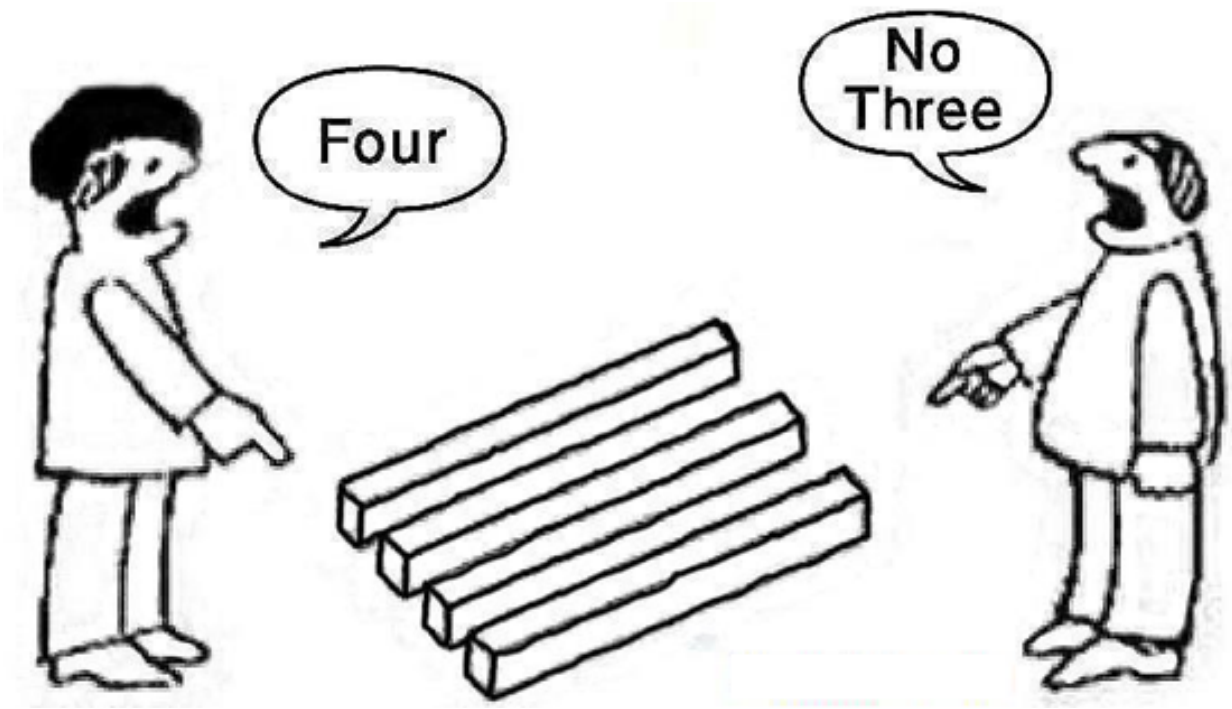
Interdisciplinary teaching and learning

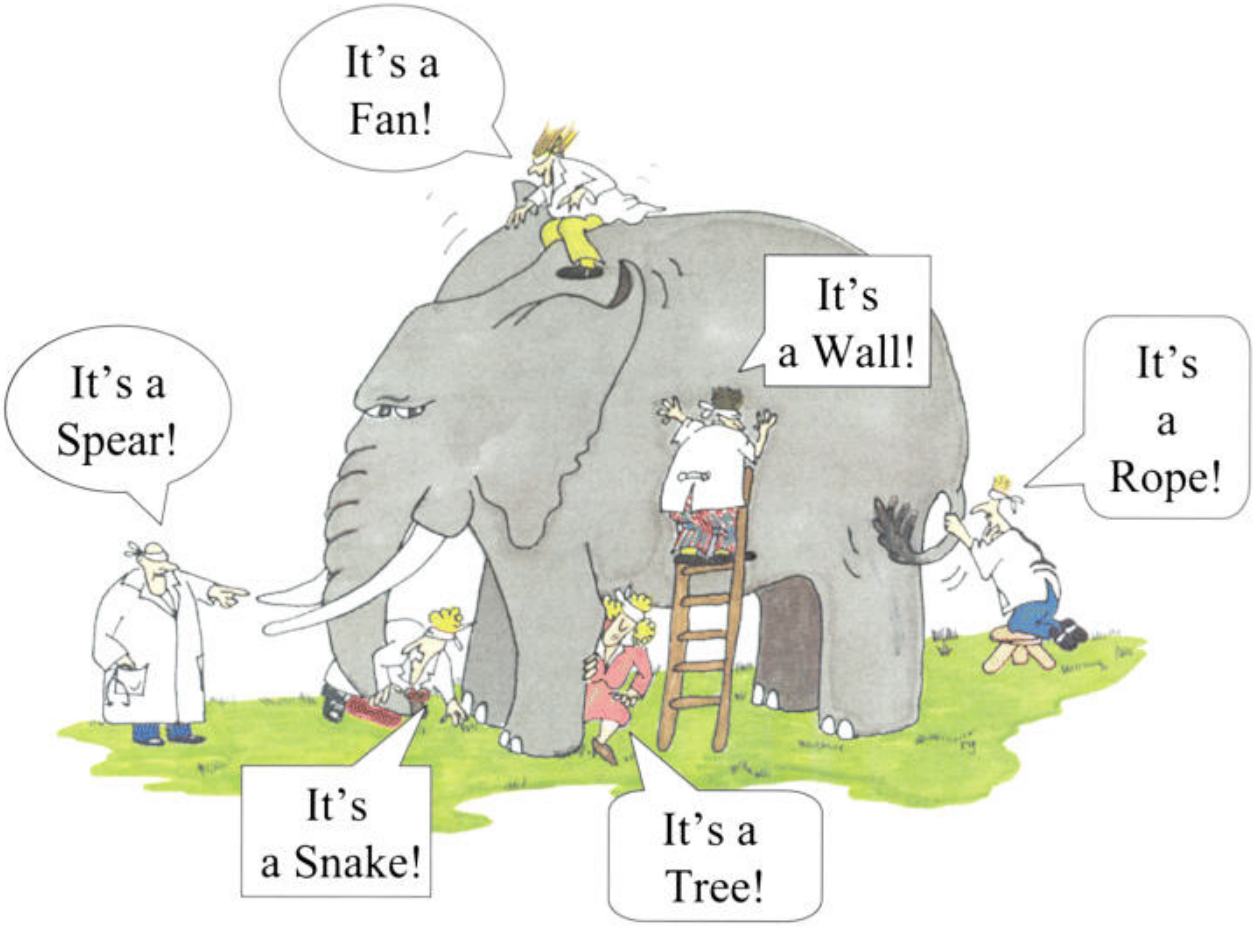
Discussion

- *What do I know about ID?*
- *What do I want to know more of?*
- *Anything that worries me?*

Why an interdisciplinary approach?



The blind men and the elephant...



Why interdisciplinary learning?

Benefits for students:

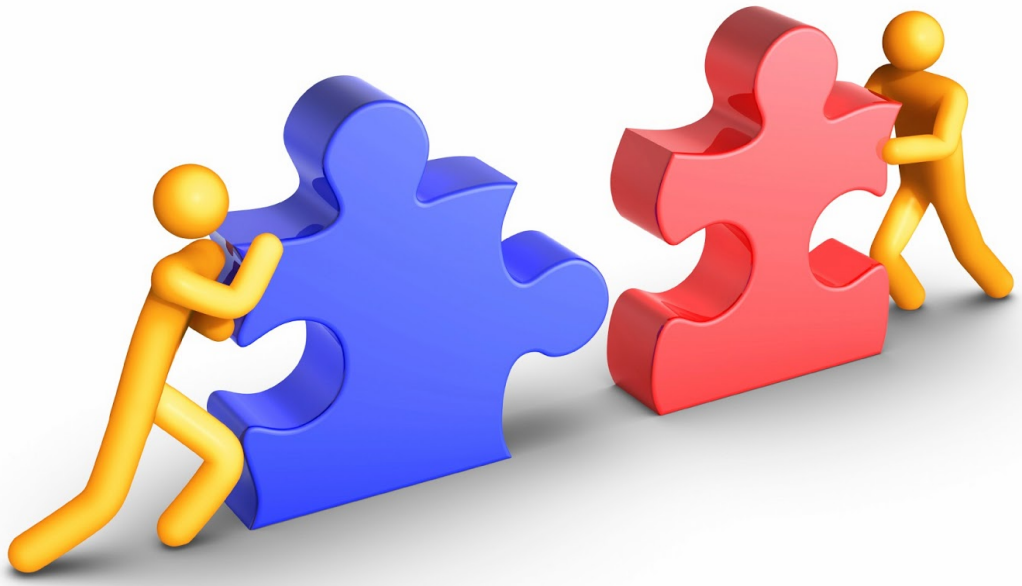
- Allows students to use knowledge creatively to foster new understanding.
- Develops mental flexibility that prepares students to be lifelong learners.
- Promotes intellectual rigour by providing a holistic approach to the study of concepts and complex issues.
- Models the importance of collaboration and teamwork across disciplines (an important life skill).
- Supports and promotes transfer of understanding.

