

International Baccalaureate

IB Americas
Individuals and societies

Delivering the MYP Curriculum
Category 2

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English

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Teacher Training Workshop

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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.

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Notable Thoughts on Assessment

What is Assessment?

We use the general term *assessment* to refer to all those activities undertaken by teachers -- and by their students in assessing themselves -- that provide information to be used as feedback to modify teaching and learning activities. Such assessment becomes *formative assessment* when the evidence is actually used to adapt the teaching to meet student needs.

Black, P. & Wiliam, D. 1998. *Inside the Black Box: Raising standards through classroom assessment*, King's College, London

What should be assessed?

To begin at the beginning, the choice of tasks for classroom work and homework is important. Tasks have to be justified in terms of the learning aims that they serve, and they can work well only if opportunities for pupils to communicate their evolving understanding are built into the planning. Discussion, observation of activities, and marking of written work can all be used to provide those opportunities, but it is then important to look at or listen carefully to the talk, the writing, and the actions through which pupils develop and display the state of their understanding. Thus we maintain that *opportunities for pupils to express their understanding should be designed into any piece of teaching, for this will initiate the interaction through which formative assessment aids learning.*

Black, P. & Wiliam, D. 1998. *Inside the Black Box: Raising standards through classroom assessment*, King's College, London.

How can assessment improve learning?

The research indicates that improving learning through assessment depends on five, deceptively simple, key factors

- the provision of effective feedback to pupils;
- the active involvement of pupils in their own learning;
- adjusting teaching to take account of the results of assessment;
- a recognition of the profound influence assessment has on the motivation and self-esteem of pupils, both of which are crucial influences on learning;
- the need for pupils to be able to assess themselves and understand how to improve.

Black, P. & Wiliam, D. 1999. *Assessment for Learning: Beyond the Black Box*, Assessment Reform Group, University of Cambridge, School of Education

Beliefs about learning affect assessment

Methods of assessment are determined by our beliefs about learning. According to early theories of learning, complex higher-order skills had to be acquired bit-by-bit by breaking learning down into a series of prerequisite skill, a building-blocks-of-knowledge approach. It was assumed incorrectly that after basic skills had been learned by rote, they could be assembled into complex understandings and insight. However, evidence from contemporary cognitive psychology indicates that all learning requires that the learner think and actively construct evolving mental models.

Dietel, R.J., Herman, J.L., Knuth, R.A. 1991. *What Does Research Say About Assessment?* North Central Regional Education Laboratory, Oak Brook

How can the concept of quality assist in learning?

In assessing the quality of a student's work or performance, the teacher must possess a concept of quality appropriate to the task, and be able to judge the student's work in relation to that concept. But although the students may accept a teacher's judgment, without demur, they need more than summary grades if they are to develop expertise intelligently. The indispensable conditions for improvement are that the student comes to hold a concept of quality roughly similar to that held by the teacher, is able to monitor continuously the quality of what is being produced during the act of production itself, and has a repertoire of alternative moves or strategies from which to draw at any given point. In other words, students have to be able to judge the quality of what they are producing and be able to regulate what they are doing during the doing of it ...

Stated explicitly, therefore, the learner has to (a) possess a concept of the standard (or goal/reference level) being aimed for, (b) compare the actual (or current) level of performance with the standard, and (c) engage in appropriate action which leads to some closure of the gap.

Formative assessment includes both feedback and self-monitoring. The goal of many instructional systems is to facilitate the transition from feedback to self-monitoring.

Sadler, R. 1989. Formative Assessment in the Design of Instructional Systems. *Instructional Science*. Vol. 18, pp119-144.

Why is self-assessment essential?

Self-assessment is essential for progress as a learner: for understanding of selves as learners, for an increasingly complex understanding of tasks and learning goals, and for strategic knowledge of how to go about improving.

Sadler, D. R. 1993. cited in Brookhart, S. M. 2001. Successful Students' Formative and Summative Uses of Assessment Information. *Assessment in Education*. Vol. 8, No. 2, pp. 153-169.

How does assessment help to make an effective school?

Assessment *for learning* can contribute to the development of effective schools. If assessments *of learning* provide evidence of achievement for public reporting, then assessments *for learning* serve to help students learn more. The crucial distinction is between assessment to determine the status of learning and assessment to promote greater learning.

Stiggins, R. J. 2002. Assessment Crisis: The Absence of Assessment FOR Learning, in *Phi Delta Kappan* Vol.83, No.10 pp758-765.

What is the effect of assessment *for learning*?

In short, the effect of assessment *for learning*, as it plays out in the classroom, is that students keep learning and remain confident that they can continue to learn at productive levels if they keep trying to learn. In other words, students don't give up in frustration or hopelessness.

Stiggins, R. J. 2002. Assessment Crisis: The Absence of Assessment FOR Learning, in *Phi Delta Kappan* Vol.83, No.10 pp758-765.

What is meaningful learning?

From today's cognitive perspective, meaningful learning is reflective, constructive, and self-regulated. People are seen not as mere recorders of factual information but as creators of their own unique knowledge structures. To know something is not just to have received information but to have interpreted it and related it to other knowledge one already has. In addition, we now recognize the importance of knowing not just how to perform, but also when to perform and how to adapt that performance to new situations. Thus, the presence or absence of discrete bits of information-which is typically the focus of traditional multiple-choice tests-is not of primary importance in the assessment of meaningful learning. Rather, what is important is how and whether students organize, structure, and use that information in context to solve complex problems

Dietel, R.J., Herman, J.L., Knuth, R.A. 1991. *What Does Research Say About Assessment?* North Central Regional Education Laboratory, Oak Brook

What do the best teachers do?

The best teachers constantly monitor what is happening to students as they set about learning and investigate when things do not proceed as planned or expected. They also enquire their own practice so they might get better at ensuring that their students learn successfully.

Demos 2004. About learning, Report of the Learning Working Group, Demos, London
www.demos.co.uk

What gains has formative assessment made?

