learning-by-design

the ideas and theories of Prof Mary Kalantzis and Bill Cope.

Dr Peter Burrows (RMIT University Melbourne), working with

Universidade de São Paulo, March 2013

A presentation at …

overview

learning-by-design

teacher-as-designer
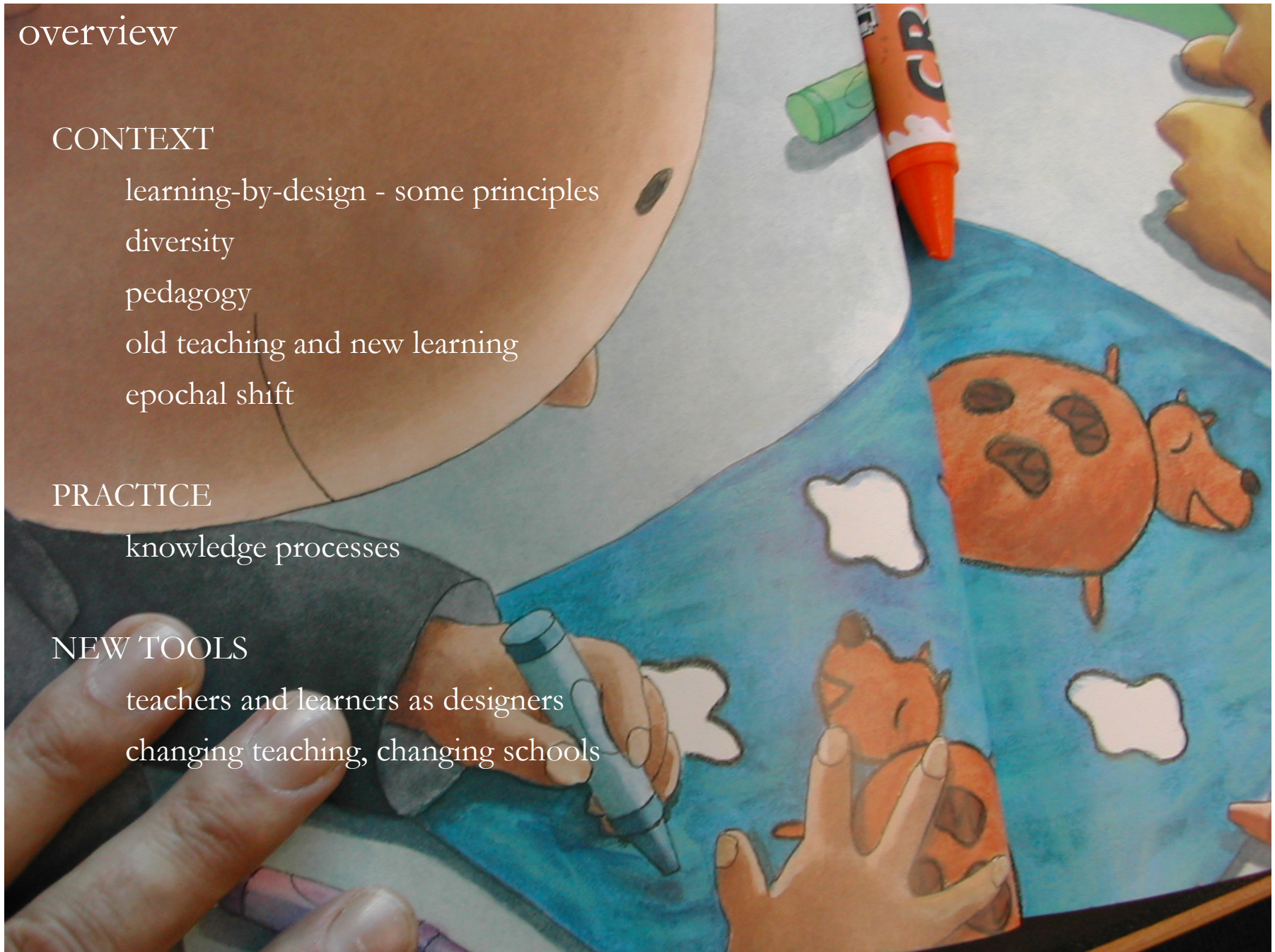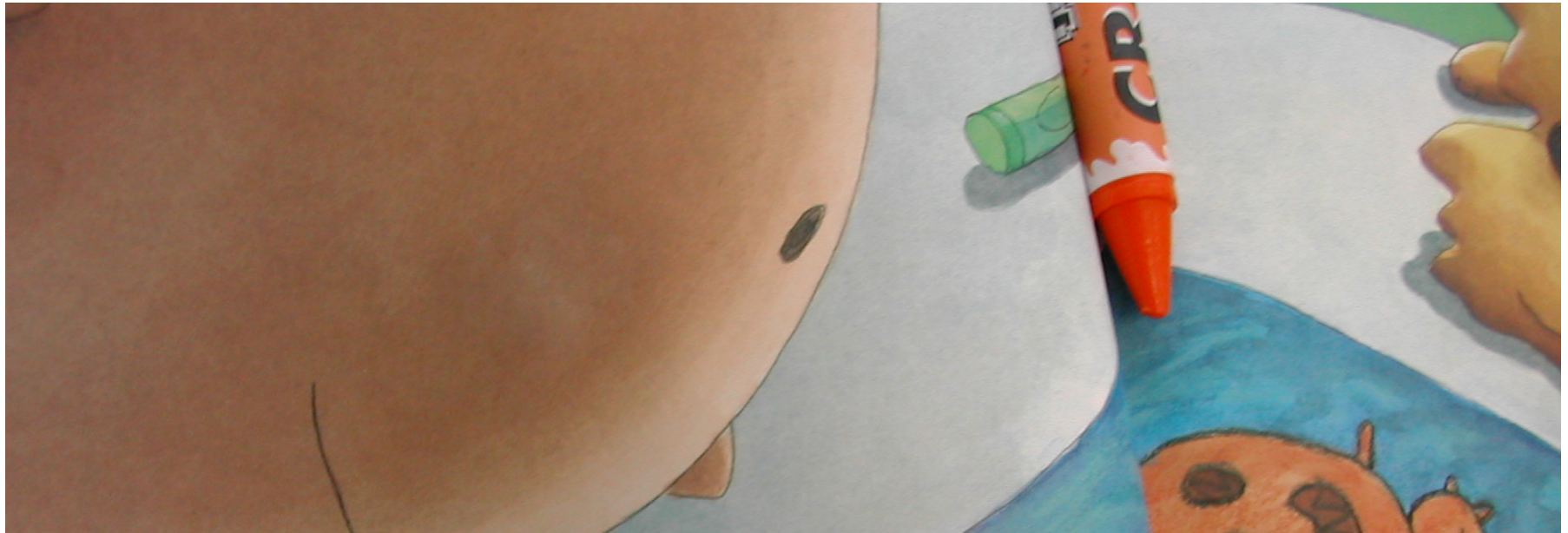
student-as-designer
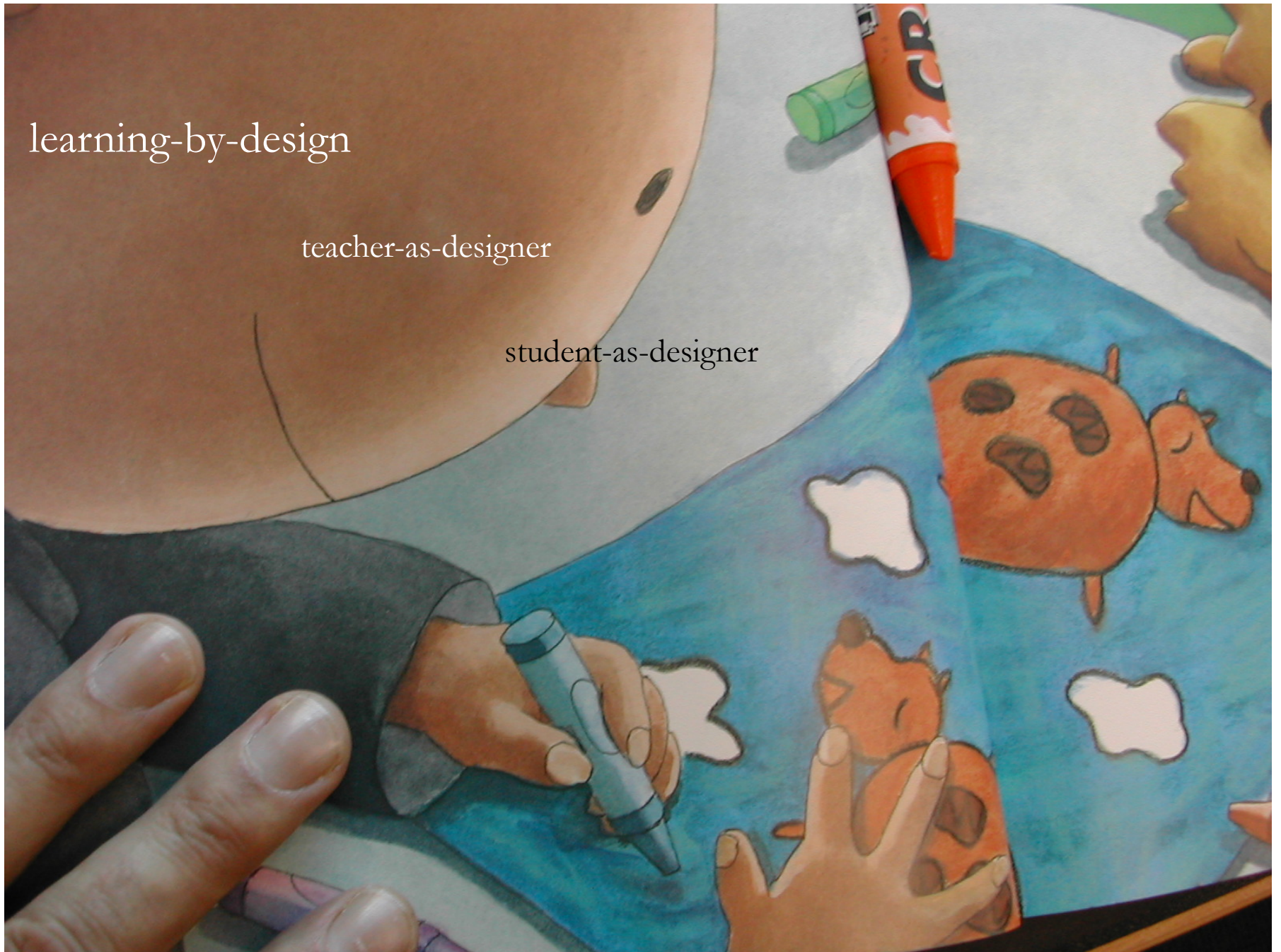
teaching as…

mindful

premeditated

reflective

and shared.

