



November 30

IB-MA Networking

Session

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Interdisciplinary Units

What is it?

Why is it so important?



MYP and Interdisciplinary Learning

The Middle Years Programme is specially designed for students between the ages of 11 and 16.

Interdisciplinary Learning defined by Dr. Heidi Hayes Jacobs, who is known for her expertise on the topic –

“Interdisciplinary: a knowledge view and curriculum approach that consciously applies methodology and language from more than one discipline to examine a central theme, topic, issue, problem, or work.”

Or to state more succinctly

A unit which had been planned between two or more contents
– ex: math and science or Language A and humanities. Please
note electives are also welcome.



Why is This Concept Important?

Students within the middle school grades need to make connections, not only within their studies, but also to real world concepts.

Students are learning skills and concepts in order to meet academic demands, rather than rote information.



Interdisciplinary learning allows students to take ownership of their own learning.

Two of the three MYP's fundamental concepts can address the usage of interdisciplinary learning - **holistic learning** which enables students to build on this prior knowledge as well as **communication**.



Further Research

Barab & Landa (1997) stated that this approach makes for **real world learning** experiences.

Colucci (2011) **inquires** what educators can do for the best interest of their students?



The historical context for interdisciplinary understanding: ISAC

- First publication (1987), stated:
“...guided by three major principles: Global Education, Communication and Intercultural Awareness” (Fundamental Concepts)
- Global education further defined :
 - *Give a global view of situations and problems*
 - *Make the student aware of the interactions and complementarity of various fields of study*
 - *Must not be to the detriment of the separate subjects*
 - *Each study area demands separate methodology*
 - *Interdisciplinarity must be founded on disciplinarity*

Beginnings of interdisciplinary approach in the MYP

“Interdisciplinarity is excellent if it is firmly rooted in disciplinarity. Each subject is not an end in itself but it must be an efficient tool. We must keep its identity and especially its own methodology. Only on that basis will we be able to construct a serious interdisciplinarity. Otherwise we will lead our students to mental confusion and superficial surveys.”

Renaud, 1989 (DG 1977-1983)

Collaboration with Harvard Project Zero

- November 2005: official agreement to collaborate on research involving MYP schools
- August 2006: regional offices contacted schools in each region to submit good examples of interdisciplinary units
- November 2006: 10 units (8 schools) selected by Harvard for further study; 6 units involved school visits.
- January- April 2007: schools visited
- May 2010 : publication of a new guide

MYP Guide to Interdisciplinary Teaching and Learning

- IBO created this document and published it in May, 2010 to be:
- an in-depth definition of interdisciplinary learning and presents the MYP's recommended approach to interdisciplinary teaching.
- offers a practical framework that teachers in the programme are encouraged to use to design quality assignments, projects and units of work, as well as to support students in their personal project inquiries.

The document MYP Guide to Interdisciplinary Teaching and Learning should be used along with From Principles to Practice (August, 2008). P2P gives an overview of the MYP curriculum, learning, and assessment principles.



MYP has been designed to develop and create independent learners who are also internationally minded.

Interdisciplinary learning provides opportunities for **problem solving, critical thinking, and communication** both in the present and future situations, to **design products**, and **raise further questions concerning the selected topic**.



21st Century Learning Skills

Many districts have made a commitment to go beyond state requirements of Virginia's Standards of Learning (SOLs) and to teach our students how to live and work in a global economy.



MYP

We know that MYP promotes the development interdisciplinary learning via the teachers' unit planner, student work, and the assessment criteria.

Also, the standards and practices (2011) also promote the concept of collaborative planning, written curriculum, teaching & learning, and assessment.

Coordinators' Notes

Per the coordinators' notes dated May, 2011 –

“Librarians in MYP schools play a vital role in collaborative curriculum development and implementation (6).”

Also, our new curriculum guides dated 2012 will have information that supports media specialists as resources.

Standards and Practices

B2.6 states “The library/multimedia/resources play a central role in the implementation of the programme(s) (6).”

Once again we see how very important our media specialists are within the MYP.

Be sure to include the librarian in the very beginning of your planning process for an interdisciplinary unit.