Formative assessment - the frequent assessments of student progress to identify learning needs and shape teaching - has become a prominent issue in education reform. The achievement gains associated with formative assessment have been described as "among the largest ever reported for educational interventions". While many teachers incorporate aspects of formative assessment into their teaching, it is much less common to find formative assessment practised systematically

OECD. 2005. *Formative Assessment: Improving Learning in Secondary Classrooms*, http://www.oecd.org/LongAbstract/0,2546,en_2649_33723_34340421_1_1_1_1,00.html

The growth of self-evaluation at student and school level

The growing importance of self-evaluation at the institutional level has also resulted in attention for student self-assessment. The main idea behind school evaluation and student self-assessment is that it is more important to focus on development than to compare your school or yourself with other schools or students. The process of student self-assessment and school- evaluation is as important as the outcomes are, because they will inform further development.

Voogt, J. & Kasurinen, H. 2005. Finland: Emphasising development instead of competition and comparison. In *Formative Assessment: Improving Learning in Secondary Classrooms*, OECD/CERI.

What are the elements of formative assessment?

Elements of formative assessment:

The key elements that have emerged from the case studies and related research are:

1. Establishment of a classroom culture that encourages interaction and the use of assessment tools
2. Establishment of learning goals, and tracking of individual student progress towards those goals
3. Use of varied instruction methods to meet diverse student needs
4. Use of varied approaches to assessing student understanding
5. Feedback on student performance and adaptation of instruction to meet identified needs
6. Active involvement of students in the learning process

OECD. 2005. *Formative Assessment: Improving Learning in Secondary Classrooms*, OECD publishing

Assessment analogy

When the cook tastes the soup, that's formative; when the guests taste the soup, that's summative.

Stake, R. cited in Earl, L. 2004. *Assessment As Learning: Using classroom achievement to Maximize Student Learning*. Experts in Assessment. Corwin Press Inc. Thousand Oaks, California.

How can new approaches to formative assessment be developed?

For teachers to be able to develop new approaches to formative assessment and relate them to different theories of learning, they must be able to investigate and reflect upon their own classroom practices – particularly the way they question and give feedback to students.

Torrance, H. & Pryor, J. 2001. Developing Formative Assessment in the Classroom: using action research to explore and modify theory. *British Educational Research Journal*. Vol.27, No.5, pp615-631.

How can diagnostic information inform teaching?

There is a diagnostic aspect to all formative assessment, and diagnostic information can inform both students' studying and teachers' teaching. The key is having a concept of the goal or learning target, which originally is the teacher's, but which ideally the student will internalise, eventually setting his or her own goals and monitoring progress toward them (Sadler, 1989; Gipp, 1994 cited in Brookhart 2001).

Brookhart, S. M. 2001. Successful Students' Formative and Summative Uses of Assessment Information. *Assessment in Education*. Vol. 8, No. 2, pp. 153-169.

What is wrong with assessment?

While assessment has the potential to improve learning for all students, historically it has acted as a barrier rather than a bridge to educational opportunity. Assessments have been used to label students and put them in dead end tracks. Traditional tests have been soundly criticized as biased and unfair to minority students. And, the assessment of language minority students has been particularly problematic

Dietel, R.J., Herman, J.L., Knuth, R.A. 1991. *What Does Research Say About Assessment?* North Central Regional Education Laboratory, Oak Brook.

What effect does classroom assessment have?

In reality it is through classroom assessment that attitudes, skills, knowledge and thinking are fostered, nurtured and accelerated – or stifled.

Hynes (1991) cited in Earl, L. 2004. *Assessment As Learning: Using classroom achievement to Maximize Student Learning*. Experts in Assessment. Corwin Press Inc. Thousand Oaks, California.

The link between formative and summative assessment

Theory about classroom assessment and formative assessment may need to include some references to summative assessment, and vice versa, in order to describe more adequately the cyclical process successful students apparently construct for themselves.

Sebatane (1998) cited in Brookhart, S. M. 2001. Successful Students' Formative and Summative Uses of Assessment Information. *Assessment in Education*. Vol. 8, No. 2, pp. 153-169.

How do students move forward with their learning?

Over time, students move forward in their learning when they can use personal knowledge to construct meaning, have skills of self-monitoring to realize that they don't understand something, and have ways of deciding what to do next.

Earl, Lorna. (2003). *Assessment As Learning: Using classroom assessment to maximize student learning*. Experts in assessment series, Corwin Press Inc., Thousand Oaks, California.

Standard B2: Resources and support

The school's resources and support structures ensure the implementation of the IB programme(s).

1. The governing body allocates funding for the implementation and ongoing development of the programme(s).
2. The school provides qualified staff to implement the programme(s).
3. The school ensures that teachers and administrators receive IB-recognized professional development.
4. The school provides dedicated time for teachers' collaborative planning and reflection.
5. The physical and virtual learning environments, facilities, resources and specialized equipment support the implementation of the programme(s).
6. The library/multimedia/resources play a central role in the implementation of the programme(s).
7. The school ensures access to information on global issues and diverse perspectives.
8. The school provides support for its students with learning and/or special educational needs and support for their teachers.
9. The school has systems in place to guide and counsel students through the programme(s).
10. The student schedule or timetable allows for the requirements of the programme(s) to be met.
11. The school utilizes the resources and expertise of the community to enhance learning within the programme(s).
12. The school allocates resources to implement the Primary Years Programme exhibition, the Middle Years Programme personal project and the Diploma Programme extended essay for all students, depending on the programme(s) offered.

Section C: Curriculum

Standard C1: Collaborative planning

Collaborative planning and reflection supports the implementation of the IB programme(s).

1. Collaborative planning and reflection addresses the requirements of the programme(s).
2. Collaborative planning and reflection takes place regularly and systematically.
3. Collaborative planning and reflection addresses vertical and horizontal articulation.
4. Collaborative planning and reflection ensures that all teachers have an overview of students' learning experiences.
5. Collaborative planning and reflection is based on agreed expectations for student learning.
6. Collaborative planning and reflection incorporates differentiation for students' learning needs and styles.
7. Collaborative planning and reflection is informed by assessment of student work and learning.
8. Collaborative planning and reflection recognizes that all teachers are responsible for language development of students.
9. Collaborative planning and reflection addresses the IB learner profile attributes.

Note: "Collaborative planning and reflection" is used as a single concept as the two processes are interdependent.

Standard C2: Written curriculum

The school's written curriculum reflects IB philosophy.

