

Diploma Programme: From principles into practice

For use from August 2015



International Baccalaureate®
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Diploma Programme: 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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Purpose of this document

Diploma Programme: From principles into practice (2015) provides guidance to teaching and learning in the context of the International Baccalaureate (IB) Diploma Programme (DP). This document replaces *Diploma Programme: From principles into practice* (2009) and explains the requirements of the programme.

How to use this document

The principles and practices detailed in this document apply to teachers of DP subjects in all IB World Schools. All staff involved in the programme should have access to and be familiar with this document.

Teachers and school leaders must have individual access to, and must use, current IB publications. This document references the publications below and describes how they can be used.

Additional publications

Diploma Programme: From principles into practice (2015) is part of a larger collection of DP and cross-programme documents that fully describe the programme and its implementation in IB World Schools.

DP publications	Contents
<i>Rules for IB World Schools: Diploma Programme</i>	Legal document that sets forth the legal relationship between the IB and IB World Schools delivering the DP
<i>General regulations: Diploma 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 DP
<i>Handbook of procedures for the Diploma Programme</i>	Essential information for heads of school and DP coordinators about the administration of the programme
<i>Diploma Programme assessment: Principles and practice</i>	Information about IB assessment philosophy and its practical application
Subject guides	Aims, objectives, syllabus, internal assessment criteria; additional subject-specific guidance for teaching and learning
Teacher support materials	For all subjects, practical assistance for teachers, including sample unit planning, assessments and approaches to teaching and learning
<i>Guide to school authorization: Diploma Programme</i>	Description of the process and requirements for becoming an IB World School offering the DP

DP publications	Contents
<i>Rules for candidate schools</i>	Requirements, procedures and terms for schools applying for candidacy and implementing the DP
<i>Programme evaluation guide and self-study questionnaire: Diploma Programme</i>	Expectations for IB World Schools and the IB in the formal reflection process that supports ongoing development of the programme

Cross-programme publications	Contents
<i>What is an IB education?</i>	Explanation of the ideals that underpin all IB programmes by describing the IB's educational philosophy
<i>IB learner profile</i>	The IB's mission in action
<i>Guide for reflection on international-mindedness in IB World School community</i>	Framework to empower schools to make conscious choices about actions and attitudes and effectively implement standards and practices
<i>The role of technology in IB programmes</i>	Series of resources to help schools develop meaningful dialogue around technology integration and implementation
<i>Candidates with assessment access requirements</i>	Policy and information about arrangements available for candidates with assessment access requirements
<i>Learning in a language other than mother tongue in IB programmes</i>	Introduction to a pedagogy for second language learners
<i>Developing academic literacy in IB programmes</i>	Framework to help teachers plan for the development of cognitive academic language proficiency (CALP)
<i>Developing a school language policy</i>	Also included in <i>Language and learning in IB programmes</i> , these are stand-alone guidelines
<i>Guidelines for school self-reflection on its language policy</i>	Audit tool for schools as they review and develop their language policy
<i>Language and learning in IB programmes</i>	Description of the philosophy, theories, pedagogy and policy that underpin the development of multilingualism
<i>Learning diversity in IB programmes</i>	Outline of the position of the IB with regard to learning diversity/ special educational needs
<i>Meeting student learning diversity in the classroom</i>	Designed to identify specific learning needs, offer information and suggest teaching strategies and resources
<i>The IB guide to inclusive education: A resource for whole-school development</i>	Designed to facilitate knowledge in the field of inclusive education and provoke discussion through reflection and inquiry
<i>Effective citing and referencing</i>	Designed to support teaching of effective practices in citing and referencing
<i>Academic honesty in the IB educational context</i>	Information and support for teaching skills of academic honesty

Alignment with *Programme standards and practices*

The IB document *Programme standards and practices* (2014) 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. During the authorization process and periodic programme evaluation the IB assesses and provides feedback on the school's progress towards meeting the programme standards and practices.

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

Section	Standard	Chapter title
A	Philosophy	Understanding IB philosophy
B	Organization	Leadership and structure Resources and support
C	Curriculum	Collaborative planning Written curriculum Teaching and learning Assessment

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.

The DP was created in English and French initially by teachers at the International School of Geneva with increasing assistance from several other international schools. The programme that led to the awarding of the diploma consisted of a common pre-university curriculum and a common set of external examinations for students in schools throughout the world.

The DP sought to provide students with a truly international education—an education that encouraged an understanding and appreciation of other cultures, languages and points of view. Schools that first offered the DP were predominantly private international schools, but they included a very small number of private national institutions and schools belonging to state education departments. This balance has changed over the years.

The following schools participated in trial examinations in 1968: United World College of the Atlantic, Wales, UK; International School of Geneva, Switzerland; United Nations International School (UNIS), New York, US; International College, Beirut, Lebanon; Copenhagen International School, Denmark; Iranzamin, Tehran International School, Iran; and North Manchester High School for Girls, UK.

Universities' acceptance, or "recognition" of the IB diploma initially came through the efforts of educational leaders and public figures such as Lord Mountbatten, John Goormaghtigh (director of the European Centre of the Carnegie Endowment for International Peace) and Alec Peterson (director of the Department of Educational Studies, Oxford University), who had close ties with governments.

From the early 1980s, regional offices have been promoting the IB diploma to universities and governments, with the support of IB World Schools in their areas—the IB's regional offices are now located in Singapore, Bethesda, USA, and The Hague, Netherlands. Some governments hesitated to grant recognition; however as they came to understand that the DP is a complement to their educational system and could help to improve national schools, they began to accept the IB diploma at a growing rate. Today, the diploma is accepted by the best universities around the world. The majority of DP graduates enter higher education. Full details about the IB's recognition policies can be found on the IB website at "IB Recognition" (www.ibo.org/en/university-admission/recognition-of-the-ib-diploma-by-countries-and-universities/).

With the introduction of the Middle Years Programme (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 Career-related Programme (CP—previously called IB Career-related Certificate (IBCC)) in 2012 builds further on the continuum by providing another pathway to international education for students aged 16 to 19 in addition to the DP.

Programme model

The Diploma Programme (DP) provides a challenging, internationally focused, broad and balanced educational experience for students aged 16 to 19. Students are required to study six subjects and a curriculum core concurrently over two years. The programme is designed to equip students with the basic academic skills needed for university study, further education and their chosen profession. Additionally the programme supports the development of the values and life skills needed to live a fulfilled and purposeful life.

Breadth and balance

A distinguishing characteristic of the DP is a concern with the whole educational experience of each student. The curriculum framework (see figure 1), and the supporting structures and principles, are designed to ensure that each student is necessarily exposed to a broad and balanced curriculum.

The learner profile and the core are positioned at the centre of the programme, reflecting the priority given to affective disposition as well as cognitive development, and a concern with developing competent and active citizens as well as subject specialists. The core requirements of theory of knowledge (TOK), the extended essay and creativity, activity, service (CAS) broaden the educational experience and challenge students to apply their knowledge and understanding in real-life contexts.



Figure 1
The Diploma Programme model

Students study six subjects concurrently. These include two languages, one subject from individuals and societies, one science, one mathematics subject, and one subject from the arts or another subject from the other groups. (See the *Handbook of procedures for the Diploma Programme* for a full description for this and other specific requirements.) There are also interdisciplinary subjects such as environmental systems and societies, and literature and performance, available to students. These options allow students to satisfy the requirements for two groups of subjects by studying one subject, thus allowing them to select another subject from any group to make up a total of six.

It is essential that a pre-university education equips students with the depth of discipline-specific knowledge and skills that they will need to follow their chosen university course and for use later in their professional lives. Specialization is encouraged in the DP by expecting students to study three (with the possibility of studying four) subjects at a higher level (HL). This is balanced with a requirement for breadth by expecting students to study three more subjects at standard level (SL) (or two when four HL subjects are completed).

Education for intercultural understanding

International-mindedness is an attitude of openness to, and curiosity about, the world and different cultures. Intercultural understanding involves recognizing and reflecting on one's own perspective, as well as the perspectives of others.

International-mindedness is concerned with developing a deep understanding of the complexity, diversity and motives of human actions and interactions. In the modern information age geographical frontiers present less of an obstacle than in the 1960s (when the DP was first developed) and the impacts of globalization can be seen in every area of life. Intercultural understanding and cooperation have never been more important and lie at the very heart of the IB's mission statement and the IB learner profile.

To increase intercultural understanding, IB programmes foster learning how to appreciate critically many beliefs, values, experiences and ways of knowing. The goal of understanding the world's rich cultural heritage invites the IB community to explore human commonality, diversity and interconnection.

In the DP the subject aims, objectives, content and assessment criteria are written in order to develop international-mindedness while, at the same time, ensuring that teachers have enough choice to make the course locally relevant and grounded.

Language learning, and learning about different cultures through language, plays a pivotal role in the programme. In studies in language and literature, while studying their best language, students are exposed to a wide range of literature in translation that requires cross-cultural comparison. The learning of a language in language acquisition courses emphasizes the development of intercultural communicative competence, which focuses on developing the skills that enable learners to mediate between people from different societies and cultures (Byram 1997).

All individuals and societies subjects focus on understanding human nature, decisions and events in a global as well as local context and emphasize critical thinking, the development of multiple perspectives and constructive comparisons. The sciences group recognizes science and technology as vital international endeavours based on open critical inquiry that transcends politics, religion and nationality. The mathematics group stresses the universal language of mathematics and its origins in the world's great civilizations. The arts group encourages an active exploration of arts within the students' own and other cultural contexts with respect for, and understanding of, cultural and aesthetic differences that promote critical thinking and problem-solving. The core components of TOK, the extended essay and CAS all encourage reflection on multicultural perspectives and experiential learning beyond the traditional classroom.

Focusing exclusively on the taught curriculum, however, is insufficient. Standard A4 in the IB publication *Programme standards and practices* states: "The school develops and promotes international-mindedness and all attributes of the IB learner profile across the school community." There is a list of practices that IB World Schools must foster, most of which go beyond the formal, taught curriculum to consider essential aspects of the school environment and its supporting structures and policies.

The whole school community needs to model the values and behaviours associated with education for intercultural understanding. International-mindedness can be achieved in rich national as well as international settings provided the school environment, broadly considered, is supportive. International-mindedness starts with the attitude an individual has towards themselves and others in their immediate environment. Students need to learn to understand themselves, what it means to be human, and to make sense of their place in an increasingly interdependent, globalized and digitized world. International-mindedness, therefore, starts with self-awareness and encompasses the individual and the local/national and cultural setting of the school as well as exploring wider global perspectives.

A holistic educational experience

Alec Peterson, the first director general of the IB, described the aims of the DP as going beyond the acquisition of knowledge and skills to include the education of the “whole” person. This was in order “to develop to their fullest potential the powers of each individual to understand, to modify and to enjoy his or her environment, both inner and outer, in its physical, social, moral, aesthetic and spiritual aspects” (Peterson 2003: 33).

While helping students acquire international perspectives and understanding is essential, it is not sufficient. Students also need to develop the “will to act” and the skills and values necessary to make a positive contribution to society. Responsible citizenship is based upon compassionate and well-informed citizens who become proactively involved in their communities. It is also important to encourage young people to enjoy life to the full, and educating the whole person includes exposure to artistic, recreational and sporting activities that can enrich experience. (Peterson 2003: 58).

The CAS programme plays a central role in providing a holistic educational experience and needs to be grounded in a supportive learning environment.

Education outside the classroom

Classrooms and school buildings can restrict or support the learning/teaching environment. The more students are involved with the learning process and with making decisions about their learning, the greater the learning outcome. A key purpose of the written curriculum is to provide improved and more coherent opportunities for students and, in turn, teachers to use cross-disciplinary elements (for example, education for citizenship, outdoor adventure and experiential education) as vehicles for learning across curricular areas and subjects. Educational experiences outside the classroom are often easier for the wider community to relate to, so reflections on these experiences can often form powerful aspects of a student’s identity.

Challenging outdoor activities and environmental studies, among many others, are particularly powerful learning opportunities. They contribute to a range of important societal targets across education, health, anti-social behaviour and community cohesion. Schools can try to provide a progressive range of learning experiences outside the classroom, including at least one residential experience, for all young people, incorporating an element of outdoor/experiential education.

Outdoor adventure is a general term used to embrace different types of activities undertaken by students in a range of contexts: outdoor and residential visits; fieldwork; outdoor and adventurous activities and outdoor pursuits. “Adventure” activities can be developed around a whole-school approach, which forms a valuable component of a rounded and rich educational experience. It provides a very important setting for young people to discover more about themselves, to develop environmental awareness and to engage in debate around sustainability issues. Young people benefit from regular opportunities to learn in an outdoor setting, and to relate theory to reality.

What is an IB education?

An IB education is the result of a dynamic interaction between IB learners (who), teaching and learning in the IB (how), global contexts for teaching and learning (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 promoted critical engagement with challenging ideas, one that both values the past and remains open to innovation.

For more details on each of the following sections, please see the IB publication *What is an IB education?*

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 challenges. 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 (courageous), 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 IB 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 connected to the global community 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 schools 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. Schools must develop and promote international-mindedness and all attributes of the IB learner profile across the school community.

Teaching and learning in the IB

Teaching and learning 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.

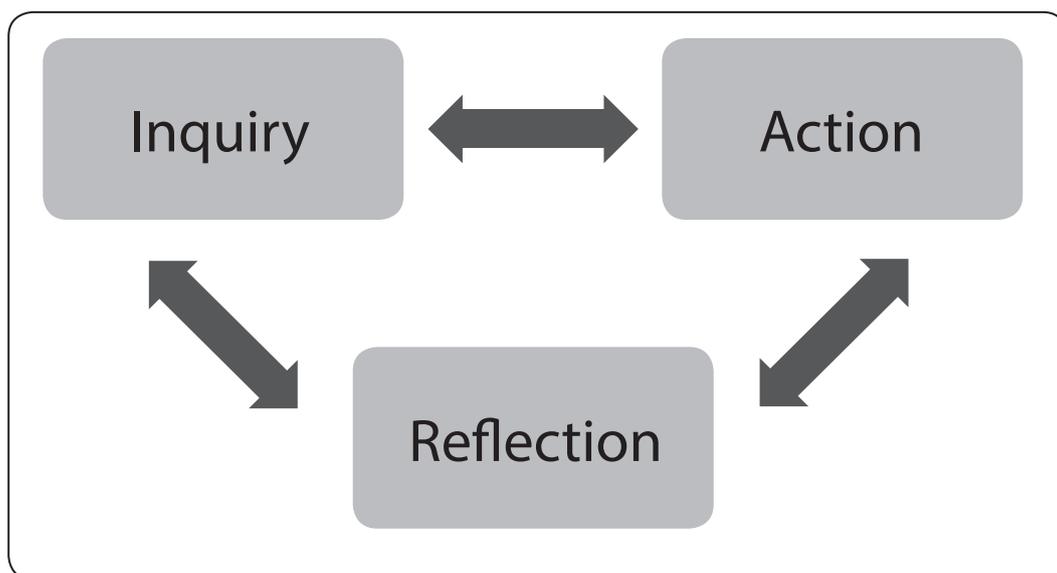


Figure 2
Teaching and learning in the IB

Inquiry

Sustained inquiry frames the written, taught 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 teaching and learning through practical, real-world experience. 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. IB learners act at home, as well as in classrooms, schools, communities and the broader world.

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 efforts 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 (ATL) 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 the 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 teaching and learning 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 or online, students learn about the world from the curriculum and from their interactions with other people. Teaching and learning 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 aim for students to learn at least two languages.

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, connected and assessed.

Broad and balanced

An IB education represents a balanced approach, offering students access to a broad range of content that spans academic subjects. In the Diploma Programme (DP) students study courses from six subject areas plus a core curriculum, with students developing skills, knowledge and understanding in multiple academic disciplines.

Conceptual

Conceptual learning focuses on powerful organizing ideas that have relevance within and across subject areas. 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. Primary Years Programme (PYP) and Middle Years Programme (MYP) students encounter key and related concepts, and students in the DP and Career-related Programme (CP) further develop their conceptual understandings.

Connected

IB curriculum frameworks value concurrency of learning. Students encounter many subjects simultaneously, 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.

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.

Assessed

In IB programmes, assessment forms an integral aspect of teaching and learning. 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 demonstrations 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, including the PYP exhibition, MYP community project and personal project, the CP reflective project and the extended essay in DP.

External assessments for DP students are internationally benchmarked, balancing valid measurement with reliable results.

Developing a quality Diploma Programme curriculum

Section C of the *Programme standards and practices* (2014) is focused on curriculum: collaborative planning, written curriculum, teaching and learning, and assessment.