Why interdisciplinary teaching?

Benefits for teachers:

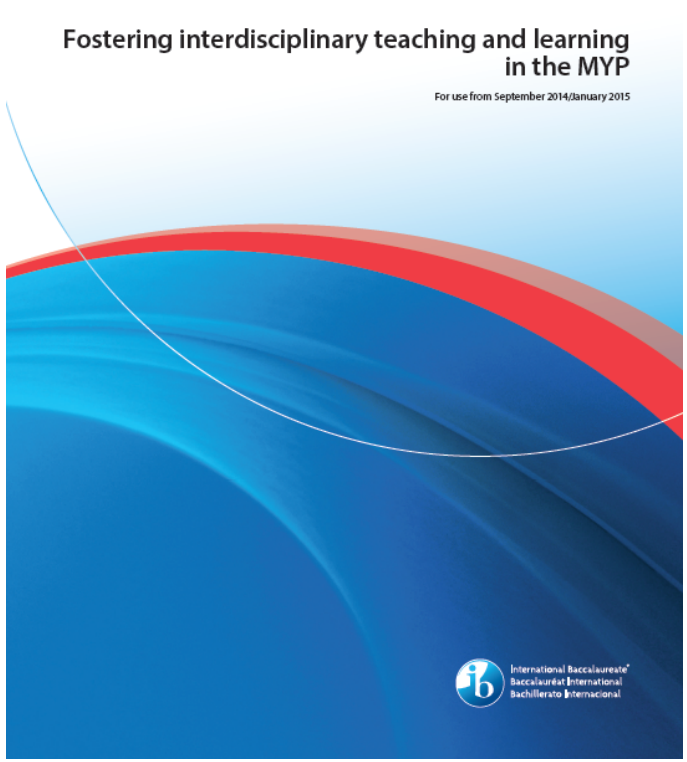
- Develops holistic understanding of disciplinary concepts and contexts.
- Increases collaboration across subject groups and fosters collegiality.
- Allows subject groups to share the delivery of the content, skills and processes (managing time effectively).
- Offers opportunities for rich and authentic professional development with colleagues from other disciplines or subject groups.

The MYP believes that disciplinary teaching is important and that interdisciplinary understanding **does not "naturally" happen**, but rather requires explicit **planning** and a clear sense of purpose on the part of teachers and schools.



Key documents

Middle Years Programme



Interdisciplinary unit planner

Teacher(s)		Subject groups			
Unit title		MYP year		Unit duration	

Inquiry: establishing the purpose of an interdisciplinary unit

Purpose of integration	
Key concept(s)/(related concepts)	**Global context**
Statement of inquiry	
Inquiry questions	
Factual **Conceptual** **Debatable**	

