



Integrating curriculum through inquiry-based learning

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Workshop overview

- Definitions of curriculum integration
- Purpose of integration
- Definition of inquiry-based learning
- Planning for inquiry-based learning
- Group-work
- Review and questions

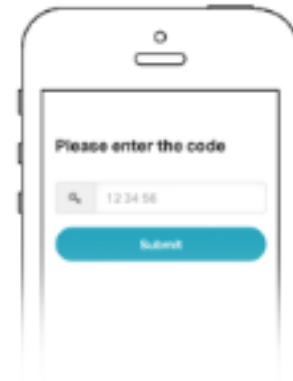
What does curriculum integration mean to you?



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What is curriculum integration?

Curriculum integration is “a way of thinking about what schools are for, about the sources of curriculum, and about the uses of knowledge.”

(J. Beane, 1995)

- Learning reflects life
- Connected learning
- Democracy in the classroom

Types of integration

- Integration of experiences
- Social integration
- Integration of knowledge
- Integration as design

(J. Beane)

Why integrate?

- Curriculum overload
- Children do not learn in a discrete way
- Allow for meaningful connections
- Democratisation of the classroom
- Empower children as learners

Challenges arising from integrated curriculum?

- Any thoughts?

Types of integration

- Continuum of integration (K. Bacon)
 - Connecting themes within/ across disciplines
 - Interdisciplinary integration through big ideas
 - Transdisciplinary integration through real world learning

Inquiry-based learning as an approach to integration

- Structured by Big Ideas – conceptual basis which crosses disciplines
- Student-centred

What is inquiry-based learning?

“Inquiry is a stance that underlies our approach to living as learners, both within and outside of school.”

(K. Short, 2009)

- Emerges from children’s curiosity and wonderings
- Making connections
- Authentic
- Community of learners
- Emphasis on thinking skills and process of learning

The Inquiry Cycle

Kath Murdoch, 2010

TAKING ACTION

- How can what I have learned help me in my life or help others?
- How can I improve my learning?
- How did I learn best?
- How am I going to take action to improve my learning?
- How am I going to use what I learned to make a difference?
- How will my actions affect others?
- What was the highlight of this inquiry?
- How have my feelings changed throughout this inquiry process?
- From what I have learned, what do I feel most passionate about?

TUNING IN

- What do I know about the topic?
- How do I know about it?
- What experience do I have with this topic?
- What do I want to know?
- What ideas am I interested in?
- What am I wondering?
- What are my questions?
- What am I feeling?

FINDING OUT

- Where might I go to find out more information?
- What resources might I use?
- What keywords could I use in my searches?
- Where can I find different points of view on this?
- What can I do to learn more?
- What are my questions?
- How do I know if my resources are good?
- What am I feeling at this phase?
- Is there anything I can do about the way I feel to be more successful?



MAKING CONCLUSIONS

- What do I know and understand about the Central Idea?
- Have I shared what I have learned with others effectively?
- Did I answer all my questions?
- What am I going to do with what I have learned?
- What would I do differently?
- What do I feel about the way I shared my learning?
- How do I feel about what others thought?

GOING FURTHER

- What information do I wish to share?
- Who will be my audience?
- Are all my questions answered?
- Have I considered the different points of view on this topic?
- Have I found enough information?
- How can I plan to show the connections I have made?
- How do I want to show what I have learned?

SORTING OUT

- How can I sort the information I have found?
- What information helps answers my questions or the questions of others?
- What keywords help me make sense of the information I found?
- Do I need to find out more information?
- How is it connected to what I know?
- What are my questions now? How have they changed?
- What changes do I need to make to my inquiry?
- How are my ideas changing?
- What am I feeling about my inquiry at this phase?

WONDER

Why are there
no deer in Africa?

Why do people
not see Santa?

What countries
do sharks live in?

How do you make
eyes?

Why do humans
drink water?

How do you make
an underwater
volcano?

How do dinosaurs
grow?

How do crocodiles
swim?

How many teeth
do sharks have?

How do fish
sleep?
How do fish
see?

Why are minions
yellow?