Further into the Standards and Practices

Section C which deals entirely with Curriculum within the MYP –

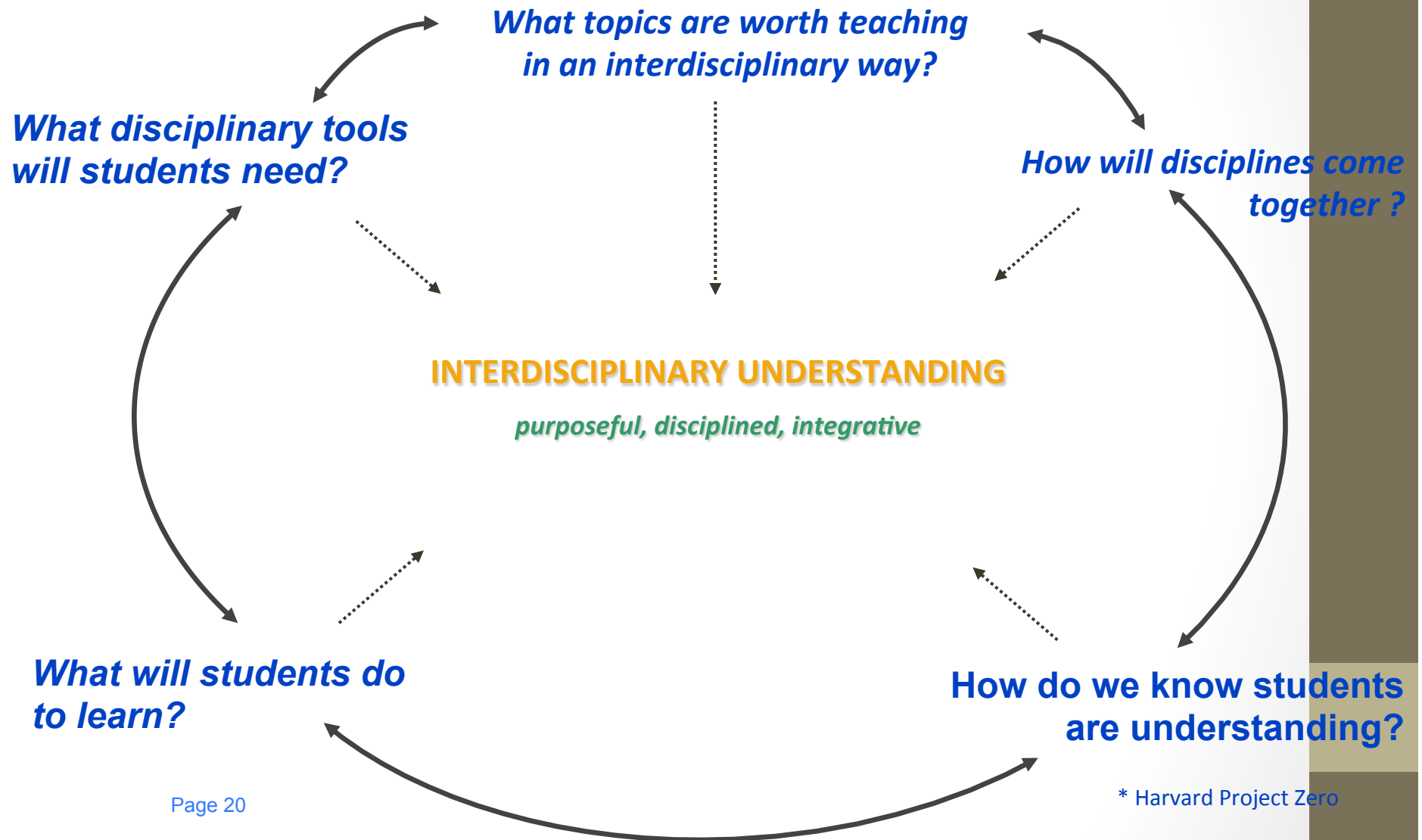
1. Calls for collaborative planning
2. Written curriculum
3. Teaching and Learning
4. Assessment

Three qualities of interdisciplinary understanding*

- Purposeful
- Disciplined
- Integrative

**Harvard Project Zero*

INTERDISCIPLINARY TEACHING FRAMEWORK*



Common Question

One Common Question that ran throughout the research was –

How do we get one teacher within her content (discipline) to reach 25 to 30 students with diverse learning styles?

