

Addressing
'Environmental Sustainability'
through improved pedagogy:

Purposeful Portfolios
in a
Professional Learning Community

Structuring Professional Dialogue at a
Conceptual Level

Intersecting Communities:

- ✚ *IB School Community*
- ✚ *KIST School Community*
- ✚ *KIST Professional Learning Community*



A community based portfolio



	Individual Portfolio	Collective Portfolio	Community Based Portfolio
Purpose	Represents an individual's learning through an individual's reflection	Represent a community's learning through a group's reflections	Represent a community's learning through multiple individual's reflections
Preparation	Individual's own ideas prepared by them self	The ideas of a group with significant input from multiple members of a community	Individual ideas from multiple members of the community presented together in a negotiated format
Presentation	Individual presentation representing them self to a small specified audience	Group presentation representing the collective ideas of members of a community to an audience that may be wider that the community itself	Group presentation representing the members of the community to an audience that may be wider that the community itself

Portfolio defined by qualities

Portfolio Qualities from Hebert (2001) as listed above

- engages learner in own assessment
 - recognize a broad range of learning
 - attributes importance to learning
 - transfers ownership to learner
 - provides opportunities for self reflection, discovery of strategies for learning and affirmation of topics of interest
 - provides a purposeful audience
 - engages the learner in substantive conversation
 - is responsive to a wide range of the learner's abilities
 - engages the learner in reflective assessment
 - creates a sense of history and a place for the communities collective history
 - becomes a celebratory event
 - connects learner, portfolio and audience
 - provides an authentic opportunity to relate the learner's story of learning
 - connects prior and present learning experiences, the underlying coherence of which can only be expressed by the creator
 - share new language which in turn generates new thinking
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Hebert, E. A. 2001, *The Power of Portfolios: What children can teach us about learning and assessment*, San Francisco: Jossey-Bass



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Planning the change process:

Step 2

STEP 1

Three things that you would

like to change about HOW

teaching and learning in your school.

1.

2.

3.

Just imagine
that you can
change
anything
about *HOW*
things are
taught in your
school

What type of discourse do you want happening in the classroom and how can you make it happen in your own class?

- Does it happen in other classes?
- If so, how do your fellow teachers manage it?

How do you know?

Look at this!

Where we want to be!

- 'I teach Grade 12 English and those students were in a Grade 6 Humanities lesson but I want to know what the teacher did in order to provide that opportunity for those students. I may be able to try a similar approach in my own class.'

(Quote from an unnamed, fictional but great teacher)

A series of three assumptions:

1. Some subject specific knowledge and understanding

In terms of educating for environmental sustainability it is important that students understand that people have different perspectives toward the environment.

A series of three assumptions:

2. Some interdisciplinary skills

In terms of educating for environmental sustainability it is important that students learn to analyze texts in order to identify perspectives.

A series of three assumptions:

3. The role of students in classroom discourse

In terms of educating for environmental sustainability it is important that students have the opportunity to listen in order to discern the credibility of alternate positions.

Who can we share ideas with?

1. Subject specific knowledge and understanding

The WHAT
→
Environmental perspectives
(MYP Science & DP Biology)

Subject /
Interdisciplinary groups

2. Interdisciplinary skills

The WHAT
& the HOW
→
Analysis

All teachers

3. The role of students in classroom discourse

The WHAT
& the HOW
→
Taking and defending a position

All teachers



KIST Secondary Teacher Portfolio



SUBJECT: MYP Science GRADE Ten TEACHER: John Farida AUTUMN TERM 2007/2008

Environmental Perspective Analysis

This activity is based on Ideas from www.biotechnologyonline.gov.au and adapted to this class. Students will examine a range of perspectives through which people view the environment associated with the following concepts:

- Anthropocentricity (human-centered),
- Eco-centricity (environment-centered)
- Environmental Stewardship
- Sustainable Development

Individually students examine written material defining these concepts and then analyze the following websites in small groups in order to define in which perspective the particular websites are grounded:

- ✓ the Office of the Gene Technology Regulator: www.oqtr.gov.au
- ✓ **Enretech**: <http://www.enretech.com.au/>
- ✓ **EcoEthics**: <http://www.ecoethics.com.au/>
- ✓ the Australian Gene Ethics Network: <http://www.geneethics.org>
- ✓ Greenpeace: <http://www.greenpeace.org.au/>

The analysis will focus on issues addressed as well as issues not addressed using a note taking organizer to form the analytical framework for the final evaluation – making explicit which ‘parts’ are the basis of the analysis.