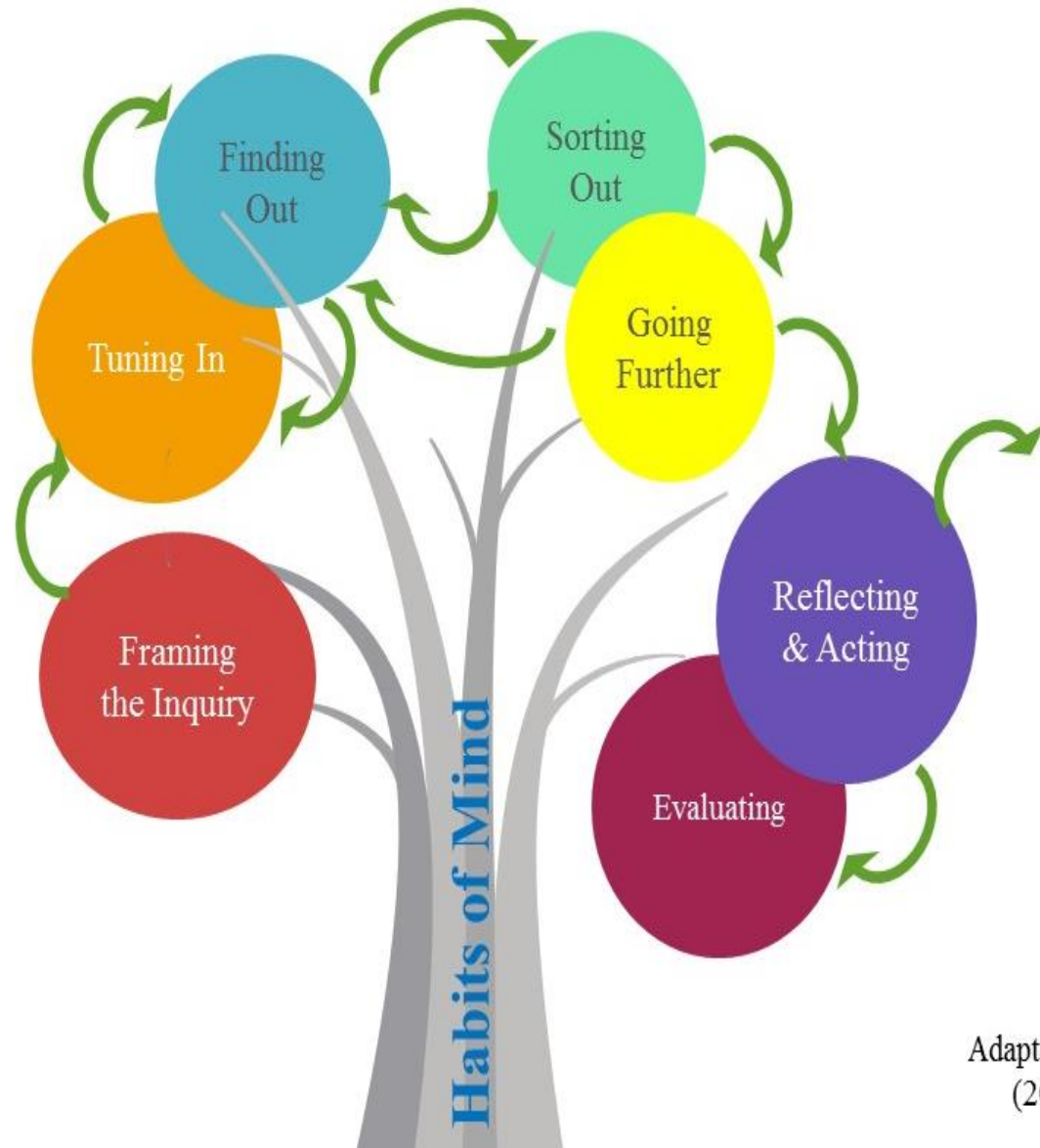
What do fish
eat?

How do people
grow?

What do sharks
eat?

Why do some
packets not open?

Why do people
have to put
contact lenses in
their eyes?