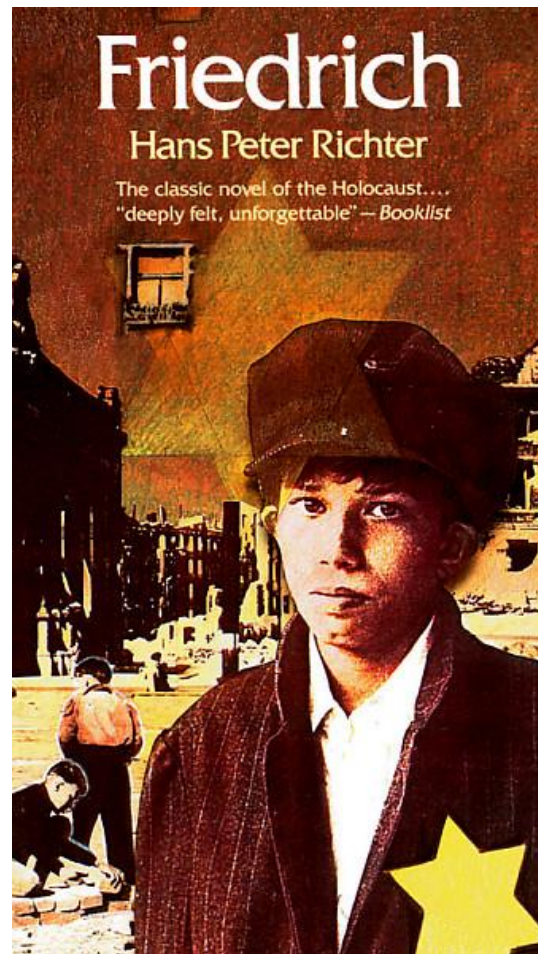


How do teachers go about planning interdisciplinary units of work?

There are five aspects which must be addressed:

1. Creating a multifaceted question
2. Selecting disciplinary understanding
3. Fostering integrative understanding
4. Planning performances of understanding
5. Using a variety of assessment strategies

Start with a Topic



Pennies For Peace

Three Cups of Tea
author Greg Mortenson

- Unit Question: What Does a Penny Build?
- Area of Interaction: Human Ingenuity and Community Service

Language A – Elements of Poetry and Figurative Language

Humanities – Government comparison of US and Afghanistan, geography

Sciences – Raw materials, manufactured materials, climate

Math – Designing schools according to scales

Technology – designing a power point presentation

THE BIG PICTURE-- SIGNIFICANT CONCEPT

How can education change.....



Steps for Writing an Ode

An ode is a poem that tells in an original way what is good or unique about a subject and why the writer likes it so much.

Your subject: The poem should express your appreciation for the school that has been built through the "Pennies for Peace" project.

Write phrases describing:

- How your subject makes you feel
- Why you feel this way
- Explain why your subject is important to you
- What your subject is like
- Use some figurative language – similes and metaphors, personification, and/or hyperbole
- Join some of your phrases into lines for your ode.
- Remember they don't have to rhyme!

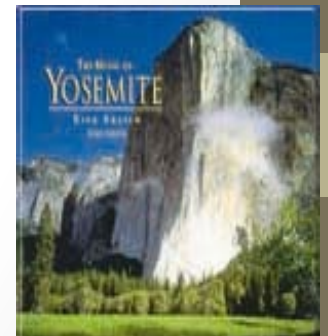
Revise your lines following these steps:

- Take away any lines that are too similar.
- Add details to make the reader see, feel, touch, smell your subject
- Pick a good opening line or sentence.
- Order the remaining lines into their best sequence.
- Select a good closing line that clearly expresses your feelings about the subject.
- Rewrite your ode in a final draft and maybe even add an illustration.

Example:

Ode to Yosemite

The valley called Ahwahnee
Roaring waterfalls and clear blue lakes
Air that smells brand new
Half Dome and El Capitan
raise granite arms to the sky
as the Merced runs gently at their feet
Yosemite, my special place--
calming the spirit and the mind
hiding all trouble
in the shadows
of your walls



The Wave

Unit question: How does a desire for social change control our world?

Area of Interaction: Health and Social Education

Subjects: Language A and Humanities

Harlem Renaissance

Unit Question: What role does literature play in reflecting one's culture/environment?