1. The written curriculum is comprehensive and aligns with the requirements of the programme(s).
2. The written curriculum is available to the school community.
3. The written curriculum builds on students' previous learning experiences.
4. The written curriculum identifies the knowledge, concepts, skills and attitudes to be developed over time.
5. The written curriculum allows for meaningful student action in response to students' own needs and the needs of others.
6. The written curriculum incorporates relevant experiences for students.
7. The written curriculum promotes students' awareness of individual, local, national and world issues.
8. The written curriculum provides opportunities for reflection on human commonality, diversity and multiple perspectives.
9. The written curriculum is informed by current IB publications and is reviewed regularly to incorporate developments in the programme(s).
10. The written curriculum integrates the policies developed by the school to support the programme(s).
11. The written curriculum fosters development of the IB learner profile attributes.

Standard C3: Teaching and learning

Teaching and learning reflects IB philosophy.

1. Teaching and learning aligns with the requirements of the programme(s).
2. Teaching and learning engages students as inquirers and thinkers.
3. Teaching and learning builds on what students know and can do.
4. Teaching and learning promotes the understanding and practice of academic honesty.
5. Teaching and learning supports students to become actively responsible for their own learning.
6. Teaching and learning addresses human commonality, diversity and multiple perspectives.
7. Teaching and learning addresses the diversity of student language needs, including those for students learning in a language(s) other than mother tongue.
8. Teaching and learning demonstrates that all teachers are responsible for language development of students.
9. Teaching and learning uses a range and variety of strategies.
10. Teaching and learning differentiates instruction to meet students' learning needs and styles.
11. Teaching and learning incorporates a range of resources, including information technologies.
12. Teaching and learning develops student attitudes and skills that allow for meaningful student action in response to students' own needs and the needs of others.
13. Teaching and learning engages students in reflecting on how, what and why they are learning.
14. Teaching and learning fosters a stimulating learning environment based on understanding and respect.

15. Teaching and learning encourages students to demonstrate their learning in a variety of ways.
16. Teaching and learning develops the IB learner profile attributes.

Note: "Teaching and learning" is used as a single concept as the two processes are interdependent.

Standard C4: Assessment

Assessment at the school reflects IB assessment philosophy.

1. Assessment at the school aligns with the requirements of the programme(s).
2. The school communicates its assessment philosophy, policy and procedures to the school community.
3. The school uses a range of strategies and tools to assess student learning.
4. The school provides students with feedback to inform and improve their learning.
5. The school has systems for recording student progress aligned with the assessment philosophy of the programme(s).
6. The school has systems for reporting student progress aligned with the assessment philosophy of the programme(s).
7. The school analyses assessment data to inform teaching and learning.
8. The school provides opportunities for students to participate in, and reflect on, the assessment of their work.
9. The school has systems in place to ensure that all students can demonstrate consolidation of their learning through the completion of the Primary Years Programme exhibition, the Middle Years Programme personal project and the Diploma Programme extended essay, depending on the programme(s) offered.

Busting some myths about ‘the inquiry cycle’....

March 25, 2013 · Kathy Murdoch

I once read an interview with a hero of my early teaching days – Donald Graves. He was asked about the way people had misinterpreted his ‘process writing’ model and replied that sometimes he wished he’d never written it down!

Years later I understand the frustration behind that sentiment. It’s hard to do justice to the complexities and nuances of inquiry in writing. So much gets lost. Something that is rich, layered and multidimensional can come across as flat, linear and recipe-like. Over the years, I have published several books that share a ‘cycle of inquiry’ and the kinds of learning engagements that we might design within a cycle. I have seen hundreds of interpretations of this idea in classrooms. Many have been gratifying and exciting. Teachers who really ‘get’ the intention, understand the complexity and invite their students into the learning have blown me away with what they have done. And I have also seen (and heard) many bewildering versions or iterations of the cycle that are such a long way off the original conceptualization and intent! Ironically, I have seen slavish adherence to a cycle actually impede rather than enhance inquiry.

So why even ‘have’ such a cycle?

Articulating a model or framework for the process of inquiry is a helpful way to support and guide our practice. The intention of the ‘cycle’ is to guide the teacher’s (and learner’s) thinking beyond simply coming up with ‘activities’ and towards a more thoughtful process that assists students to move from the known to the new. The need to ‘name’ some kind of process was first revealed to me as a young teacher by my fabulous mentors Marilyn Woolley and Keith Pigdon. They helped me move beyond thematic planning and into a more rigorous way of thinking about how to guide learning. Once I understood constructivism – it made sense to me to describe what was such a natural process of building understanding over time. My job as a teacher was to help design experiences for learners that would support the brain’s best inclinations to wonder, look for patterns, seek new information, link to prior learning and transfer. While it has changed over time, the cycle I now use owes much to Woolley and Pigdon’s visionary work.

Here are some of the more common misconceptions about ‘the cycle’ and my response to them. I hope it is as useful to read as it has been to write!!

Misconception 1: Inquiry is all about ‘the cycle’. We DO the cycle....therefore, we DO inquiry.

Simply using an inquiry cycle does not make us inquiry teachers. As I have written before, inquiry is a ‘way of being’ in the classroom. Yes, there are planning frameworks that can support the ways in which we design learning experiences for and with students but this is only part of the inquiry story. An inquiry teacher knows how to question students in ways that enhance and deepen thinking, how to offer choice and honour voice, how to seize an unexpected moment for investigation and how to embed learning in purposeful context. It’s a pedagogy – not just a planning framework.

Misconception 2: The cycle is a recipe. We need to follow the stages in sequence for it to ‘work out’ in the end.

Nope. It's a flexible framework. Not a recipe. Essentially, inquiry cycles provide labels for a process that is common to many disciplines. Most people agree that inquiry : involves time to establish your current thinking, your needs and questions, some 'hunting and gathering' of information/ideas/ data, some sorting organizing and meaning making and some kind of creation/application/transfer/use. And most agree that this process is cyclical in nature. New discoveries lead to new questions and so on. But this process is much neater on paper than it is in practice. True inquiry is often messy and recursive. We gather and sort then realize we have new questions so we return to some more gathering. In the cycle I use, I place great emphasis on the role of 'tuning in' to students' thinking to establish pathways for investigation. While it often sits at the 'start' of the process – I return to 'tuning in' regularly. These are phases more than they are stages, elements more than they are steps. There is nothing contained, neat or particularly orderly about a lot of inquiry BUT having a relatively simple iteration of it in the form of this cycle can help us think more clearly and actually better manage the messiness without getting overwhelmed!

