au>.

The Organisation for Economic Co-operation and Development (OECD). DeSeCo (Definition and Selection of Competencies). <http://www.oecd.org/edu/skills-beyond-school/>.

Transforming Assessment, Australia. <http://www.transformingassessment.com>.

Welsh Joint Education Committee (WJEC), Wales (UK). <http://www.wjec.co.uk>.

Bibliography and suggested further reading

Abbott, J. 2010. *Overschooled But Undereducated: How the Crisis in Education is Jeopardizing our Adolescents*. New York, USA. Continuum International Publishing Group.

Adler, PA and Adler, P. 1994. "Observational techniques". In Denzin, NK and Lincoln, YS (eds). *Handbook of Qualitative Research*. Pp 377–392. Thousand Oaks, California, USA. Sage Publications.

Aitken, EG, Thomas, GS and Shennum, WA. 1975. "Memory for a lecture: Effects of notes, lecture rate and informational density". *Journal of Educational Psychology*. Vol 67. Pp 439–444.

Arnold, J. 1997. "High expectations for all". *Middle School Journal*. Vol 28, number 3. Pp 51–53.

Association for Middle Level Education (AMLE). 2010. *This We Believe: Keys to Educating Young Adolescents*. Westerville, Ohio, USA.

Atkinson, P and Hammersley, M. 1994. "Ethnography and participant observation". In Denzin, NK and Lincoln, YS (eds). *Handbook of Qualitative Research*. Pp 248–261. Thousand Oaks, California, USA. Sage Publications.

Barrows, H and Tamblyn, R. 1980. *Problem-Based Learning: An Approach to Medical Education*. New York, USA. Springer Publishing Company.

Bateson, G. 1972. *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*. Chicago, Illinois, USA. University Of Chicago Press.

Bean, TW, Singer, H, Sorter, J and Frazee, C. 1986. "The effects of metacognitive instruction in outlining and graphic organizer construction on students' comprehension in a tenth grade world history class". *Journal of Reading Behaviour*. Vol 18. Pp 153–169.

Berger Kaye, C. 2010. *The Complete Guide to Service Learning: Proven, Practical Ways to Engage Students in Civic Responsibility, Academic Curriculum, & Social Action*. Minneapolis, Minnesota, USA. Free Spirit Publishing.

Beyer, BK. 2001. "Putting it all together to improve student thinking". In Costa, AL. *Developing Minds: A Resource Book for Teaching Thinking* (third edition). Pp 417–424. Alexandria, Virginia, USA. ASCD Publications.

Beyer, BK, Costa, AL and Presseisen, BZ. 2001. "Glossary of thinking terms". In Costa, AL. *Developing Minds: A Resource Book for Teaching Thinking* (third edition). Pp 548–550. Alexandria, Virginia, USA. ASCD Publications.

Bhagwati, J. 2004. *In Defense of Globalization*. New York, USA. Oxford University Press.

Biggs, J. 1987. *Student Approaches to Learning and Studying*. Hawthorn, Victoria, Australia. Australian Council for Educational Research.

Biggs, J. 2003. *Aligning Teaching and Assessment to Curriculum Objectives*. Imaginative Curriculum Project, LTSN Generic Centre.

Biggs, J. 2003. *Teaching for Quality Learning at University*. Buckingham, UK. Open University Press.

Black, P, Harrison, C, Lee, C, Marshall, B and Wiliam, D. 2002. *Working Inside the Black Box: Assessment for Learning in the Classroom*. London, UK. GL Assessment.

Blakemore, S-J and Choudhury, S. 2006. "Development of the adolescent brain: Implications for executive function and social cognition". *Journal of Child Psychology and Psychiatry*. Vol 47, number 3/4. Pp 296–312.