In Diploma Programme (DP) schools there needs to be a regular review of the curriculum and course structure, unit plans and other curriculum documentation. Useful curriculum development strategies include: analysing the data from assessments; reflecting on unit plans; collaboratively planning the curriculum; and the setting of specific teaching goals.

Some schools use a curriculum council to decide all changes to the curriculum framework and the subjects offered. These councils often involve student and parent participation, in addition to teachers and school administrators, and provide a forum for open consideration of the strengths and challenges of the school's educational programme.

The prompts below highlight the characteristics of a quality IB curriculum and align with IB's educational philosophy as articulated in *What is an IB education?* In a school process for developing, reviewing and assessing a rigorous and internationally minded curriculum it may be valuable to consider these questions and possible answers.

How does the curriculum focus on all learners?

- Supports the development of the attributes of the IB learner profile
- Addresses students' social, emotional and physical well-being
- Promotes effective teamwork and purposeful/productive collaboration
- Provides opportunities for making reasoned, ethical decisions
- Emphasizes learning how to learn (approaches to learning) and promotes the autonomy of the learner
- Provides for appropriate differentiation and supports students with a variety of language profiles
- Provides access to the curriculum for a diverse range of learners

How does the curriculum reflect the IB's approaches to teaching and learning?

- Provokes curiosity in order to structure and sustain relevant inquiry
- Creates opportunities for real-world, authentic learning
- Creates opportunities for learning experiences leading to principled action
- Fosters creativity and imagination
- Promotes critical reflection and thinking through analysis, synthesis and evaluation
- Promotes mastery of skills

- Stimulates conceptual understanding
- Offers opportunities to communicate in a variety of ways
- Incorporates opportunities for appropriate formative and summative assessment

How does the curriculum develop opportunities to explore local and global contexts?

- Creates opportunities to engage with multiple perspectives
- Values and develops individual student's language profiles to promote multilingualism
- Promotes intercultural understanding by exploring human commonality, diversity and interconnection
- Prepares learners for a highly connected and rapidly changing world
- Explores local, national and global challenges in: environment; development; rights; peace and conflict; cooperation and governance

How does the curriculum explore significant content?

- Develops disciplinary understanding
- Develops interdisciplinary and/or transdisciplinary understanding
- Explores opportunities for authentic learning that reach beyond the scope of the individual subjects
- Promotes conceptual understanding and knowledge transferable to new contexts
- Derives from the aims and objectives of each subject (group)
- Assures content aligned with varied, meaningful assessments

Diploma Programme in the IB continuum

All schools need to align the Diploma Programme (DP) with students' prior educational experience. Schools that implement more than one IB programme are expected to align the programmes so that the students experience a continuum rather than separate programmes.

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 (written curriculum), how teachers work (taught curriculum) and the way students demonstrate their learning (assessed curriculum).

Each DP subject guide contains a section that explains the links to the Middle Years Programme (MYP) and the relationship to the Career-related Programme (CP) for that subject.

The Primary Years Programme

The nature of teaching and learning in the Primary Years Programme (PYP) is concept-based, transdisciplinary and largely taught by a single classroom teacher. IB World Schools have a responsibility to ensure that:

- there is a smooth transition from the transdisciplinary model into a model that focuses increasingly, but not exclusively on disciplinary and interdisciplinary learning
- teaching is appropriate for students with a range of individual learning needs.

As PYP 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 from Middle Years Programme to Diploma Programme

The MYP organizes teaching and learning 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 taught 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.

Students intending to continue their IB education in the DP after the MYP must be counselled by the school concerning their subject choices in MYP 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 approaches to learning (ATL) across the programmes also offers a powerful strategy for increasing students' readiness for the DP and their success in further study.

The MYP has a broad and balanced assessment model, using age appropriate, innovative assessments, which help students to develop essential academic and personal skills that prepare them for future study.

MYP assessment consists of:

- **ePortfolios** of carefully defined coursework in language acquisition, arts, design and physical and health education. This is consistent with assessment in many DP subjects and provides an excellent preparation for DP level coursework across the curriculum and in the core.
- **onscreen examinations** (two hours in duration) for selected courses in language and literature, sciences, mathematics, individuals and societies, and interdisciplinary learning. These assessments are designed to assess conceptual understanding and academic skills; firm foundations for DP learning. They take full advantage of the power of technology to create a stimulating learning environment and so stimulate student interest and engagement for later study.

In addition to consistent approaches to assessment, the requirements for the award of an MYP Certificate reflect closely the challenge of broad and balanced achievement required for success in the Diploma.

There must be no gap year to the DP for students taking part in the MYP.

Diploma Programme relationship with Career-related Programme

The CP (formerly known as the IBCC) is an innovative educational framework that follows the vision and educational principles of the IB for students aged 16 to 19. The aim of the CP is to provide students with an excellent foundation to support their further studies and specialized training, as well as ensure their success in the workplace. The CP's flexible educational framework allows schools to meet the needs, backgrounds and contexts of students.

CP students engage with a challenging programme of study that genuinely interests them while gaining transferable and lifelong skills in applied knowledge, critical thinking, communication, and cross-cultural engagement. The CP provides a comprehensive link between the academic challenge of the DP and the international-mindedness of the IB classroom into a tailored, career-focused pathway.

The CP framework is built around three interconnected elements:

- at least two DP courses
- a core that includes ATL, community and service, language development and a reflective project
- an approved career-related study.

The CP enables schools to widen participation in an IB education. Schools retain the ability to choose the career-related studies that are most suited to local conditions and the needs of their students. Schools gain the added flexibility in curriculum development as well as the CP core to create an educational pathway that puts a strong focus on individual student needs.

Compatibility with other systems

Classes combining IB curriculums with other school, state or national curriculums

When a school has to combine the teaching of Diploma Programme (DP) classes with other curriculums, great care must be taken to ensure that the integrity of the DP curriculum and assessment are maintained, and that students are not being disadvantaged in any way by the nature of this arrangement.

There are many curriculums, including national models, that schools may have to, or choose to, apply in conjunction with the DP. The DP curriculum 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 DP must ensure that the DP requirements for each subject group are met while also meeting external requirements as necessary.

The DP 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 teaching and learning
- the school's structure
- alignment of external requirements with the concepts, objectives, skills, knowledge and assessment of the corresponding subject group in the DP
- teaching approaches used to help students achieve the aims and objectives of the DP.

The relevant regional office or regional association may be able to offer advice or examples of ways in which DP schools have effectively implemented the DP in the context of local, state, or national requirements.

Becoming an IB World School

Why choose the Diploma Programme?

This section outlines the key factors schools need to consider in implementing and developing the Diploma Programme (DP). Effective leadership and management of the change process, starting with a willingness and readiness for change to occur, are essential prerequisites. The scale and the scope of the change, and the time needed to embed these changes, must not be underestimated. Schools must recognize that the change process does not stop once a programme has been fully implemented. Evaluation and development must continue as schools' experience with the programme allows for improvement in an ongoing cycle of evaluation, review and development.

Schools should be aware that there is no "one formula fits all" approach to developing the DP. Each school is unique and needs to consider its own context and the community it serves before deciding on the best way forward. However, change management, organizational learning and building the capacity for change in schools have been well researched. Useful case studies and academic research directly related to the DP can be found on the International Education Research Database (ibdocs.ibo.org/research/) on the IB website. One very useful source of practical information is the DP coordinators' forum on the online curriculum centre (OCC). The IB store is also a useful resource with many publications available.

Making the decision to introduce the Diploma Programme

The decision to introduce the DP needs to be thoroughly researched and be made in the light of a balanced appraisal of its suitability for a particular school. The commitment required is to a philosophy and an approach to education that must be consistent with the school's mission or, at least, with a vision of what the school aspires to become. Experienced IB World Schools offering the DP understand and support the IB's mission statement and the learner profile, and this understanding and commitment is shared by the whole school community, not just the leadership of the school.

Some schools are concerned that they might lose their traditions and identity by embarking on the DP. The diverse range of schools that currently offer the DP shows that there is no requirement to adopt a standardized approach. Indeed, an important challenge in implementing a programme is to ensure the unique school context, identity and characteristics fit with the IB mission.

Some schools choose to introduce the DP as one educational pathway for students while preserving local, national or other international programmes and qualifications. This can work well but it is important that the school examines the relationship between the DP and its other educational programmes in order to ensure fidelity of implementation. The school as a whole (as opposed to a section within a school) should ensure that its own philosophy and practices are consistent with the IB's mission statement and the IB learner profile.

Programme authorization

Schools interested in becoming IB World Schools must successfully complete an authorization process. During this process, the IB supports the candidate school in building the understanding of the programme and the organizational structures it will need to implement the DP.

The DP authorization process will vary by school, but typically takes about two years. Implementing the DP takes time, and schools need to complete all the essential processes. Schools go through a consideration phase, which includes a feasibility study, before deciding to implement the programme. The candidate phase then follows, during which the school works closely with an IB-assigned consultant, an experienced IB educator who will support the school as it works to prepare itself to apply for authorization. After the consultancy period concludes, the school will submit the application for authorization and, subsequently, host a team of IB educators for the verification visit. During this visit the IB team's primary concern is verifying that the essential elements of the programme standards and practices are in place and that the school is committed to ongoing programme development.

The process is described in the *Guide to school authorization: Diploma Programme* (2010) document. Further information on the process involved in becoming an IB World School and the stages of the authorization process as well as examples of all relevant forms can be found at ibo.org/become/index.cfm.

Programme evaluation—focus on student learning

Following authorization IB World Schools undertake a self-study as part of programme evaluation every five years. Programme evaluation is both a requirement and a service provided by the IB to IB World Schools. The aim is to support schools on the journey of implementation and on improving student learning. The IB is aware that for each school the implementation of the IB is a journey and that the school will meet these standards and practices to varying degrees along the way. However, it is expected that schools will make a commitment towards meeting all the standards, practices and programme-specific requirements and strive to continually improve the quality of their programme implementation.

It is a useful practice to maintain a file for each of the programme standards and practices, collecting evidence from various sources over time. This will help the school to make a critical assessment of its progress against each standard in the run-up to the next five-year programme review.

All stakeholders within the school community engage in broad reflection and documenting of their development as part of the process. The process is school owned and shared with the IB in the self-study. The IB provides feedback on how the school is implementing the programme. Many schools have found this process to be the source of new dynamism and momentum within the school and have incorporated it as a natural dimension of school life, implemented continuously beyond the IB-specific requirements. It provides an opportunity to pause and reflect honestly on achievements and new initiatives. It has also proved to be an opportunity for improved communication within the school.

School leadership

The Diploma Programme (DP) 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. The degree of change required to implement the DP approach at the school-wide level will, obviously, depend on conditions within the school at the time of implementation. However, to be realistic, administrators and teachers should recognize that:

- school-wide adoption of the DP 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, the individual teachers and, most significantly, on the quality of student learning—whether or not every student is engaged with the DP
- 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.

Leadership structures in schools vary widely according to local requirements and context. In the light of the process of change described above, schools may need to review their leadership structures. Implementing the DP may require more of a focus on pedagogical practices within a school. This may, in some cases, mean that a school needs to move away from a leadership structure that is focused on management to one more focused upon pedagogical leadership. Schools might need to review roles and responsibilities within a school leadership team to ensure the structure supports the implementation of the programme. The head of school/school principal and DP coordinator must demonstrate pedagogical leadership aligned with the philosophy of the programme.

Where schools must answer to a governing body or educational authority, it is important to have systems in place to keep these informed of the ongoing implementation and development of the programme and ensure their support.

Maintaining quality

Once a school has implemented the DP, it is up to the school leadership team to ensure that standards remain high.

Schools need to build a long-term capacity for cyclical review and programme development, and need systems in place to monitor five key areas:

- ongoing community-wide understanding and commitment to the aims and philosophy of the DP
- the school's commitment to teaching the curriculum to the best of its ability
- access to the curriculum (see "Learning diversity and inclusion")

- the school's commitment to ensure student-centred learning
- ongoing professional development.

Communication

After authorization communication remains as important as ever, but the needs of the school's community are more diverse. New teachers and parents will still need to learn about DP basics but there is the opportunity for experienced teachers and others to be involved directly in evaluative and developmental work. The following points should be considered.

- Induction for new teachers—some new teachers will be joining experienced departments while others will be working on their own. Schools will need to identify experienced teachers and ask them to help new teachers who will be working on their own. Schools can offer inductions that are rewarding for teachers new to the school or to the programme. Many schools write introductory handbooks or sections in the school's teacher handbook to support this process. Teachers should access IB training as a matter of urgency. See ibo.org/en/professional-development/find-events-and-workshops/.
- Induction for new parents and students—induction will be required for parents and students who are new to the DP and are considering entering the programme, as well as for those who have just started the DP. How will the school meet the needs of different groups of students? How will the school balance the needs of those who are new to the programme and those who think they are already well informed?

Schools should plan to involve students and parents in dialogue, gathering feedback about the DP to inform the school's curriculum review cycle. Focus groups and surveys are useful strategies. Regular community involvement also helps to foster support for the programme and its place in the school community.

Keeping up-to-date with programme developments

Schools need to keep up-to-date with information on new developments and changes in the DP. While the DP coordinator has a key role to play, all teachers should regularly visit the online curriculum centre (OCC), which features resources and discussion forums to support every subject teacher.

Reviewing school philosophy and action plan

Schools should periodically review their own philosophy and published mission statement to ensure that these reflect what is actually taking place in the school as a whole. Specifically, the school leadership team needs to consider how the core elements of the DP, the IB learner profile and the fostering of lifelong learning relate to other curriculums being offered in the school. The statements of mission and philosophy must be aligned with those of the IB to include references that the school values education that goes beyond academic development and encourages awareness beyond the individual and his or her immediate community.

While completing the applications for candidacy and authorization, schools are asked to submit an action plan based on objectives drawn from the *Programme standards and practices*. Once a school is authorized, the IB expects the school to continue developing the programme at the school, refining and further developing its practices. To this end, the school should continue updating the action plan, which is driven by the practices and programme requirements, establishing priorities for the school, including any IB recommendations from the authorization or evaluation process. The updated action plan is reviewed during programme evaluation as evidence of the school's commitment to ongoing improvement.

IB educator network (IBEN)

Developing and maintaining the school as a professional learning community becomes the highest priority (see the “Professional development” section). Over time, the opportunity for reflection, innovative professional development and practice might grow because less time needs to be spent on basic implementation.

The IB educator network (IBEN) can be a catalyst towards providing a high-quality IB experience in classrooms and schools. Teachers should be encouraged to become directly involved in IBEN activities as:

- examiners
- participants in curriculum review and other meetings
- workshop leaders
- team members for consultation, authorization and evaluation visits.

This provides significant benefits to the school as teachers learn to better understand IB processes and practices and can use this experience to train others in the school and to take a leading role in improving the delivery of the programme.

For more information on IBEN, please see www.ibo.org/en/jobs-and-careers/ib-educator-network/.

The need for teachers to continue to work closely and collaboratively on sharing good practice, discussing student progress and highlighting opportunities for interdisciplinary learning (in the theory of knowledge (TOK) course in particular—see “Teaching and learning”) will always be a priority.

Induction of students: Providing students with a smooth transition into the Diploma Programme

Students follow numerous educational pathways leading to the DP as the IB stipulates no formal entrance requirement. The IB continuum of education, as one option, is designed to facilitate a smooth progression. Whether or not the school offers the Primary Years Programme (PYP) and Middle Years Programme (MYP), vertical planning between DP teachers and those in earlier years is essential. The curriculum continuum needs to be mapped and written so that it represents a consistent and coherent progression.

Schools need to ensure that students are adequately prepared to begin the programme. Each DP subject guide specifies any prior learning that is presumed before starting the course. This should be considered together with syllabus and assessment details (also contained in each subject guide) for a comprehensive understanding of course expectations. In addition to subject-specific knowledge and skills, students will need to develop and display a number of linguistic and transdisciplinary competencies, skills, strategies and attitudes that are consistent with the learner profile in order to be successful. While these form the core competencies or approaches to learning (ATL) skills, and will be reinforced and developed over the course of the two years, some students might need specific support early in the programme in order to develop these. The “Approaches to teaching and learning” section provides more guidance in addition to the guide *Approaches to teaching and learning in the Diploma Programme* (2015).

The DP is demanding in terms of time commitment and it is important that students develop effective time-management skills from the start. This can be facilitated by ensuring students understand the expectations of time commitment over the two years of the DP. Time management needs to be supported by teachers who understand that their subject is one of six plus the three elements of the core and collaborate on setting assignments in a manageable way (see the timeline example provided in the “Programme structures (scheduling)” section).