#Misconception 3: All inquiries go through the same phases over a similar time frame.

Much as it would be convenient, no two inquiries are the same. Although most journeys will contain elements of this cycle, starting points, emphases and time frames vary from context to context and depend on the group of students, their age level and what they bring to the journey in the first place. I have seen some beautiful inquiry journeys travelled within an hour. I have seen some that last a year. I have seen some that really don't involve much 'action' but are highly worthwhile and engaging and others that are really all about the action.

Misconception 4: Using a 'cycle' as a guide, we can plan a complete unit of inquiry for students

I think this is the most troubling use of the cycle I see. The cycle should INFORM planning, guide it but it doesn't mean we can create the whole thing before we start. When I use a planner with the elements of the cycle in it – I see that planner as a guide throughout the process – not as a template to be filled in one sitting. The cycle is emergent...how kids 'sort out' the ideas information depends on what they gather – and that is not something we can determine in detail. The cycle unfolds.

#Misconception 5: The cycle is for teachers.

Students benefit from having some 'meta-language' to attach to processes they use as inquirers. Some kind of framework should be developed for and WITH students that helps everyone gain a shared language. Making this visible to students helps them think about how journeys of inquiry are both similar and different. It is really useful to display the cycle but only if it is referred to, analysed, played with and critiqued!

#Misconception 6: The cycle only applies to 'units of inquiry' in disciplines like science and social studies.

I see many examples of this cycle in action in a range of disciplines and contexts. Some 'tweaking' is needed at times to best fit the nature of the discipline but it is interesting to explore this kind of transfer. Check out for example – the great work done on <http://www.iphys-ed.com>

about inquiry based PE or Bruce Ferrington's application of the cycle to math inquiry – <http://authenticinquirymaths.blogspot.co.at/>

Misconception 7: It's my way or the highway or 'there is only one cycle'....

There are many versions of a 'cycle of inquiry'. The fact that there ARE many versions is healthy and affirming. I love the different emphases, language and uses of these cycles and think that, together, they help offer us lots to consider as we continue to clarify this intriguing process in our own minds . Explore various cycles. Look for patterns...where do they all agree? Find one that works for you and your students. Create your own – but be consistent. Shared language across a school has great benefits.

A cycle of inquiry helps us plan and teach with intention. When it is understood, it pushes us beyond simply coming up with 'activities' and challenges us to think about how skills and concepts can be developed and deepened over time. It gives us some shared 'meta' language to use with students and colleagues

How do YOU use a cycle of inquiry to inform your work as an inquiry teacher?

...Just wondering....

Learner-Centered Instruction
By: Paul Kim

Model	Attributes
Inquiry	<ul style="list-style-type: none"> • A learner-centered, active learning approach focusing on questioning, critical thinking, and problem solving • Follows the principle that involving learners will help them better understand the lessons
Resource-based learning	<ul style="list-style-type: none"> • Learners actively engage in multiple resources (print and non-print) • Learners responsible for selecting resources (e.g. Internet, books, human) that appeal to their personal learning preferences, interests and abilities • Learners become active learners as they use a wide range of materials to investigate subject material prescribed within their classroom curriculum
Cognitive Apprenticeship	<ul style="list-style-type: none"> • Learners work in teams on projects or problems with close scaffolding of the teacher • Guided participation helps the learner achieve tasks that independently would be too hard or complicated. • The task or goal is to form a process of thinking—or something that is intangible into something tangible • Teachers usually model or scaffold the skills or tasks in the beginning. Once learners begin to understand, the modeling and scaffolding is reduced. This allows learners to accomplish the task on their own and only ask for help when needed
Problem-based learning	<ul style="list-style-type: none"> • Focuses on the process of problem solving, critical thinking in situated contexts, and acquiring knowledge. It is inquiry-based when learners are active in creating the problem • Emphasis is placed on using communication, cooperation, and resources to formulate ideas and develop reasoning skills • Knowledge is constructed within each individual or community based on the learner's or community's prior knowledge, values, beliefs, and perspectives. • Learning occurs through social interactions whereby an outside source can help individuals extend their learning • Activities are organized around achieving a shared goal (project)
Project-Based Learning	<ul style="list-style-type: none"> • Focuses on developing a product or creation • Engages learners by starting with concrete and solving hands-on, real-world problems • Learners are usually provided with specifications for a desired end product (e.g a specific project, such as building a rocket or designing a web site) • The learning process is more oriented to following correct procedures. • Teachers are more likely provide expert guidance, feedback and suggestions (e.g. modeling, scaffolding) to help learners achieve the final product. This is provided according to learner needs and within the context of the project • Activities are organized around achieving a shared goal (project)
Collaborative Learning	<ul style="list-style-type: none"> • Learners placed in groups or pairs for the purpose of achieving a common academic goal • Learners are responsible for one another's learning as well as their own. Thus, the success of one learner helps other learners to be successful • Does not require face-to-face interaction as collaborative learning can take place across the Internet
Cooperative Learning	<ul style="list-style-type: none"> • It is a specific kind of collaborative learning, where learners work together in <i>small</i> groups on a structured activity. They are individually accountable for their work and are responsible for helping teammates learn • Cooperative groups work face-to-face and learn to work as a team
Constructivism	<ul style="list-style-type: none"> • Founded on the premise that reflecting on personal experiences allows learners to construct their own understanding of the world • Teachers focus on making connections between facts and fostering new understanding in learners • Teachers rely heavily on open-ended questions and promoting extensive dialogue among learners • Learners encouraged to analyze, interpret, and predict information