- Bloom, B. 1984. "The search for methods of group instruction as effective one to one tutoring". *Educational Leadership*. Vol 41, number 8. Pp 4–17.
- Bloom, E (ed), Engelhart, MD, Furst, EJ, Hill, WH and Krathwohl, DR. 1956. *Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook: Cognitive Domain*. New York, USA. David McKay Company, Inc.
- Boix-Mansilla, V. 2012 *Teaching the disciplines in the MYP: Nurturing big ideas and deep understanding*. Cardiff, UK. International Baccalaureate Organization.
- Boix-Mansilla, V and Gardner, H. 2007. "From teaching globalization to nurturing global consciousness". In Suarez-Orozco, MM (ed). *Learning in the Global Era: International Perspectives on Globalization and Education*. Berkeley, California, USA. The University of California Press.
- Boix-Mansilla, V and Jackson, A. 2011. *Educating for Global Competence: Preparing our Youth to Engage the World*. New York, USA. Asia Society and the Council of Chief State School Officers.
- Booth, T and Ainscow, M. 2011. *Index for Inclusion—Developing Learning and Participation in Schools* (third edition). Bristol, UK. Centre for Studies on Inclusive Education.
- Boyer, EL. 1995. *The Basic School: A Community for Learning*. San Francisco, California, USA. Jossey-Bass Inc.
- Braze, EN. 1997. "Curriculum for whom?". In Irvin, JL (ed). *What Current Research Says to the Middle Level Practitioner*. Columbus, Ohio, USA. National Middle School Association.
- Brookhart, S. 2010. *How to Assess Higher-order Thinking Skills in your Classroom*. Alexandria, Virginia, USA. ASCD Publishing.
- Brookhart, S, Moss, C and Long, B. 2009. "Formative assessment that empowers". In Scherer, M. *Challenging the Whole Child: Reflections on Best Practices in Learning, Teaching and Leadership*. Alexandria, Virginia, USA. ASCD Publications.
- Brown, AL, Bransford, JD, Ferrara, RA and Campione, JC. 1983. "Learning, remembering and understanding". In Flavell, JH and Markman, EH (eds). *Handbook of Child Psychology: Cognitive Development* (Vol 3). New York, USA. Wiley.
- Brown, J, Collins, A and Duguid, P. 1989. "Situated cognition and the culture of learning". *Educational Researcher*. Vol 18. Pp 32–42.
- Bruner, J. 1986. *Actual Minds, Possible Words*. Cambridge, Massachusetts, USA. Harvard University Press.
- Bruner, J. 1990. *Acts of Meaning*. Cambridge, Massachusetts, USA. Harvard University Press.
- Bruner, J. 1996. *The Culture of Education*. Cambridge, Massachusetts, USA. The President and Fellows of Harvard University.
- Caldwell, BJ and Spinks, JM. 1998. *Beyond the Self-Managing School*. Philadelphia, Pennsylvania, USA. Routledge Falmer.
- Carpenter, S. 2012. "Testing enhances the transfer of learning". *Current Directions in Psychological Science*. Vol 21, number 5. Pp 279–283.
- Chadbourne, R. 2001. *Middle Schooling for the Middle Years: What Might the Jury be Considering?* Southbank, Victoria, Australia. Australian Education Union.
- Chandler, D. 2007. *Semiotics: The Basics* (second edition). New York, USA. Routledge.
- Cohen, J. 1999. "Educating minds and hearts: Social emotional learning and the passage into adolescence". Williston, Vermont, USA. Teachers College Press. (ERIC Document Reproduction Service No. ED458945).