Interdisciplinary unit planner

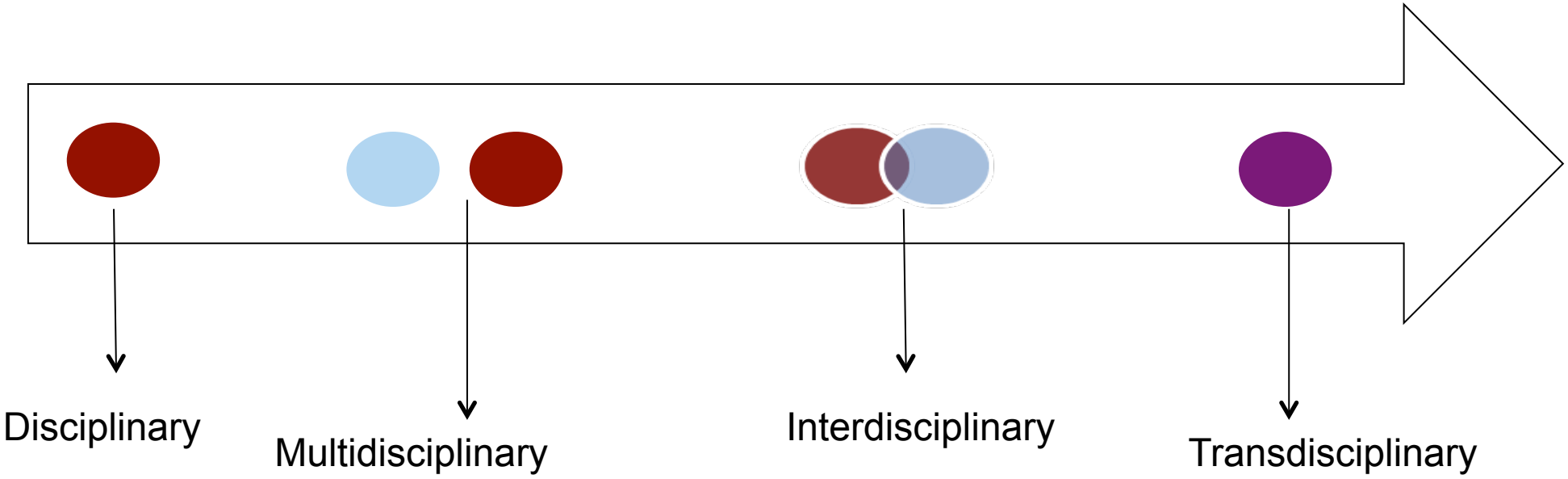
Multidisciplinary

Interdisciplinary

Transdisciplinary

How are these approaches different?

Visualizing approaches



Defining concepts…

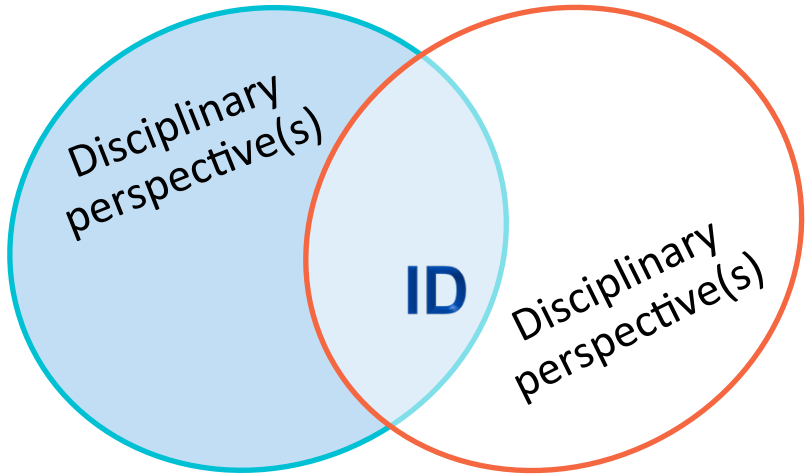
- **Multi:** working with multiple disciplines, maintaining boundaries
- **Inter:** working between more than one discipline, blurring boundaries (interdependent)
- **Trans:** working across and beyond disciplines, eliminating boundaries