Using key and related concepts

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

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

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

Global contexts

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

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

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

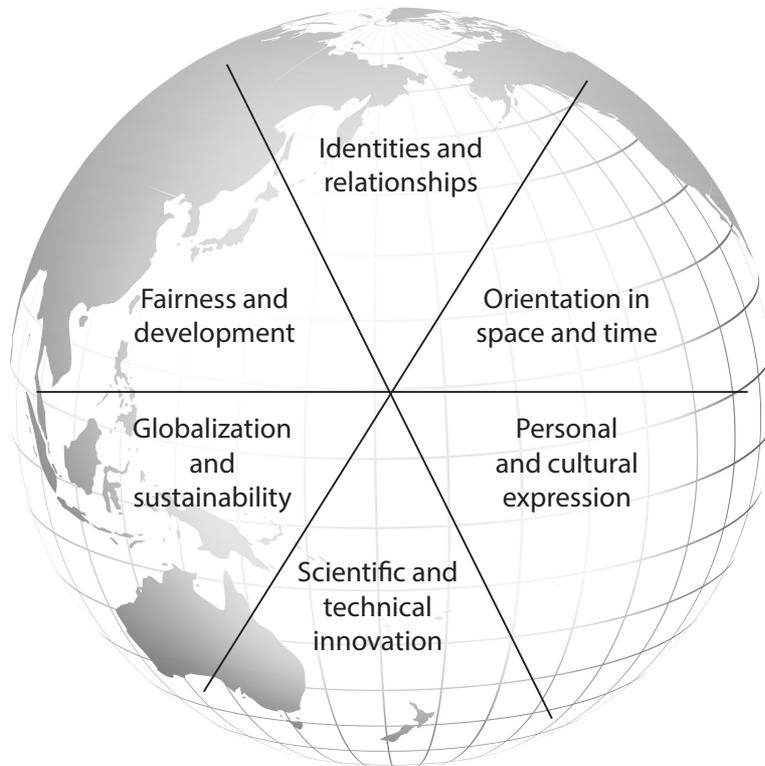


Figure 9
MYP global contexts

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

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

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

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

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

Table 3
Global contexts and explorations

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

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

Statement of inquiry

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

The statement of inquiry:

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

REMEMBER

Retrieve relevant knowledge from long-term memory.



- Can you recall...?
- Where is...? Who is...?
- Can you list four...?
- How would you describe...?
- How could you explain...?
- Which of these is true...? false...?

Showing	Restating	Choosing
Naming	Finding	Matching
Listing	Recognizing	Relating

ANALYZE

Separate a whole into parts and determine their relationships.



- Why do you think...?
- What is the relationship...?
- Can you compare...? contrast...?
- What idea is relevant to...?
- How would you categorize...?
- What can you infer...?

Classifying	Experimenting	Simplifying
Investigating	Dividing	Differentiating
Observing	Discovering	Researching

UNDERSTAND

Construct meaning from instructional messages.



- What is the main idea of...?
- Can you find an example of...?
- How would you summarize...?
- What might happen next...?
- How do you explain...?
- What ideas or facts show...?

Organizing	Paraphrasing	Reviewing
Discussing	Extending	Inferring
Interpreting	Outlining	Showing

EVALUATE

Make judgments based on criteria and standards.



- Which is more important?
- Is there a better solution to...?
- Can you defend...?
- What are the pros of...? cons...?
- Why is... of value?
- How would you feel if...?

Validating	Justifying	Critiquing
Debating	Monitoring	Selecting
Assessing	Prioritizing	Rating

APPLY

Carry out or use a procedure in a given situation.



- What would happen if...?
- How could you clarify...?
- Who do you think...?
- Which approach would you...?
- How would you use...?
- What is a situation like...?

Practicing	Implementing	Interviewing
Choosing	Operating	Solving
Planning	Developing	Generalizing

CREATE

Combine elements or ideas to form a new whole.



- What is an alternative...?
- Could you invent...?
- Can you compose a...?
- What is your theory about...?
- How can you imagine...?
- What could you design to...?

Building	Constructing	Changing
Combining	Designing	Adapting
Formulating	Improving	Producing

ATL Skills

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

Category: Social		Cluster: Collaboration Skills	
How can students collaborate?	Working effectively with others. Indicators:		
	<ul style="list-style-type: none"> • Use social media networks appropriately to build and develop relationships • Practice empathy • Delegate and share responsibility for decision-making • Help others to succeed • Take responsibility for one's own actions • Manage and resolve conflict, and work collaboratively in teams • Build consensus 	<ul style="list-style-type: none"> • Make fair and equitable decisions • Listen actively to other perspectives and ideas • Negotiate effectively • Encourage others to contribute • Exercise leadership and take on a variety of roles within groups • Give and receive meaningful feedback • Advocate for one's own rights and needs 	

ATL Skills

Category: Self-Management		Cluster: Organization	
How can students demonstrate organization skills?	Managing time and tasks effectively. Indicators:		
	<ul style="list-style-type: none"> • Plan short- and long-term assignments; meet deadlines • Create plans to prepare for summative assessments (examinations and performances) • Keep and use a weekly planner for assignments • Set goals that are challenging and realistic • Plan strategies and take action to achieve personal and academic goals 	<ul style="list-style-type: none"> • Select and use technology effectively and productively • Bring necessary equipment and supplies to class • Keep an organized and logical system of information files/notebooks • Use appropriate strategies for organizing complex information • Understand and use sensory learning preferences (learning styles) 	

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

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

ATL Skills

Category: Research		Cluster: Information literacy	
How can students demonstrate information literacy?	Finding, interpreting, judging and creating information. Indicators:		
	<ul style="list-style-type: none"> • Collect, record and verify data • Access information to be informed and inform others • Make connections between various sources of information • Understand the benefits and limitations of personal sensory learning preferences when accessing, processing and recalling information • Use memory techniques to develop long-term memory • Present information in a variety of formats and platforms • Collect and analyses data to identify solutions and make informed decisions 		<ul style="list-style-type: none"> • Process data and report results • Evaluate and select information sources and digital tools based on their appropriateness to specific tasks • Understand and use technology systems • Use critical-literacy skills to analyses and interpret media communications • Understand and implement intellectual property rights • Create references and citations, use footnotes/endnotes and construct a bibliography according to recognized conventions • Identify primary and secondary sources

Category: Research		Cluster: Media literacy	
How can students demonstrate media literacy?	Interacting with media to use and create ideas and information. Indicators:		
	<ul style="list-style-type: none"> • Locate, organize, analyze, evaluate, synthesize and ethically use information from a variety of sources and media (including digital social media and online networks) • Demonstrate awareness of media interpretations of events and ideas (including digital social media) • Make informed choices about personal viewing experiences 		<ul style="list-style-type: none"> • Understand the impact of media representations and modes of presentation • Seek a range of perspectives from multiple and varied sources • Communicate information and ideas effectively to multiple audiences using a variety of media and formats • Compare, contrast and draw connections among (multi)media resources