- Coles, MJ and Southworth, G. 2004. *Developing Leadership: Creating the Schools of Tomorrow*. Maidenhead, UK. Open University Press.
- Collier, VP and Thomas, WP. 1999. "Making US schools effective for English language learners, Part 1". *TESOL Matters*. Vol 9, number 4. Pp 1–6.
- Corson, D. 1999. *Language Policy in Schools: A Resource for Teachers and Administrators*. Mahwah, New Jersey, USA. Lawrence Erlbaum Associates.
- Corson, D. 2001. *Language Diversity and Education*. Mahwah, New Jersey, USA. Lawrence Erlbaum Associates.
- Costa, AL (ed). 2001. *Developing Minds: A Resource Book for Teaching Thinking* (third edition). Alexandria, Virginia, USA. ASCD Publications.
- Costa, AL and Kallick, B (eds). 2000. *Assessing and Reporting on Habits of Mind*. Alexandria, Virginia, USA. ASCD Publications.
- Costa, AL and Kallick, B (eds). 2000. *Discovering and Exploring Habits of Mind*. Alexandria, Virginia, USA. ASCD Publications.
- Cummins, J. 1979. "Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters". *Working Papers on Bilingualism*. Vol 19. Pp 121–129.
- Cummins, J, Brown, K and Sayers, D. 2007. *Literacy, Technology, and Diversity: Teaching for Success in Changing Times*. Boston, Massachusetts, USA. Allyn & Bacon.
- Davis, K, Seider, S and Gardner, H. 2008. "When false representations ring true (and when they don't)". *Social Research*. Vol 75, number 4. Pp 1085–1108.
- Davies, RS. 2011. "Understanding technology literacy: A framework for evaluating educational technology integration." *TechTrends*. Vol 55, number 5. Pp 45–52.
- Derry, SJ and Murphy, DA. 1986. "Designing systems that train learning ability: From theory to practice". *Review of Educational Research*. Vol 56, number 1. Pp 1–39.
- Deutsch, T, Herrmann, K, Frese, T and Sandholzer, H. 2012. "Implementing computer-based assessment—A web-based mock examination changes attitudes". *Computers & Education*. Vol 58, number 4. Pp 1068–1075.
- Dowden, T. 2007. "Relevant, challenging, integrative and exploratory curriculum design: Perspectives from theory and practice for middle level schooling in Australia". *Australian Educational Researcher*. Vol 34, number 2. Pp 51–71.
- Dweck, C. 2006. *Mindset: The New Psychology of Success*. New York, USA. Random House.
- Edwards, R. 2009 "Introduction: Life as a learning context?". In Edwards, R, Biesta, G and Thorpe, M. *Rethinking Contexts for Learning and Teaching: Communities, Activities and Networks*. London, UK and New York, USA. Routledge. Pp 1–13.
- Edwards, V. 2009. *Learning to be Literate; Multilingual Perspectives*. Clevedon, UK. Multilingual Matters.
- Elias, MJ. 2003. "Academic and social-emotional learning". *Educational practices series*. Vol 11. Geneva, Switzerland. IAE (International Academy of Education).
- Elias, MJ, Zins, JE, and Weissberg, RP. 1997. *Promoting SEL: Guidelines for Educators*. Alexandria, Virginia, USA. ASCD Publications.
- Erb, T. 1996. "Following the bandwagon of curriculum integration: Beautiful music or deep ruts?" *Middle School Journal*. Vol 28, number 1. P 2.