Cycle of Inquiry for Early Education Settings

Adapted from Murdoch (2015); Bacon & Matthews
(2014) and Youngquist & Pataray-Ching (2004)

Looking at an inquiry planner

- Conceptual basis for inquiry
- Use of the inquiry cycle
- Integration through concept, rather than thematic/ topical integration

Inquiry Planner: Ocean Habitats

- **Big idea** The marine environment provides different habitats that support a variety of plant and animal life.
- Key concepts: Form, function
- Related concepts: Diversity

What lines of inquiry will define the scope of the inquiry into the central idea?

1. Habitat: an ecological/ environmental area inhabited by one or more living species.
2. Variety of animals and plants live in the ocean.
3. Adaptation of animal diet and features to their habitat

What curriculum objectives will this purpose address?

. **Geography**

Skills and concepts development:

a sense of place

maps, globes and graphical skill

geographical investigation skills

Strand: Natural environments

. **Science**

Skills development:

Working scientifically

Designing and making

Strand: Living Things

Strand unit: Plants and animals

- **Primary Language Curriculum**

Engagement, listening and attention

Acquisition and use of vocabulary

Demonstration of understanding

Categorisation

Playful and creative use of language

Information giving, explanation, justification

- **Aistear aims and learning goals**

Well-being

Identity and belonging

Communication

Exploring and thinking

- **The following transdisciplinary skills will also be assessed through this task:**

Communication skills: listening, speaking

Thinking skills: acquisition of knowledge; comprehension; application; metacognition

Research skills: formulating questions; observing; organizing data



How best might we learn?

Tuning In:

Establishing the known: asking students to draw everything they know about oceans

Connecting to students' lives: encourage students to talk about their experiences with oceans (visiting the seaside, going on a boat)

Set a sense of purpose for the inquiry: refer to their questions on the Inquiry Wall about sharks

First thinking: discussion and invitation for questions in Inquiry Circle



Finding Out:

Gathering information through tagging books

Noting similarities and differences between animals/ plants

Develop research skills through close observation of model plants and animals

Look at different ocean habitats and levels (books, videos)

Recording information in different ways: through drawings, photographs and videos.



Sorting Out:

Discussing information gathered in the Inquiry Circle and adding to Inquiry Wall – reviewing earlier thinking.

Categorise plants and animals in a graphic organiser - by appearance/ diet/ habitat or level

Making a 3D diorama of the ocean habitats



Going Further:

Opportunities to pursue personal questions through browsing books and engaging with the Inquiry Table.

More independent investigations: handling seaweed, categorising and comparing with more student-led activity.



Reflecting and Acting:
Put learning into use in
Aistear and developing
a rubric for assessing
their learning.

Groupwork

- Sketch a plan for an integrated unit of inquiry into the concept of
 1. Stories
 2. Community
 3. Pattern
 4. Change and continuity
 5. Growth
 6. Journeys
 7. Identity
 8. Transport
 9. Consequence
 10. Materials
- What is the Big Idea for this inquiry?

Review

How might you integrate curriculum and learning for this concept?

Mentimeter

MATERIALS - Big Idea: the way materials interact and change affects how people use them. Science - materials and properties, designing & making. Maths - measurement. Art - construction. Literacy - procedural writing



Questions?

Resources

- Kath Murdoch blog: <https://www.kathmurdoch.com.au/blog>
- Beane, J. (1995). Curriculum integration and the disciplines of knowledge, *The Phi Delta Kappan*, 76(8), 616-622.
- Short, K. (2009). Inquiry as a stance on curriculum. In S. Davidson & S. Carber (Eds.), *Taking the PYP Forward* (pp. 27-42). Woodbridge: John Catt.
- Fahey, J. (2012). *Ways to learn through inquiry: guiding children to deeper understanding*. Cardiff: IBO.
- Visible Thinking Routines:
http://www.visiblethinkingpz.org/VisibleThinking_html_files/03_ThinkingRoutines/03b_Introduction.html
- Discover Primary Science and Maths – inquiry planners and resources
<https://www.sfi.ie/engagement/discover-primary-science-and-maths/education/index.xml>