

Interdisciplinary Learning in MYP

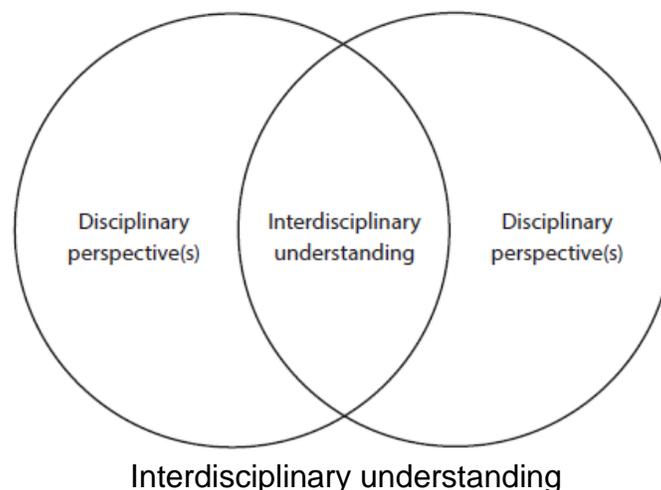
One of the key features of the MYP is its emphasis on interdisciplinary teaching and learning. This trait emerges as a consequence of the challenges and opportunities of educating students in, and for, a complex and highly interconnected world. Younger learners often make connections naturally between knowledge domains in order to understand the world around them—in some cases, because they have not yet been socialized into the disciplinary perspectives that organize the academic world. As knowledge and information multiply, critical thinkers must successfully integrate disciplinary perspectives to understand complex issues and ideas.

Meaningful interdisciplinary teaching and learning experiences can have positive effects on students, teachers and learning environments. Interdisciplinary teaching and learning has the following benefits for students:

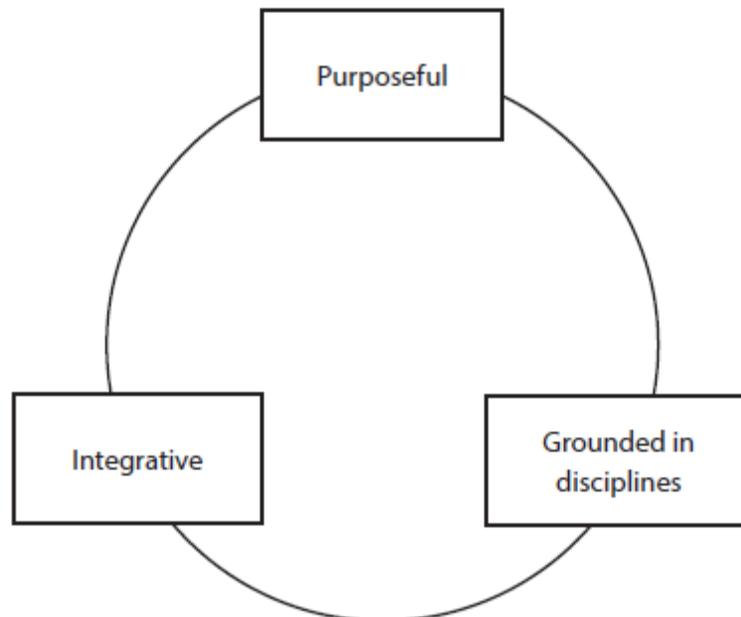
- allows students to use knowledge domains creatively to foster new understanding
- develops mental flexibility that prepares students to be lifelong learners
- promotes intellectual rigour by providing a holistic approach to the study of complex issues and ideas
- models the importance of collaboration and teamwork across disciplines (an important life skill)
- supports and promotes transfer of understanding

In the MYP, interdisciplinary learning is the process by which students come to understand bodies of knowledge and ways of knowing from two or more disciplines or subject groups and integrate them to create new understanding.