- Erickson, HL. 2007. *Concept-based Curriculum and Instruction for the Thinking Classroom* (second edition). Thousand Oaks, California, USA. Corwin Press.
- Erickson, HL. 2008. *Stirring the Head, Heart and Soul: Redefining Curriculum, Instruction, and Concept-Based Learning* (third edition). Thousand Oaks, California, USA. Corwin Press.
- Erickson, HL. 2009. *Concept-based Curriculum and Instruction for the Thinking Classroom Multimedia Kit*. (Includes two DVDs, a facilitator's guide and the book). Thousand Oaks, California, USA. Corwin Press.
- Erickson, HL. 2010. "Conceptual designs for curriculum and higher-order instruction". In Marzano, R (ed). *On Excellence in Teaching, Anthology*. Bloomington, Indiana, USA. Solution Tree Press.
- Erikson, E. 1968. *Identity, Youth and Crisis*. New York, USA. Norton.
- Eyal, L. 2012. "Digital assessment literacy: The core role of the teacher in a digital environment". *Educational Technology & Society*. Vol 15, number 2. Pp 37–49. [Available online]
- Ferlazzo, L. 29 December 2011. "Education-related predictions for 2012". TheHuffingtonPost.com.
- Fullan, M. 2001. *Leading in a Culture of Change*. San Francisco, California, USA. Jossey-Bass Publishers.
- Fullan, M. 2001. *The New Meaning of Educational Change* (third edition). Mahwah, New Jersey, USA. Routledge Falmer.
- Gardner, H. 1993. *Multiple Intelligences: The Theory in Practice*. New York, USA. Basic Books.
- Gardner, H. 2006. *Multiple Intelligences: New Horizons in Theory and Practice*. New York, USA. Basic Books.
- Gardner, H. 2006. *Five Minds for the Future*. Boston, Massachusetts, USA. Harvard Business School Press Books.
- Gardner, H. 2011. *Frames of Mind: The Theory of Multiple Intelligences*. New York, USA. Basic Books.
- George, P and Alexander, W. 2003. *The Exemplary Middle School*. Australia. Wadsworth/Thompson Learning Inc.
- Grennon Brooks, J and Brooks, MG. 2001. *In Search of Understanding. The Case for Constructivist Classrooms*. Alexandria, Virginia, USA. ASCD Publications.
- Haller, PE, Child, DA and Walberg, HT. 1988. "Can comprehension be taught? A quantitative synthesis of 'metacognitive' studies". *Educational Researcher*. Vol 17, number 9. Pp 5–8.
- Hargreaves, A and Fink, D. 2006. *Sustainable Leadership*. San Francisco, California, USA. Jossey-Bass Publishers.
- Hattie, J, Biggs, J and Purdie, N. 1996. "Effects of learning skills interventions on student learning: A meta-analysis". *Review of Educational Research*. Vol 66, number 2. Pp 99–136.
- Hayden, M, Thompson, J, Walker, G (eds). 2002. *International Education in Practice: Dimensions for National and International Schools*. London, UK. Kogan Page Limited.
- Hayes Jacobs, H. 1989. *Interdisciplinary Curriculum: Design and Implementation*. Alexandria, Virginia, USA. ASCD Publications.
- Hayes Jacobs, H. 1997. *Mapping the Big Picture: Integrating Curriculum and Assessment K–12*. Alexandria, Virginia, USA. ASCD Publications.
- Hayes Jacobs, H. 2004. *Getting Results with Curriculum Mapping*. Alexandria, Virginia, USA. ASCD Publications.
- Howe, MJ. 1970. "Using students' notes to examine the role of the individual learner in acquiring meaningful subject matter". *Journal of Educational Research*. Vol 64. Pp 61–63.

Ifenthaler, D, Eseryel, D and Ge, X (eds). 2012. *Assessment in Game-based Learning: Foundations, Innovations, and Perspectives*. New York, USA. Springer. [Book]

Inayatullah, S. 1993. "From 'who am I?' to 'when am I?' Framing the shape and time of the future". *Futures*. Vol 25. Pp 235–253.

Innis, RE. 1985. *Semiotics: An Introductory Anthology*. Bloomington, Indiana, USA. Indiana University Press.

International Schools Association (ISA). 1991. *ISAC: Programme of International Secondary Education 11–16 Years*. Geneva, Switzerland.

International Baccalaureate Organization. 2015. *Teaching and learning with technology in the IB programmes*. Cardiff, UK.

James, M. 2006. "Convergence culture: Where old teaching to the test denies kids independent learning skills". *Education*. Vol 233, number 2.

Johnson, EB. 2002. *Contextual Teaching and Learning: What It Is and Why It's Here to Stay*. Thousand Oaks, California, USA. Corwin Press.

Johnson, SB, Blum, RW, Giedd, JN. 2009. "Adolescent maturity and the brain: The promise and pitfalls of neuroscience research in adolescent health policy". *Journal of Adolescent Health*. Vol 45, number 3. Pp 216–221.

Jones, J. 2014. *Study Proves Why We Need Digital Literacy Education*. DML Central. Retrieved 29 September 2014 from <http://dmlcentral.net/study-proves-why-we-need-digital-literacy-education/>.

Keppell, M, Au, E, Ma, A., and Chan, C. (2006). *Peer learning and learning-oriented assessment in technology-enhanced environments*. *Assessment & Evaluation in Higher Education*. Vol 31, number 4. Pp 453–464.

Kielsmeier, JC. 2000. "A time to serve, a time to learn: Service-learning and the promise of democracy". *Phi Delta Kappan*. Vol 81, number 9. Pp 652–657.

Kiewra, KA. 1985. "Learning from a lecture: An investigation of notetaking, review and attendance at a lecture". *Human Learning*. Vol 4. Pp 73–77.