Note Taking Organizer

Webpage	1. Issues	2. Values	3. Concerns	4. Perspectives
	www.oqtr.gov.au	Yes / No	Yes / No	Yes / No
enretech.com.au	Yes / No	Yes / No	Yes / No	Yes / No
ecoethics.com.au	Yes / No	Yes / No	Yes / No	Yes / No
geneethics.org	Yes / No	Yes / No	Yes / No	Yes / No
greenpeace.org.au	Yes / No	Yes / No	Yes / No	Yes / No

Structured Inquiry

Analyzing and Evaluating

When examining the websites students are faced with a large amount of textual information. By providing a note taking organizer the information required is made explicit and reinforces the idea that effective research requires a question to guide the search. This also forms a scaffold for students who have less developed analytical skills or need support with the language of the text. The development of analytical skills is an important part of the MYP Science curriculum and content of this lesson and the note taking organizer supports this aspect of the lesson.

Increased Emphasis

Representing multiple perspectives

The structure of the note taking organizer makes explicit to the students the idea that perspectives need to be analyzed according to arguments omitted as well as arguments presented. By developing their understanding of this idea students will be in a better position to examine their own perspective on ‘the environment’. Through this reflection they will be able to see that it is possible for issues to be absent from their own reasoning simply because they are not aware of the issue, highlighting the importance of education about environmental issues.

Differentiated Instruction

The teacher and students work together flexibly

The structure of the activity enables the teacher to get involved in discussion while listening to and presenting different viewpoints. Students working in groups may find that they are aligned to one or more of these environmental viewpoints and that their views may be different from other students in the group or the teacher. The activity allows the students to purposefully discuss their perspectives by focusing on the issues that they are concerned about, using the structure of the note taking organizer as a scaffold into these analytical discussions.