DEFINITION - WHAT

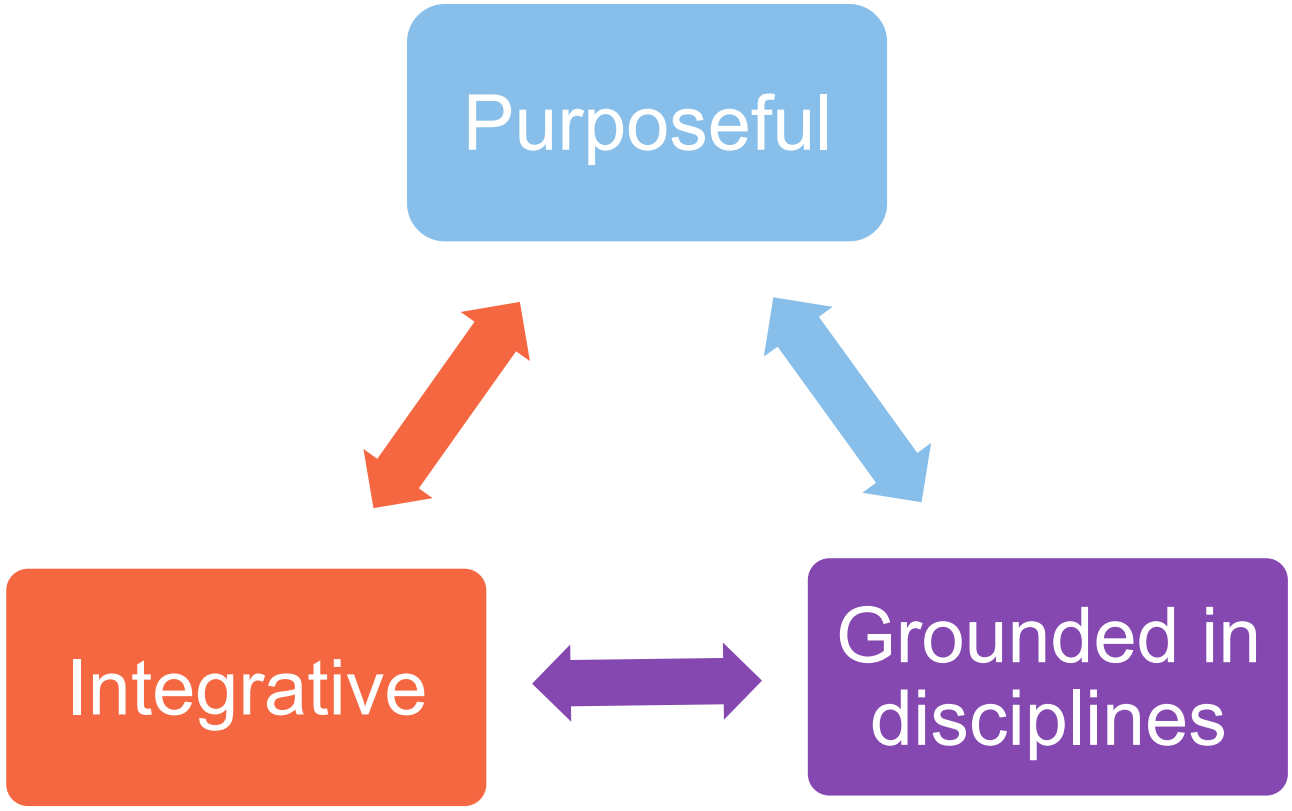
Is interdisciplinary learning?