Kirschenbaum, DS and Perri, MG. 1982. "Improving academic competence in adults: A review of recent research". *Journal of Counseling Psychology*. Vol 29, number 1. Pp 76–94.

Kobayashi, K. 2004. "What limits the encoding effect of note-taking? A meta-analytic examination". *Contemporary Educational Psychology*. Vol 30, number 2. Pp 242–262.

Kolb, D. 1984. *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, New Jersey, USA. Prentice Hall.

Krathwohl, DR. 2002. "A revision of Bloom's taxonomy: An overview". *Theory into Practice*. Vol 41, number 4. (1 October). Pp 212–218.

Kuhlthau, C. 2010. "Guided inquiry: School libraries in the 21st century". *School Libraries Worldwide*. Vol 16, number 1. Pp 17–28.

Lave, J and Wenger, E. 1991. *Situated Learning: Legitimate Peripheral Participation*. Cambridge, UK. Cambridge University Press.

Lazarus, PJ and Sulkowski, ML. 2011. *The Emotional Well-being of Our Nation's Youth and the Promise of Social-Emotional Learning*. Bethesda, Maryland, USA. National Association of School Psychologists (NASP). Retrieved January 2012 from www.nasponline.org/publications/cq/40/2/emotional-well-being.aspx.

Ley, K and Young, DB. 2001. "Instructional principles for self-regulation". *Educational Technology Research and Development*. Vol 49, number 2. Pp 93–103.

Littlejohn, A, Beetham, H and McGill, L. 2012. "Learning at the digital frontier: A review of digital literacies in theory and practice". *Journal of Computer Assisted Learning*. Vol 28, number 6. Pp 547–556. [Available with subscription]

Lizzio, A and Wilson, K. 2004. "Action learning in higher education: An investigation of its potential to develop professional capability". *Studies in Higher Education*. Vol 29, number 4. Pp 469–488.

Llewellyn, D. 2002. *Inquire Within: Implementing Inquiry-based Science Standards*. Thousand Oaks, California, USA. Corwin Press.

Lodico, MG, Ghatala, ES, Levin, JL, Pressley, M and Bell, JA. 1983. "The effects of strategy-monitoring training on children's selection of effective memory strategies". *Journal of Experimental Child Psychology*. Vol 35. Pp 263–277.

Luke, A, Elkins, J, Weir, K, Land, R, Carrington, V, Dole, S, Pendergast, D, Kapitzke, C, van Kraayenoord, C, Moni, K, McIntosh, A, Mayer, D, Bahr, M, Hunter, L, Chadbourne, R, Bean, T, Alvermann, D and Steven, L. 2003. *Beyond the Middle: A Report about Literacy and Numeracy Development of Target Group Students in the Middle Years of Schooling*. Brisbane, Australia. JS McMillan Printing Group.

Main, K and Bryer, F. 2007. "A framework for research into Australian middle school practice". *Australian Educational Researcher*. Vol 34, number 2. Pp 91–105.

Marzano, RJ. 2004. *Building Background Knowledge for Academic Achievement: Research on What Works in Schools (Professional Development)*. Alexandria, Virginia, USA. ASCD Publications.

Marzano, RJ. 2007. *Art and Science of Teaching*. Alexandria, Virginia, USA. ASCD Publications.

Marzano, RJ. 2009. *Designing and Teaching Learning Goals and Objectives*. Bloomington, Indiana, USA. Marzano Research Laboratory.

Marzano, RJ and Kendall, JS. 2007. *The New Taxonomy of Educational Objectives* (second edition). Thousand Oaks, California, USA. Corwin Press.

Matula, LL. 2004. "Character education and social-emotional learning: Why we must educate the whole child". MindOH. Retrieved December 2011 from www.projectwisdom.com/ERS/Reproducibles/CE_SEL.pdf.

McCombs, BL. 1984. "Processes and skills underlying continuing intrinsic motivation to learn: Towards a definition of motivational skills training interventions". *Educational Psychologist*. Vol 19, number 4. Pp 199–218.

McGill, I and Beaty, L. 1995. *Action Learning: A Guide for Professional, Management and Educational Development* (second edition). London, UK. Kogan Page.