Community Based Professional Teacher Portfolios

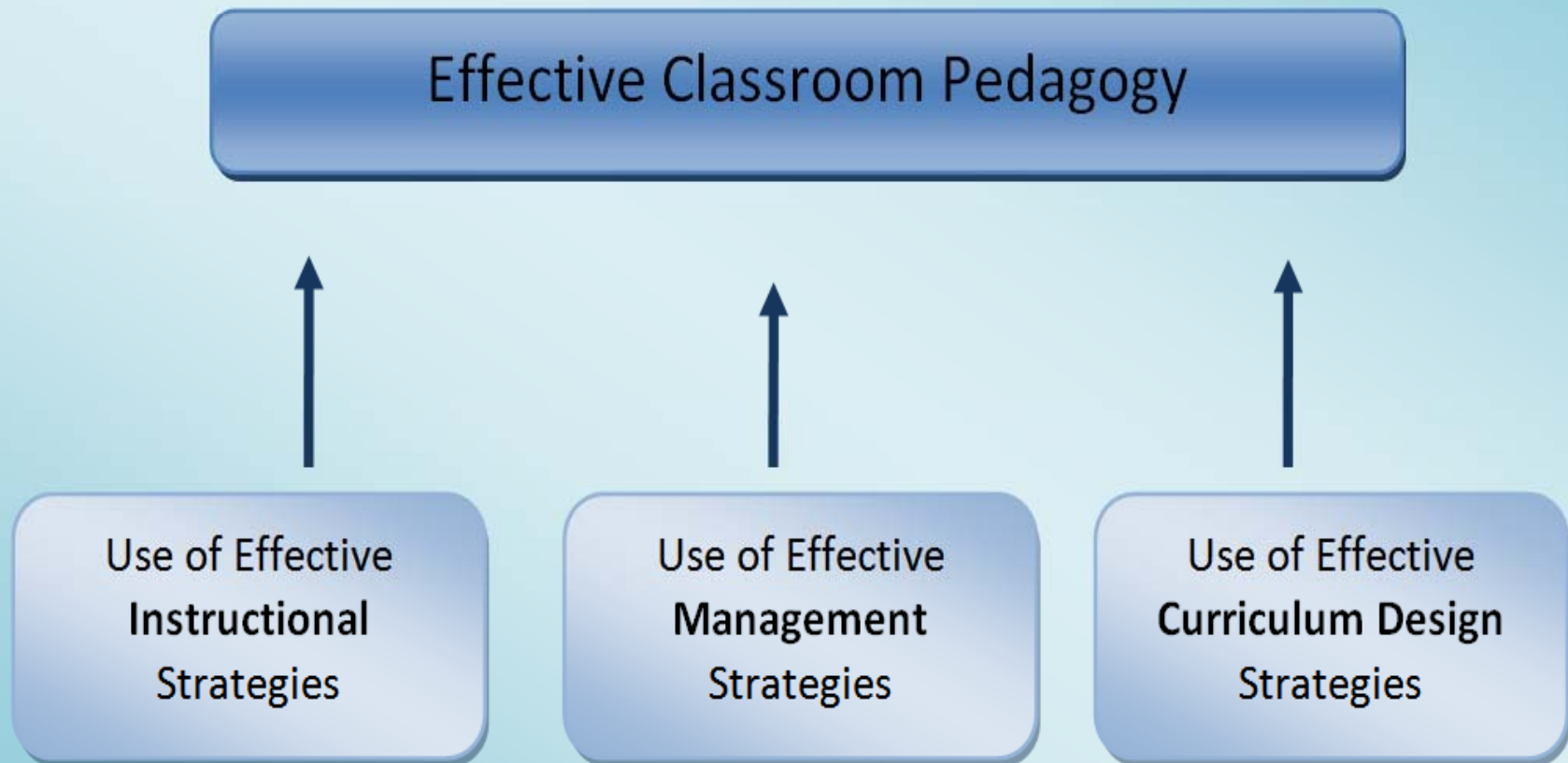
Growth in a professional learning
community through professional
dialogue

The Context

'The case of KIST'

Some important ideas

Three Components of Effective Classroom Pedagogy



(Marzano, 2007, p.6)

A Model to Guide the Change Process

(Change moves from top to bottom- from Portfolio to Learning Outcomes)

School features and processes to drive change (Pendergast, 2005)		Behavior and attitude (DuFour & Eaker, 1998)	Observational Filter (Christensen, 2002)
Feature	Structure: Community Based Professional Teaching Portfolios at K. International School Tokyo	Change in behavior of teachers	➤ teacher / teacher
Processes to drive change	<ul style="list-style-type: none"> ➤ The provision of teacher professional development ➤ The provision of a strategic focus ➤ The provision of access to knowledge and resources 		
Feature	Culture: Professional Dialogue	Change in attitude of teachers	
Processes to drive change	<ul style="list-style-type: none"> ➤ An acceptance of experiment and innovation ➤ An acceptance of change and renewal ➤ An acceptance of support and celebration 		
Feature	Pedagogical practices: Consistency across programmes	Change in behavior of students	
Processes to drive change	<ul style="list-style-type: none"> ➤ Opportunities for learner centered activities ➤ Opportunities for inquiry based activities 		
Feature	Learners discourse: Independent, Purposeful, Inquiry based, Critical	Change in attitude of students	<ul style="list-style-type: none"> ➤ teacher / student ➤ student / teacher ➤ student / student
Processes to drive change	<ul style="list-style-type: none"> ➤ Engagement in critical thinking ➤ Engagement in autonomous learning ➤ Engagement with conceptual understandings 		
Feature	Learning Outcomes		
Processes to drive change	<ul style="list-style-type: none"> ➤ Skills, Independent inquirers for life long learning 		

What is a Professional Learning Community

A professional Learning Community is defined by the conduct and habits of mind of the people who work within it.