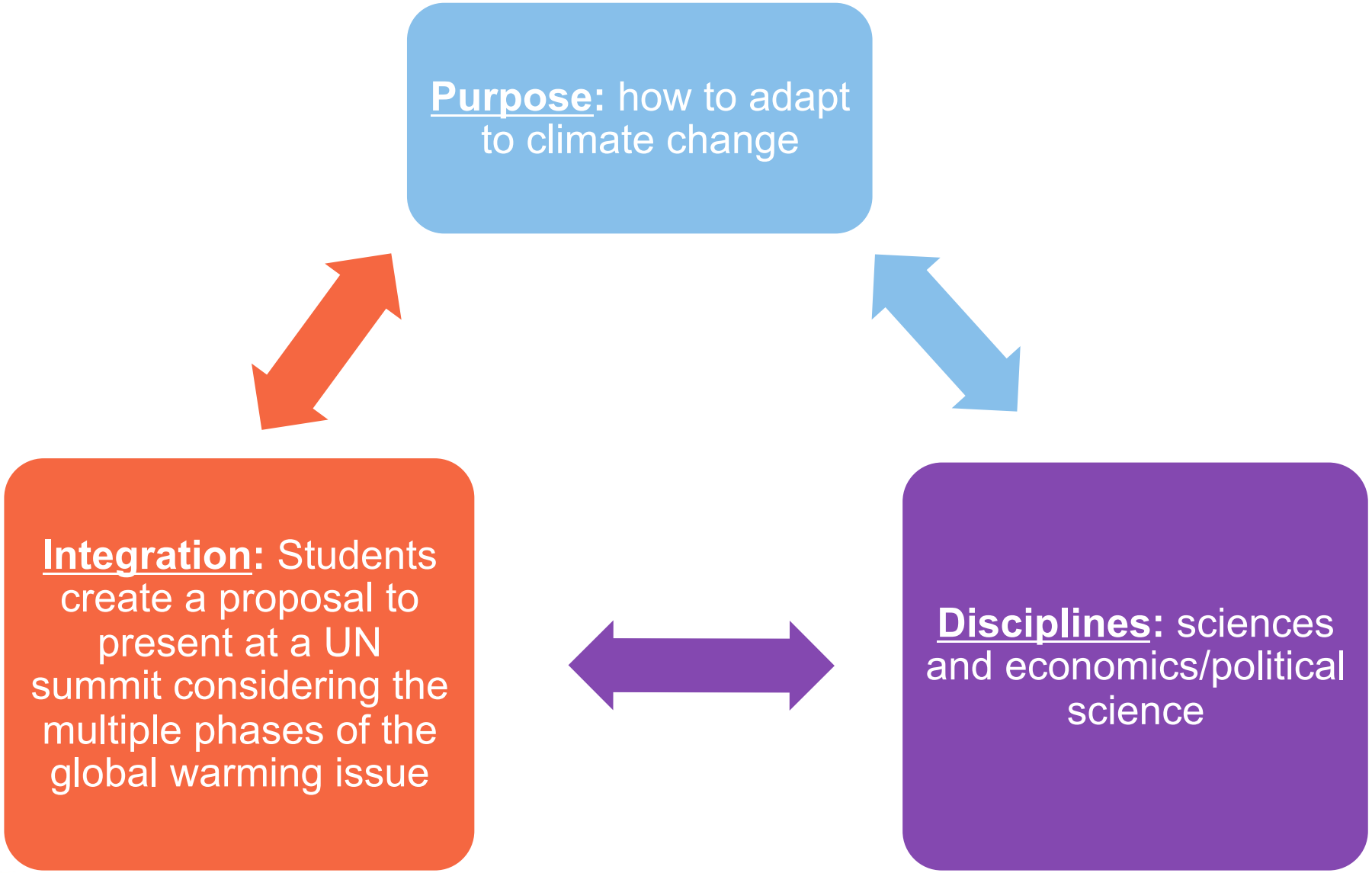
The process…

…by which students come to understand bodies of knowledge and modes of thinking from **two or more** disciplines or subject groups to create a new understanding as demonstrated through the idea of explaining a phenomenon, solving a problem, creating a product, or raising a new question in ways that would have been unlikely through a single disciplinary means.