McWilliam, E. 2005. "Unlearning pedagogy". *Journal of Learning Design*. Vol 1, number 1. Pp 1–11.

McWilliam, E. 2007. "Unlearning how to teach: Creativity or conformity?" *Building Cultures of Creativity in Higher Education*. A conference organized by the University of Wales Institute, Cardiff. UK.

Milligan, A and Wood, B. 2010. "Conceptual understandings as transition points: Making sense of a complex world". *Journal of Curriculum Studies*. Vol 41, number 2. Pp 223–239.

National Association of Secondary School Principals (NASSP). 30 July 2013. "Breaking ranks in the middle". www.nassp.org/.

National Research Council. 2000. *How People Learn: Brain, Mind, Experience and School*. Washington, DC, USA. National Academy Press.

- Nelson Laird, T, Shoup, R, Kuh, G and Schwarz, M. 2007. "The effects of discipline on deep approaches to student learning and college outcomes". *Research in Higher Education*. Vol 49, number 6. Pp 469–494.
- Ng, W. 2012. "Can we teach digital natives digital literacy?" *Computers & Education*. Vol 59, number 3. Pp 1065–1078.
- Nightingale, J. January 2012. "Mind games". *IBWorld* (the magazine of the International Baccalaureate). Issue 64.
- Nist, SL, Mealey, DL, Simpson, ML and Kroc, R. 1990. "Measuring the affective and cognitive growth of regularly admitted and developmental studies students using the 'Learning and Study Strategies Inventory' (LASSI)". *Reading Research and Instruction*. Vol 30, number 1. Pp 44–49.
- Nist, SL, Simpson, ML, Olejnik, S and Mealey, DL. 1991. "The relation between self-selected study processes and test performance". *American Educational Research Journal*. Vol 28, number 4. Pp 849–874.
- Noble, J, Davenport, M, Schiel, J and Pommerich, M. 1999. *Relationship between noncognitive characteristics, high school course work and grades, and test scores of ACT-tested students* (ACT Research Rep. No. 99-4). Iowa City, Iowa, USA. ACT.
- O'Donnell, A and Dansereau, DF. 1993. "Learning from lectures: Effects of cooperative review". *Journal of Experimental Education*. Vol 61. Pp 116–125.
- Olson, DR and Torrance, N (eds). 1998. *The Handbook of Education and Human Development. New Models of Learning, Teaching and Schooling*. Blackwell Reference Online. 04 December 2013. http://www.blackwellreference.com/public/book.html?id=g9780631211860_9780631211860.
- Parnell, D. 2001. *Contextual Teaching Works!* Waco, Texas, USA. CCI Publishing.
- Pellegrino, JW, Wilson, MR, Koenig, JA and Beatty, AS (eds). 2013. *Developing Assessments for the Next Generation Science Standards*. Washington DC, Maryland, USA. National Academies Press. [Available online]
- Pellegrino, JW and Hilton, ML (eds). 2012. *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*. Washington DC, Maryland, USA. National Academies Press. [Available online]
- Perkins, D. 1995. *Outsmarting IQ: The Emerging Science of Learnable Intelligence*. New York, USA. The Free Press.
- Perkins, DN. 1995. *Smart Schools*. New York, USA. The Free Press.
- Perkins, DN. 2010. *Making Learning Whole: How Seven Principles of Teaching Can Transform Education*. San Francisco, California, USA. Jossey-Bass Publishers.
- Peterson, ADC. 2003. *Schools Across Frontiers: The Story of the International Baccalaureate and the United World Colleges* (second edition). Chicago, Illinois, USA. Open Court Publishing Company.
- Pike, G. 2008. "Citizenship education in global context". *Brock Education*. Vol 17. Pp 39–49.
- Pink, DH. 2006. *A Whole New Mind*. New York, USA. Penguin.
- Pintrich, PR and Schunk, DH. 2002. "Motivation in education". *Theory, Research, and Applications* (second edition). Upper Saddle River, New Jersey, USA. Merrill Prentice Hall.
- Powell, O and Powell, B. February 2012. Personal email to M Nicolson.
- Quellmalz, ES, Timms, MJ, Silbergitt, MD and Buckley, BC. 2012. "Science assessments for all: Integrating science simulations into balanced state science assessment systems". *Journal of Research in Science Teaching*. Vol 49, number 3. Pp 363–393. [Available with subscription]
- Rachel, KC, Daigle, S and Rachel, WS. 2007. "Learning problems reported by college students: Are they using learning strategies?" *Journal of Instructional Psychology*. Vol 34. Pp 191–199.