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

ATL Skills

Category: Thinking		Cluster: Creative-thinking
How can students be creative?	Generating novel ideas and considering new perspectives. Indicators:	
	<ul style="list-style-type: none"> • Use brainstorming and visual diagrams to generate new ideas and inquiries • Consider multiple alternatives, including those that might be unlikely or impossible • Create novel solutions to authentic problems • Make unexpected or unusual connections between objects and/or ideas • Design improvements to existing machines, media and technologies • Design new machines, media and technologies • 	<ul style="list-style-type: none"> • Make guesses, ask “what if” questions and generate testable hypotheses • Apply existing knowledge to generate new ideas, products or processes • Create original works and ideas; use existing works and ideas in new ways • Practice flexible thinking—develop multiple opposing, contradictory and complementary arguments • Practice visible thinking strategies and techniques • Generate metaphors and analogies

Category: Thinking		Cluster: Transfer
How can students transfer skills and knowledge across disciplines and subjects?	Using skills and knowledge in multiple contexts. Indicators:	
	<ul style="list-style-type: none"> • Use effective learning strategies in subject groups and disciplines • Apply skills and knowledge in unfamiliar situations • Inquire in different contexts to gain a different perspective • Compare conceptual understanding across multiple subject groups and disciplines • Make connections between subject groups and disciplines 	<ul style="list-style-type: none"> • Combine knowledge, understanding and skills to create products or solutions • Transfer current knowledge to learning of new technologies • Change the context of an inquiry to gain different perspectives

MYP unit planner

Teacher(s)		Subject group and discipline			
Unit title		MYP Year	1-5	Unit duration (hrs)	Units will be designed to encompass approximately 20 hours of teaching time. (eAssessment development report (April 2014), 8)

INQUIRY: Establishing the purpose of the unit

Key concept	Related concept(s)	Global context
<p>Key concepts, contributed from each subject group, provide interdisciplinary breadth to the programme. Key concepts are broad, organizing, powerful ideas that have relevance within and across subjects and disciplines, providing connections that can transfer across time and culture. (15)</p> <p>Key concepts engage students in higher-order thinking, helping them to connect facts and topics with more complex conceptual understanding. (15)</p> <p>Teachers identify one key concept that drives the unit's development. (56)</p> <p>These concepts are not only “key” in the sense of being important; they also provide a key—a way into a body of knowledge through structured and sustained inquiry. They place no limits on breadth of knowledge or on depth of understanding, and therefore provide access to every student, regardless of individual aptitudes and abilities. (56)</p>	<p>Related concepts promote depth of learning and add coherence to the understanding of academic subjects and disciplines. They are grounded in specific subjects and disciplines, and they are useful for exploring key concepts in greater detail. Inquiry into related concepts helps students to develop more complex and sophisticated conceptual understanding. (15)</p> <p>Related concepts and their definitions are found in each MYP subject group guide (appendix). (57)</p> <p>For each unit, teachers identify one or more related concept(s) that extend(s) learning, lead(s) to deeper understanding, or offer(s) another perspective from which to understand the identified key concept(s). (58)</p> <p>Students should have meaningful inquiry into all of the... related concepts for each relevant subject group at least once over the course of the MYP. (58)</p>	<p>IB programmes aim to develop international mindedness in a global context. (11)</p> <p>Using global contexts in planning and teaching helps learners by providing relevance and meaning, which may lead to increased student engagement. (12)</p> <p>All learning is contextual. A learning context is a specific setting, event or set of circumstances, designed or chosen, to stimulate learning. The context, therefore, should have a relationship to the learner, the learner's interests and identity, or the learner's future.... contexts are specific, varied and highly situational. (17)</p> <p>The existence of multiple contexts for teaching and learning underscores the fact that all concepts are open to interpretation. (17)</p> <p>When concepts are set in context, they are less likely to become prescriptive checklists of “facts by another name”. Contexts help to create productive discussion within and outside of the classroom. (17)</p>

<p>Students need multiple opportunities to explore the concepts defined for each subject or discipline. (58)</p>		<p>Contexts for learning in the MYP are chosen from [parts of] global contexts to encourage international-mindedness and global engagement within the programme. (18)</p> <p>Global contexts provide a common language for powerful contextual learning, identifying specific settings, events or circumstances that provide more concrete perspectives for teaching and learning. (58)</p> <p>These and other contexts for teaching and learning inspire <i>explorations</i>.... Table 3 (pages 60-62) contains explanations of the MYP global contexts and some of the many <i>explorations</i> that they can inspire. (59)</p> <p>Constructivism implies a pedagogy that includes student inquiry into concepts through content in authentic global contexts. (72)</p>
<p>Statement of inquiry</p>		
<p>Statements of inquiry should not be so specific that they cannot be transferable beyond the content of the unit. (63)</p> <p>[Combine] a key concept, one or more related concepts, and a global context for the unit into a meaningful statement that students can understand. This statement expresses the relationship between concepts and context; it represents a transferable idea supported by factual content. (62)</p> <p>represents a contextualized, conceptual understanding. (62)</p> <p>can be qualified (using phrases such as “often”, “may” and “can”) if it is not true in all situations, but is still an important idea. (62)</p> <p>can be formulated at different levels of specificity. (62)</p> <p>Summative assessment tasks should be directly linked to the statement of inquiry. (64)</p> <p>Teachers should refer to the statement of inquiry to ensure that concepts and context inform the selection of learning experiences, formative assessment and teaching strategies. (66)</p>		