Paradox: nothing new but everything different.....

The principles of learning-by-design…

Effective learning environments engage with learner diversity.

Learning is about transformation, and transformation is the basis of enhanced learner performance.

Learners today need to use a variety of synaesthetic meaning making resources—the linguistic, visual, audio and spatial resources of multiliteracies.

Teaching and learning choices—pedagogy—need to be made explicit, pathways planned, and performance clearly tracked – learning by design.

Two views of diversity

Based on differences in gross demographics ⟷ lifeworld attributes

Diversity 1	Diversity 2
GROSS DEMOGRAPHICS	**LIFEWORLD ATTRIBUTES**
▼	▼
Age	Life Experiences
Ethnicity/Race/First Language	Interests, Orientations
Indigenous/Non-Indigenous	Values
Gender, Sexual Orientation	Dispositions, Sensibilities
Locale	Communication and Interpersonal Styles
Socio-economic group	Thinking Styles, Learning Styles
(Dis)ability	Affinities and Networks

Creating the necessary conditions for learning

The need for belonging and transformation

▶BELONGING - effective learning engages the learner's identity.

It builds on the learner's knowledge, experiences, interests and motivation - this is because the everyday lifeworlds from which students come are always varied.

▶TRANSFORMATION - effective learning takes the learner on a journey into new and unfamiliar terrains.

However, for learning to occur the journey into the unfamiliar needs to extend from a zone of intelligibility and safety - just the right distance from the learner's lifeworld starting point.

teacher-as-designer
learning-by-design
designs-for-learning

the learning-by-design project
a focus on **pedagogy**

▲ A need to translate theory into practice…

a body of theory about multiliteracies and multimodal meaning-making

 a need to address student diversity & lifeworlds

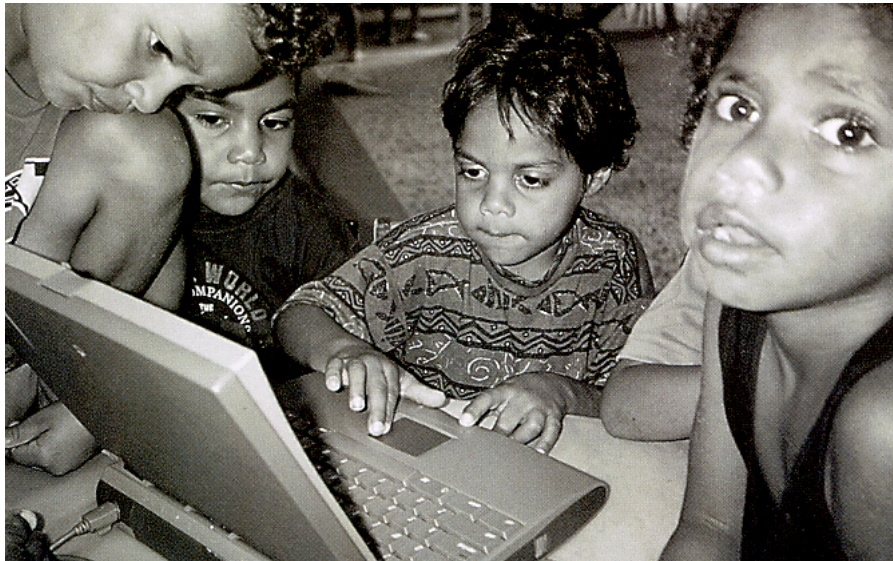► new learning…new literacies

New architectures - buildings, people, knowledge

Classroom diversity: differentiated and customised; banks of learning content, alternative learning pathways

Lateral communications, peer-to-peer, learning as collaboration
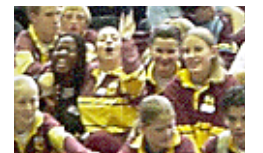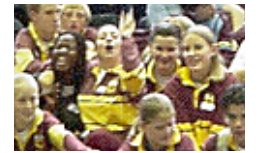
▶ new learning…new literacies

multimodal texts

Knowledge flows: schools as knowledge
producing communities

New media for creation and delivery of
learning content - reproducing the past
or doing something new?

Forms of engagement: learner
dispositions and sensibilities

the new teacher, the new professional
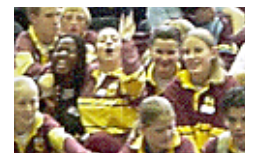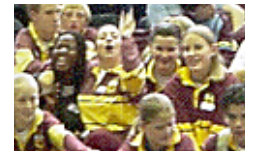
student-as-designer

▶   engaged,

            discerning,

                colloborative,

                     and transformed learning

student-as-designer
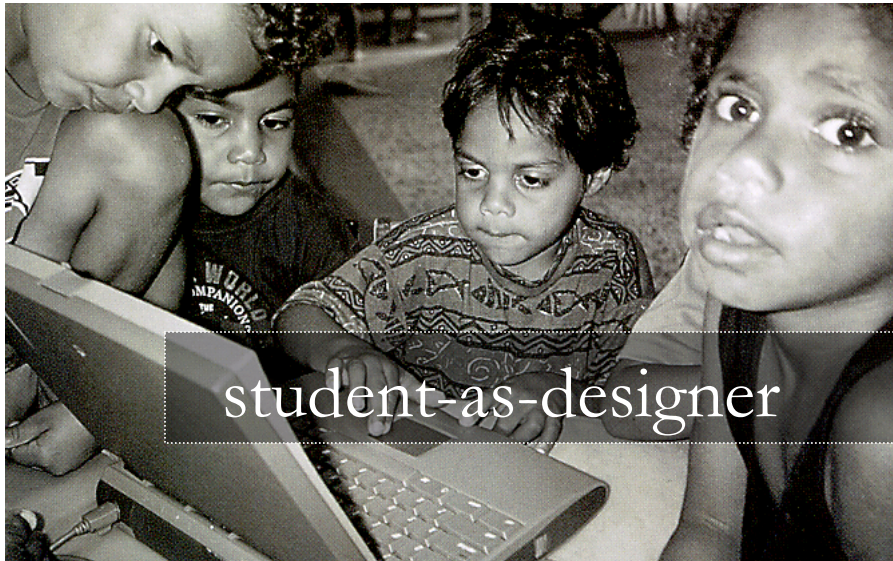
the learning-by-design project
a focus on **pedagogy** – the knowledge processes
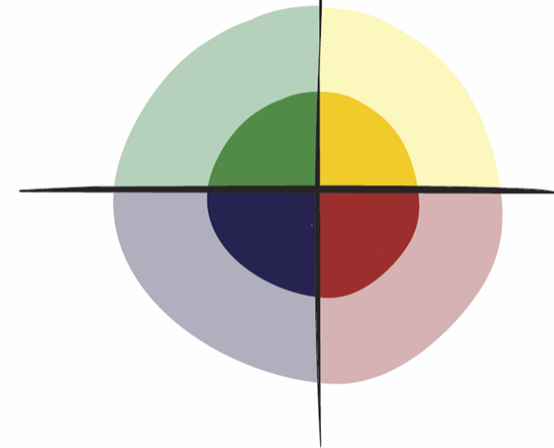
learning-by-design – a learning architecture

LEARNING FOCUS

KNOWLEDGE OBJECTIVES

KNOWLEDGE PROCESSES

KNOWLEDGE OUTCOMES

LEARNING PATHWAYS

learning-by-design – a learning architecture
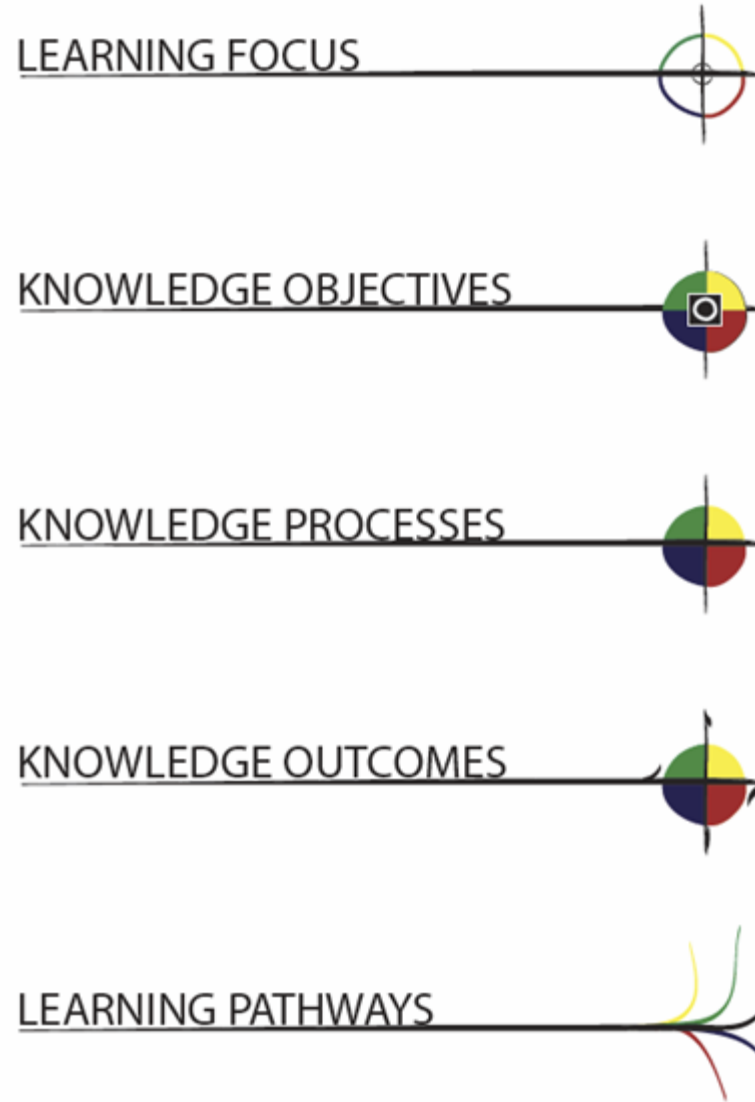
KNOWLEDGE PROCESSES

The things we do to know.