1. Shared mission, vision and values
2. Collective inquiry
3. Collaborative teams
4. Action orientation and experimentation
5. Continuous improvement
6. Results orientation

Our roles

As members of a learning community we believe that:

- We all have something to share with each other
- We all have something to learn from each other

A Model
for
Professional
Growth

1. Classroom
Observations
and
reflections

A basis for
professional
dialogue

3. Sharing a
Teaching
Portfolio

2. Sharing
Professional
Reading



The
process

Adopting a common language

Expressing a focus at a conceptual level –
sharing ideas across academic disciplines

1. Elements of Structured Inquiry
2. Differentiated Instruction
3. Teaching strategies targeted for increased emphasis (The purpose of students in discourse)

Documents

- Here are a few of the major documents connected to this process that we use on a regular basis

1. Course descriptions

2. Unit Planning documents on Rubicon Atlas

3. Teacher Portfolios

4. Class observation checklist

5. Lesson Videos archive

MYP/DP Course Descriptions

Unit 4: Life and Living|

In this unit the students will be introduced to the basic concepts of ecology and how these concepts help us to understand the interrelationships of the living and non-living components of our environment. These understandings should lead the students to a greater awareness of global environmental issues and how mankind impacts upon the earth that we share ownership of.

Unit Questions:

1. How can the loss of one species affect all of us? (ATL, Environment)
2. How do we change the world in which we live? (Environment)
3. Can we make a difference? How? (Environment)

Main Content Addressed:

- Students will differentiate between the living and non-living components of the environment
- Students will develop an understanding of how living and non-living things interact
- Students will study the cycling of matter in nature (Carbon cycle)
- Students will examine potential long-term effects of human activities on the environment
- Students will examine and evaluate local and global examples where issues related to biodiversity and ecological sustainability are being considered.


These course descriptions outline what students are going to learn.

Teacher Portfolio Format

Community Based Professional Teaching Portfolio: K-12 Secondary Teacher Portfolio March 2007

LANGUAGE A1 GRADE 11 DAMIAN RENTOULE WINTER TERM 2006/2007		
THE QUOTE BUILDER: WUTHERING HEIGHTS		
<p>For homework all students select a quote from the text (direct speech) and prepare notes on its significance.</p> <p>Part 1: One team reads out a quote while the other team must guess who the quote was from and to whom it was directed. The opposing team has 1 minute to confer before answering. (Points awarded to teams: 3 points for answering on the first go, 2 points on the second and 1 point for the third go.)</p> <p>Part 2: The quote is read again and the listening team again has 1 minute to confer. The listening team then has to comment on the significance of the quote within the text and points are awarded on an assessment rubric based on the Written Paper 1 Commentary.</p> <p>Part 3: When the listening team has finished the team that gave the quote has 1 minute to confer and has the opportunity to add details related to the significance of the quote. At the teacher's discretion there are two bonus points. Team members rotate the role of spokesperson.</p>		
		
Structured Inquiry Clarifying existing ideas	Increased Emphasis Involving students actively in their own learning	Differentiated Instruction Assessment and instruction are inseparable
During the homework activity each student has time to organize their thoughts and can select sections of the text that they are familiar with. Their ideas regarding the significance of the quote are not directly challenged during the game. If their ideas are not covered in the opponents answer they have the opportunity to add their own. They can do this after listening to the other students' ideas and considering them in a non-threatening atmosphere.	During Part 3 students are able to engage in relatively structured substantive conversations where they have the chance to build on the ideas of the others – in this case they are adding more detail or filling in missing information from former statements. Within the group students have time to confer with each other and share ideas and the focus is taken from the teacher. All students are required to contribute.	Answers can be provided by the students at a variety of levels reflecting the requirements of the assessment rubric. Increasing levels of detail, the inclusion of language features and links to other parts of the text are required to score in the higher bands of the rubric. Assistance can be given to individual students depending on their performance in the areas specified in the assessment rubric. During the game individual responses can be assessed by the teacher or by students using the assessment rubric provided.