Inquiry questions		
<p>Inquiry questions are drawn from, and inspired by, the statement of inquiry. (63)</p> <p>Inquiry questions give shape and scope to a unit of study, and they help to scaffold the objectives that students should strive to achieve. (63)</p> <p>Factual: (63)</p> <ul style="list-style-type: none"> • Knowledge/fact-based • Content-driven • Skills-related • Supported by evidence • Can be used to explore terminology in the statement of inquiry • Frequently topical • Encourage recall and comprehension <p>Conceptual: (63)</p> <ul style="list-style-type: none"> • Enable exploration of big ideas that connect facts and topics • Highlight opportunities to compare and contrast • Explore contradictions • Lead to deeper disciplinary and interdisciplinary understanding • Promote transfer to familiar or less familiar situations, issues, ideas and contexts • Encourage analysis and application <p>Debatable: (63)</p> <ul style="list-style-type: none"> • Enable the use of facts and concepts to debate a position • Promote discussion • Explore significant ideas and issues from multiple perspectives • Can be contested • Have tension • May be deliberately provocative • Encourage synthesis and evaluation 		
Objectives	Summative assessment	
<p>The objectives of any MYP subject group state the specific targets that are set for learning in that subject group. They define what the student will be able to accomplish as a result of studying the subject. Each objective is elaborated by a number of strands; a strand is an aspect or indicator of the learning expectation.</p>	<p>Outline of summative assessment task(s) including assessment criteria:</p> <p>In the context of the MYP curriculum, a unit can be defined as a period of study that concludes with a summative assessment. (50)</p> <p>Summative assessment tasks should be directly linked to the statement of inquiry and provide varied</p>	<p>Relationship between the summative assessment task(s) and the statement of inquiry:</p> <p>Describe how the statement of inquiry and summative assessment task(s) are connected</p>

<p>All strands of an objective must be addressed in order to determine a final achievement level.</p> <p>The objectives of each subject group represent the use of knowledge, understanding and skills that must be taught. They encompass the factual, conceptual, procedural and metacognitive dimensions of knowledge. MYP objectives reflect and offer opportunities to develop the attributes of the IB learner profile. (64)</p> <p>The objectives for years 1, 3 and 5 of the programme are provided in MYP subject group guides, and their use is mandatory. (64)</p> <p>In practice, schools often introduce objectives and criteria for MYP years 3 and 5 in the previous year so that students in MYP years 2 and 4 become familiar with, and begin working towards, stated requirements, adapting and interpreting them in ways that are developmentally appropriate. (80)</p> <p>Include the unit’s objectives, listing specific strands to be addressed and assessed by the summative assessment(s).</p> <p>Example for what goes in the box: (81) MYP objectives Objective A—Using knowledge. Students should be able to:</p> <ul style="list-style-type: none"> • construct explanations using knowledge to demonstrate understanding • apply knowledge and understanding to solve problems set in familiar and unfamiliar situations • apply terminology effectively to communicate understanding. 	<p>opportunities for students to demonstrate their knowledge, understanding and skills. In planning these assessments of learning, teachers should ask the following questions. (64)</p> <ul style="list-style-type: none"> • How does this assessment task relate to the statement of inquiry? • Which MYP objectives are being addressed? • How can we create meaningful performances of understanding? • What evidence of learning will there be? • How can we collect evidence of learning? • How will the assessment task demonstrate conceptual understanding? • How will results be recorded and analysed? • How and when will students receive feedback? <p>Summative assessments are designed to provide evidence for evaluating student achievement using required MYP subject group specific assessment criteria. (79)</p> <p>Choosing from a range of assessment strategies, teachers can devise assessment tasks that give students adequate opportunities to show clearly what they can achieve in relation to inquiry questions, and hence the subject group objectives for that unit. (85)</p> <p>Open-ended tasks may be combined with other strategies, such as performance assessments... performance assessments can allow students to perform the learned skills and show their understanding in real-world contexts. (85)</p> <p>Teachers should consider the distinction between activities or tasks and performances of understanding that are more effective in building deep understanding. The MYP uses the term “performance” in its widest sense to describe all forms of assessment where students are assessed on their ability to demonstrate predetermined learning objectives. (86)</p>	
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Approaches to learning (ATL)

ATL skills empower students to succeed in meeting the challenging objectives of MYP subject groups... while ATL skills are not formally assessed in the MYP, they contribute to students' achievement. (20)

All teachers in MYP schools are responsible for integrating and explicitly teaching ATL skills. (21)

Many ATL skills directly support the attainment of subject group objectives. (64)

Example: In order for students to (objective strand) students must (choose an ATL skill that will allow students to master the objective strand). Category... (where did you find it?) Cluster... (where did you find it?)

ATL skills focus on the process of learning, helping students to become confident, independent, self-managed learners for life. Teachers should teach skills explicitly, and students should have structured opportunities to practise them. (65)

ACTION: Teaching and learning through inquiry

Content	Learning process
<p>Teachers can use a wide range of content, developed through MYP key and related concepts and global contexts, as a vehicle for teaching effective learning strategies. Likewise, ATL skills can be powerful tools for exploring significant content. This dual focus (content and process, knowledge and skills) promotes student engagement, deep understanding, transfer of skills and academic success. (20)</p> <p>This content may be mandated by state or national systems; it may come from school-based requirements or the school's curriculum overview; or it may be derived from a range of education standards. (66)</p>	<p>Learning experiences and teaching strategies</p> <p>Students at the MYP age range learn best when their learning experiences have context and are connected to their lives and to the world that they have experienced. (18)</p> <p>As the unit progresses, both teachers and students can develop additional questions to explore... the statement of inquiry in greater detail. Students can develop their own questions in ways that satisfy curiosity and deepen understanding. The strands of subject-specific objectives can also be helpful in formulating inquiry questions. (63)</p> <p>Teaching and learning in all IB programmes is: (66)</p> <ul style="list-style-type: none"> • based on inquiry • focused on developing conceptual understanding • developed in local and global contexts • focused on effective teamwork and collaboration • differentiated to meet the needs of all learners • informed by assessment (formative and summative). <p>Teachers should purposefully choose strategies and learning experiences that are aligned with the unit's statement of inquiry; help students meet subject group objectives; support the development of effective</p>