- Ramsden, P. 2003. *Learning to Teach in Higher Education*. London, UK. Routledge Falmer.
- Raphael, L and Burke, M. 2012. "Academic, social, and emotional needs in a middle grades reform initiative". *Research in Middle Level Education Online*. Vol 35, number 6.
- Relich, JD, Debus, RL and Walker, R. 1986. "The mediating role of attribution and self-efficacy variables for treatment effects on achievement outcomes". *Contemporary Educational Psychology*. Vol 11. Pp 195–216.
- Resnick, LB and Hall, MW. 1998. "Learning organizations for sustainable education reform". *Daedalus*. Vol 127. Pp 89–118.
- Ritchhart, R, Morrison, K and Church, M. 2011. *Making Thinking Visible: How to Promote Engagement, Understanding and Independence in All Learners*. San Francisco, California, USA. Jossey-Bass Publishers.
- Robbins, SB, Lauver, K, Le, H, Davis, D and Langley, R. 2004. "Do psychosocial and study skill factors predict college outcomes? A meta-analysis". *Psychological Bulletin*. Vol 130, number 20. Pp 261–288.
- Roeser, RW, Eccles, JS and Sameroff, AJ. 2000. "School as a context of early adolescents' academic and social-emotional development: A summary of research findings". *Elementary School Journal*. Vol 100, number 5. Pp 443–471.
- Rosebrough, R and Leverett, RG. 2011. *Transformational Teaching in the Information Age: Making Why and How We Teach Relevant to Students*. Alexandria, Virginia, USA. ASCD Publications.
- Rubenstein, G. 2009. "Set Up SEL in Your Classroom, School, or School District". *Edutopia—The George Lucas Educational Foundation*. January 2012. www.edutopia.org/stw-louisville-sel-replication-tips.
- Säljö, R. 1979. "Learning about learning". *Higher Education*. Vol 14. Pp 443–451.
- Sanders, R and McKeown, L. 2008. "Promoting reflection through action learning in a 3D virtual world". *International Journal of Social Sciences*. Vol 2, number 1. Pp 50–55.
- Schine, J. 1997. "Service learning and young adolescents: A good fit". In Irvin, JL (ed). *What Current Research Says to the Middle Level Practitioner*. Columbus, Ohio, USA. National Middle School Association.
- Sharpe, R, Beetham, H, Benfield, G, DeCicco, E and Lessner, E. 2009. *Learners Experiences of E-learning Synthesis Report: Explaining Learner Differences*. London, UK. JISC (JISC Learner Experience of E-learning Programme Report). [Available online]
- Simon, H. 1996. "Observations on the sciences of science learning". Paper prepared for the Committee on Developments in the Science of Learning: An Interdisciplinary Discussion. Department of Psychology, Carnegie Mellon University.
- Smith, C. 2009. "Foreign language learning: A different form of diversity". In Gurung, R and Prieto, L. *Getting Culture: Incorporating Diversity Across the Curriculum*. Virginia, USA. Stylus Publishing, LLC. Pp 115–123.
- Spinks, S. 2009. "Adolescent brains are works in progress. Here's why". www.pbs.org/wgbh/pages/frontline/shows/teenbrain/work/adolescent.html#fn0.
- Spradley, JP. 1980. *Participant Observation*. New York, USA. Holt, Rinehart and Winston.
- Stewart, V. 2012. *A World-Class Education: Learning from International Models of Excellence and Innovation*. Alexandria, Virginia, USA. ASCD Publications.
- Tanner, JM. 1973. "Growing up". *Scientific American*. Vol 229, number 3. Pp 35–43.
- Tarras, M. 2005. "Assessment—summative and formative—some theoretical reflections". *British Journal of Educational Studies*. Vol 53, number 4. Pp 466–478.