Role of the Diploma Programme coordinator

The make-up of a school leadership team can differ depending upon school context. It frequently includes roles such as director, headteacher, principal, and assistant/vice principal. The governing body, administrative and pedagogical leadership and staff must demonstrate understanding of IB philosophy and implement the IB philosophy embedded in the IB mission statement and the development of the IB learner profile. The community must demonstrate an understanding of, and commitment to, the programme.

A key leadership role in the implementation and development of the programme is provided by the DP coordinator. A DP coordinator must be appointed with a job description, release time, support and resources to carry out the responsibilities of the position.

It is important that the job description of the coordinator includes recognition of this leadership function, in addition to the management roles of general programme administration and communication. DP implementation requires significant expertise in change management and a detailed understanding of the principles and practices of the DP. The coordinator, acting together with other school leaders, needs to have the authority to plan and manage the processes of change necessary for developing the programme.

In addition to carrying out a range of administrative functions, the DP coordinator is a part of the pedagogical leadership team. Pedagogy is defined as “the art and science of teaching children” (Ozuah 2005: 83), in contrast to andragogy which is “the art and science of helping adults learn” (Knowles 1980: 43). When considering teaching strategies suitable for DP students aged 16 to 19 it may be useful to move towards more andragogical approaches, in order to design teaching more appropriately matched to the developmental stage of the students.

The coordinator also needs to have a good knowledge of the regulations and procedures described in the *Handbook of procedures for the Diploma Programme* and the *General regulations: Diploma Programme*. The coordinator needs sufficient time allocation to do the job properly, reflecting the extensive demands of the role, and needs to be part of the school leadership team, in order to raise the profile of the DP at the highest level. Many schools also recognize the seniority of the post holder with a title such as “Director of year 11 and 12 studies and Diploma Programme coordinator” or “Assistant Principal and/or Assistant Principal for Curriculum and Instruction”.

The coordinator has responsibility for communicating information to all members of the school community, administering all internal and external assessment and acting as the primary point of contact between the school and the IB. The following illustrate some of the additional aspects of this role that should be taken into consideration.

1. Guiding the school community

School-based guidance must ensure that the community (students, parents and teachers) understand the course selection choices available, which can involve complex decision-making. Implicit in this is the need not only for clear knowledge of the IB regulations for course selection but also an understanding of the consequences for individual students in terms of appropriate balance, course load, stress and suitability for entry into higher education. In many schools this process of guidance in course selection must begin well before the first year of the DP. The coordinator may be involved in the publication of documentation to support such guidance in order to promote the understanding and support of the implementation of the DP by the school community. The coordinator should apply the IB copyright policy in all communications to the school community. This role is often fulfilled in collaboration with the counselling services department.

2. Determining admission to the Diploma Programme

The coordinator needs to be closely involved in developing and administering the processes for student admission into the DP; this may take the form of student interviews, testing or evaluation of teacher recommendations. For schools with open enrollment policies, the role of the coordinator is to develop processes for widely informing potential students and their parents about the programme so that they can make appropriate choices about whether to enroll and what options within the programme to select. In many school contexts the DP coordinator may work alongside an admissions director.

3. Working with Diploma Programme teachers

A significant aspect of the coordinator's role is to ensure that DP teachers gain a full understanding of the programme as a whole. In the implementation stage of the DP, the coordinator may well be involved in working with teachers to ensure that they fully understand their own subject's requirements and have a broader awareness of the whole of the programme and its requirements. This is often achieved through in-house professional development, professional learning communities and regularly scheduled meetings with teachers. This serves to provide them with a good understanding of the demands that the programme places on the student and the forms those demands take, thereby putting their own subject into perspective. These meetings can also be critical in providing time for teachers to work collaboratively to develop effective timelines for assessment, thereby ensuring that students are not unduly taxed, with multiple assignments due at any one time. In addition, these meetings allow teachers to share methodologies for ensuring learning success and academic honesty.

4. Scheduling Diploma Programme courses and the school calendar

The coordinator will have a role to play in creating, or working closely with the creator of, the school schedule and calendar to ensure that all courses meet DP requirements and that students gain the maximum benefit of concurrency of learning whenever possible. Scheduling can be a complex issue, particularly when other state, provincial or national courses have to be incorporated, and it is frequently necessary to conduct a detailed analysis of timelines for internal and external assessment completion and submission. Linked to this, the coordinator has a role to play in supporting the head of the school in ensuring that school policies support the ongoing development of the DP and that excellent teachers are recruited and retained.

5. Supporting the core

In some schools the DP coordinator has the additional responsibilities of organizing and coordinating creativity, activity, service (CAS) and the supervision of the extended essay in the school. This is not the ideal situation, and it is preferable that these tasks be assigned to other staff. It is advisable for the DP coordinator to work in close collaboration with the CAS coordinator and extended essay supervisor to make sure the DP is properly implemented according to the programme standards and practices.

CAS—The CAS coordinator role includes developing opportunities for students to engage in authentic experiential learning and to reflect on their experiences in meaningful ways. This is time-consuming and requires close cooperation with many other school colleagues, who need to be involved in supporting CAS. The CAS coordinator has a leadership function, if not a specific management responsibility, in ensuring that CAS is properly supported and valued in the school.

Extended essay—The extended essay supervisor is responsible for overseeing the extended essay, ensuring that students fully understand the nature of the essay, training potential teacher-supervisors, and working to develop an appropriate timeline for production of the essay. Depending on the number of students involved, this can be an extensive task.

TOK—The DP coordinator should ensure that the TOK teacher and the individual subject teachers collaborate in developing an understanding of the requirements of TOK across the DP.

6. Articulating curricular expectations leading to the Diploma Programme

In some schools, the coordinator may be involved in reviewing the curriculum in the school years preceding the DP. In such cases, the coordinator may work with heads of departments or curricular specialists to try to ensure that the curriculum provides adequate preparation in course content and assessment procedures, and potentially gives the maximum number of students the opportunity to enter the DP. In the case of schools offering both MYP and DP, the DP coordinator would naturally be in regular contact with the MYP coordinator to ensure coherent programme articulation through horizontal (looking across a grade level) and vertical (looking between grade levels) articulation exercises.

7. General administration

The DP coordinator is responsible for managing a large number of essential administrative tasks detailed in the *Handbook of procedures for the Diploma Programme*. These include, but are not limited to:

- registering students as examination candidates
- entering data on the IB information system (IBIS), including provisional grades
- student mark entry
- supporting students with assessment access requirements.

Coordinators usually also play a role in organizing and managing the examinations and must ensure that all teachers are following the correct procedures and practices in monitoring assessment tasks and sampling work to be forwarded to the IB. For the IB Open World Schools pilot, the DP coordinator acts as the conduit between the student and the IB—in terms of assessment logistics.

Many DP coordinators receive administrative assistance. The range of administrative tasks on top of pedagogical leadership responsibilities often mean that assistance is essential, especially in schools with large numbers of candidates.

8. Designing a database for the IB community

For many schools, it is important to maintain contact with alumni of the DP and to develop a database of examination results, higher education experience and contact information within the context of any pertaining data protection requirements. This type of longitudinal data analysis may be the responsibility of the coordinator. Students are encouraged to register with the IB alumni network at blogs.ibo.org/alumni/register/.

9. Administering the Diploma Programme budget and teacher professional development

The coordinator is frequently responsible for administering the budget allocated to the DP. This might include postage and courier costs, the purchase of publications, and annual and examination fee payments. In addition, the coordinator will wish to ensure that teachers have received appropriate IB-authorized training, frequently a very significant annual budget item for IB World Schools.

10. Organizing and completing the five-year programme evaluation

The coordinator will have the prime responsibility for ensuring that all stakeholders have access to, and comprehend the expectations explicit in, the document *Programme standards and practices* (2014). This understanding will be the basis of an effective review process, conducted over one full year, which the coordinator will spearhead, ensuring completion by the due date for submission to the IB.

11. Student progression to further education

The coordinator will have a role in facilitating student progression to further education, communicating with universities and explaining to students and parents the processes and policies involved. One important element of this is ensuring that students and parents are aware of specific university admissions requirements and any impact these may have on subject selection (see article 7 on “University recognition” in *Rules for IB World Schools: Diploma Programme*). This role may go beyond communication of existing opportunities to a proactive engagement with universities, provincial and national authorities in order to improve recognition of the diploma. The coordinator will need to ensure that all requests for results to universities and legalization of diplomas are processed.

12. Programme implementation and development

The role of the coordinator in DP implementation and development is extensive. The most intangible, but also probably the most significant, aspect of this role is ensuring that the school embraces the IB’s mission statement and its learner profile, and ensuring that the school is able to demonstrate in an explicit way how the structure of the DP and its implementation are furthering both (see “IB learners and the IB learner profile”). In this way the coordinator fosters the spirit of an international education in the school, one that will hopefully help graduating students to develop the skills, wisdom and cultural understanding necessary to engage with the significant global issues we face now and in the future.

13. Part of the pedagogical leadership team

The processes involved in the management of the DP are comprehensively explained in the *Handbook of procedures for the Diploma Programme*, which details the specific regulations and practical requirements for delivering the programme. However, in addition to the crucial “procedural”/organizational responsibilities of DP coordinators, another important aspect of the DP coordinator role is that of being part of the school’s pedagogical leadership team. For more details see *Approaches to teaching and learning in the Diploma Programme* (2015).

This does not mean that the sole responsibility for pedagogical leadership should fall on the shoulders of the DP coordinator. However, it does mean that DP coordinators play a crucial role in helping to ensure, for example:

- that there is a clear and unified approach to planning, including collaborative planning
- that international-mindedness is embedded in curricular and co-curricular activities
- that the standard to which coursework is marked is established and monitored
- that the three elements of the DP core play a central role in the curriculum and that both support, and are supported by, the subject disciplines.

14. Promoting the use of the online curriculum centre

Encouraging teachers to actively use the OCC and to participate in its forums is another important consideration. The DP coordinator must also ensure that all teachers attend IB training as required by programme regulations.

Language learning

Language options and language support

In many schools, the maintenance and recognition of students' mother-tongue language(s), the availability of subjects in studies in language and literature and language acquisition, and the availability of resources to offer school-supported self-taught language A: literature can impact on student access to the Diploma Programme (DP). Because language demographics vary widely, each school is required to develop a language policy to address these issues (see *Guidelines for developing a school language policy* (2008) and *Language and learning in IB programmes* (2011) as well as the sub-section "Developing a school language policy" in the "Implementation policies" section in this publication).

Access can be broadened when a school fully understands and supports the needs of students for whom the language of instruction in the school is not their best or first language. Teachers of all subjects need to understand their role in supporting student language development (see *Learning in a language other than mother tongue in IB programmes* (2008) and *Language and learning in IB programmes* (2011) for further guidance). Many DP students complete their Diploma in a language that is not their best language for academic work. A powerful feature of the DP is the policy of mother-tongue entitlement that promotes respect for the literary heritage of the language a student uses at home. Schools are afforded two important facilities to provide opportunities for students to continue developing oral and writing skills in their mother tongue while studying the DP in a different language of instruction. These facilities are known as *school-supported self-taught languages* and *special request languages*, and they are made available for the language A: literature course.

Language A: literature can be studied on a school-supported self-taught basis in a situation where the student wishes or needs to complete the studies in language and literature requirement in a language for which the school does not have a qualified teacher. Self-taught students may study language A: literature at standard level only. The school-supported self-taught option is not considered appropriate when there are more than five students at a school in the same year of the programme studying the same language A: literature at standard level (see the *Handbook of procedures for the Diploma Programme* for detailed information in this regard).

A school can request a language that is not automatically available using the special request facility (see the *Handbook of procedures for the Diploma Programme* for the procedures to follow). Wherever possible, schools should offer students the possibility of studying their mother tongue in the studies in language and literature subject area. Depending upon the student's fluency in the language of instruction of the school, he or she could complete another subject in that area or study language B in the school's language of instruction. Students will still have to study their other DP subjects in the language of instruction of the school, so it is essential that all teachers be aware of the language needs of their students who are studying DP subjects in a language other than the mother tongue.

In offering language A: literature on a school-supported self-taught basis or via the special request facility, the DP coordinator will need to ensure that all course requirements are met. Schools need to make arrangements to assist the student in selecting appropriate literary works, sign off on the written assignment and help supervise the oral internal assessment. For more details see the *Language A: literature school-supported self-taught support material* on the online curriculum centre (OCC).

Developing academic literacy in IB programmes

What is an IB education? explains the ideals that underpin IB programmes. It identifies the development of multilingualism for all students as an essential characteristic of an IB education. In *Language and learning in IB programmes* (2011) the concept of multilingualism is described and explained in some detail. Six language domains in which students may become proficient are identified. One of the domains is “cognitive academic language proficiency” or CALP, a term created by Jim Cummins (1979) to refer to the language necessary for students to become literate in the language of that discipline.

DP students develop CALP through the use of language in the disciplines that they study. *Developing academic literacy in IB programmes* (2014) supports the pedagogical idea that all teachers have the responsibility to be aware of their students’ language abilities and scaffold instruction appropriately. This document provides teachers with a framework for planning and reflecting on the teaching and learning of CALP. It can be used for:

- planning activities that maximize learning of academic literacy
- differentiating activities for diverse learners
- checking that all literacy skills are practised sufficiently
- collaborating with literacy specialists and other teachers.

Practices that support the development of CALP should be part of a whole-school approach to language and learning, which is consistent with the pedagogy set out in *Language and learning in IB programmes* (2011) and which is articulated in the required school language policy.

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. A key indicator of inclusion in schools 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.

The central place of approaches to learning (ATL) in all IB programmes 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. Differentiated teaching practices can build opportunities in which each student can develop, pursue and achieve appropriate individual learning goals. The inclusion of all students requires a school to address differentiation within the written, taught and assessed curriculum. This can be demonstrated ideally in a unit planner and in the teaching environment.

Inclusion succeeds when a school-wide culture of collaboration encourages and supports inquiry and problem-solving. 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 support and individual progress. The inclusion/special educational needs (SEN) policy developed by the school must be made available to staff, parents and students.

For more information please refer to the *Handbook of procedures for the Diploma Programme, Learning diversity in the International Baccalaureate programmes: Special educational needs within the International Baccalaureate* (2010), *Candidates with assessment access requirements* (2014) and *The IB guide to inclusive education: A resource for whole-school development* (2015).

Students with assessment access requirements

Schools must provide accessible teaching and learning activities. However, it is important that teachers and administrators are aware of the many opportunities available for students with assessment access requirements and that the school actively promotes the participation of all students as part of encouraging access.

The Diploma Programme (DP) has well-established support mechanisms for assessment access requirements, as outlined in the publication *Candidates with assessment access requirements* (2014). There are procedures in place to request for inclusive assessment arrangements for the IB assessments and to cater for special requirements. All requests for inclusive assessment arrangements must be submitted using the IBIS online system. The *Request for inclusive assessment arrangements* is located under the **Candidate** tab. See the *Handbook of procedures for the Diploma Programme* for detailed information and the "Differentiated learning" section in this publication.

Choosing the Diploma Programme or individual subject courses

The DP is academically demanding and as such may not be the most appropriate educational choice for all students in a school. However, success is possible for a much wider range of students than is often perceived. The experience of many schools where there is open admission into the DP and where all students are encouraged to participate with some taking individual subject courses if more appropriate supports this assertion. Students who have completed individual subject courses can have an educational experience that enriches their lives and better equips them to be successful in further education and in their professional and personal lives.

The DP provides for a breadth and depth of educational experience that goes beyond a collection of individual subject courses and this is why IB World Schools are encouraged to support their students in pursuing the DP wherever possible.

Student selection process

There must be systems in place to promote and support enrollment in the DP and to advise students regarding their options in the programme. A policy of open admission offers the broadest access to the programme. However, if a school is required to have an admissions policy that is not open to all, the following factors should be considered.

- Economic factors need not be a limitation on students' access to IB programmes. Schools are encouraged to explore the full range of financial resources that may be available to their students. Being aware of the costs that are passed on to students and the potential impact on access is essential.
- Success in the DP is best measured by the value added in individual student development and not by the diploma score. Students achieving any total points score represent great success.
- Care must be taken with any application process to ensure that students from groups who have been historically under-represented do not feel disenfranchised. Some schools seeking to expand access use multiple sources of information about the student's background to obtain a holistic view of the applicant. This allows those schools to include a broader range of students.
- The Career-related Programme (see the sub-section "Diploma Programme relationship with the Career-related Programme" in the "Diploma Programme in the IB continuum" section in this publication) may provide another pathway to an IB education for students.
- The admissions process must be transparent, with the criteria used for admission clearly stated in an admissions policy that is available to the whole community.