	<p>ATL skills; and meaningfully prepare students to achieve high levels of performance in the unit’s summative assessment.(66)</p> <p>Teachers should ensure that a range of learning experiences and teaching strategies is: (66)</p> <ul style="list-style-type: none"> • embedded in the curriculum • built upon prior learning • age-appropriate, thought-provoking and engaging • based on the differing needs of all students, including those who are learning in a language other than their mother tongue, and students with learning support requirements • open-ended and involves teaching problem-solving skills. <p>IB programmes recognize and value students’ efforts to construct meaning when exploring the world around them. To support this, the MYP requires teachers to provide learning experiences that draw on students’ prior knowledge and provide the time and opportunity for reflection and consolidation. This constructivist approach respects students’ ongoing development of ideas, and their understanding, transfer and application of these ideas to wider contexts. Constructivism implies a pedagogy that includes student inquiry into concepts through content in authentic global contexts. This pedagogy leads to the most substantial and enduring learning. (72)</p> <p>The MYP can provide valuable experiences that help students engage in sophisticated inquiry into questions about the nature, limits and value of knowledge. Inquiry based approaches to teaching encourage students to share ideas with others and to listen to, and learn from, what others think. In this process, students’ thinking and their understanding is shaped and enriched. (73)</p>
	<p>Formative assessment</p> <p>Teachers should provide students with regular, specific feedback on the development of ATL skills through learning engagements and formative assessment. (64)</p> <p>Teachers need to develop ways of ascertaining students’ prior learning so that they can plan appropriate learning experiences and teaching strategies. (67)</p> <p>Teachers also need to consider how to monitor and support learning as students engage with the unit. Formative assessment (assessment for learning) provides teachers and students with insights into the ongoing development of knowledge, understanding, skills and attitudes. Assessment for learning is “the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there” (Black et al. 2002). (67)</p> <p>Formative assessment can also provide important opportunities for students to rehearse or refine performances of understanding as they prepare to complete summative assessment tasks. (67)</p>

	<p>Through effective formative assessment, teachers gather, analyse, interpret and use a variety of evidence to improve student learning and to help students to achieve their potential. (79)</p> <p>Formative assessments can be planned from the start of a unit, although they may change as teachers engage with students to determine the next stages of learning. (79)</p> <p>Tests and quizzes are the most familiar examples of this form of assessment. Selected responses allow the teacher to ask general or specific questions to elicit responses from students that will indicate understanding and, possibly, misunderstanding. This strategy is particularly useful during the course of a unit, in formative assessment, as it is usually quick and straightforward to administer and can provide instant feedback for students and teachers. (85)</p>
	<p>Differentiation</p> <p>Planning for different levels of ability. (112)</p> <p>As schools implement the MYP inclusively, teachers design learning experiences that allow students across a range of needs to meet their learning objectives (see Meeting student learning diversity in the classroom (2013)). (27)</p> <p>The inclusion of all students requires a school to address differentiation within the written and taught curriculum, demonstrated in the unit planner and in the teaching environment. (28)</p> <p>Effective formative assessment also provides teachers and students with a way to explore personal learning styles as well as individual student strengths, challenges and preferences that can inform meaningful differentiation of learning. (67)</p> <p>Differentiation (modifying teaching strategies to meet the needs of diverse learners) can build opportunities in which each student can develop, pursue and achieve appropriate personal learning goals. When considering pedagogical approaches to meeting individual learning needs, teachers also need to consider each student's language profile. (68)</p> <p>Teachers can differentiate teaching and learning by providing examples (work samples or task-specific clarifications of assessment criteria); structuring support (advance organizers, flexible grouping, peer relationships); establishing interim and flexible deadlines; and adjusting the pace of learning experiences. (68)</p> <p>All students should be able to access the curriculum through the specific design of the unit and through the strategies that teachers employ to differentiate the content, process and outcomes of learning. Differentiation may include offering students various modes of interpreting materials, whether visually, aurally or kinaesthetically, and allowing students to choose alternate modes of presentation for their performances of understanding (for example, oral presentation, writing, or a practical method such as leading a peer-to-peer workshop). (68)</p>

Resources

Teachers plan and record the content, learning process and resources that they use in the course of the unit. (66)

The specific learning experiences and teaching strategies devised by teachers depend on available resources. (67)

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

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

REFLECTION: Considering the planning, process and impact of the inquiry (Table 5, 70-71)

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

Prior to teaching the unit	During teaching	After teaching the unit
<p>Why do we think that the unit or the selection of topics will be interesting?</p> <p>What do students already know, and what can they do?</p> <p>What have students encountered in this discipline before?</p> <p>What does experience tell us about what to expect in this unit?</p> <p>What attributes of the learner profile does this unit offer students opportunities to develop?</p> <p>What potential interdisciplinary connections can we identify?</p> <p>What do we know about my students' preferences and patterns of interaction?</p> <p>Are there any possible opportunities for meaningful service learning?</p> <p>What in the unit might be inspiring for community or personal projects?</p> <p>Could we develop authentic opportunities for service learning?</p> <p>How can we use my students' multilingualism as a resource for learning?</p>	<p>What difficulties did we encounter while completing the unit or the summative assessment task(s)?</p> <p>What resources are proving useful, and what other resources do we need?</p> <p>What student inquiries are emerging?</p> <p>What can we adjust or change?</p> <p>What skills need more practice?</p> <p>What is the level of student engagement?</p> <p>How can we scaffold learning for students who need more guidance?</p> <p>What is happening in the world right now with which we could connect teaching and learning in this unit?</p> <p>How well are the learning experiences aligned with the unit's objectives?</p> <p>What opportunities am I hearing to help students explore the interpretative nature of knowledge, including personal biases that might be retained, revised or rejected? (DP Theory of knowledge skills development)</p>	<p>What were the learning outcomes of this unit?</p> <p>How well did the summative assessment task serve to distinguish levels of achievement? Was the task sufficiently complex to allow students to reach the highest levels?</p> <p>What evidence of learning can we identify? What artefacts of learning should we document?</p> <p>Which teaching strategies were effective? Why?</p> <p>What was surprising?</p> <p>What student-initiated action did we notice?</p> <p>What will we do differently next time?</p> <p>How will we build on our experience to plan the next unit?</p> <p>How effectively did we differentiate learning in this unit?</p> <p>What can students carry forward from this unit to the next year/ level of study?</p> <p>Which subject groups could we work with next time?</p> <p>What did we learn from standardizing the assessment?</p>

<p>Goal - choose one</p> <p>Merge with your Sol</p>	<p>Your task is to _____</p> <p>The goal is to _____</p> <p>The problem or challenge is _____</p> <p>The obstacles to overcome are _____</p>
<p>Role- choose one</p>	<p>You are _____</p> <p>You have been asked to _____</p> <p>Your job is _____</p>
<p>Audience- choose one</p>	<p>Your clients are _____</p> <p>Your target audience is _____</p> <p>You need to convince _____</p>
<p>Situation- choose one</p>	<p>The context you find yourself in is _____</p> <p>The challenge involves dealing with _____</p>
<p>Product- choose one</p>	<p>You will create a _____ in order to _____</p> <p>You need to develop _____ so that _____</p>