Students demonstrate interdisciplinary understanding when they can bring together concepts, methods, or forms of communication from two or more disciplines or established areas of expertise to explain a phenomenon, solve a problem, create a product, or raise a new question in ways that would have been unlikely through a single discipline (Boix Mansilla 2010).



Three key qualities of interdisciplinary understanding follow from this definition. In the MYP, interdisciplinary learning is:



Key qualities of interdisciplinary learning

Interdisciplinary learning is purposeful

In effective interdisciplinary learning, the integration of disciplinary perspectives or subject areas is **purposeful**. It is “a path to take when we are confronted with phenomena that cannot be understood from one or another discipline alone, and only yield their secrets and fascinations when approached with new tools and from new perspectives that derive their methods from more than one discipline” (Rényi 2000: 41).

Interdisciplinary learning in the MYP seeks to:

- place inquiry within broader global contexts
- enrich student understanding of topics, artefacts or problems that they, their teachers, schools and communities find compelling
- respond to a clear aim for which perspectives must be brought together (solve a problem, create a product, build an explanation, address a need)

Interdisciplinary learning is grounded in the disciplines

Interdisciplinary learning is deeply **grounded in the disciplines** represented within the MYP subject groups (for example, biology, physics and chemistry in the sciences; drama, visual art and music in the arts). Interdisciplinary teaching and learning does not replace MYP subject groups; rather, it selects and reorganizes disciplinary objectives in meaningful and connected ways. Thus, disciplinary learning is not implicit in interdisciplinary projects, but rather explicitly taught and assessed.

Students exhibit interdisciplinary understanding when they:

- apply knowledge, concepts, findings, strategies, tools, methods of inquiry, ways of knowing, or forms of communication in specific disciplines (as framed in subject-group objectives)
- employ disciplinary understanding that moves towards the sophistication of subject matter experts (avoiding misconceptions or oversimplifications)

Interdisciplinary learning is integrative

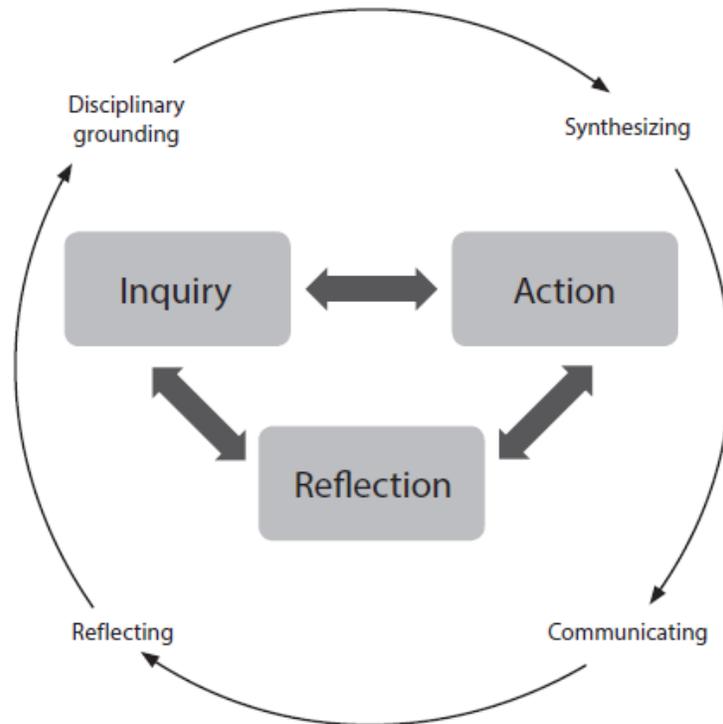
Although mastering selected concepts and skills in two or more disciplines is necessary to promote interdisciplinary learning, it is not sufficient. Interdisciplinary learning requires that students **integrate** disciplinary perspectives and that they do so deliberately and productively. In effective interdisciplinary learning, elements of more than one discipline are placed into a productive relationship with one another—and connections considered over time—so that students can develop a new, deeper, more compelling or nuanced understanding of the topic under study.