Other factors to consider in student admission policies include the following.

- There should be multiple points of entry to, and different pathways through, the years leading up to the DP, with access in mind. Within each pathway, schools should ensure that the key skills and knowledge needed for success in the programme are developed.
- Schools should recognize that resilience plays a key role in determining student success in the DP. A number of examples can be found on the IB research pages at www.ibo.org/en/about-the-ib/research. This can be difficult to measure. Various writing tasks or interviews are employed by some schools in an effort to determine students' attitudes and abilities in this area.

- The school's published statements of mission and philosophy should align with those of the IB so schools must educate their entire school community about the philosophy of the IB and the benefits and demands of the programme. This will help students make an informed decision about enrolling in the DP, taking their skills, interests and knowledge into consideration.
- It is useful if materials relevant to admission to the programme are readily available, especially in all languages used by the community.
- When the student is transferring from another school to start the DP, every effort must be made to ensure the transition is as smooth as possible, including clear and comprehensive communication between the schools, the student and parents.

Diploma Programme courses online

IB World Schools have the opportunity to enroll students in DP courses online. The courses are developed and delivered by IB approved online course providers. Approved course providers comply with IB standards and the online courses are aligned with the requirements of the relevant subject guides.

The IB recognizes that DP courses online can:

- extend subject choice for students in IB World Schools
- create the potential for different ways to experience international and intercultural classrooms
- enable students to develop essential learning skills.

Students, especially those new to online learning, can find the initial experience challenging. An online course will require as much, if not more, of a student's time as the equivalent face-to-face course. Consequently, it is recommended that time devoted to online courses be scheduled as a regular part of a student's school day with the expectation that a student will need additional time to study and complete assignments. Such time allotted by the school may also be used for meetings between the student and the site-based coordinator to discuss grades, progress and to resolve technical or other issues. As courses can be accessed at any time, students may sometimes wish to start an assignment during the day and finish it away from school.

Success for students also relies on their access to appropriate hardware, software and to the internet. A pre-start technical check by the site-based coordinator to ensure that the student is able to operate all needed systems can pre-empt the loss of precious time at the beginning of the course. School access may also be interrupted by firewalls and other protective software. It should be assumed that students will require time outside the classroom to complete coursework; therefore, the site-based coordinator should ensure that students have access to the necessary technology outside school.

Effective time management and self-regulation skills are necessary for students to succeed in online courses. Students participating in online courses should have frequent interaction with teachers and classmates synchronously via web conferencing, online chats or other technologies, as well as asynchronously via discussion boards, forums, wikis, feedback on assignments and other means. Students taking a DP course online will study the same material and take the same exams as face-to-face students.

DP courses online have the following general characteristics; they:

- are aligned with the appropriate IB subject guide
- adhere to all requirements for internal assessments and other IB requirements
- are developed in consultation with IB subject matter experts
- are designed as student-centred, inquiry-based learning environments

- provide opportunities for interaction between students and teachers
- are hosted in a learning management system
- provide clear communication of course requirements and timetables.

The IB provides oversight and quality assurance for DP courses online, although this does not include the quality of the online teacher and teaching materials. The IB develops and maintains standards and practices for the development and delivery of DP courses online and, in conjunction with IB staff and subject matter experts, reviews and approves course content to ensure that DP courses online align with the IB philosophy and follow the most current standards and practices, policies and rules for the DP.

More information on DP courses online can be found at www.ibo.org/en/programmes/diploma-programme/dp-online/.

Ongoing support for teachers and students

Teachers require time to meet students and monitor their progress, as well as collaborating on curriculum development. The needs of part-time teachers also need to be considered so that they receive appropriate levels of professional development and support.

With increased access comes a more varied student population. Some students will enroll who are highly motivated, but have not yet acquired the knowledge or skills that will help them be successful in the programme. Guidance counsellors, teachers and the DP coordinator should carefully monitor each student's progress and intervene as necessary with strategies to increase the student's success as the school year progresses. Teachers should have opportunities to learn more about strategies such as scaffolding and the differentiation of instruction as part of their professional development. They will be teaching the DP curriculum to a student body that is likely to include non-native language learners as well as students with diverse learning needs. See the "Language learning" section in this publication.

Some students may perceive that they have a weakness in a subject area required for completion of the programme. Opportunities outside the classroom to help students reinforce their skills and knowledge in specific subjects, or in reading and writing, can help students gain the confidence they need to access the DP.

Schools need to ensure that students and teachers have access to the information technology required to complete their DP coursework and/or assessments and that they develop the knowledge to use it effectively. See the "Resources" section in this publication.

There are some specific requirements that schools and students need to be aware of. Specifications about what is acceptable are defined in the annually published *Handbook of procedures for the Diploma Programme* and in the subject guides, and are also updated on the online curriculum centre (OCC).

Academic honesty

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

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

One example is the importance of understanding that getting others (peers or websites) to write coursework on the student's behalf is dishonest and wrong, while it also stops the students learning through doing the work. Schools should take full advantage of the opportunity for self-reflection that coursework offers, and in doing so make it less attractive to plagiarize others' work.

As a global organization the IB encourages schools to help students in developing integrity with assessments, including not passing on or requesting information from those who have already taken an examination.

For further information on academic honesty in the IB and the DP, please consult the IB publications *Academic honesty in the IB educational context* and *General regulations: Diploma Programme*.

Acknowledging the ideas or work of another person

Academic honesty skills must be intentionally planned and taught with models and practice to prevent students who are well intentioned from getting caught because they lack full understanding of the expectations. The IB does not require it, but schools should vertically and horizontally articulate the teaching and practice of academic honesty.

Coordinators and teachers are reminded that candidates must acknowledge all sources used in work submitted for assessment.

DP candidates submit work for assessment in a variety of media that may include audio/visual material, text, graphs, images and/or data published in print or electronic sources. If a candidate uses the work or ideas of another person, the candidate must acknowledge the source using a standard style of referencing in a consistent manner. A reader must be able to clearly distinguish between the words, illustrations, findings and ideas of the candidate and the words and work of other creators.

In written work the candidate is expected to cite in the text where he or she has used an external source. The inclusion of a reference in a bibliography (works cited/list of references) at the end of the paper is not enough. A candidate's failure to acknowledge a source will be investigated by the IB as a potential breach of regulations that may result in a penalty imposed by the IB final award committee.

For further information please consult the IB publication *Effective citing and referencing*.

Implementation policies

The implementation and development of the Diploma Programme (DP) can be supported and put into practice in everyday school life through the collective consideration, adoption and approval of fair 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. If policies are created at district or other levels and are not consistent with IB expectations, schools should produce an addendum to cover the missing IB references in the district or other policies.

In all schools offering the DP, 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.

All schools offering the DP must develop and implement the following policies that are consistent with IB expectations:

- language policy
- assessment policy
- inclusion/special educational needs (SEN) policy
- academic honesty policy.

Schools may also want to consider the adoption of an admissions policy that clearly references DP, and a technology integration plan and integration policies addressing the use of technology.

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 DP, 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 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/SEN and academic honesty are outlined in the following sections.

Developing a school language policy

Guidelines for developing a school language policy and its companion piece, *Guidelines for school self-reflection on its language policy*, are the first points of reference for IB World Schools needing to develop a school language policy. A language policy is derived from the school's language philosophy and is a statement of purpose that outlines goals for language teaching and learning. It is constructed around pedagogical and learning beliefs and is therefore also a statement of action describing practices for achieving and evaluating goals.

The language policy must be consistent with the stipulated principles and practices of the IB. The language policy must therefore:

- recognize that, since language is central to learning, all teachers are, in practice, language teachers with responsibilities in facilitating communication
- outline how students are to learn at least one language in addition to their mother tongue
- describe how the development and maintenance of the mother tongue for all learners is to be supported
- ensure that there are practices in place to provide inclusion and equity of access to the IB programme(s) offered by the school for all learners, including those who are learning in a language other than their mother tongue (the document *Learning in a language other than mother tongue in IB programmes* provides further details on these practices and should be read when a language policy is being compiled).

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 and the aims and objectives of any course.

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
- internal moderation/quality checks to ensure that internally marked coursework is at the standard defined by the IB and that students get a true reflection of the marks they will receive

- common practices in using the DP assessment criteria and determining achievement levels
- common practices in recording and reporting student achievement aligned with the assessment philosophy of the programme
- implementation of formative and summative assessment consistent with IB expectations
- practices for internal standardizing of assessment
- (for schools with local/state/national requirements) an explanation of the relationship of DP assessment principles and practices with required systems for grading and reporting
- common practices to provide students with feedback to inform and improve their learning.

It is recommended that DP grade descriptors and IB grades (1 to 7) are used for reporting student progress. It is accepted that in order to meet local, state or national requirements, schools may be required to supplement DP grades with another grading scale.

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 DP 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 DP assessment, see the section “Assessment for learning” in this publication, *Diploma Programme assessment: Principles and practice* (2009) and *Guidelines for developing a school assessment policy in the Diploma Programme* (2011).

Developing an inclusion/special educational needs policy

Schools must develop and implement an inclusion/SEN policy that is consistent with IB expectations and in accordance with local legislation and school policy, and is easily available to the whole school community. Schools must ensure that students with learning support requirements are provided with equal access arrangements and reasonable adjustments that are in line with the IB documents *Candidates with assessment access requirements* (2014) and *Learning diversity within the International Baccalaureate programmes: Special educational needs within the International Baccalaureate programmes* (2010).

Steps for developing an inclusion policy

The following questions, which may be used to assist a school in developing an inclusion/SEN policy, are an abridged version of “Questions to ask when developing and implementing an inclusion/SEN policy”. For the full text please consult *The IB guide to inclusive education: A resource for whole-school development* (2015).

- What are the local, national and international legal obligations on inclusion/SEN that have to be met?
- What is the school’s philosophy on inclusion and how does this link to other school policies such as teaching and learning, assessment and language?
- How do the school’s philosophy on inclusion/SEN and its policy on admissions align with the school’s mission statement?
- Are the financial implications balanced with the school mission and inclusion/SEN policy?

- Is the policy consistent with IB expectations (*Programme standards and practices* (2014))?
- How do we articulate inclusion/SEN in our school?
- Who is responsible for inclusion/SEN in our school?
- Is there an inclusion/SEN manager and what is his or her role in relation to supporting teachers and students?
- How are we promoting the value of inclusion/SEN 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 provision for inclusion/SEN?
- How will the provision for inclusion/SEN be structured, coordinated and monitored?
- How will our provision for inclusion/SEN 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? Be aware of data protection and privacy legislation with respect to student privacy and health information privacy.
- 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 a school academic honesty policy

It is a requirement that every IB World School offering the DP has a policy to promote academic honesty.

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, justice, and with respect for the dignity and rights of people everywhere”. DP students must understand academic honesty and avoid any form of academic misconduct.

The IB publication *Academic honesty in the IB educational context* provides advice on how to develop and implement an academic honesty policy.

A school policy on academic honesty 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
- processes and procedures that support the development of academic integrity and information literacy throughout the DP and ideally throughout the whole school
- guidance on the distinction between legitimate collaboration and unacceptable collusion.

As part of students' approaches to learning (ATL) skill development, IB programmes must foster an understanding of academic honesty so that students grasp its fundamental values and are familiar with its technical aspects. Students must receive an age-appropriate copy of the policy so they understand the expectations and requirements and are aware that the coordinator and teachers are available to offer advice and guidance.

With the pace of developments in communication and the availability of information through the internet it is important that the academic honesty policy is reviewed regularly and students might be a part of that review process.

Procedures for implementing the academic honesty policy, for example instituting a requirement for students to sign an "honour code" or the use of a tracking sheet, are at each school's discretion.

All subject groups should be included in the development of a policy on academic honesty 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 focus 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. A powerful way of promoting academic honesty practices with students is to model them as a teacher (for example, the proper citing of materials used during classroom activities).

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

For information about academic honesty, see the documents *Academic honesty in the IB educational context*, *Effective citing and referencing* and *Handbook of procedures for the Diploma Programme* (published annually).

Staffing

Key roles

In addition to the school leadership team and the Diploma Programme (DP) coordinator, there are a number of key roles in any school offering the DP successfully. As stated previously, the DP coordinator should be seen as part of the pedagogical leadership team, rather than the only leader. 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.

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 written curriculum in terms of:

- bringing together subject teachers in collaborative teams to develop DP units focusing on the key elements of units such as: international-mindedness, conceptual understanding, learner profile, theory of knowledge (TOK) integration and differentiation
- leading the development of the vertical articulation for the subject group, which includes planning for the DP aims and objectives, key concepts and content, knowledge and skills
- ensuring and leading the regular revision of the written curriculum
- developing and coordinating assessment strategies
- organizing standardization of assessment within the subject group.

Subject-group leaders may be considered part of the DP pedagogical leadership team.

Approaches to learning leadership

The IB does not require schools to appoint teachers to lead the planning of approaches to learning (ATL). However, responsibility for planning ATL in both years of the DP may include:

- ensuring that teachers understand ATL and its role in the programme
- helping to decide how ATL can be addressed by subject-specific content and special activities
- developing a plan for the horizontal and vertical articulation of ATL across both years of the programme
- support teachers in developing ATL strategies
- providing avenues for technology integration that supports ATL.

Leadership for creativity, activity, service

The creativity, activity, service (CAS) coordinator is the key to the success of a CAS programme. The CAS coordinator is:

- knowledgeable about the role of CAS in the DP
- the nominated member of staff who facilitates understanding of CAS and oversees the effective implementation of CAS experiences, working directly with students, staff, CAS advisors and CAS supervisors
- responsible for reporting the progress of CAS students to the DP coordinator.

The CAS coordinator is ultimately responsible for determining whether students have met the CAS learning outcomes at the end of the DP, and for reporting as required by the *Handbook of procedures for the Diploma Programme*.

The CAS coordinator has two specific areas of responsibility.

1. Implementation and advancement of the CAS programme to:
 - familiarize students, colleagues, parents and the wider community with CAS
 - promote the importance of CAS to students, colleagues, parents and the wider community
 - identify safety issues (risk assessment and child protection)
 - develop a school-specific CAS handbook and resources
 - administer the CAS budget
 - manage CAS records and reports
 - periodically engage in interviews with students
 - report on student progress to school and parents
 - promote and publicize student achievements in CAS
 - develop and maintain CAS policy statements
 - provide leadership for the CAS team
 - provide professional development and supervise CAS advisors where appropriate
 - inform and work with CAS supervisors where appropriate
 - be in ongoing contact with CAS advisors and supervisors to ensure consistency across the programme
 - report on CAS implementation as part of programme evaluation
 - inform and work with outside providers in their involvement in CAS experiences
 - report completion/non-completion of CAS to the IB on IBIS.
2. Work directly with the CAS students (if no one else in the school is able to) to:
 - educate students on all aspects of CAS, including the meaning and purpose of the CAS learning outcomes
 - assist students with clarifying and developing the attributes of the IB learner profile
 - support students in understanding ethical concerns and international-mindedness
 - develop purposeful reflection skills through individual interviews, group discussions and teaching strategies (see the *Creativity, activity, service teacher support material* for examples)
 - provide feedback on student reflections

- assist students in identifying personal and group goals
- meet with CAS students regularly to discuss goals and achievements
- provide ongoing guidance and support to students
- monitor the range and balance of experiences undertaken by individuals
- advise and monitor progress towards meeting the CAS learning outcomes
- periodically review students' CAS portfolios
- meet with CAS students in three formal documented interviews.

Advisors (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 who see students on a daily basis. Although most of this role may not be specifically related to the DP, it will involve a guidance aspect which necessitates an understanding of the challenges in the programme.

Extended essay supervision

The IB encourages schools to designate an extended essay coordinator. The extended essay coordinator role supports that of the DP coordinator, but with specific reference to the extended essay assessment processes and procedures as outlined in the *Handbook of procedures for the Diploma Programme*.

The extended essay coordinator:

- develops for his or her school a systematic approach to managing the extended essay to increase student achievement, which includes a unified approach towards interim deadlines in the process leading to submission
- works to encourage and prepare teachers to assume supervisory roles and responsibilities
- works with the DP coordinator with regard to extended essay registrations
- allocates supervisors
- works with librarians to strengthen the focus on research skills and highlight the importance of good referencing practice ensuring academic honesty
- can organize whole-school supervision training to promote best practice, through which they ensure the quality of supervision; such training is an opportunity to elaborate and clarify the requirements of supervisors, including making reference to guidelines and policies to be kept in mind throughout supervision
- can facilitate the role of the supervisor by ensuring access to publications such as extended essay exemplars and subject reports to support their supervision, as well as making the same documents accessible to candidates.