Community Based Professional Teaching Portfolio: K-12 Secondary Teacher Portfolio March 2007

LANGUAGE A1 GRADE 11 DAMIAN RENTOULE WINTER TERM 2006/2007		
TEXT ANALYSIS ON CHARACTERIZATION: THE STRANGER		
<p>Part 1: All students individually read the first page of <i>The Stranger</i> with an opportunity for individuals to clarify any difficult language with peers or the teacher. Part 2: In pairs, students practice reading the page aloud to each other. Part 3: One student comes up to the front and reads the passage aloud to the class. Part 4: Without looking at the text students individually write a short paragraph describing what they can discern about the protagonist from the passage. Part 5: Back in the original pairs students compare their paragraphs and complete a Language Feature Table: 1. Language Feature, 2. Examples, 3. Effect on reader, 4. Link to other parts of text. (Please refer to attached example) combining information from both students' answers. Part 8: Pairs report back to the whole class – create a master copy on board. Using the information collated in the Language Feature Table there is an opportunity to comment on the effectiveness of the use of language features. Time is provided for written responses.</p>		
		
Structured Inquiry Analyzing and evaluating	Increased Emphasis The needs of second language learners	Differentiated Instruction The teacher balances group and individual norms
The students are required to break the text down into its component parts and comment on the relationship between the parts and the whole. This is an important approach to Learning Skill in the Middle Years Programme and it is important to continue a focus on this skill in Language A1. By following a relatively structured analysis students will be increasingly able to comment on the effectiveness of the individual parts. A structured scaffold assists students with this.	Ongoing work to increase confidence in speaking in front of peers starting with smaller numbers is needed by many second language learners. When students are required to read in front of the class the activity is structured so that they can begin with more confident speakers and rotate around class. This means that all students must participate although less confident speakers have the chance to first observe the more confident speakers.	By using the Language Feature Table a scaffold is provided which helps students to access the character analysis at a variety of levels of complexity. Step 1 and 2 are less complex and are prerequisite for Steps 3 and 4 which require increasingly sophisticated connections between ideas. As all steps form part of the assessment criteria successful completion is necessary for the whole class but different individuals who have been identified through previous assessment tasks can be targeted for increased teacher support.

The teacher portfolio provides a structure for us to reflect on how students are learning. We share ideas with each other and we learn from each other.

Classroom Observation Checklist

Elements of Structured Inquiry



The classroom observations provide feedback from your peers, share ideas and form goals for your classroom practice.

KIST Lesson Observation No. 27

Teacher: ***** Subject: TOK Grade: 12 Date: 25.9.07 Period: 2

	10m	20m	30m	40m	50m	
Structured Inquiry	9:25	9:35	9:45	9:55	10:05	
Teaching Strategy =>	Visiting admissions for a US college	Students listen to teacher introduction about the nature of history - move about loss of memory	Students write reflections to three questions	Students are asked to report their answers to the class	Students read definition of history in text	Copy notes from board
Exploring, wondering and questioning					In groups of 3-students have a list of historical events and read to each other in order of historical importance.	
Experimenting and playing with possibilities						
Making connections between previous learning and current learning		Students view the video related to loss of memory - students have been instructed to focus on the other patients who have experienced memory loss. (2nd memory via 10 second Tom's)				
Making predictions and acting purposefully						
Collecting data and reporting findings				Students read out answers in turn to the class with a lead by teacher 1.	Students report to the teacher who writes the order up on the board. Teacher discusses the commonalities in text regarding what is of importance - Why was Dan's publication more important than the World Cup which was viewed by one billion people. (2nd memory via 10 second Tom's)	
Clarifying existing ideas and responding perceptions of events			Individually students complete worksheet based on a reflection on the link between the concept of memory and history. Nature of questions necessitate a recognition of memory in terms of its significance for their own identity. 2.			
Deepening understanding through the application of a concept				Students listen to teacher example of knowledge issue - problem of too much information - linked to difficulty of writing definition of September 11 - application to the World Trade Centre. Link to upcoming assessment task which addresses contemporary knowledge issue 1.		