… not (so much) cognition and memory …

Knowledge representations: evidence in artifacts.

The 'knowledge processes'

situated practice
experiencing

transformed practice
applying

experiencing
the new

applying
creatively

experiencing
the known

applying
appropriately

conceptualising
by naming

analysing
functionally

conceptualising
with theory

analysing
critically
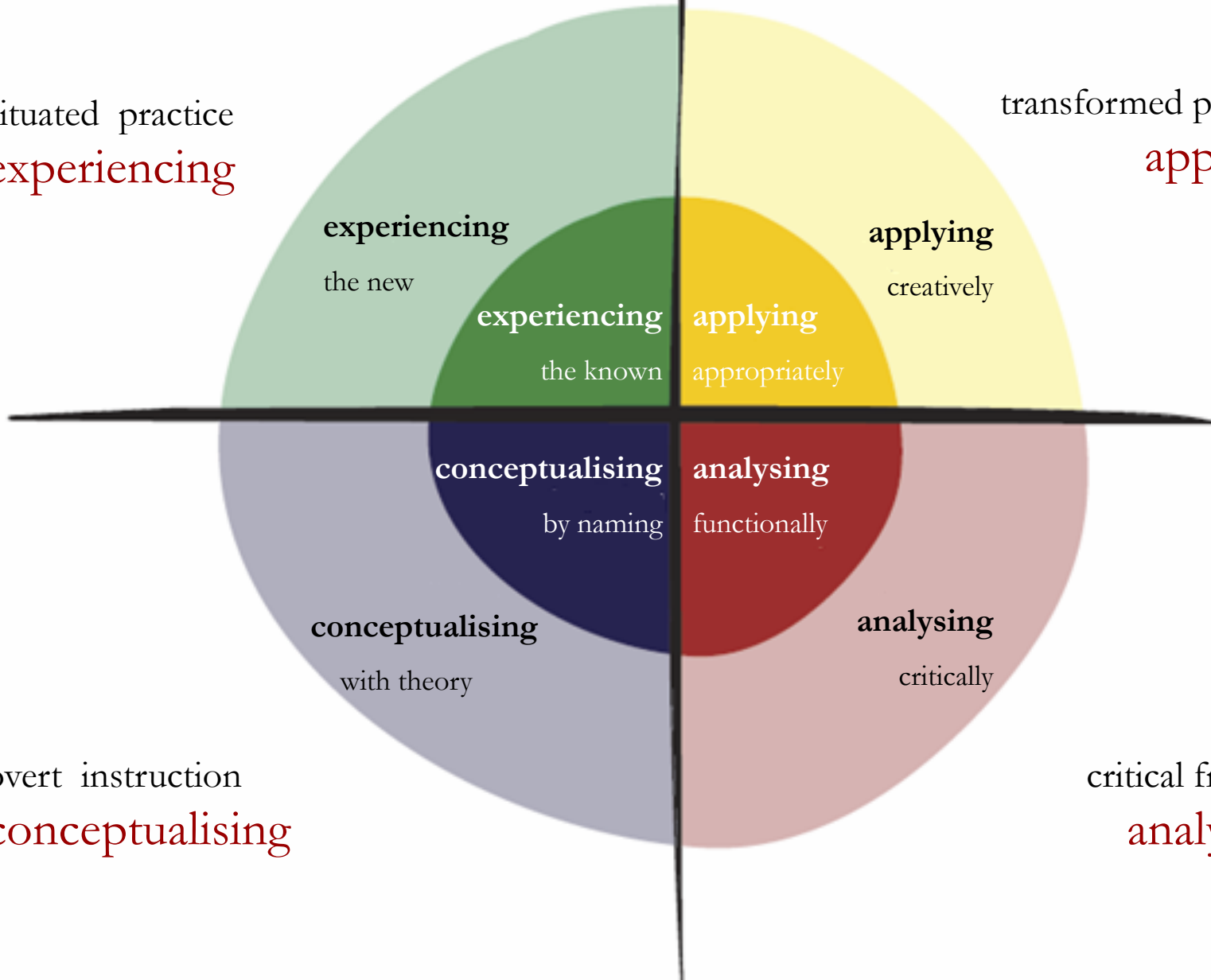
overt instruction
conceptualising

critical framing
analysing

◁ home

Experiencing: *the known* – learners bring to the learning situation perspectives, objects, ideas, ways of communicating and information that are familiar to them, and reflect upon their own experiences and interests

the new – learners are immersed in new situations or information, observing or taking part in something that is new or unfamiliar

Conceptualising: *by naming* – learners group things into categories, apply classifying terms, and define these terms

with theory – learners make generalisations by connecting concepts and developing theories

Analysing: *functionally* – learners analyse logical connections, cause and effect, structure and function

critically – learners evaluate their own and other people's perspectives, interests and motives

Applying: *appropriately* – learners try their knowledge out in real-world or simulated situations to see whether it works in a predictable way in a conventional context

creatively – learners make an intervention in the world which is innovative and creative, distinctively expressing their own voices or transferring their knowledge to a different context
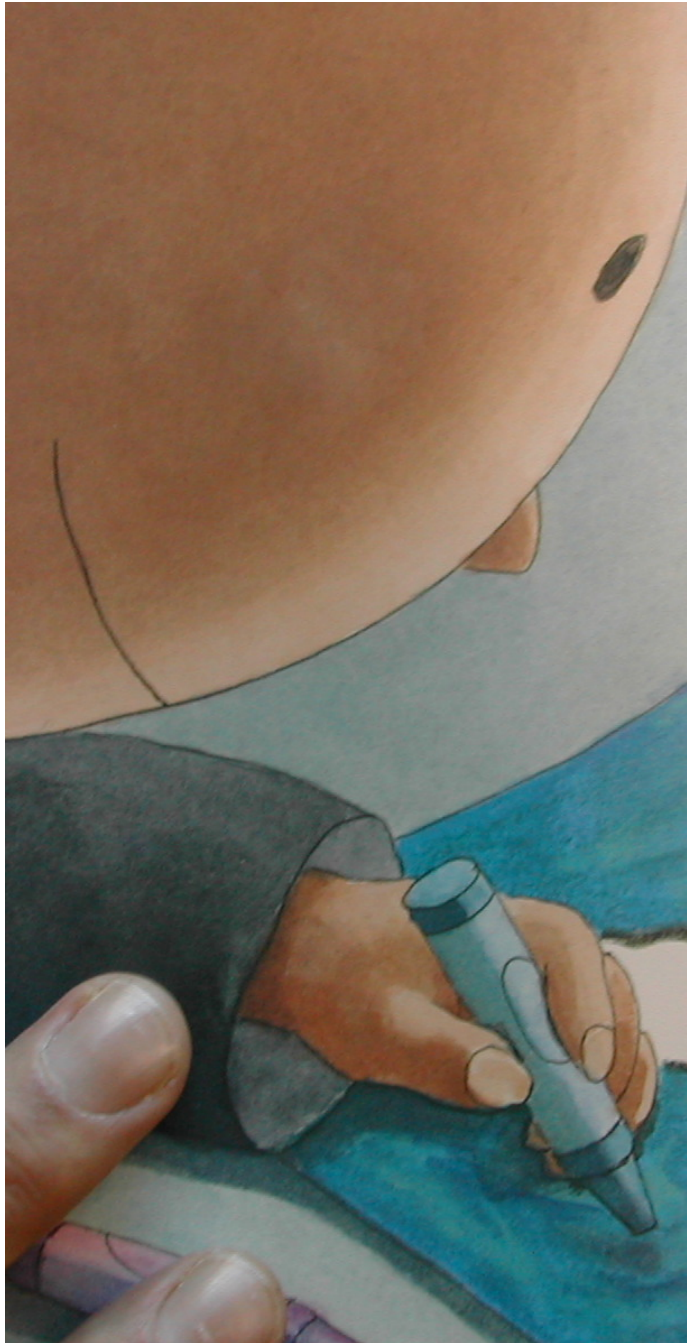
teacher-as-designer
connecting practice and theory
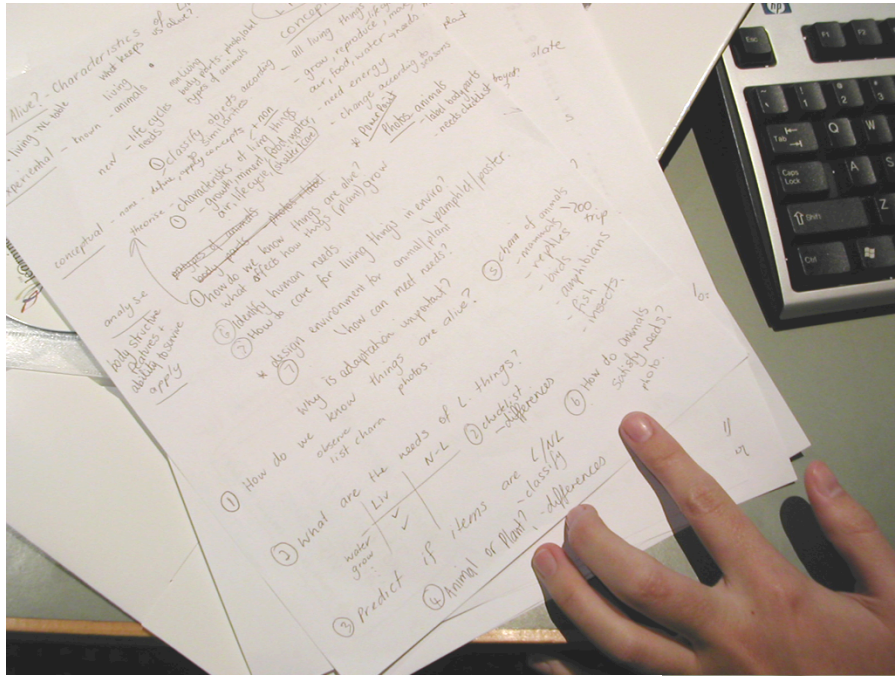
mindful
premeditated
reflective
…designs-for-learning
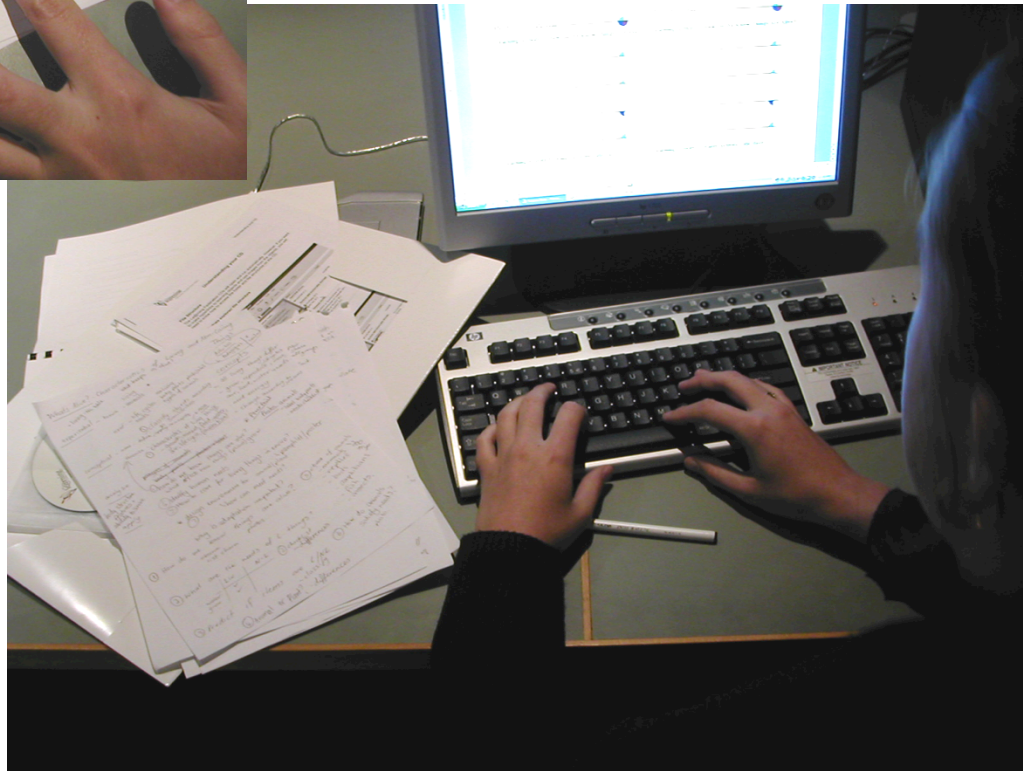
The idea of a pedagogical toolbox…