Librarian

A school librarian can play 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 support the languages 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.

Although the IB does not require schools to employ a librarian, librarians can play an important role in collaborative curriculum development and implementation. They should be knowledgeable about all key DP curriculum documents. Librarians have key roles in supporting planning, promoting academic honesty, leading collaboration and literacy development, and providing resources.

Schools offering the DP must ensure that:

- students have easy access to library and media facilities
- 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.

Librarians' expertise in research makes them a vital asset in planning for the integration of ATL skills into the curriculum. 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 honesty, 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.

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 and the languages of the students.

Counsellor

Many DP schools have dedicated counsellors to serve DP students, while others rely on members of staff to support and advise students. Although structures may differ, all IB World Schools offering the DP must have systems in place to guide and counsel students through the programme and towards further studies. Staff who counsel students in a DP 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/tutor group 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.

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 Middle Years Programme (MYP) or other pre-DP programme to the DP**, counsellors should maintain consistent communication with both MYP

and DP coordinators, as well as any MYP counsellor(s). DP 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 (or other programme) 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 or Career-related Programme (CP). The MYP counsellor will need to be knowledgeable about options in the DP, and the requirements for university 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 DP course selection for further study. 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, 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 extended essay**. This represents a significant milestone, and can be a daunting task 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 extended essay. 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 extended essay.

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

Many of the tasks listed here are undertaken by pastoral care staff/tutors/advisors/homeroom teachers, who are not counsellors and not part of the counselling department. Schools offer pastoral or guidance support to students in different ways depending upon their context. The IB does not require any one approach.

Professional development

Schools as professional learning communities

The principle of creative teacher professionalism emphasizes the importance of teachers being critically self-reflective practitioners who model the approaches to learning (ATL) they expect of their students in their own approaches to teaching. Professional learning plays an important role in promoting and supporting this practice. The goal of professional learning is “improved student learning through enhanced teacher practice” (Calnin 2006: 3).

In the context of the IB, professional learning can be viewed as an ongoing commitment by teachers, supported by the school, to develop the learner profile attributes in their own practice. Professional learning involves a process of critical self-reflection in which teachers develop a deeper understanding of what it means to be an effective internationally minded teacher who is able to support students in demonstrating the intended learning outcomes prescribed by the curriculum. Professional development is an essential part of this process.

IB World Schools are encouraged to view themselves as professional learning communities. They should demonstrate the following characteristics.

- A shared vision of the school values and mission, which is consistent with the IB’s mission statement and values
- Continuous and ongoing commitment to improvement
- A culture of collaboration that is embedded into working practices: trust and risk-taking are encouraged; teachers openly share their professional practice
- Emphasis on the school culture, not just on organizational structures
- A focus on, and commitment to, learning and teaching
- Supportive, shared and devolved leadership that includes teachers as well as school leaders: all adults in the school, as well as students, should demonstrate and model a commitment to lifelong learning and to the IB learner profile; the school needs to be a learning organization, continually reflecting and evaluating current practice with a view to improving

Building an effective and supportive learning community, with a commitment to continuous improvement, is vital to the successful implementation and development of the Diploma Programme (DP) in schools.

Professional development opportunities offered by the IB

The IB is committed to supporting schools and teachers in the process of professional learning by providing a range of professional development opportunities, which include the following.

- A programme of IB workshops and conferences designed to help teachers and administrators in IB World Schools better understand and deliver the DP. Additionally, IB-endorsed workshops offered by approved partners are organized around the world and are targeted to meet the needs of teachers who have different levels of experience (visit ibo.org/events/workshops.cfm for an updated list of conferences and workshops). Most IB professional development opportunities are available both face-to-face and online (for the complete IB professional development catalogue, please visit ibo.org/en/professional-development/).
- In addition to workshops, the IB also offers the teacher award scheme: four different professional certificates (two IB educator certificates, *IB certificate in teaching and learning* and *IB advanced certificate in teaching and learning research*, and two IB leadership certificates, *IB certificate in leadership practice* and *IB certificate in leadership research*), which are offered at an increasing number of universities worldwide (visit www.ibo.org/en/professional-development/professional-certificates/).
- The online curriculum centre (OCC) is a website where all IB fee-covered publications are published and a portal through which teachers can access subject-specific forums, frequently asked questions and teacher support material. Informal, yet valuable professional development can be obtained by careful perusal of IB documents and engaging with other IB practitioners through the collaborative learning forums.
- IB regional associations offer professional development opportunities. While some of these are approved partners offering IB-endorsed workshops, others offer informal professional development opportunities that are often particularly valuable as they can address DP implementation and development issues within a local context.

While the IB provides professional development, it also encourages schools to work on creating the reflective collaborative culture that is essential for professional learning to occur. The IB encourages schools to have integrated plans so that teachers who attend workshops bring their learning back to their team as well as practise, and perhaps even receive coaching or peer support on implementing new ideas.

Professional development expectations

The IB has specific professional development requirements which all DP schools must meet at key points: before candidacy can be awarded, before the school can be authorized, and at each subsequent evaluation. Further details on these specific requirements can be found in the *Guide to school authorization: Diploma Programme* and *Programme evaluation guide and self-study questionnaire: Diploma Programme* (2010). The IB requires that teachers new to the DP undergo initial professional development that introduces them to the course(s) and core components they will be teaching. Professional development should be ongoing for all teachers in a school, irrespective of their experience.

Professional development is needed to keep experienced teachers up-to-date with course developments and the IB requires that at least one DP subject teacher per subject as well as the theory of knowledge (TOK) and the creativity, activity, service (CAS) coordinator must participate in a relevant IB workshop if the subject or course has been reviewed during the evaluation period and a new guide has been published.

Professional development should not only be for subject specialists, but for staff involved in all aspects of implementing IB programmes, including librarians, administrators, counsellors, learning support teachers,

DP coordinators and CAS coordinators. All teachers have a responsibility to support students who are studying in a language that is not their best language and they may require additional professional development to provide this language support.

IB professional development workshops are also provided for experienced teachers where excellent practice is demonstrated and discussed to support professional learning. In addition, the IB encourages teachers to take advantage of professional development opportunities beyond IB face-to-face workshops and online courses. Teachers may choose to use the IB educator certificates as one avenue, or they may explore alternatives that help them develop their professional skills and understanding. Professional development events should be linked to teacher professional learning, resulting in an individual as well as a collective professional development plan, so that the targets and opportunities that emerge are directly relevant to the needs and experience of the individual teacher as well as the priorities of the school.

The OCC is a resource that is included in the annual school fee. It is easily accessible to teachers, contains a wide range of resources and information, and provides an opportunity for teachers to see how other teachers around the world approach common IB issues. It covers the teaching of all subjects and should be regularly used.

Using professional development opportunities provided by the IB or other organizations is only one aspect of supporting a professional learning community. Creating the right learning environment is just as, if not more important. The principle of creative teacher professionalism and the programme standards and practices define expectations that are supportive of IB World Schools as professional learning communities. All IB teachers need to understand and support the vision and principles of the organization and to model the learner profile in their own behaviour and teaching.

Experienced IB teachers are encouraged to take advantage of a wide range of professional IB opportunities through the IB educator network (IBEN), including becoming IB examiners, moderators, deputy chief examiners, OCC forum moderators, workshop leaders, authorization team members and/or members of IB curriculum development committees. Active involvement in worldwide programme support and assessment provides a uniquely valuable form of professional development and is a service to the school as well as the wider IB community.

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
- allocated and productive meeting time for teachers' collaborative planning
- facilities for sciences, arts and design that allow for the Diploma Programme (DP) subject-group aims and objectives and the requirements of the programme to be met
- physical and virtual learning environments, facilities, resources and specialized equipment
- access to a library that is equipped to support the programme, including resources that support the languages offered by the school, as well as resources on global issues and diverse perspectives; and including plans for continual improvement of the library resources
- systems in place to guide and counsel students through the programme such as learning inclusion; language support; counsellors including college counsellors; IT support
- resources to supervise and coordinate the extended essay, theory of knowledge (TOK) and creativity, activity, service (CAS)
- student schedule or timetable that allows for the requirements of the programme to be met.

Programme structures (scheduling)

The school's choice of Diploma Programme subjects

The inherent flexibility in the Diploma Programme (DP) model (see the *Handbook of procedures for the Diploma Programme*) can present challenges for a school in terms of the subject choices available to students. Schools will need to take into consideration factors such as staffing, facilities, the incoming cohort's academic background and interests, and regional university entrance requirements. The school must support access for students to the IB programme(s) and philosophy. Common questions to be considered when drawing up a school schedule (or timetable) include the following.

- How does the school build and update the master schedule to reflect the interests and abilities of its students? Is the school meeting minimum hours requirements for every course?
- How can we reinforce the importance of the arts?
- How will the proposed programme allow the study of languages A other than the language of instruction in the school?
- Which language B and/or *ab initio* subjects and levels will be most appropriate based on the students' previous language study?
- What language pathways are offered to students? Are these clearly articulated?
- Which sciences will be offered? In which combinations and at what levels?
- Which mathematics courses does the size and composition of the initial cohort justify including?
- Are the subjects and levels chosen coherent with each other? Do they support each other (for example, mathematics HL and physics HL)?
- Are certain IB subjects required in order to fulfill state, provincial or national curricular requirements?
- If the school plans to offer the Career-related Programme (CP) as well as the DP, do the subjects offered work for that programme's requirements as well?
- Can course choice be expanded to meet the needs of learners by providing online courses?
- Do local or national university entrance requirements require the school to offer certain subjects at certain levels? Many countries and universities have highly specific requirements for subject combinations and results before they allow tertiary study. Some courses, for example, school-based syllabuses, might not be recognized by universities of national/federal education authorities unless taught as part of the whole DP.

It is important to note that initial subject offerings will have considerable implications for students' ability to access the DP. Subject choices open to students can dictate whether the programme encourages maximum participation or allows only a small group of students, who possess specific skill sets, to complete the programme. The scheduling of classes in the DP can also have great impact. If courses are scheduled at times that conflict with students' extra-curricular commitments (for example, band practice, theatre rehearsals, sports teams) this will diminish the attractiveness of the programme. See the sub-section "Schedules and course offering" below for more on this subject.

Students should be expected to take subjects and levels that provide an appropriate degree of challenge rather than making choices to maximize grade results. It does not always follow that a higher diploma score represents a better level of achievement.

The Diploma Programme and the school schedule

Every attempt should be made to ensure that the IB's mission statement and DP principles can be fully supported by the schedule. The structure of schedules will vary enormously across IB World Schools and any schedule is bound to be a compromise between benefits and constraints. The perfect schedule does not exist. With this fact in mind, the following minimum expectations need to be respected.

- The schedule must deliver blocks of time for each of the six academic groups that are consistent with the published guidelines (see the *Handbook of procedures for the Diploma Programme*) for the recommended teaching hours of 240 hours for HL courses, 150 hours for SL courses and at least 100 hours for theory of knowledge (TOK). In addition, appropriate provision must be made for the extended essay and the creativity, activity, service (CAS) programme.
- All HL courses and at least one SL course must be taught in each year of the programme. It is permissible to teach up to two SL subjects over one year. It should be noted that this exception is designed to offer flexibility to schools where genuine need for this arrangement exists due to unavoidable scheduling constraints. This is not intended to be a routine aspect of DP design; all courses are designed as two-year learning experiences and students who study over one year may be disadvantaged.
- In creating a schedule, it should be understood that different time allocations may suit different subject groups. For example, subjects in sciences and the arts are generally suited to longer blocks of time.
- The core must be taught/experienced in both years. TOK is a course that encourages reflection on the nature of human knowledge and should be taught with reference to student experience in the classroom, which requires concurrency of learning. Some schools choose to finish the TOK course slightly before the final examinations so that students can start to prepare for final assessments. The CAS programme formally begins at the start of the Diploma Programme and continues regularly, ideally on a weekly basis, for at least 18 months with a reasonable balance between creativity, activity, and service.
- Beginning to teach DP courses early, with a view to early completion, is inconsistent with the principle of concurrency and holistic learning. However, learning is always progressive; students in the year leading to the DP need to have a programme of study that equips them with the skills, knowledge and attitudes required to be successful in the programme. There should not be a sudden jump in expectations or standards as students start the DP.
- CAS is organized around learning outcomes. Like the IB learner profile, these are relevant outside the two years students spend in the DP. Students are, however, required to complete the CAS requirements concurrently with their academic learning, so that their diploma experience is broadened. For this reason, students cannot transfer learning experiences gained prior to the start of the DP and count them as part of the CAS programme, even though these are valuable experiences in themselves.

Schedules and course offerings

Within many schools, the daily structure of courses may be, in itself, an obstacle to participation. When IB subject lessons overlap, limiting student choice, or students are required to attend lessons outside the normal school day, some students will become excluded. In many instances some flexibility on the part of the school will be required in order to provide students with access to all elements of the DP while still meeting requirements set by local or national governments.

Issues that schools encounter while selecting courses and determining schedules include the following.

Accommodating local and state curriculum requirements

Many IB World Schools need to work closely with local, state, provincial and national governments to allow for substitutions and/or waivers for various graduation and diploma requirements. In addition, IB course outlines may be developed that demonstrate achievement of standards set by external governing bodies. The school is encouraged to map local curriculum requirements with those of the DP to ensure that student workload is regulated.

Extra-curricular activities

Students are involved in a multitude of sports, musical programmes, clubs, academic competitions, community service and other pursuits outside the normal school day. This participation is essential, as it enables students to develop a rich CAS experience and furthers the mission of the IB. Schools should develop schedules that support students' continued involvement in outside interests while still allowing them access to the DP.

Course offerings

Each IB World School is encouraged to offer students the widest possible range of choices from the six subject areas. Within the financial and scheduling constraints faced by schools, care should be taken to offer a programme of studies that is relevant to students' skills, interests, linguistic background and potential university requirements. These aspects should also be taken into consideration when choosing which options to offer for study and in designing courses and reading lists within the subjects. Offering a programme that does not meet the needs or interests of students will limit access. There are increasing opportunities for students to complete online courses as part of their DP for subjects that the school may be unable to provide themselves. This is one practical way in which student options can be expanded by the school. See the public website and the online curriculum centre (OCC) for further details. Also see the sub-section "Diploma Programme courses online" in the "Learning diversity and inclusion" section in this publication.

Course selection

This refers to students' selection of IB courses from those offered at the school. Ideally, students will be enrolled in a schedule of classes that is challenging, yet appropriate to their abilities. This requires effort on the part of teachers, counsellors and the DP coordinator to educate students and parents regarding assessment, expectations and content of courses. Students' current level of achievement, interests and future academic plans should guide this process.

Course availability

The DP coordinator needs to check the future availability of subjects offered by the IB; it cannot be assumed that all subjects will continue to be offered in the future. Details are provided in the *Handbook of procedures for the Diploma Programme*. The courses offered by the school must allow for the full diploma.

Internal timelines

Teachers should work with the Diploma Programme coordinator each year to develop a calendar of internal deadlines for IB assessments, the extended essay, and completion of CAS requirements. As much as possible, this calendar should take into consideration students' involvement in extra-curricular activities, important school events, daily homework requirements and family obligations. It should include internal deadlines for the submission of all internally and externally assessed (non-examination) components, predicted grades and the internal assessment samples to the DP coordinator. This will allow the coordinator sufficient time for submission of candidate work to the IB. This calendar should be consulted by teachers when setting daily homework and classroom assessments. A sample calendar is provided in figure 3 at the end of this section.

Additional considerations for Diploma Programme design and scheduling

Course students

All DP schools must provide the full DP and have a number of students in every cohort attempting the full diploma. The school must ensure that if necessary, it provides an explanation for a low number of full diploma students and DP courses students. To increase access and participation to an IB education schools may also be authorized to offer the CP, as well as to offer students the opportunity to take individual subject courses both face-to-face and online to expand subject choice. Schools will need to take into account the implications of the programmes and courses that they offer during the implementation phase.

Extra courses

For various reasons, including personal interests, school regulations or university entrance requirements, schools may allow students to register for a further course subject in addition to the six required for the diploma. Beyond the scheduling issues potentially presented in such cases, care should be taken to ensure that the student does not suffer undue stress as a result of the additional academic burden. It is better to study the six required subjects and the core well, rather than take on an extra load that is bound to have an impact in terms of the time that can be spent on the full diploma. Schools are reminded of the option to study four subjects at HL, rather than three (see the *Handbook of procedures for the Diploma Programme*). For some students this may provide an appropriate challenge without entering them for extra courses.