Making and testing theories					
Researching and seeking information				Students listen to reports from other students. 2. Students read the summarized notes of student answers written by teacher on white board. 2.	Students read the text definition of history after they have had the opportunity to contribute to a class definition and learn to other class members. 1.
Making and holding a position				Students answer questions regarding the nature of history and possible definitions that they think are appropriate in the context of the previous activity using the concept of memory and the things that people could use to discover who they are. 2.	In students discuss the order of the events they explain their own views to their peers as well as answering teacher questions regarding the proposed order.
Solving problems in a variety of ways					
Other					
Differentiated Instruction		Media used that is easily accessible to a variety of students			Discusses relevant student's day to day life. The use of humor creates a non-threatening environment.
Teaching strategies targeted for increased emphasis					
Purpose of students' responses	Teacher is probing teacher	Teacher is not probing possible answers	Teacher is not probing possible answers	Teacher is not probing	
Marked task up...	...like indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	
Marked task in other classes...	...like indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	
Marked task in the last class...	...like indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	
Marked task inlike indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	...like indicated by the teacher	

Notes:

- 1 ten minute delay caused by unexpected university appointment while on tour.
- Questions for reflection: built on own ideas regarding memory and used as a hook for the subsequent discussion / activities related to the nature of history.
- Provide link to past lessons such as when teacher brought in own birth certificate, university transcripts etc as documents that gave students a sense of who a person is / was.
- Examples from everyday lives of students linked to important historical events.
- The process leading up to the reading of the definition is important for the students in terms of them having a role in constructing the understanding. By the time they reach the textbook definition they have a range of their own reflections to associate with the 'History as present evidence of the past' approach to the definition. As discussed with Mark this approach takes longer but leads to a deeper understanding of the definition.

Categories of discourse



Teacher Portfolio

Teacher portfolios can be organized around a range of concepts:

e.g. Concepts from the Areas of Interaction or Theory of Knowledge

- It will highlight teaching activities connected to these aspects of our programmes. This is a part of the negotiated format of a community based portfolio.

What do our classes look like at
KIST?

- Elements of Inquiry
- Purposeful discourse

Developing our pedagogy

Different students with different needs

Different students approach discourse within the classroom in different ways

What can we do to address the needs of reluctant participants in discourse?

(Purposeful writing, reading, speaking listening or acting)

We have seen three types of discourse

1. Teacher as the primary knower
2. Teachers and students as possible knowers
3. Students as possible knower

The type of discourse is constantly changing in the classroom but a balance is necessary.

The context – the larger picture

All of this communication occurs
within an inquiry cycle

We can observe types of discourse and the elements of inquiry within isolated activities but these are part of a larger context – an inquiry cycle.

The Inquiry Cycle

How does the inquiry cycle fit with the categories of discourse and elements of inquiry that we have examined through the portfolios and classroom observations?

Micro Level - observable within a short time frame

- Purposeful Discourse (Activity level focus)
- Elements of Inquiry (Activity level focus)

Macro Level - observable within a longer time frame

- The Inquiry Cycle (Unit level focus)

Purposeful Discourse

(Activity focus - observable within a short time frame)