Experiencing the known **& the new**

Socratic Dialogue

Image Documentary

Explore the playground

Observation

Passion Project

'Stream of Consciousness'

Visit a familiar place

Explain/defend discuss an object/process that is familiar

News Story

Brainstorming

Conducting an experiment

Conduct a survey

Exlore habits from other cultures

Make a video or film

Investigate unfamiliar processes

Conducting an experiment
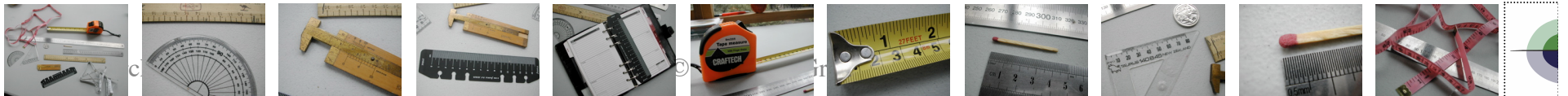
'On the Road' Stream of Consciousnesses Reflections on New Experiences

Conceptualising by naming & theorizing

Use a concept organiser

Explain events in nature?

Develop a metalanguage

Use deductive reasoning

Create a glossary

Explain social patterns?

Classify by concept

Develop a taxonomy

Label a map or diagram

Name an image and its parts

Develop theories for human behavior

Use inductive reasoning

Contruct a theory or formula

Create a classification system

Use deductive reasoning

Analysing functionally & critically

Venn Diagram

Cause and Effect Pattern Organiser

Differential value analysis

Y Chart - Evaluative

Y Chart - Observational

Review and Debate

Create timelines

Critique: A Writing Frame

Use metaphor and anology

Risk Assessment

Storyboard

Comparative analysis

Event Modelling

Investigate and discern patterns

Flow Diagram

SWOT Analysis

Structural Analysis

Polling
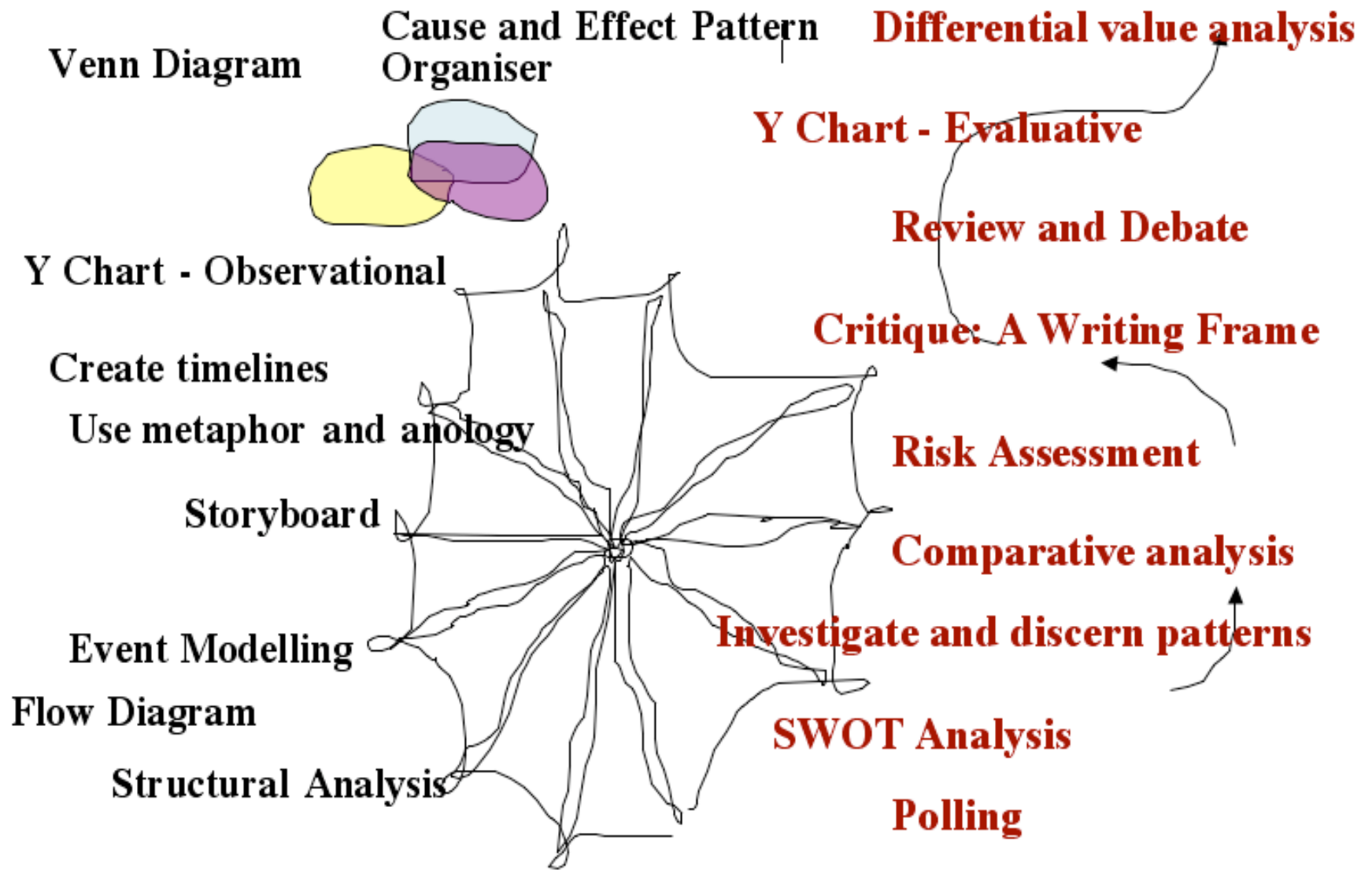
Applying appropriately & creatively

Identify contexts in which certain actions are appropriate

Conflict Resolution

Decision Making Strategy

Problem solving

Kinaesthesia

Knowledge Transfer

Apply skills as learned

Problem Defining

Invention

Hypothesis testing

Personal Action Plan

Predicting outcomes

Build according to the directions & specifications

Scenario Cafe

Lateral Thinking

Action Research

Experimenting

The 'Learning Element' - a scaffold for professional practice

- Teachers creating sharable learning content

- Teacher talk and learner talk

- A planning tool and/or learning resource

- From personal knowledge to common knowledge

- Pedagogical alternatives and 'crosswalks'