In the MYP, students are encouraged to bring together knowledge, understanding, skills and attitudes learned in different disciplines or subject groups to deepen and enrich their understanding.

Objectives of Interdisciplinary learning

The MYP interdisciplinary objectives state the specific targets that are set for interdisciplinary learning. They define what the student will be able to accomplish as a result of undertaking interdisciplinary units at the end of the programme in year 5, year 3 and year 1.

The visual representation of MYP interdisciplinary objectives in the figure below indicates how the objectives can be used when collaboratively planning formal interdisciplinary units, and illustrates their close connection with the inquiry cycle that characterizes teaching and learning in IB programmes.



MYP Interdisciplinary objectives

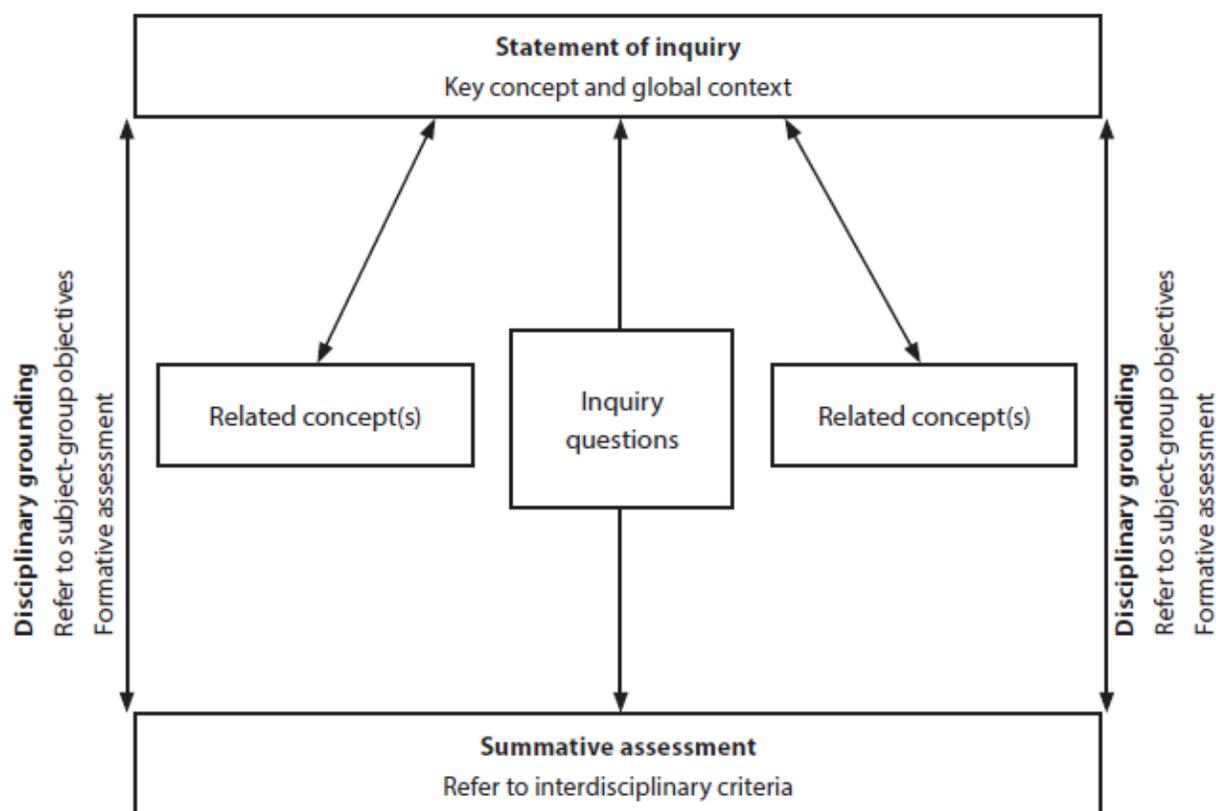
The four objectives for interdisciplinary learning work together in a holistic process that envisions students engaging all four criteria in every formal interdisciplinary unit. In practice, teachers may highlight specific objectives for some units in order to develop students' skills and provide formative feedback for subsequent, more complex units. Especially for students in MYP years 1–3, it may be appropriate to introduce criteria separately to allow for a specific focus on one of the objectives in a given unit. Teachers might scaffold the approach to an objective so that their students can reach the highest achievement levels in subsequent units.