Non-regular diplomas

In rare cases, schools may seek to offer a student a choice of subjects that is different from the choice of subjects specified in the regulations for the DP. This can only arise when a prescribed condition of entry into an institution of higher education, or in order to meet national curriculum requirements, makes it necessary for an individual student (not a cohort of students) to modify the programme. To request such a modification, the school must provide the IB with clear evidence that specific-subject substitution is necessary, in the form of actual pages of the prospectus from the institution concerned. Schools must consider the possibility of the student pursuing an extra course subject before submitting a request for a non-regular diploma. The *Handbook of procedures for the Diploma Programme* details the requirements for submitting such a request.

Standard level (SL) and higher level (HL) courses scheduled together

Schools are often presented with a situation whereby it is desirable to schedule SL and HL students in the same class for a given subject. This practice is understood and accepted. Wherever possible, subject curriculum review and development takes this into account and many subjects stipulate core SL/HL content and extension HL work to facilitate this practice. Some subjects lend themselves more readily to this arrangement than others. Schools must take great care in programming such classes, particularly with regard to options studied and assessment timelines. It is essential that HL students are given the extra support and time they need and that SL and HL students do not simply complete the same course. This will inevitably result in increased workload for SL students or lower workload for HL students. One effective solution is to schedule most classes as SL/HL with additional HL classes or blocks of time dealing with HL extension work.

School-based syllabuses

A school-based syllabus (SBS) is an opportunity for schools to offer a course of specific interest or to develop a new SL course as part of a DP. The requirements for submitting a proposal for an SBS to the IB are outlined in the *Handbook of procedures for the Diploma Programme*. The requirements for such a proposal are extensive. A proposal will not be approved by the IB unless the syllabus is seen as meeting the requirements of one of the DP subject groups and is capable of being assessed appropriately. In addition, the SBS must reflect the IB's mission in terms of delivering an international perspective. The proposal should not overlap unduly in content with an existing DP mainstream or SBS subject: schools will be advised, if their proposal is similar to an existing SBS, to adopt that one and collaborate with the host school of that syllabus. While the IB recognizes the equivalency of all SL courses, schools should be aware that the IB cannot guarantee that all universities will agree with this judgment (see article 7 on "University recognition" in the *Rules for IB World Schools: Diploma Programme*).

School assessment timelines

Appropriate internal assessment timelines are a very useful instrument in helping students and teachers realistically plan their work in manageable loads, recognizing that final assessment requirements cannot all be completed at the same time. IB World Schools need to develop timelines that are sensitive to their own specific environment. This can only be accomplished by including input from teachers, and feedback from students, in their construction.

Well-designed timelines reduce stress on students and allow time for teachers to provide feedback on drafts, check for authenticity, mark final pieces of work and prepare moderation samples in good order before any due date. Effective timelines reflect a culture of collaboration among the DP teachers, whereby teachers understand both the "big picture" of DP design and the basic assessment requirements of each other's subjects. The coordinator frequently has the responsibility for ensuring that the school faculty meets in a timely manner to coordinate such timelines and develop these understandings. Schools that schedule the DP concurrently across both years of the programme are likely to have greater flexibility in developing assessment timelines.

Figure 3 illustrates **some** of the key events that must be scheduled and represents a **possible** example of a timeline. In reality a school timeline will need to be much more specific, detailing precise dates, and relate directly to the circumstances of the school. This is an example and schools are encouraged to develop a timeline based on their context. Always check the current *Handbook of procedures for the Diploma Programme* for updated information and timelines.

Year before the start of the DP	
Semester 2	<p>Introducing the DP requirements to prospective students and parents (in many contexts this may need to happen up to two or three years before the start of the DP)</p> <p>Mentoring students regarding subject and level choices</p> <p>Initial student subject selection</p> <p>Scheduling for the DP</p> <p>Extended essay teacher training</p>
DP year 1	
Year start	<p>Confirm final student subject selection—allow a short window for change of level or course</p> <p>Faculty meet to confirm DP two-year assessment timelines</p> <p>Student and parent information events to outline expectations and timelines</p> <p>Introducing expectations for CAS</p> <p>Introducing expectations for the extended essay</p>
Semester 1	<p>CAS programme starts (early in semester)</p> <p>Internal coursework assignments start (for example, economics portfolio)</p> <p>Detailed explanation of the extended essay process with timeline</p> <p>Field trips as required by individual subjects</p> <p>Interim reporting or progress update</p>
Semester 2	<p>Studies in language and literature oral presentations</p> <p>Studies in language and literature commence written assignment</p> <p>TOK presentations</p> <p>Extended essay student research question identified and supervisor established</p> <p>Formal CAS interviews with students</p> <p>Group 4 project completed</p> <p>Year 1 examinations</p> <p>Year 1 reporting</p>

DP year 2	
Semester 1	<p>CAS programme and interviews continue</p> <p>Draft internal assessments due this semester (specific subjects and assignments detailed)</p> <p>Draft extended essay due early this semester</p> <p>Final extended essay handed in at the end of this semester</p> <p>Draft TOK essay due at the end of this semester</p>
Semester 2	<p>Trial/mock examinations</p> <p>Trial examinations reporting</p> <p>Final internal assessments and externally assessed (non-examination) components due (specific subjects and assignments detailed)</p> <p>Studies in language and literature written assignment completed and submitted (copies retained by the school)</p> <p>Studies in language and literature oral commentaries take place</p> <p>Extended essay submitted (copies retained by the school)</p> <p>TOK course completed and TOK essay submitted (copies retained by the school)</p> <p>Language acquisition written assignments completed and submitted (copies retained by the school)</p> <p>Final language acquisition oral recordings submitted (copies retained by the school)</p> <p>Internal assessment completed and marks entered onto IBIS</p> <p>Predicted grades submitted on IBIS</p> <p>Submission of internal assessment moderation samples requested by IBIS</p> <p>CAS completion</p> <p>Theatre coursework completed and submitted</p> <p>Music and film coursework completed and submitted</p> <p>Final DP written examinations</p>

Figure 3

Example of an assessment timeline for schools to adapt to their own circumstances

Collaborative planning

Collaborative planning and reflection must take place regularly and systematically in support of programme implementation. It 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. Collaborative planning and reflection can address many aspects such as approaches to learning (ATL) planning, IB learner profile attribute development, theory of knowledge (TOK) integration, and vertical and horizontal articulation. It is based on agreed expectations for student learning. The importance of collaborative planning is highlighted in the programme standards and practices, and evidence of productive planning times is required at authorization and evaluation. Collaborative planning and reflection ensures that all teachers have an overview of students' learning experiences.

Meeting time

Schools must provide dedicated meeting time for collaborative planning. In Diploma Programme (DP) 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 each year level, and across and within subject groups. ATL skills must be discussed and planned, and concepts considered across years. Additionally planning time must include discussions involving differentiation, learning support, TOK integration, learner profile development and international-mindedness. Where there is more than one teacher of the same course, it is good practice to write unit plans in teams in order to collaboratively develop the areas stated above.

Vertical planning

The goal of vertical planning is to sequence learning to ensure continuity and progression across each year of the programme and beyond. Collaborative planning and reflection ensures that all teachers have an overview of students' learning experiences. It explores connections and relations between subjects and reinforces knowledge, understanding and skills shared by the different disciplines. The IB expects that teachers within the same subject group will vertically plan across the DP years.

Horizontal planning

To explore subject content fully using the key concepts and 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 areas to plan the scope of learning in a particular year. This planning includes the integration of TOK in each subject.

Teachers as learners

The processes described above may be new for some teachers when they start teaching the DP and so will involve a learning process. Just as students learn in different ways, so 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 DP units that engage students in learning the essence of the discipline while engaging with the world around them. When students see teachers as learners, it can be a powerful message in positively modelling a number of learner profile attributes.

Concurrency of learning

From its beginnings the Diploma Programme (DP) has adopted a broadly constructivist and student-centred approach, and has emphasized the importance of connectedness and concurrency of learning.

Concurrency means teaching the curriculum in a schedule that consistently exposes the student to all of their subjects and the core, over the two years of the programme. This allows students and teachers to make links between experiences in the core and the academic subjects that are being studied, and it is based on the belief that the total educational experience is more than the sum of its parts. For more information see the “Programme structures (scheduling)” section in this publication.

The DP is flexible enough to accommodate the needs and interests of individual students while maintaining the principle of concurrent learning of a broad and balanced curriculum. The programme is designed to be a two-year course of study with all subjects and core requirements studied concurrently. Students are expected to build a degree of interdisciplinary and transdisciplinary, as well as subject-specific, understanding. The programme should equip students with a powerful set of holistic skills that can prepare them not just for higher education but for the real-life challenges and opportunities they will face in the future.

Disciplinary and interdisciplinary understanding

The DP is primarily discipline-based, as the programme is structured around academic disciplines, which provide theoretical and methodological frameworks that students learn to understand and use. Teachers focus on covering the syllabus, building conceptual understanding and teaching to the aims and objectives of the course. However, concurrency of learning, which is a vital organizational component of the DP, provides one important means of supporting interdisciplinary learning. Students are expected to make connections between different academic disciplines and not to study subjects in isolation from each other. The possibility to explore similar topics concurrently and to transfer tools or concepts from one subject to another may enable interdisciplinary understanding. Opportunities for cross-curricular connections between subjects and subject groups in the DP may result in multidisciplinary approaches.

Teachers and schools have a responsibility to help students make meaningful connections between different disciplines through providing instruction, teaching schedules (often also referred to as timetables) and learning environments that support this process. Concurrency of learning is expected in DP as it provides one important means of supporting interdisciplinary learning. Common planning is important for teachers to identify, and plan for, the teaching of interdisciplinary perspectives.

The theory of knowledge (TOK) experience provides a forum for discussion and instruction that supports the development of interdisciplinary understanding. It is essential that the academic disciplines make explicit reference to TOK questions. See the *Theory of knowledge guide* for more details.

Unit planning

All Diploma Programme (DP) teachers should engage in explicit planning of their teaching. The IB does not prescribe a particular format for how this planning should be undertaken. However, the process of planning may be supported by using one of the DP unit planner templates developed for, and by, DP teachers. These DP unit planners are not intended to mandate or restrict what DP teachers can or cannot do. Rather, they are intended to inspire and support teachers to think more about not only what they are teaching, but also how they are teaching.

A unit plan is part of the written curriculum for any course and can be defined as a planned study, which can be of various lengths, concluding with summative assessment. Each subject-specific unit plan should:

- stand alone as a significant, engaging, relevant and challenging learning experience
- enable students to demonstrate development against objectives
- contribute to a coherent, school-wide commitment to inquiry that is framed by contexts of personal, local or global significance
- be driven by inquiry that is conceptually based and contextually framed
- involve students in a range of learning experiences planned in response to inquiry-based questions
- make responsible and relevant use of technology when appropriate
- build on the prior knowledge of the students
- be planned and taught to promote positive attitudes and development of the attributes of an IB learner
- have a summative assessment that gives the students the opportunity to demonstrate achievement of the DP objectives set for the unit
- require students to reflect on their learning and encourage them to engage in principled action or service.

More details and the planner templates can be found in *Approaches to teaching and learning in the Diploma Programme* (2015).

Planning a Diploma Programme course

The school's written curriculum must be comprehensive and align with the requirements of the programme. Courses of studies for each Diploma Programme (DP) course, for theory of knowledge (TOK) and for creativity, activity, service (CAS) must fulfill the IB requirements and reflect the IB philosophy. The written curriculum must:

- identify the knowledge, concepts, skills and attitudes to be developed over time
- allow for meaningful student action
- promote students' awareness of individual, local, national and world issues, including students' own needs and the needs of others
- incorporate relevant experiences for students
- provide opportunities for reflection on human commonality, diversity and multiple perspectives
- be informed by current IB publications and be reviewed regularly to incorporate developments in the programme; teachers must have access to current IB publications
- foster development of the IB learner profile attributes.

DP subject guides, teacher support materials and other supporting documents published by the IB and available on the online curriculum centre (OCC) emphasize creative teacher professionalism. They are designed to help teachers plan and prepare their own course of instruction. Teachers must follow the requirements for the course laid out in the subject guide.

While some published textbooks may be useful, and a number of course companions have been written specifically for the IB programmes, it is undesirable and ineffective to teach any IB course primarily through one textbook or a course companion. Textbooks contain general guidance, whereas teachers are the best placed professionals to know their own students and understand the context for teaching and learning. Instruction also needs to be differentiated, so that the teacher is engaging with and challenging each learner's current level of understanding. Teaching may also be supported with technology to enhance student learning.

Subject guides

IB subject guides, although dealing with very diverse disciplines and subject areas, have some common features. The "Nature of the subject" section provides a general description of the subject and its place in a particular subject group. Guidance is given on distinctions between SL and HL, expectations (if any) of prior learning, links to the Middle Years Programme (MYP) and links to the TOK course. The "Aims" section identifies the overarching aspirations and intentions of the course, some or all of which are common to the subject group.

The section on “Assessment objectives”, together with the “Syllabus outline” and “Syllabus content”, provides further essential information for teachers in planning a course. Objectives describe what students will be expected to do at the end of the course and what will, therefore, be assessed. While the nature of different academic disciplines means that the explanation and development of syllabus content and assessment objectives vary to some extent in different subject groups, the following practices are applied.

- Common command terms (included in the appendix of this publication) have been defined and are incorporated in new guides as subjects undergo curriculum review. This applies to all guides published from 2007 onwards. Command terms are key terms and phrases used in the syllabus content and in examination questions to indicate what performance is required of candidates. Developing an in-depth appreciation of these command terms and definitions, in the context of a particular subject, is essential for teaching the course and achieving the desired learning outcomes. Command terms broadly follow established taxonomies such as Bloom’s taxonomy of educational objectives (Bloom 1956).
- Teachers should familiarize themselves with specimen papers (exemplars of exam papers), markschemes and teacher support material, which provide examples of different types of response and reproduce examiners’ comments on student work. Each is published on the OCC.
- Syllabus outlines within subject guides frequently indicate the relative weighting attached to different parts of the syllabus by suggesting teaching hours. These add up to the minimum prescribed hours of 150 hours at SL and 240 hours at HL.
- Assessment outlines for each subject at SL and HL indicate the weighting or contribution of each assessment component to the final total.
- A number of subject guides, including those for sciences and mathematics, use “guidance”, “further guidance” or “links” columns to clarify the depth of treatment for specified content and sometimes indicate content that is “not required”.

Skill development

DP courses are deliberately designed to be part of a whole programme rather than modular. This means that, in most instances, student understanding is examined at the end of the course, looking at the whole course and not just aspects of it. Students have to be able to recall, adapt and apply knowledge and skills to novel questions and unfamiliar contexts. The implications of this for course design and teaching are significant and include the following.

- Skill development and application need to be integrated into course design together with syllabus content coverage.
- Skill development needs to be constantly reinforced in a learning spiral. Once a skill is learned or developed it should be reinforced by its application in different contexts.
- The amount of syllabus content to be covered is substantial. It is, therefore, particularly important to develop and reinforce excellent study skills and habits early in the course. Effective course planning avoids overloading students with coursework and results in effective teaching and learning from the first day of instruction.

Final internal assessment

Teacher collaboration is essential where more than one teacher is involved in teaching a course, as schemes of work must be developed collaboratively. Final internal assessments are collected by subject, not by teacher, and are sent for moderation as school samples, not class samples. It is vital, therefore, that all teachers of a subject standardize their marking so that any moderation adjustment derived from the sample submitted to the IB has an appropriate effect on the marks of all students in the school. Teachers can improve practice by sharing ideas with their colleagues and observing classes. Teacher collaboration should be seen as an important aspect of professional development. Common planning and meeting time is crucial for successful implementation.

Developing interdisciplinary perspectives

Interdisciplinary courses

The DP offers students the possibility to enroll in interdisciplinary courses—environmental systems and societies (ESS), and in literature and performance. ESS is an interdisciplinary course between individuals and societies, and sciences, which seeks to enable students to explore the interrelationship between ESS through the evaluation of the scientific, ethical and sociopolitical aspects of environmental issues/problems. The literature and performance course is an interdisciplinary synthesis of literature and theatre. It incorporates essential elements of literature and performance, and aims to explore the dynamic relationship between the two.

Interdisciplinary learning in other courses

DP defines interdisciplinary courses as those that integrate knowledge, tools and skills from different subject groups; there are several courses that have clear trans/interdisciplinary approaches within disciplines of a same subject group. For example, the global politics course, with an interdisciplinary scope, draws on a variety of disciplines in the social sciences and humanities to address global issues and problems. The course information technology in a global society (ITGS) shares methods and perspectives with other subjects in individuals and societies. The *Sports, exercise and health science guide* identifies several traditional disciplines that inform the subject, such as anatomy and physiology, biomechanics, psychology and nutrition. The group 4 project emphasizes interdisciplinary cooperation across different subjects within the subject group on a scientific or technological topic.