- Transparency and accountability

- Different kinds of 'efficiency' (more work in some respects; less in others)
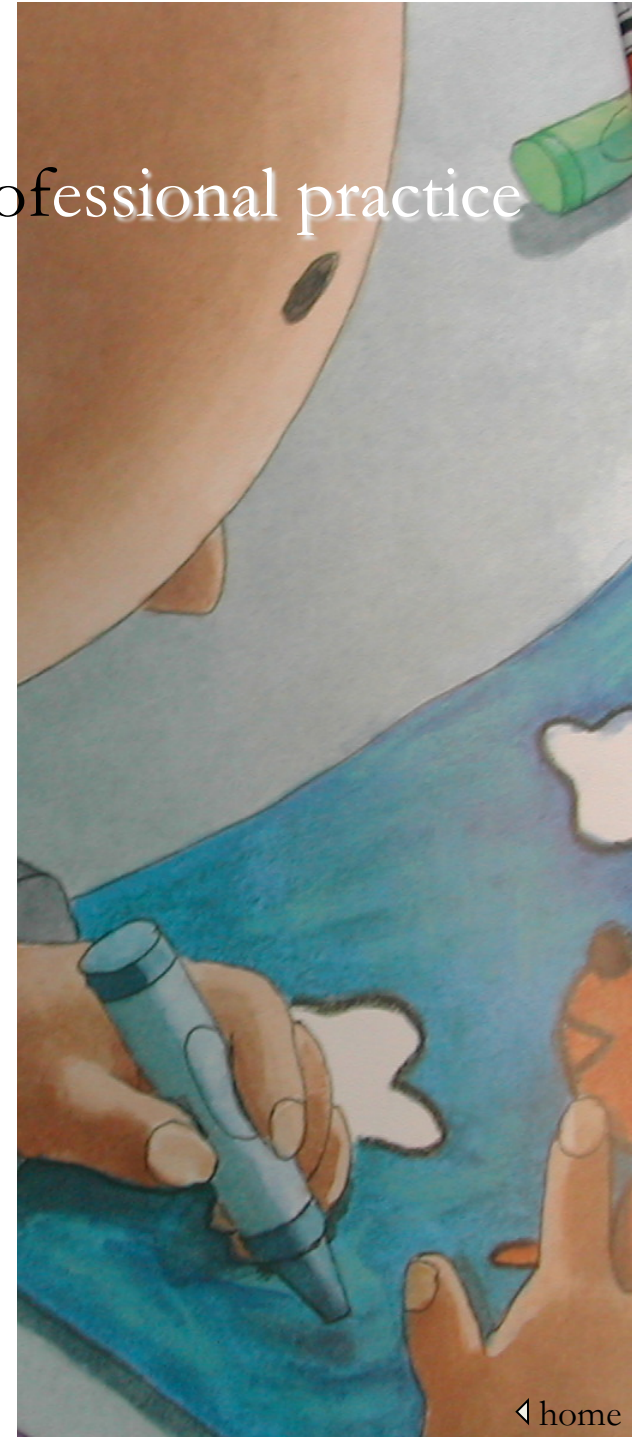
The 'Learning Element' - a means of addressing learner diversity

- - Flexible learning delivery - drawing on a bank of learning elements;

- - Defining prior learning;

- - The knowledge processes bring diversity into the classroom: **experiencing** (the known and the new), **analysing** critically, **conceptualising** (by naming and theorising) **applying** (appropriately and creatively);

- - Knowledge processes as a colloborative journey, learning as transformation;

- - Negotiating learning pathways.
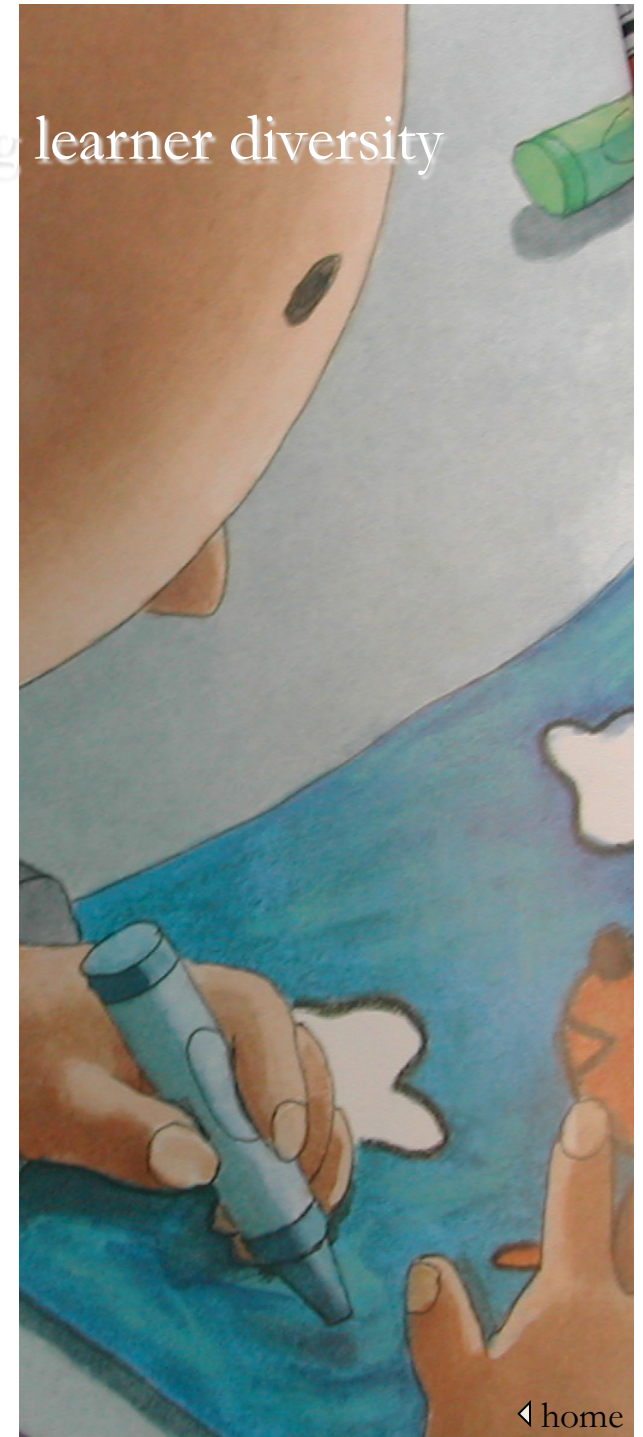
LEARNING
by DESIGN

Social Media Tools for Creating and Sharing Learning Designs

Learning Elements: | Mine | Create | Search | Published

Weaving a narrative into an information text in Wolves by Emily Gravett: Activities

Add new activity   Delete current activity   Assign to Objectives   Assign to Assessments   Assign to Modes
Overview with Objectives   Overview with Assessments

Description
Focus
Learning Standards
Objectives
Activities:
Processes
Assessments:
Outcomes
Pathways
Modes
Set Copyright
Manage Files
Collaborators
Show

Purpose
Resources
Teaching Tips
Pre-required
Reflections

Current Activity Edit Teacher   Edit Student   Edit Both

Update Information

Process: Experiencing the known

Teacher short description:
Frontloading wolves and rabbits

Student short description:
What do you already know about wolves and rat

Teacher long description:

The following activities value the prior knowledge of students and build their background knowledge of the text.

Use a noisy round robin to discover all the facts students know about wolves and rabbits. Include 3/4 rotations as students will find there is not much more to add.

Sorting the words into facts and opinions is important so that reading the text students will understand how factual texts can include opinions, attitudes and imaginative ideas through the images.

Student long description:

Make a word web of all the words you know about wolves and rabbits. Pass these on to another group so they can add some more words while you add words to another group's web. Do this 3 or 4 times. When you get your web back sort the words into facts and opinions.

Make a list of all the ways you could find out more information about wolves and rabbits if you wanted to. Share your ideas with the class and extend your list when you hear an idea you don't already have.

How do you borrow books from the library? What else can you borrow from the library

B I U ABC ≡ ≡ ≡ ≡
Format
Styles

B I U ABC ≡ ≡ ≡ ≡
Format
Styles

Overview

Frontloading wolves and rabbits

Reading and responding to Wolves by Emily Gravett

Online and audio texts

Exploring how the words and pictures work separ...

Exploring the effectiveness of the words and pi...

Field, tenor and mode

Point of view

Text innovations

Drag icon to reorder

Update Information

◁ home

v

Analysing a Children's Television Phenomenon: Using Hi5 as a Teaching Resource

Anne Cloonan

Being a TV Presenter

Anne Cloonan

LEARNING FOCUS

Hi5 has been chosen as a focus because of its popularity with young children. Not only is there the television program. There is also a whole series of related merchandising items and promotional activities. Merchandising items include videos of the program, books, games, jigsaw puzzles and clothing. Related promotional activities include concerts and guest appearances at shopping malls. Hi5 is an Australian production which has been sold internationally.

Knowledge Domain
Literacy, SOSE,

Scope of Learning
Media - Children's Television Programming

Learning Level
Prep to Year 2

WHAT WE'RE LEARNING

We will be learning about:

- Who's in Hi5.
- What they do.
- Hi5 things.
- Who likes Hi5.
- How to make a television program.

Our Subject:
Literacy

Our Topic:
Children's Television

Our Class:
Prep, Year 1 or Year 2

Learning Activity 1.1: Identify What Children Know About Hi5

Draw on the students' prior knowledge, life experience and community background to elicit their knowledge of the Hi5 group, programs and associated merchandise and promotion. This may include their knowledge of:

- the television program.
- the characters.
- the singing group who perform at concerts.
- the products and promotional activities.
- the webpage.

Ask the students to draw/write what they know about Hi5. Within shared writing, model a graphic organiser incorporating students ideas - words and symbols.

Some students may not have heard of Hi5 or not be familiar with Hi5. In that case, ask them to draw/write about a program they know and like.

Identify why the children like Hi5 (or another children's television program). Is there anything they don't like about it? What?

Activity 1.1: What Do You Know About Hi5?

Who likes Hi5? Draw or write what you know about Hi5.

If you've never heard of Hi5, draw or write about your favourite children's television program.

Do you like Hi5? If you do, what do you like about it? If you don't, what is it that you don't like about it?

country, or an older program that has now gone out of fashion.

Discuss other TV shows that follow a similar format:
- Their themes.
- Their characters
- Their settings: studio/ real life/cartoon.
- Their segments (e.g. art; drama; etc)

Learning Activity 3.1: Surveying the Most Popular Hi5 Character

Students survey a sample of those who like Hi5 by asking:

- Which character do you like the best?

Make a large wall mural, to which students add their names. Children could use standard sized cards to write their names on - producing a standard graph.

Students analyse attitudes:

- Which character is the most popular?
- Why do you like him/her?
- What do other people think?

Activity 3.1: Favourite Characters

Character	Favourite Character of …
Tim	

etc.

___ people like Tim best
___ people like Charlie best
___ people like Kathleen best
___ people like Nathan best
___ people like Kelly best

Learning Activity 4.1: Exploring Hi 5 Merchandising

Ask students to research examples and collect evidence of Hi5 commercial material. Collect advertising material. In shared writing on large paper, incorporate these examples into a graphic organiser. This process can be continuous throughout the Learning Element.

(Products include books, tapes, CDs, books, clothing, bags, toys such as cards, play dough, dolls, etc.)