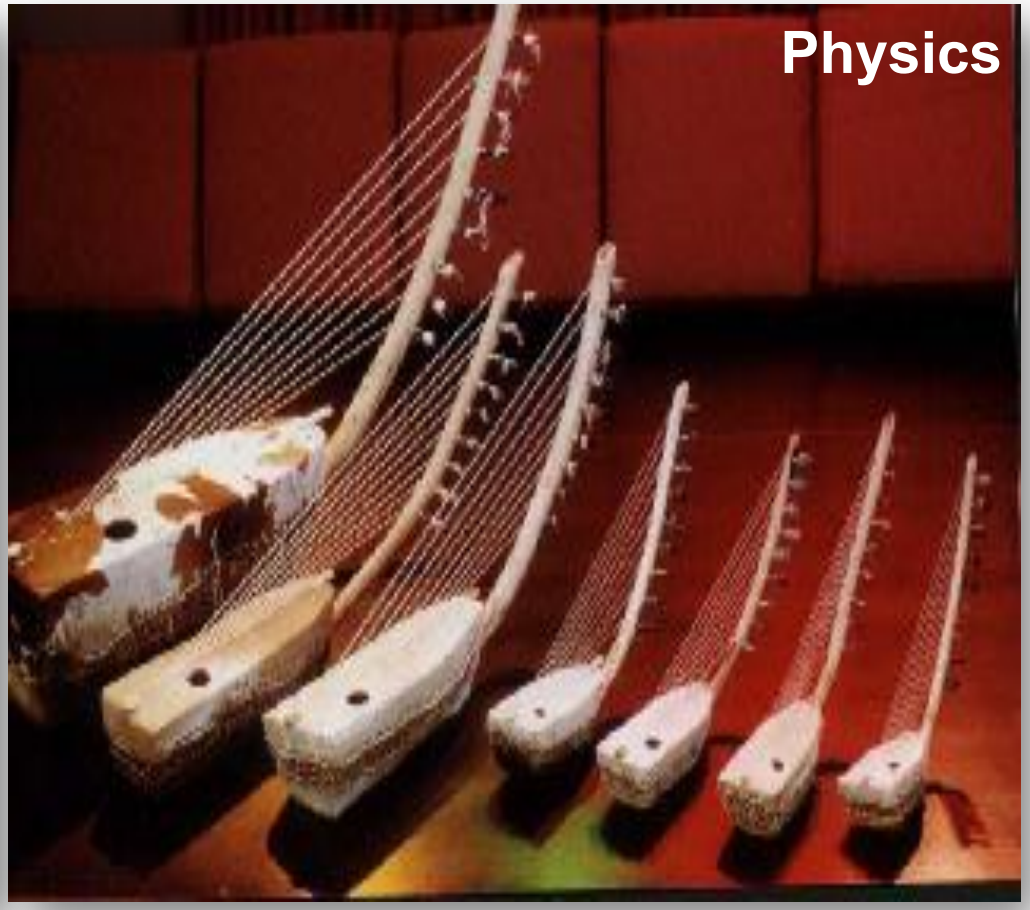


3 attributes of interdisciplinary understanding





Example from a unit plan
"*The sound of music*"



What *disciplines* were necessary for the unit "*The sound of music*"?
How was this unit *grounded in disciplines*?

Physics

They learned:

- what constitutes a sound wave

- how sound changes depending on the wave's longitude and amplitude, how sound travels through different media

- how sound resonates with different materials.

- they also learned how inquiry takes place in physics:

- generating hypotheses

- devising small-scale experiments to test them.

Music

They learned:

* how pitch can be used to create an appealing melody

* how volume creates dynamics and mood

* the role of motifs and variation in composition

* the power of using different kinds of instruments strategically to express intended moods.

What purpose did teachers pursue? Why did understanding the *sound of music* matter?

Purpose: Developing an understanding of how instruments work to create compelling musical experiences. (personal and cultural expression)

- It sensitizes students to our human capacity to create compelling artistic experiences with materials in our natural environment.
- It enables students to better appreciate instruments they encounter, as well as the people who make and play them.
- It invites students to learn more about design, problem solving and be able to reflect on their approach to learning.

How are disciplines integrated in the example of "*the sound of music*"?

Understanding of sound waves and elements of music in two fundamental ways:

Physics

- explains how musical instruments produce sound

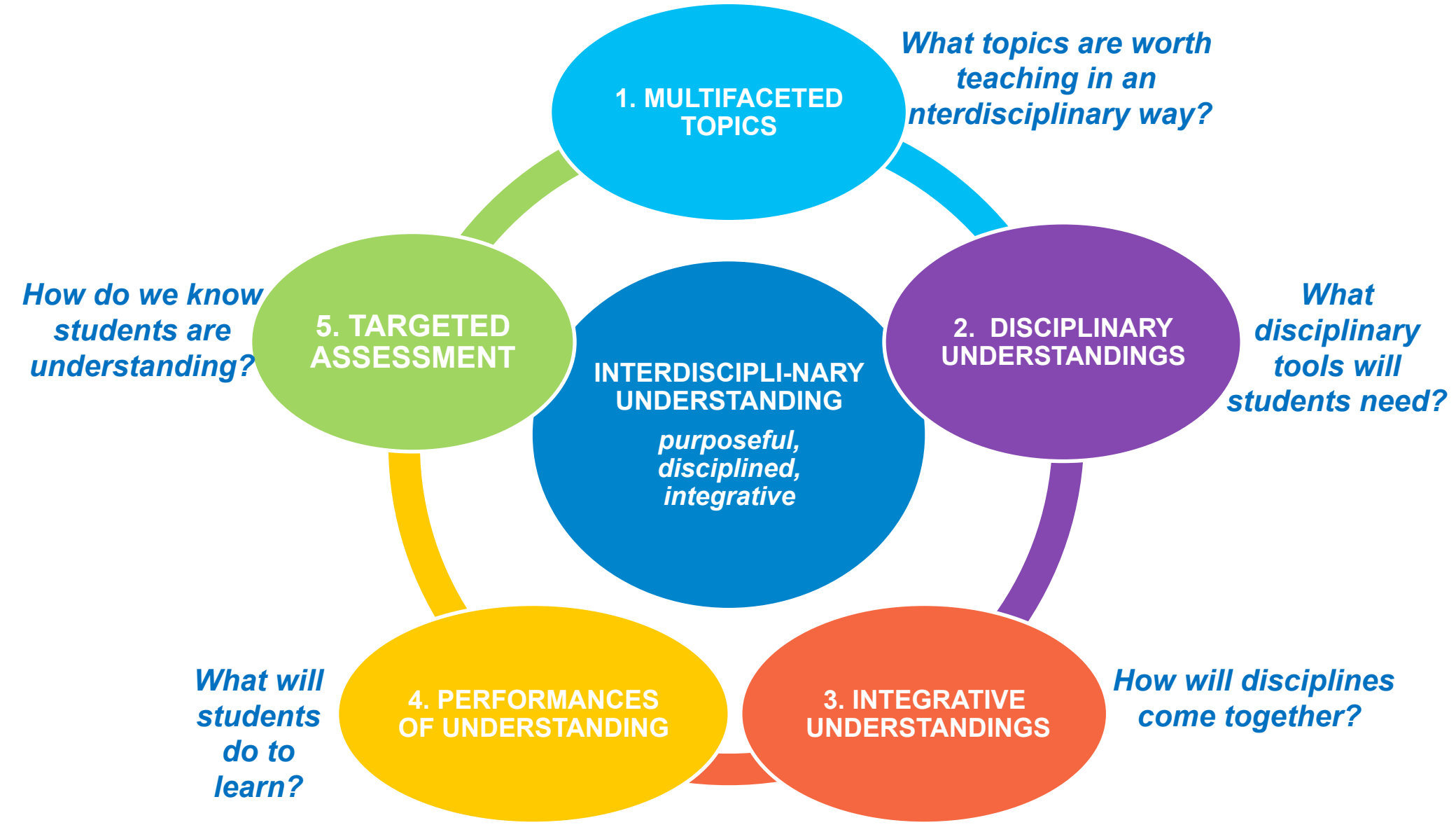
Music

- explores the expressive power of new sounds

Integration: Provides a deeper, richer understanding of the topic. In this case, how musical instruments produce sound and how that sound can be used to create compelling musical experiences.

Interdisciplinary teaching framework

(Author: Veronica Boix Mansilla)



Programme requirements

- At least one collaboratively planned interdisciplinary unit for each year of the programme
  - At authorisation - At least **one** collaboratively planned interdisciplinary unit between more than one subject group
  - At evaluation – **Two** collaboratively planned interdisciplinary units between more than one subject group

- All MYP subject group teachers are responsible for developing meaningful ongoing opportunities for interdisciplinary teaching and learning
- Mandatory use of the interdisciplinary unit planning process
- Mandatory report of student achievements in interdisciplinary learning to students and parents

Programme requirements

Standard B2 - Resources and support – *"The school provides dedicated time for teachers' collaborative planning and reflection."*

Standard C1 – Collaborative planning – *"Collaborative planning and reflection facilitates interdisciplinary learning to strengthen cross-curricular skills and the deepening of disciplinary understanding."*

Each interdisciplinary unit must:	Teachers can consider the following questions when planning an interdisciplinary unit:
• start with a clear sense of purpose, and be grounded in the relevant disciplines	• To what extent is it necessary to draw upon other disciplines for this unit?
• stand alone as a significant, engaging, relevant and challenging learning experience	• In what ways does integrating disciplines contribute to a deeper understanding?
• enable students to demonstrate development of the interdisciplinary objectives	• How will disciplines be integrated effectively? • What interdisciplinary objectives will we achieve in this unit?
• give students the opportunity to demonstrate achievement and interdisciplinary understandings through specific performances	• How will we know that interdisciplinary understanding has been achieved? • What constitutes adequate evidence of understanding?
• be based on a statement of inquiry that is conceptually driven and contextually framed	• What questions and concepts will students explore? In what global context?
• involve students in a range of learning experiences planned in response to the inquiry questions	• What will students do to learn?
• be planned and taught to promote positive attitudes and the development of the learner profile and approaches to learning skills.	• How will students be enriched by this learning experience? • What attributes and skills will students develop and put into practice?

To have in mind…

- Good “D” is better than bad “ID”!
- “Equal representation” of disciplines is unnecessary
- Study multiple “ID” models
- Take teacher learning and collaboration seriously
- Start small…building on your disciplinary strength in a *purposeful*, *disciplined* and *integrative* way!!