Speaking with purpose

Reading with purpose

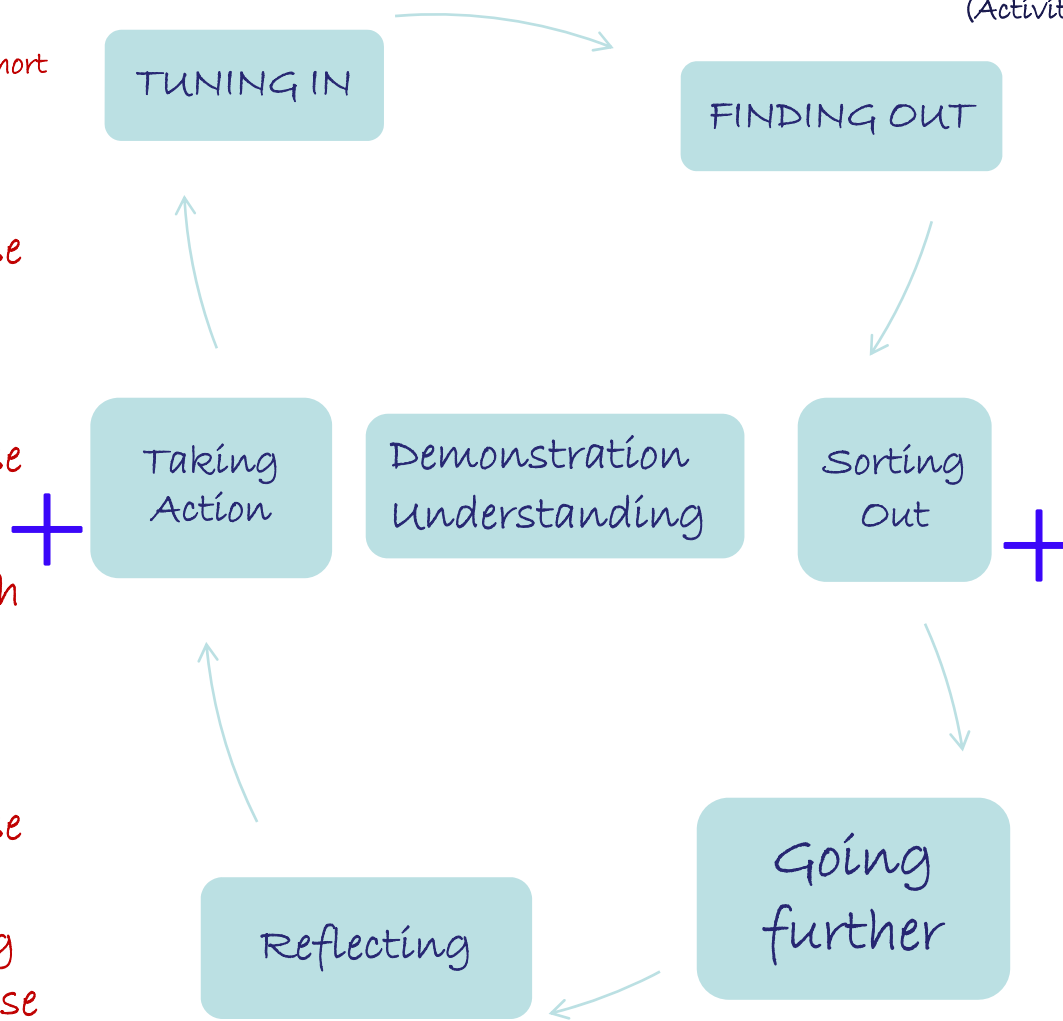
Acting with purpose

Writing with purpose

Listening with purpose

The Inquiry Cycle

(Unit focus - observable within a longer time frame)



Elements of Inquiry

(Activity focus - observable within a short time frame)

- Speculating, exploring, questioning
- Making connections between previous learning and current learning
- Developing and testing theories
- Collecting data and reporting findings
- Clarifying existing ideas and reappraising perceptions of events
- Researching information
- Taking and defending a position
- Solving problems in a variety of ways
- Analyzing and evaluating

* Inquiry cycle adapted from Short et al (1996) and Murdoch (1998, 2004) by the Curriculum Leadership Team at KIST, September 2007

Purposeful Discourse within the Inquiry Cycle