Ask students:

- Do you have any Hi5 things … which ones?
- What do you do with the different things?
- What products have you seen in the shops? In catalogues? On television? On the Hi5 Website?

Add to the organiser as students discover new products.

Activity 4.1: Hi5 things.

What Hi5 things can you see here?

What other Hi5 things can you buy?

Draw/write/paste here Hi5 things that you can buy.

19

19

Learning Activity 5.1: Analysing Another Children's Television Program

With students, watch a Playschool program. Identify the program structure:

- What are the topic segments?
- Who are the characters?
- What is the use of studio and out of studio segments?

Compare and contrast the structure and characters of a Playschool program with Hi5 programs.

Learning Activity 5.2: Creating a Children's Television Program Segment

Invite students to create their own storyboard concept for a TV segment.

Discuss considerations of format, characters, settings and merchandising.

Students can pitch the idea by acting out a segment of the program for the class.

Video and discuss the segment.

Activity 5.1: Look at Playschool

Draw/write a storyboard of what happens in the Playschool program.

Activity 5.2: Make a TV Program!

Title of Program:

Draw/write a storyboard of what happens in your program.

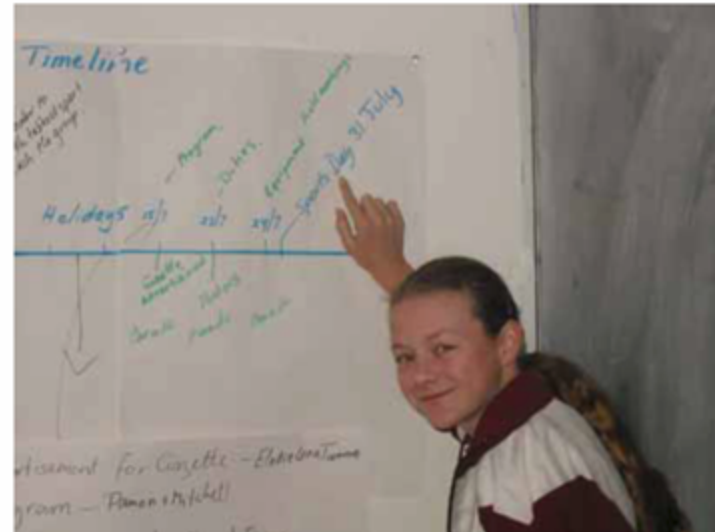A sporting Chance: Students plan and organise the junior school sports Carnival.

Terri Barker

Plan and organise the Grovely State School Junior Sports Carnival.

Terri Barker

Has media and technology changed children's play?
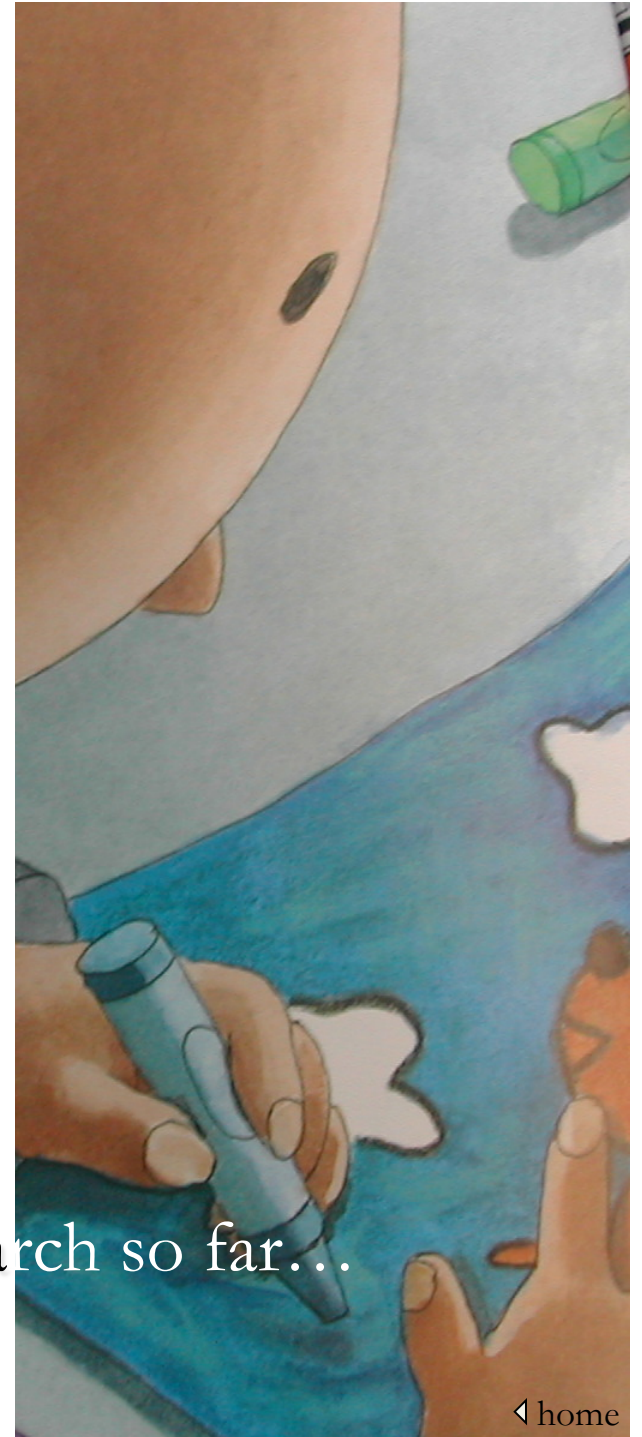

Jodie Armstrong

Child's Play

Jodie Armstrong

the research so far…

Research Findings (1): Anne Cloonan, Victoria

'The drafting (and re-drafting) of learning activities was not a simple case of planning a unit of work. This template (call it a framework or a heuristic) was prompting me to consider aspects of pedagogy in a new light. I had a sense of being involved in a number of dimensions of professional learning simultaneously; a kind of juggling act where I was trying to keep a number of balls aloft.'

'Much more than planning documents, they provide the individual with a means for mapping, reflecting and evaluating pedagogical practices.'

Choices became clear- including routines that were repetative and behaviour management rather than about knoweldge building.

'From a profession-wide perspective, they offer exemplars on which to focus teacher dialogue and critique.'

'A knowledge bank from which the profession can borrow, or contribute to, and in so doing, learn.'

Research Findings (2): Mary Neville, Queensland

The template raised three challenges for the teachers:

'The first was the need to acknowledge the interests and prior life experiences of their students.'

'Second, was a need to analyse the types and ranges of multimodal texts they were using.'

'The third challenge was to consciously reflect upon their teaching practices to ensure that all knowledge processes were being covered over an extended period of time, instead of running the risk of favouring a few.'

'I realise that we all have to be lifelong learners. By being in this project it makes you think how fast education is moving especially older teachers need to keep up with what's happening. I think even though I've been teaching for over 30 years we're learning so much faster now and we really have to keep up with things.'
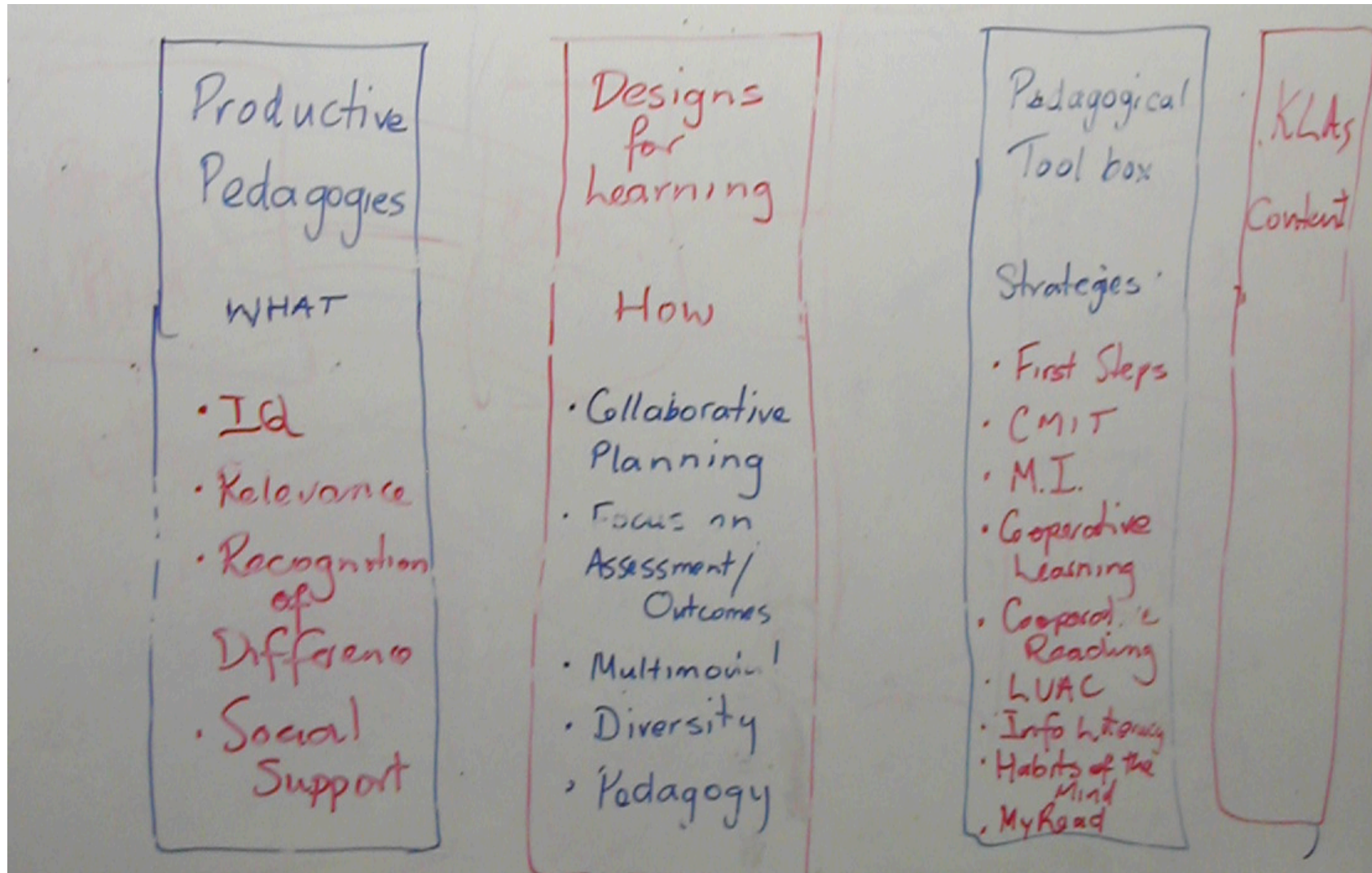
Research Findings (3): Rita van Haren, ACT

'The L-by-D framework supports teachers to address diversity and inclusivity. The focus on reading multimodal texts means technology becomes the tool rather than the content of the learning.'