Theory of knowledge

The most important curricular tool through which students make connections between their individual subject disciplines is through the study of the TOK course. The TOK course plays a special role in the DP by providing an opportunity for students to reflect on the nature of knowledge, and to make connections between different areas of knowledge. In this way, students become more aware of their own perspectives and those of the various groups whose knowledge they share. TOK supports the development of interdisciplinary understanding by providing a discussion forum about the nature of knowledge and the similarities and differences in the ways that knowledge is gained in different disciplines. Links to TOK are identified in all DP subject guides, and all DP teachers are encouraged to help students to identify TOK knowledge questions in their subject lessons.

World studies extended essay

The DP also provides students with the possibility of undertaking a world studies extended essay that invites students to conduct an in-depth, **interdisciplinary** investigation into an issue of contemporary global importance. Through the selection of complex global issues, students are required to bring aspects of different disciplines together and synthesize them to advance understanding.

The Diploma Programme core

The three elements of the core, theory of knowledge (TOK), creativity, activity, service (CAS) and the extended essay, are an integral part of the Diploma Programme (DP) experience. The academic disciplines, while separate to the core, are nonetheless linked to it. The core relies on the disciplines to provide enrichment, and individual subjects should be nourished by the core. Teachers in each of the three elements of the core need to think about, and plan carefully, how TOK, CAS and the extended essay can feed into a deeper understanding of the subject matter studied by DP students. This might include, for example:

- transferring the critical-thinking process developed in TOK to the study of academic disciplines
- developing service learning opportunities in CAS that will build on a student's existing subject knowledge and contribute to the construction of new and deeper knowledge in that subject area
- exploring a topic or issue of interest that has global significance in an extended essay through one or more disciplinary lenses.

Theory of knowledge

DP subject guides help teachers to identify meaningful links between specific disciplines and elements of the core, and teachers should provide opportunities to allow for these links to be explored. TOK is a course that is fundamentally about critical thinking and inquiry into the process of knowing rather than about learning a specific body of knowledge. The TOK course examines the nature of knowledge and how we know what we claim to know. It does this by encouraging students to analyse knowledge claims and explore questions about the construction of knowledge. The task of TOK is to emphasize connections between areas of shared knowledge and link them to personal knowledge in such a way that an individual becomes more aware of his or her own perspectives and how they might differ from others.

Creativity, activity, service

The emphasis in CAS is on helping students to develop their own identities, in accordance with the ethical principles embodied in the IB mission statement and the IB learner profile. CAS complements a challenging academic programme in a holistic way, providing opportunities for self-determination, collaboration, accomplishment and enjoyment. It involves students in a range of activities alongside their academic studies throughout the DP. The three strands of CAS are creativity (exploring and extending ideas leading to an original or interpretive product or performance), activity (physical exertion contributing to a healthy lifestyle) and service (collaborative and reciprocal engagement with the community in response to an authentic need). CAS contributes to the IB's mission to create a better and more peaceful world through intercultural understanding and respect.

Extended essay

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

Approaches to teaching and learning in the Diploma Programme

Teaching and learning must align with the requirements and philosophy of the programme. Teaching and learning in the Diploma Programme (DP) engages students as inquirers and thinkers; promotes the understanding and practice of academic honesty; addresses the diversity of students; develops IB learner profile attributes; and addresses language needs, including those for students learning in a language(s) other than mother tongue.

Good teaching practice is not specific to the IB or to any programme of study. However, the IB philosophy and principles have implications that teachers need to be aware of in their teaching practice and that might be different from other teaching contexts they have experienced.

While there are a wide range of teaching strategies and approaches that can be used in the classroom, individual teachers and students have their preferred learning and teaching styles and some styles are more prevalent in different cultures and national settings. What is essential is that each student is actively engaged in classroom activities and that there is a high degree of interaction between students and the teacher, and also between the students themselves.

Learning should focus on meaningful questions and contexts and the voice of the learner is considered to be as important as the voice of the teacher. The teacher is viewed as a supporter of student learning, rather than a transmitter of knowledge, making use of questions and tasks that help the student work in their “zone of proximal development”. This term, originally used by Vygotsky (1962 and 1978), represents the range of achievement that lies between what the student can manage on his or her own and what he or she can manage with the support of the teacher. The emphasis is on engaging and challenging the learner’s existing mental models in order to develop a greater depth of understanding and to improve performance.

Whole-class instruction that encourages open discussion, in which the teacher challenges student thinking and demonstrates a range of appropriate responses, can be extremely effective. In comparison, a teacher who lectures, and involves students as passive recipients rather than active participants in the classroom, is likely to be less effective. Overemphasis on lecturing is incompatible with the aims and principles of the DP. Teachers should use a variety of different approaches at different times, employing a mixture of whole-class, group and individual activities that are representative of the learner profile.

The learner profile stresses the importance of inquiry. Students are expected to develop their natural curiosity, together with the strategies and skills needed to become autonomous lifelong learners. Students are also expected to think for themselves so that they can approach complex problems and apply their knowledge and skills critically and creatively to arrive at reasoned conclusions or answers. DP courses specify a large amount of content, with the area of study often defined in considerable detail. It is the way in which content is presented in class that is critical. The aims and objectives of each course emphasize the importance of students investigating answers for themselves. IB assessments are designed to reward evidence of independent student thinking leading to considered individual responses, so it is important that students practise these skills at every opportunity. Different subjects also provide a number of opportunities for students to design their own inquiry, with the extended essay as the ultimate structured inquiry exercise.

Learning how to become an effective learner requires students to realistically evaluate and regulate their own learning and performance. “Metacognition” is a term used to refer to reflective thinking strategies, attitudes and other competencies used to monitor and control learning. Metacognitive strategies and skills can be nurtured in a supportive learning environment that focuses on the affective as well as cognitive

competencies identified in the learner profile. In order to become independent learners students need to develop powers of reflection, self-confidence and self-awareness, a willingness to communicate ideas without fear of losing face, and a willingness to take risks and be open-minded.

As explained in *What is an IB education?*, learning how to learn happens when:

- students' prior knowledge is considered to be important
- learning occurs in context
- context is relevant
- students can learn collaboratively
- the learning environment is provocative
- students get appropriate feedback to support their learning
- diverse learning styles are understood and accommodated
- students feel secure and their ideas are valued and respected
- values and expectations are explicit
- there is a culture of curiosity at the school
- students understand how judgments about learning are made, and how to provide evidence of their learning
- students become aware of and understand how they learn
- metacognition, structured inquiry and critical thinking are central to teaching in the school
- learning is engaging, challenging, rigorous, relevant and significant
- students are encouraged in everything they do in school to become autonomous lifelong learners.

Approaches to learning

The development of skills such as thinking skills and communication skills is frequently identified as a crucial element in preparing students effectively for life beyond school. A 2007 survey of 400 hiring executives of major US corporations identified their top four requirements of new recruits as being: oral and written communication skills; critical-thinking and problem-solving skills; professionalism and work ethic; and teamwork and collaboration skills (Trilling and Fadel 2009). Similar lists of skills have been developed by the International Society for Technology in Education (ISTE), the National Association of Colleges and Employers (NACE) survey on employability skills and the Organization of Economic Cooperation and Development (OECD), and are also the subject of numerous books such as *The Global Achievement Gap* (Wagner 2010). Yet many students struggle with some of even the basic skills of effective learning. For example, good note-making has been positively correlated with academic achievement, yet research suggests that many university students struggle with even the fundamental skill of making notes from lectures or texts (Kiewra 1985; O'Donnell and Dansereau 1993).

Developing students' approaches to learning (ATL) skills is about more than simply developing students' cognitive skills. It is also about developing affective and metacognitive skills, and about encouraging students to view learning as something that they "do for themselves in a proactive way, rather than as a covert event that happens to them in reaction to teaching" (Zimmerman 2000: 65). By developing ATL skills and the attributes of the learner profile, DP students can become "self-regulated learners" (Kaplan 1998). Self-regulated learners have learned how to set learning goals, ask good questions, self-interrogate

as they learn, generate motivation and perseverance, try out different learning processes, self-monitor the effectiveness of their learning, reflect on achievement, and make changes to their learning processes where necessary (Zimmerman and Schunk 1989; Wolters 2011; de Bruin et al 2011).

The term “skill” is therefore used in a broad sense in the DP to encompass cognitive, metacognitive and affective skills. Cognitive skills include all the information processing and thinking skills often called “study skills” in a school environment. Affective skills are the skills of behaviour and emotional management underpinning attitudinal factors like resilience, perseverance and self-motivation, which can often have a large role to play in educational achievement. Metacognitive skills are the skills that students can use to monitor the effectiveness of their learning skills and processes, to better understand and evaluate their learning. Although these skills may be in use when manifesting a certain natural ability or talent, they are different to both of these because proficiency in any skill can be increased through the deliberate use of techniques and strategies, feedback and challenge. Skills are therefore highly teachable.

In the Primary Years Programme (PYP), Middle Years Programme (MYP), Career-related Programme (CP) and the DP, these cognitive, metacognitive and affective skills are grouped into the same five ATL categories:

- thinking skills
- communication skills
- social skills
- self-management skills
- research skills.

Although these skills areas are presented as distinct categories, there are obviously close links and overlap between them. It is intended that these categories should be seen as interrelated as well as linking closely with the attitudes and dispositions highlighted in the IB learner profile.

Effective use of technology has the potential to enable teachers and students to engage in tasks and opportunities that would otherwise be impossible or inconceivable, such as tasks requiring communication and collaboration between students on different sides of the world.

Underlying the effective and responsible use of technology in its myriad forms is the concept of “digital citizenship”. Developing digital citizenship is a set of values that provides a framework for online action and behaviour. It is about encouraging and expecting students to act in an ethical manner to be respectful of themselves, other people and intellectual property.

See *Approaches to teaching and learning in the Diploma Programme* (2015) for more details.

Approaches to teaching

What is of paramount importance in the pre-university stage is not what is learned but learning how to learn ... What matters is not the absorption and regurgitation either of fact or pre-digested 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.

Peterson (1972)

There are six key pedagogical principles that underpin all IB programmes. Teaching in IB programmes is:

1. based on **inquiry**
2. focused on **conceptual understanding**
3. developed in local and global **contexts**

4. focused on effective teamwork and **collaboration**
5. **differentiated** to meet the needs of all learners
6. informed by **assessment** (formative and summative).

See the “Written curriculum” part of this document and *Approaches to teaching and learning in the Diploma Programme* (2015) for more details.

Inquiry-based learning

One of the pedagogical principles that underpins all IB programmes is that of teaching based on inquiry. “Inquirers” is one of the attributes of the IB learner profile, and the process of becoming an inquirer is seen as involving the development of students’ natural curiosity, together with the skills needed to enable them to become autonomous lifelong learners.

Several Diploma Programme (DP) courses specify a large amount of content, with the area of study often defined in considerable detail, which means that the way in which this content is presented to students in class is critical. One of the most important considerations for DP teachers is therefore how to design teaching practice to produce effective inquiry-based learning. This can be challenging given the quantity of important information in each subject area that needs to be addressed and the pressure of ongoing formative assessment and the culminating measure of a student’s academic performance being an examination-based summative assessment. The inquiry learning cycle (see figure 4) is recommended as the basis for both the design and the implementation of classroom teaching practice in the DP, and in IB programmes more generally.

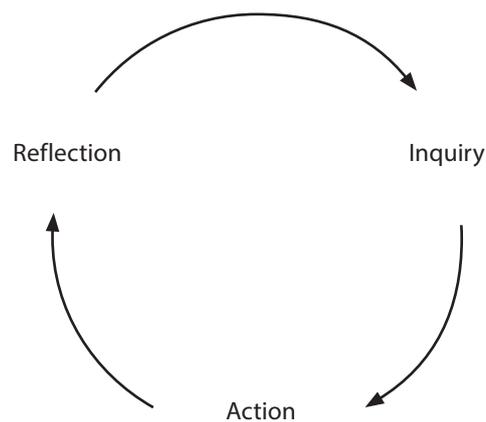


Figure 4

The inquiry learning cycle

Inquiry-based learning and teaching takes many forms; for example, “Structured Inquiry, Guided Inquiry and Open Inquiry” (Staver and Bay 1987) or “Process-Oriented-Guided-Inquiry-Learning, POGIL” (Lee 2004). There are also a number of other methods that have their own structure, but which owe their essential design to inquiry learning, such as experiential learning (Kolb 1984), problem- and project-based learning (Prince 2004), case-based learning (Fasko 2003) and discovery learning (Prince and Felder 2007). Whichever approach is adopted, it is essential that each student is actively engaged in classroom activities, and that there is a high degree of interaction between students and the teacher, and also between the students themselves.

What matters is, therefore, not whether DP teachers adhere to any particular model, but that they focus on making sure their students are engaging in inquiry, in finding their own information and constructing their own understandings, as often as possible in their classrooms. In an inquiry-based approach, learning is self-directed “because it is driven by students’ own decisions about appropriate ways in which an issue or scenario might be approached. They bring to bear on the topic any existing knowledge or experience relevant to the issues ... The process is student-centred, with the onus always on the student to take initiatives, propose routes of enquiry and follow them thoughtfully” (Hutchings 2007: 13).

Two particularly well-known inquiry-based approaches are experiential learning and problem-based learning.

Teaching based on inquiry does demand a shift in teaching style from teachers whose primary role is to supply answers to teachers whose primary role is to promote questions. It also involves a shift in some of the responsibility for learning from teachers to students (Oliver-Hoyo, Allen and Anderson 2004). While this can seem a major challenge for some teachers, there are two key underlying principles that can help teachers to understand the change to inquiry-based methods.

1. Learning is constructed by a process that moves from real-world examples to concepts, ideas, theories and facts.
2. Students are responsible for finding much of the information themselves, and processing it to draw the important conclusions.

At a more practical level, simple things that teachers can do to introduce a more inquiry-based approach include:

- posing questions, outlining problems, setting challenges, giving clear measurable objectives
- putting students into small groups (three or four students), assigning clear roles and allowing for role rotation within each group
- enabling and helping students to connect to the best subject-based resources
- focusing the students on both the answers they are finding and the research skills they are using
- viewing their own role as facilitators of students' journeys, rather than simply providers of answers.

The potential benefits of an inquiry-based approach can be seen in the example of DP science lessons, where adopting such an approach can help students to learn the process of scientific inquiry through being involved in an inquiry themselves: "students are presented with a challenge (such as a question to be answered, an observation or data set to be interpreted, or a hypothesis to be tested) and accomplish the desired learning in the process of responding to that challenge" (Prince and Felder 2007).

More detail on inquiry and the DP approaches to teaching and learning can be found in *Approaches to teaching and learning in the Diploma Programme* (2015).

Conceptual understanding

Conceptual understanding in IB programmes

The IB values education more as developing personal understanding and constructing meaning collaboratively, and less as teacher-centred transmitting of knowledge and rote memorization of facts. Consequently, conceptual understanding is a significant and lasting goal for teaching and learning 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 Middle Years Programme (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 and curricular aims and objectives that outline 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 conception that is enduring, the significance of which goes beyond aspects such as particular origins, subject matter or place in time (Wiggins and McTighe 1998). Concepts represent the vehicle for students' inquiry into issues and ideas of personal, local and global significance, providing the means by which the essence of a subject can be explored.

Concepts 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.

Students gradually work towards a deepening of their conceptual understanding as they approach concepts from a range of perspectives. DP courses help learners to construct meaning as they become increasingly competent critical and creative thinkers, able to transfer knowledge and take responsibility for their own learning.

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).

Teaching through concepts encourages teachers to 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 and transdisciplinary learning.

The structure of conceptual understanding in the Diploma Programme

DP courses have always had a focus on developing conceptual understanding, but within DP subject guides and teacher support materials the focus on teaching through concepts is becoming increasingly explicit.

Some DP subjects explicitly construct their subject guides around concepts. This can be an effective way of framing course content, as well as inspiring more explicitly conceptual assessment tasks. Other DP guides over time will be arranged and framed around concepts. However, in all subjects teaching through concepts can be a very powerful teaching strategy.

DP courses are based on an interrelationship of concepts, content and skills all viewed as equally critical to student learning. Content is critical to building conceptual understanding. Concepts are made concrete through content. Skills give access to conceptual understanding and allow students to actively engage with content. These curriculum models “value a solid base of critical factual knowledge across the disciplines, but they raise the bar for curriculum and instruction by shifting the design focus to the conceptual level of understanding” (Erickson 2012: 4). Learning is most powerful when these three aspects of learning take place concurrently.