Only when all four objectives are addressed in a unit of work are all the aims of interdisciplinary learning met.

The following table shows the overview of the four objectives for years 1, 3 and 5:

MYP year 1 Students should be able to:	MYP year 3 Students should be able to:	MYP year 5 Students should be able to:
A: Disciplinary grounding		
<ul style="list-style-type: none"> • demonstrate relevant disciplinary factual, conceptual and/or procedural knowledge. 	<ul style="list-style-type: none"> • demonstrate relevant disciplinary factual, conceptual and/or procedural knowledge. 	<ul style="list-style-type: none"> • demonstrate relevant disciplinary factual, conceptual and/or procedural knowledge.
B: Synthesizing		
<ul style="list-style-type: none"> • synthesize disciplinary knowledge to demonstrate interdisciplinary understanding. 	<ul style="list-style-type: none"> • synthesize disciplinary knowledge to demonstrate interdisciplinary understanding. 	<ul style="list-style-type: none"> • synthesize disciplinary knowledge to demonstrate interdisciplinary understanding.
C: Communicating		
<ul style="list-style-type: none"> • use appropriate strategies to communicate interdisciplinary understanding effectively • list sources. 	<ul style="list-style-type: none"> • use appropriate strategies to communicate interdisciplinary understanding effectively • document sources. 	<ul style="list-style-type: none"> • use appropriate strategies to communicate interdisciplinary understanding effectively • document sources using recognized conventions.
D: Reflecting		
<ul style="list-style-type: none"> • evaluate strengths and limitations of the interdisciplinary learning process • describe the benefits and limitations of disciplinary and interdisciplinary knowledge in specific situations. 	<ul style="list-style-type: none"> • reflect on themselves as disciplinary and interdisciplinary learners • explain the benefits and limitations of disciplinary and interdisciplinary knowledge in specific situations. 	<ul style="list-style-type: none"> • reflect on the development of their own interdisciplinary understanding • evaluate the benefits and limitations of disciplinary and interdisciplinary knowledge and ways of knowing in specific situations.

The following diagram illustrates the planning for an interdisciplinary unit.



Interdisciplinary teaching and learning experiences allow students to begin to connect and draw on disciplines in an integrated way. Fostering interdisciplinary performances of understanding during the development of the unit helps students see connections among multiple aspects of a topic or problem typically studied by different disciplines. Placed early or midway in a unit, these practice performances help students learn how to make the essential connections between disciplines, which form the basis of authentic interdisciplinary understanding.

Assessment for Interdisciplinary learning

The following assessment criteria have been established by the IB for interdisciplinary units in the MYP.

Criterion A	Disciplinary grounding	Maximum 8
Criterion B	Synthesizing	Maximum 8
Criterion C	Communicating	Maximum 8
Criterion D	Reflecting	Maximum 8

For each assessment criterion, a number of band descriptors are defined. These describe a range of achievement levels with the lowest represented as 0. In order to measure a student's progress in terms of his or her capacity to undertake interdisciplinary projects, four criteria have been established. The band levels represent limited (1–2), adequate (3–4), substantial (5–6) and excellent (7–8) achievement against the objectives.

MYP students in Years 1 to 4 will undertake the study of one interdisciplinary unit per year. In MYP Year 5 students may be registered for an Interdisciplinary on screen examination.