'Provides a strong sense of ownership for ACT teachers and places teachers alongside other professions like medicine, dentistry, engineering and law …'

'Teachers liked the way "it makes you more conscious of including multimodal texts and learning" and "it has given me an opportunity to improve on a positive classroom environment and engage more students".

'Beginning teachers commented that they enjoyed a more detailed approach to planning and the extra effort was "an investment as the end product was worth the work."'

'They felt the framework was sequential but allowed "a certain amount of flexibility and individual interpretation", and once teachers were comfortable with the language the framework does become user-friendly and "a good motivator for teachers and students".

Learning - Teaching Model

Crosswalks - a mapping of strategy, tactics and tools…

Productive Pedagogies	Designs for Learning	Pedagogical Tool box	KLAs
WHAT	How	Strategies	Content
· Id	· Collaborative Planning	· First Steps	
· Relevance	· Focus on Assessment/ Outcomes	· CMIT	
· Recognition of Difference	· Multimodal	· M.I.	
· Social Support	· Diversity	· Cooperative Learning	
	· Pedagogy	· Cooperative Reading	
		· LUAC	
		· Info Literacy	
		· Habits of the Mind	
		· MyRead	

the whiteboard plan of Michael Hall & Rita van Haren - Lanyon Cluster of Schools ACT

Seven ways to address learner diversity…

1. Identify and define prior knowledge so learning is appropriate for individuals and groups;

2. Adopt a flexible approach to learning delivery by drawing on a bank of Learning Elements from different sources;

3. Use a variety of knowledge processes to bring diversity into the classroom and enrich student learning;

4. Apply different emphases and mixes of knowledge processes as appropriate to suit different 'learning orientations';

5. Identify and negotiate learning pathways as appropriate to students interests and dispositions;

6. Change direction of the knowledge flows toward a more active view of learning – learning-as-engagement;

7. Change the balance of command and responsibility – allow learners to take more control.

Teacher-as-author…
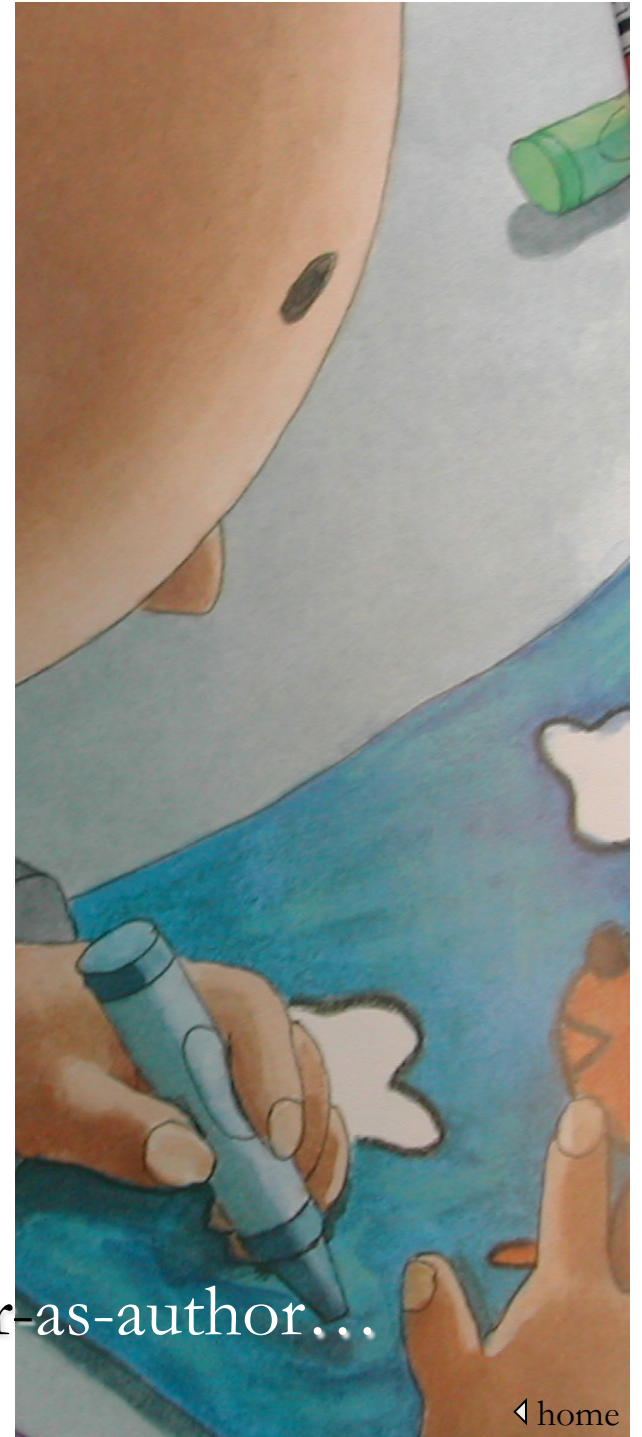
the teacher-as-author – a movement from isolated classroom practice and consumer of mass-produced knowledge to a new role as knowledge creator and knowledge purveyor…

TEACHER RESOURCE

Reality TV
Morality and Ethics of Popular Television

Ed Cuthbertson and Rebecca Cusick

LEARNER RESOURCE

Reality TV
Popcorn for the Hungry

Ed Cuthbertson and Rebecca Cusick

Reality TV
Morality and Ethics of Popular Television

Ed Cuthbertson and Rebecca Cusick

What happens when the teacher begins to produce rather than consume knowledge?

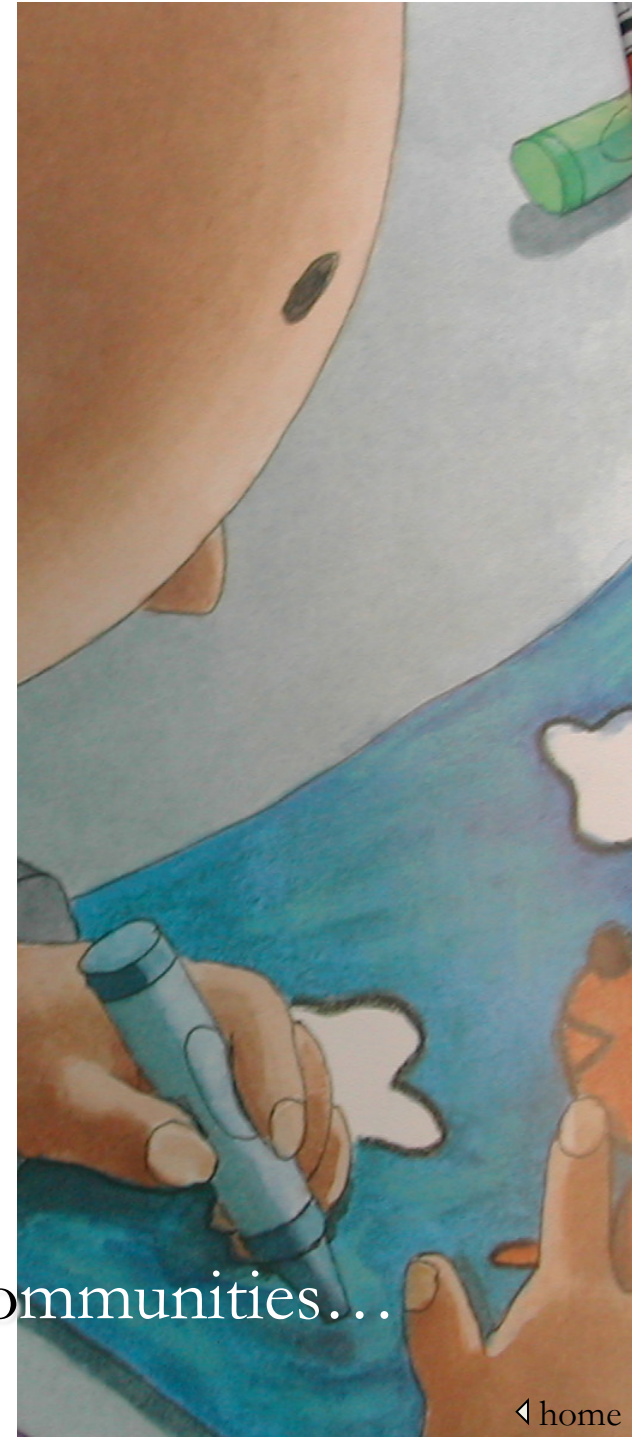How will teachers cope with the movement from private to public practice?

How will we ensure the quality of published work?

Just because teachers can author, publish and share their teaching practice will others use these resources?

Why should teachers want to be authors as well as teachers?

Schools as knowledge producing communities…

LEARNING
by DESIGN

Social Media Tools for Creating and Sharing Learning Designs

Public Learning Elements

Number to View: **10** **50**

Select a Language: [English ▾] [Choose a Language]

Problematising zoos through Zoo by Anthony Browne
by [Rita van Haren](#)

Description:
Students explore the visual and linguistic features of *Zoo* by Anthony Browne to understand how authors and illustrators make choices to position readers. They learn about the structure and language features of persuasive texts and produce a range of their own persuasive and creative multimodal texts.