Area of Interaction: Environments

Subject: Language A and Humanities

Country on a Tank of Fuel

Unit Question: How do our decisions affect the environment?

Area of Interaction: Environments

Subjects: Math, Humanities, Science

Select one of the following within your group – outline the contents (disciplines) and the area of interaction

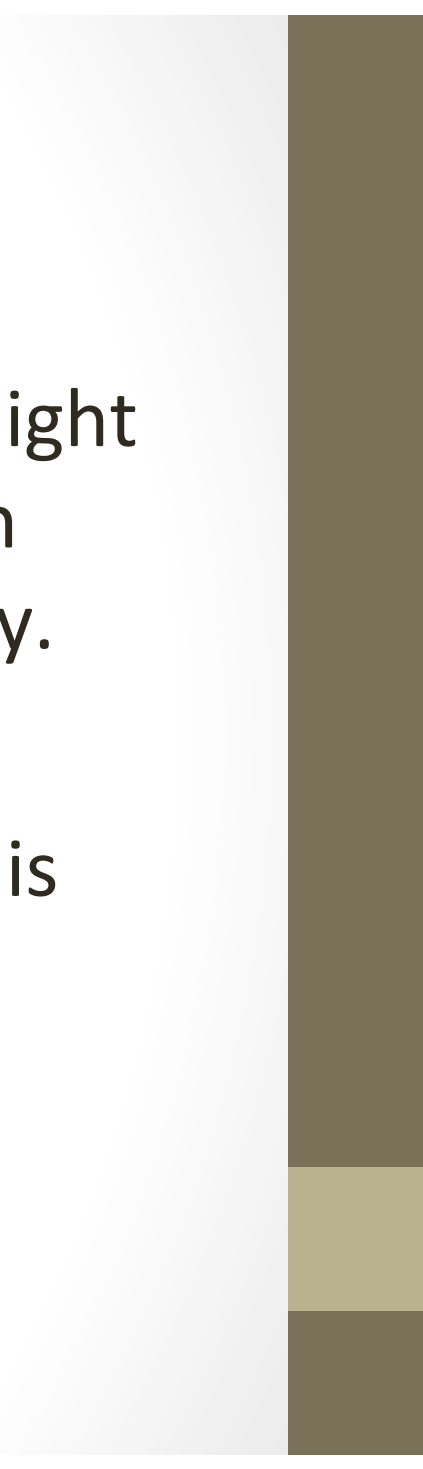
1. Why is it important to lower our city's carbon footprint and what can individuals and the city do about it?
2. Historical monuments: making art about the past and for the future.

Turn and Talk

- Consider your discipline – the one that you teach. What would you say are the most important disciplinary understandings that you expect to nurture among your students this year?

When students can see connection to what they are learning in the classroom to the importance of a wider society, it gives their learning a greater sense of meaning (May, 2010).





Now consider a different subject that might enrich student learning within your own subject – example: visual art and biology.

Take a few moments again to discuss this concept – turn and talk with a different person.

Let's Get to Work

We will start by brainstorming some topics which you could create into interdisciplinary units.

From our break out session by grade level –

6th grade:

How does art reflect history – Human Ingenuity

Lang. A – poetry

Tech. – photo-story based on the poetry

Math – economics of building & maintaining a monument

Humanities – Political context of the monument

Science – Materials available /effects of climate & environment

Art – human proportions

Music – dance/music/composers from the specific time period

7th grade:

Aol Environments

Lang. A – City of Embers

Math – calculating energy usage/cost

Science – pollution, agriculture

8th grade:

Who merits a monument? Health & Social Education

How do historical monuments honor the past and future? Human Ingenuity

Lang. A dedication speech

Humanities – timeline of monuments

Science – materials

visual arts - design

Math – scale/geometry

High School – Level 4 & 5 (no A or I listed)

MLK, Jr. – Monument

Math – geometric shapes found within the monument/scale

Lang. A – Letter from Birmingham jail

Humanities – civil rights move

Read – annotated letter

Media Center – slide show on obscure C.R. leaders

Tech – promethean board

Science – earth science – types of rocks (materials to build) is it an abundant resource?/create the monuments)/erosion, soil when the material is moved

Art – animation, Basic I & II & sculpture classes to re-create/create their own based on one of the obscure leaders