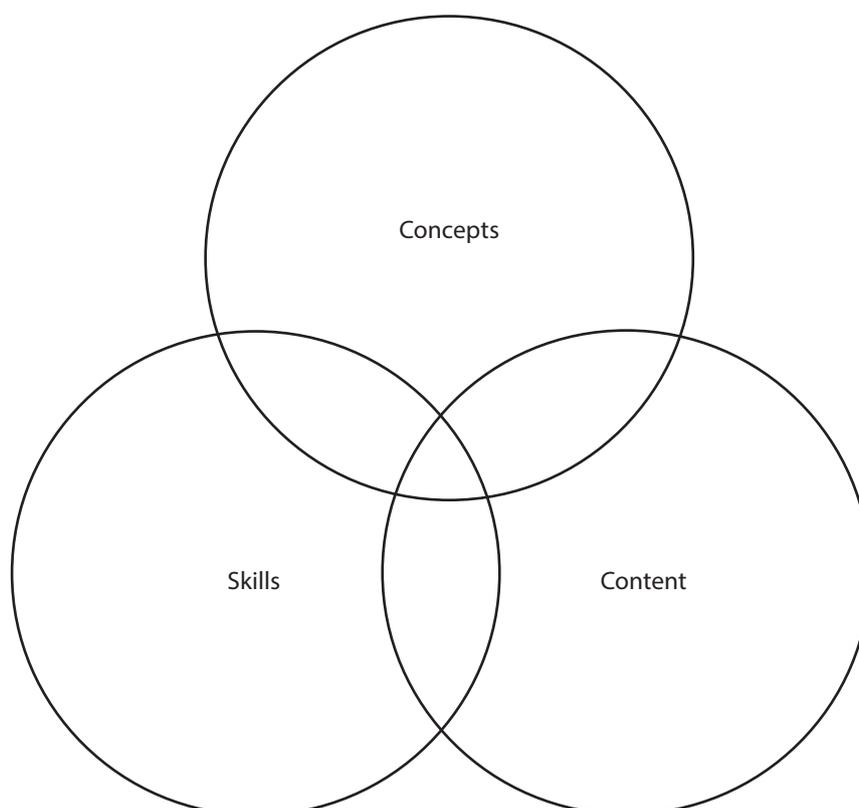


Figure 5
Interrelationship of concepts, content and skills

Anderson and Krathwohl (2001) argue that conceptual knowledge plays a crucial role in moving students from knowledge to understanding. They argue that “Students understand when they build connections between the ‘new’ knowledge to be gained and their prior knowledge. More specifically, the incoming knowledge is integrated with existing schemas and cognitive frameworks. Since concepts are the building blocks for these schemas and frameworks, conceptual knowledge provides a basis for understanding” (2001: 70).

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.

Concepts are powerful, abstract ideas that have many dimensions and definitions. They have important interconnections and overlapping concerns that engage students in higher-order thinking, helping them to connect facts and topics with more complex conceptual understanding. Concepts create “intellectual synergy” (Erikson 2007) and provide points of contact for transferring knowledge and understanding across disciplines and subject groups. For more information see *Approaches to teaching and learning in the Diploma Programme* (2015).

The nature of concept-driven curriculum

A concept-driven curriculum encourages teaching and learning centred on ideas. 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 teaching and learning. Erickson (2007: 72–78) describes concept-based curriculum as “three-dimensional,” focusing on concepts, content and skills rather than traditional “two-dimensional” curriculum that considers only content 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.

Teaching through concepts in the DP 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 encourage understanding of cultures and environments across global contexts through the transfer of knowledge
- bring their personal intellect to the study as they use a 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 concepts.

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 concepts.

Teaching and learning 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)

All learning is contextual. Teaching and learning in the Diploma Programme (DP) involves the deliberate effort to ground understanding of concepts in context. 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 meaningful 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 teaching and learning 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 the classroom. Case studies are a common teaching tool used in the DP that supports conceptual learning through the use of a variety of contexts.

The nature of a contextual curriculum

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

- plan concrete, memorable learning opportunities 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 (demonstrations 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 awareness of career interests, vocational planning and the exploration of school-to-career pathways
- link classroom learning to action and service learning

- promote self-management 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.

Exploring local and global contexts can help to develop international-mindedness in students by providing opportunities for sustained inquiry into a range of local and global issues and ideas, and opportunities to explore global concerns such as development, conflict, rights and the environment.

Teaching focused on effective teamwork and collaboration

A key focus of the teaching in the Diploma Programme (DP) is on teamwork and collaboration. This principle applies to promoting teamwork and collaboration between students and between teachers, but it also refers to the collaborative relationship between the teacher and students.

Collaborative learning is an approach deeply rooted in the work of Vygotsky and Piaget, both of whom saw learning as a social phenomenon. It is also closely associated with the approaches of shared, situated and embedded cognition, which view learning as the result of a complex interaction of minds within specific cultural contexts, and emphasize the social structures within which those interactions occur. On these approaches “knowledge is not something that is handed down from one partner to another. Rather, knowledge is co-constructed through interactions among collaborators” (Lai 2011).

Collaborative learning activities include activities such as group projects, debates, role plays, and other activities with shared goals. There are therefore extremely close links between social skills such as negotiation and collaborative learning. Across the world, students in IB World Schools are engaged in a wide range of collaborative projects and activities in every subject. These types of activities encourage students to engage with other students collaboratively and cooperatively. There are many websites teachers can visit for practical help in designing and developing collaborative projects for their students, many of which also provide opportunities to connect learners together either locally, nationally or internationally.

One issue for teachers to consider when setting collaborative tasks is whether to award a group or individual mark. Awarding a single grade to a group of students for a group task can be concerning to teachers, as they may worry that a student is receiving credit for work produced by the other members of their group. However, assessing the individual contribution within a group can cause students to focus on their individual contribution rather than on the group goal, and can in some instances actually promote competition within the group rather than collaboration. The concept of taking collective responsibility is an important idea for students to grasp, and awarding the same mark to all members of a group encourages all students to take responsibility for the performance of the group as a whole. Teachers can achieve a balance depending on desired outcomes, whereby students achieve individual marks through personal accountability on occasion, and group marks on others.

In addition to fostering collaboration between students, collaboration is also at the heart of the relationship between DP teachers and students. McWilliam (2005, 2008) argues that there has been a shift from the role of the teacher being the “sage-on-the-stage” to the “guide-on-the-side”, but that this shift does not go far enough and there needs to be a further shift to the role of the teacher being the “meddler-in-the-middle” (2005).

A key aspect of fostering a collaborative relationship between teachers and students is through encouraging effective dialogue and feedback on what students have and have not understood during their lessons. Encouraging students to give regular feedback on the things they have not yet understood gives their teachers valuable information that can inform future planning and ensure that all understandings are being attained. This kind of feedback can be done by discussion or on paper, at the beginning or end of any lesson (or week, or unit), or even through innovative means such as Twitter®. One teacher asks students each night to read through the material covered that day and to tweet to them either a thoughtful question on anything they did not understand from the lesson, or an “all OK” signal. That way the teacher can immediately see if the understandings were achieved, or if there is any trend of misunderstanding. This way any problems can be addressed immediately in the next lesson before the lesson sequence continues. This keeps all students up to speed and is also a way to encourage students to take responsibility for their own learning, as it is up to the students to check and make sure they understand as they move through the syllabus.

Differentiated learning

Differentiation is “an approach to teaching that advocates active planning for student differences in classrooms” (Tomlinson and Allan 2000). Differentiation is seen as the process of identifying, with each learner, the most effective strategies for achieving personal learning goals. When considering pedagogical approaches to meeting individual learning needs, teachers also need to consider each student’s language profile.

The IB identifies four important principles to promote equal access to the curriculum for all learners and to support the development of the whole person through differentiated teaching and learning, as illustrated in figure 6.

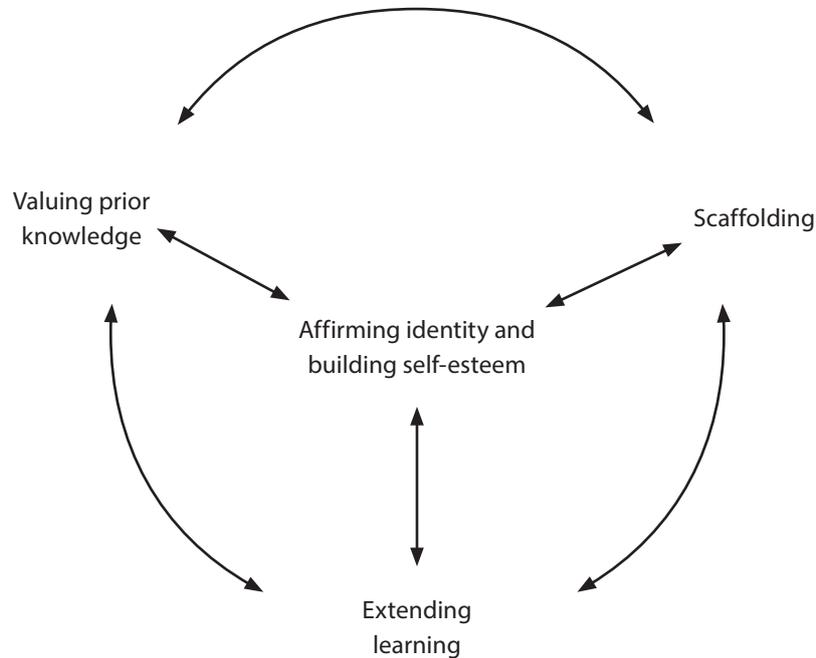


Figure 6

Principles of good practice for differentiated learning

Student learning is enhanced when these four principles of good practice are considered in conjunction with the programme’s approaches to teaching and learning. For detailed information, see the IB publications *Learning diversity in the International Baccalaureate programmes* (2010) and *Language and learning in IB programmes* (2011).

Affirm identity— build self-esteem	<p>Promote environments that welcome and embrace learners.</p> <p>Foster high but realistic expectations.</p> <p>Value and use the diversity of cultural perspectives.</p> <p>Liaise and collaborate with parents.</p> <p>Understand student learning preferences and interests.</p> <p>Identify and teach through student strengths.</p>
Value prior knowledge	<p>Identify prior knowledge and activate prior learning, including that learned in other languages.</p> <p>Map language and learning profiles.</p> <p>Build new knowledge onto existing knowledge.</p>
Scaffold learning	<p>Support new learning through the use of graphic organizers (writing frames, Mind Maps®), which are pictorial forms of promoting, organizing and constructing knowledge; visual aids, drama, demonstrations, etc.</p> <p>Encourage collaborative learning groups/peer support.</p> <p>Support and use best language.</p>
Extend learning	<p>Combine high expectations with opportunities for learner-centred, experiential practice and interaction with cognitively rich materials, experiences and environments.</p> <p>Use technology and assistive technologies to enrich learning and level the playing field for all learners.</p>

Differentiated teaching may involve using collaborative and cooperative learning, a variety of learning practices, creative approaches to teaching and learning, differing formats and modes of exploring and presenting knowledge and understanding being made available to the students. By providing students with multiple means of representation, action and expression, and engagement as in universal design for learning (UDL), students are given equal opportunities to learn (www.cast.org).

Differentiation, as many other aspects of approaches to teaching and learning, is most effective when it becomes an embedded part of the culture of a school and of classrooms. Schools should aim to foster a school-wide culture of collaboration, inquiry and inclusion.

Assessment for learning

Assessment at the school must align with the requirements and philosophy of the programme. Teachers must understand assessment requirements for each subject and the core and use them in the development of the curriculum documents. The school must communicate its assessment philosophy, policy and procedures to the school community and provide students with feedback to inform and improve their learning. The school must have systems for recording and reporting student progress aligned with the IB philosophy in addition to systems to ensure that all students can demonstrate a consolidation of their learning through the completion of the extended essay.

Assessment plays a crucial role in supporting learning as well as in measuring learning. In the Diploma Programme (DP), assessment is intended to support curricular goals and to encourage appropriate student learning. Schools must analyse assessment data to inform teaching and learning. DP assessments are based on the course aims and objectives and, therefore, effective teaching to the course requirements also ensures effective teaching to the formal assessment requirements. The DP also places an emphasis on criterion-related (as opposed to norm-referenced) assessment. This method of assessment judges students' work in relation to identified levels of attainment, rather than in relation to the work of other students. (See *Guidelines for developing a school assessment policy in the Diploma Programme.*)

Although the two are inherently linked, an important distinction is to be made between formal summative IB assessment and the supporting formative assessment processes that schools develop for themselves. Formative assessment encompasses "all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged." (Black and Wiliam 1998: 7) Formative assessment is therefore a tool or process that teachers can use to improve student learning; it is about assessment for learning, rather than simply assessment of learning.

One of the most comprehensive analyses of factors affecting student learning was undertaken by John Hattie of Auckland University in New Zealand, and published as *Visible Learning* (2009). This study was a synthesis of 800 meta-studies of 52,637 papers, including results from more than 200 million students worldwide, from early childhood through to adult education. Two of the top ten teaching-related factors that Hattie identified as having the most effect in positively influencing student learning were providing formative evaluation and feedback. Effective assessment therefore has a crucial role to play in student learning. In particular, a key function of assessment in the DP should be that of providing feedback: feedback to students, and also feedback to teachers on students' particular strengths and limitations. This feedback to teachers plays a crucial role in guiding future planning.

More details on DP assessment can be found in *Diploma Programme assessment: Principles and practice* (2005) and in the annually published *Handbook of procedures for the Diploma Programme*.

Informed by assessment

Diploma Programme (DP) teachers need to understand how formal **summative** assessment is conducted. Formal **summative** assessment is defined as assessment directly contributing to the final diploma qualification. **Most of these assessments are externally assessed**, and include examinations or work completed during the course and then sent to an external examiner. Some formal **summative** assessments are **internally assessed**, requiring the teacher to mark the **work to the accepted IB standard. Their standard is then confirmed or moderated by an external moderator**. The principles, practices and challenges involved in formal diploma assessment are considered in detail in *Diploma Programme assessment: Principles and practice* (2005).

It is important to stress that the single most important aim of DP assessment is that it should support curricular goals and encourage appropriate student learning. **This is achieved by the DP assessments measuring** students' achievement levels against published criteria that are derived from the course aims and objectives. **To be fairly measured** students need to understand what the assessment expectations are and these should all be introduced early in the course and be the focus of class and homework activities. The assessment requirements make it clear how summative assessment will be conducted, and how the student will be judged at the end of the course.

Teachers have a responsibility to design and provide ongoing formative assessment that informs students about their learning. Formative assessment also enables teachers to address the needs of individual learners in their lesson planning and design of learning activities. The emphasis here, a key component of learning how to learn, is on making the student a better judge of his or her own performance and then helping him or her develop strategies to improve. Formative assessment focuses on assessment as an essential learning process. Schools use a number of practices and instruments to support this including:

- student self-evaluation supported by the teacher
- systematic use of detailed assessment criteria (rubrics, matrices)
- peer evaluation mediated by the teacher (either face-to-face or using an ICT resource such as a blog).

Assessment instruments primarily designed for formal **summative** assessment at the end of the course **can** also be adapted and used formatively as part of the learning process.

Student self-assessment has been shown to improve both self-confidence and self-motivation (Dweck 1999). Using this technique, students can accurately measure their own proficiency in specified skills against measures of proficiency in generalized skills.

Command terms

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

Analyse	Break down in order to bring out the essential elements or structure.
Annotate	Add brief notes to a diagram or graph.
Apply	Use an idea, equation, principle, theory or law in relation to a given problem or issue.
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 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.
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.
Describe	Give a detailed account.
Design	Produce a plan, simulation or model.
Determine	Obtain the only possible answer.
Differentiate	Obtain the derivative of a function.
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.

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.
Evaluate	Make an appraisal by weighing up the strengths and limitations.
Examine	Consider an argument or concept in a way that uncovers the assumptions and interrelationships of the issue.
Explain	Give a detailed account including reasons or causes.
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.
Hence or otherwise	It is suggested that the preceding work is used, but other methods could also receive credit.
Identify	Provide an answer from a number of possibilities.
Integrate	Obtain the integral of a function.
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.
Label	Add labels to a diagram.
List	Give a sequence of brief answers with no explanation.
Measure	Obtain a value for a quantity.
Outline	Give a brief account or summary.
Plot	Mark the position of points on a diagram.
Predict	Give an expected result.
Present	Offer for display, observation, examination or consideration.
Prove	Use a sequence of logical steps to obtain the required result in a formal way.
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.
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.
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.

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