- Terzis, V, Moridis, CN and Economides, A. 2013. "Continuance acceptance of computer-based assessment through the integration of user's expectations and perceptions". *Computers & Education*. Vol 62. Pp 50–61. [Available with subscription]
- Thiers, N and Preston, TK. 2010. *Keeping the Whole Child Healthy and Safe: Reflections on Best Practices in Learning, Teaching, and Leadership*. Alexandria, Virginia, USA. ASCD Publications.
- Tomlinson, CA. 2004. "Sharing responsibility for differentiating instruction". *Roeper Review*. Vol 26, number 4, Pp 29–34. In Murawski, WM. 2010. *Collaborative Teaching in Elementary Schools: Making the Co-Teaching Marriage Work!* Thousand Oaks, California, USA. Corwin Press.
- Tomlinson, CA. 2008. *The Differentiated School: Making Revolutionary Changes in Teaching and Learning*. Alexandria, Virginia, USA. ASCD Publishing.
- Tomlinson, CA and McTighe, J. 2006. *Integrating Differentiated Instruction and Understanding by Design*. Alexandria, Virginia, USA. ASCD Publications.
- Tomlinson, CA, Kaplan, SN, Renzulli, JS, Purcell, JH, Leppien, JH, Burns, DE, Strickland, CA and Imbeau, MB. 2008. *The Parallel Curriculum: A Design to Develop Learner Potential and Challenge Advanced Learners* (second edition). Thousand Oaks, California, USA. Corwin Press.
- Turkle, S. 1999. "Cyberspace and identity". *Contemporary Sociology*. Vol 28, number 6. Pp 643–648.
- Volet, SE. 1991. "Modelling and coaching of relevant metacognitive strategies for enhancing university students learning". *Learning and Instruction*. Vol 1. Pp 319–336.
- Voogt, J, Erstad, O, Dede, C and Mishra, P. 2013. "Challenges to learning and schooling in the digital networked world of the 21st century". *Journal of Computer Assisted Learning*. Vol 29, number 5. Pp 403–413. [Available with subscription]
- Vygotsky, L. 1999. *Thought and Language*. Boston, Massachusetts, USA. The MIT Press.
- Warburton, B. 2013. "CAA—whither and whence? The last decade and the next decade". *Proceedings for 17th CAA Conference*. Loughborough, UK. Loughborough University. [Available online]
- Wells Lindfor, J. 1999. *Children's Inquiry: Using Language to Make Sense of the World*. New York, USA. Teachers College Press.
- Westera, W. 2011. "On the changing nature of learning context: Anticipating the virtual extensions of the world". *Journal of Education, Technology and Society*. Vol 14. Pp 201–212.
- Westerville, OH and Stevenson, C. 2002. *Teaching Ten to Fourteen Year Olds* (third edition). Boston, Massachusetts, USA. Allyn & Bacon.
- Westman, AS and Lewandowski, LM. 1991. "Presentation does not guarantee recall: Students need to learn study habits". *Perceptual and Motor Skills*. Vol 72, number 2. Pp 1316–1318.
- Wiggins, G. 1998. *Educative Assessment. Designing Assessments to Inform and Improve Student Performance*. San Francisco, California, USA. Jossey-Bass Publishers.
- Wiggins, G and McTighe, J. 2005. *Understanding by Design* (expanded second edition). Alexandria, Virginia, USA. ASCD Publications.
- Willingham, D. 2009. *Why Don't Students Like School: A Cognitive Scientist Answers Questions about How the Mind Works and What It Means for the Classroom*. San Francisco, California, USA. Jossey-Bass Publishers.

Wright, T and Hamilton, S. 2009. *Assessing Student Understanding in the Molecular Life Using a Concept Inventory*. Queensland, Australia. The University of Queensland.

Yaworski, J, Weber, R and Ibrahim, N. 2000. "What makes students succeed or fail? The voices of developmental college students". *Journal of College Reading and Learning*. Vol 30, number 2. Pp 195–219.

Yilmaz, K. 2011. "The cognitive perspective on learning: Its theoretical underpinnings and implications for classroom practices". *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*. Vol 84, number 5. Pp 204–212.