Discipline: English
Topic: Issues related to zoos, critical literacy, reading strategies and persuasive writing
Prior knowledge: Writing short persuasive texts (PECs), modal verbs, simple, compound and complex sentences
Age range: 12-13
Publisher: Lanyon Cluster of Schools

Display	○ Teacher + Student	○ Teacher	○ Student	as:	○ Web page	○ Printout

Refugees and Immigration
by [Dominic Nixon](#) and [Natalie Stoewer](#)

Description:

Discipline: English and Studies of Society
Topic: Persuasive writing
Prior knowledge:
Age range: 10-12
Publisher: Self-published

Display	○ Teacher + Student	○ Teacher	○ Student	as:	○ Web page	○ Printout

Animal Farm: Politics and Power
by [Jennifer Nott](#)

Description:
This learning element is based upon the novel *Animal Farm* by George Orwell. It focuses upon the abuse and influence of power within political systems.

◁ home

Μάθηση μέσω Σχεδιασμού - Εργαλεία Κοινωνικής Δικτύωσης για τη Δημιουργία και την Κοινή Χρήση Μαθησιακών Σχεδιασμών

Δημοσιευμένες Μαθησιακές Ενότητες

Αριθμός διαθέσιμων Ενοτήτων 10 50

Επιλέξτε Γλώσσα: Ελληνικά ▾ [Επιλέξτε Γλώσσα]

ΕΛΕΓΧΟΣ ΓΕΝΝΗΣΕΩΝ-ΟΙΚΟΓΕΝΕΙΑΚΟΣ ΠΡΟΓΡΑΜΜΑΤΙΣΜΟΣ
από Ευαγγελία Μπαζούκη

Περιγραφή:

Η έναρξη της σεξουαλικής ζωής ενός ανθρώπου πρέπει να συνοδεύεται και από την έναρξη χρήσης κάποιας μεθόδου αντισύλληψης. Καλή γνώση του αναπαραγωγικού συστήματος οδηγεί στην κατανόηση της λειτουργίας της καθεμιάς μεθόδου. Η μελέτη των μεθόδων αντισύλληψης οδηγεί στην επιλογή της πλέον κατάλληλης, η οποία θα συνδυάζει αξιοπιστία και εξασφάλιση της υγείας.

Γνωστικό πεδίο: ΒΙΟΛΟΓΙΑ Α' ΛΥΚΕΙΟΥ
Θέμα : ΜΕΘΟΔΟΙ ΑΝΤΙΣΥΛΛΗΨΗΣ
Προηγούμενη γνώση: ΛΕΙΤΟΥΡΓΙΑ ΑΝΑΠΑΡΑΓΩΓΙΚΟΥ ΣΥΣΤΗΜΑΤΟΣ
Ηλικία: 15-16
Εκδότης : Self-published

[Εμφάνιση] ● Εκπαιδευτικός + Μαθητής ○ Εκπαιδευτικός ○ Μαθητής ως: ● Ιστοσελίδα ○ Εκτύπωση

"Τα παιδία παίζει"
από Ευρύκλεια Παναγιώτου Αφροδίτη Πανταζοπούλου

Περιγραφή:

Μέσα από αυτό το projeckt οι μαθητές αντιλαμβάνονται τη **διαχρονική αξία του παιχνιδιού,** ερχόμενοι σε επαφή τόσο με παιχνίδια του παρελθόντος όσο και με παιχνίδια του παρόντος. Επιπρόσθετα αντλούν τα δικά τους συμπεράσματα για την **οικονομική και κοινωνική κατάσταση** της Ελλάδας του **χθες** και του **σήμερα.**

Γνωστικό πεδίο: Νεοελληνική Γλώσσα
Θέμα : Ελεύθερος χρόνος και ψυχαγωγία
Προηγούμενη γνώση: Δεν απαιτείται
Ηλικία: 12-14
Εκδότης : earvanitis

[Εμφάνιση] ● Εκπαιδευτικός + Μαθητής ○ Εκπαιδευτικός ○ Μαθητής ως: ● Ιστοσελίδα ○ Εκτύπωση

Τα έθιμα του γάμου στην νοτιοανατολική Κρήτη(Άγιος Στέφανος, Μακρύ Γιαλός)
από Αμαλία Πλευράκη και Κατερίνα Ριζωνάκη

Περιγραφή:

Οι μαθητές μέσα από την διαδικασία αυτή θα προσεγγίσουν την επιστήμη της Λαογραφίας εντρυφώντας στα έθιμα προετοιμασίας και τέλεσης του Κρητικού γάμου.

Γνωστικό πεδίο: Λαογραφία
Θέμα : Κρητικός Γάμος
Προηγούμενη γνώση: Δεν απαιτείται
Ηλικία: 17-18
Εκδότης : Self-published

◁ home

Social Media Tools for Creating and Sharing Learning Designs

Learning Elements: | Mine | Create | Search | Published

Rita van Haren

Position: Curriculum Developer
Organization: Common Ground Publishing, Illinois, USA
Biography:

From 2004-2013, before coming to Common Ground Publishing, I worked with teachers in a cluster of three Australian schools, two primary schools and one high school, focusing on curriculum and pedagogy. My interests are inclusivity and literacy, particularly teaching reading. In 2007 I completed a masters of education at RMIT University in Melbourne researching how Learning by Design addresses diversity. In 2010 I completed a second masters of education, New Learning, New Literacies, at the University of Illinois. I am also involved in the Australian English teaching professional associations, ACTATE and AATE.

Authored Learning Elements

Weaving a narrative into an information text in Wolves by Emily Gravett
by Rita van Haren

Description:

This learning element focuses on a multimodal text which combines a narrative text and an information text. Students read and respond to the text, drawing out similarities and differences, and analyse the visual and linguistic grammar of the text. Students then create their own multimodal texts.

Discipline: English
Topic: A literacy study for 9-12 year olds
Prior knowledge: Other stories, including traditional fairy tales; how to reference a text using the Harvard style.
Age range: 9-12
Publisher: Lanyon Cluster of Schools

Display | ○ Teacher + Student ○ Teacher ○ Student as: ○ Web page ○ Printout

Writing Creatively
by Rita van Haren, Prue Gill, Rachael Radvanyi, and Anne Dunn

Description:

This learning element explores creative writing through a range of experiential writing, viewing and reading activities. It includes identifying the key elements of successful writing and critically reflecting on writing. Through cooperative activities students build confidence to share their writing with their peers.
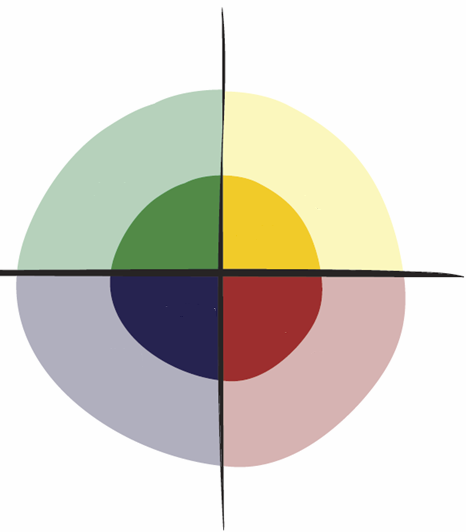
Discipline: English
Topic: This learning element explores creative writing through a range of experiential writing, viewing and reading activities. It includes identifying the key elements of successful writing and
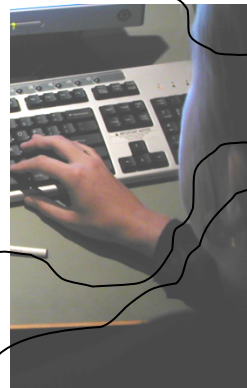
March 13

So…

how is all this…

tied together?

teacher-as-designer
learning-by-design
designs-for-learning

the learning-by-design project

pedagogy - the knowledge processes
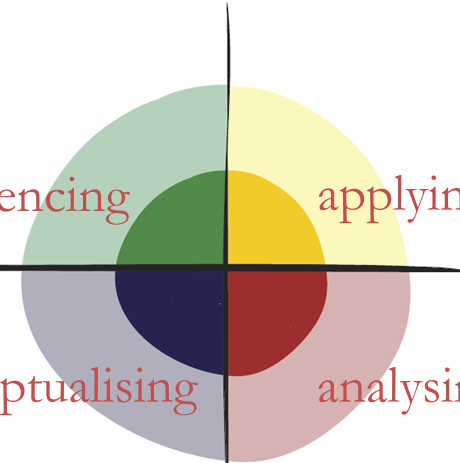
experiencing   applying

conceptualising   analysing

multiliteracies

multimodalities

teacher-as-designer

diversity
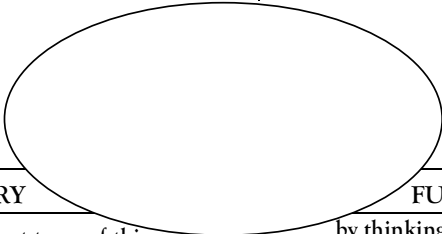
inclusivity

Learning Element

TEACHER RESOURCE   LEARNER RESOURCE

Reality TV
Morality and Ethics of Popular Television

Reality TV
Popcorn for the Hungry

TELEVISION

TELEVISION

Ed Cuthbertson and Rebecca Cusick

Ed Cuthbertson and Rebecca Cusick

learning as transformation

the KNOWN EXPERIENCING the NEW		APPROPRIATELY APPLYING CREATIVELY	
by being in the student's world *Drawing on learner prior knowledge and experience, community background, personal interests, concrete experience, individual motivation, students' own lives, and the everyday and familiar.*	**by being in new worlds** *Introducing learners to new experiences – real (excursions, guest speakers) or virtual (texts, images, information). New is from learner's perspective - to make sense it may have familiar elements.*	**by doing things the right way** *Acting upon knowledge in an expected, predictable or typical way based on what has been taught. It involves transformation of the learner and requires that they have opportunities to demonstrate their understanding and learning.*	**by doing things in interesting ways** *Doing things in interesting ways by taking knowledge and capabilities from one setting and adapting them to a different setting – taking something out of its familiar context and making it work somewhere else.*

by NAMING CONCEPTUALISING with THEORY		FUNCTIONALLY ANALYSING CRITICALLY	
by connecting the same type of thing *Identifying new concepts/ideas/themes, including abstract, generalising terms, conventions, features, structures, definitions and rules. Naming is the first step toward understanding.*	**by connecting different types of things** *Generalising and synthesising concepts by linking them together, making sense of how they contribute to the whole, generalising cause and effect relationships. What if...?*	**by thinking about what something does** *Examines the function or rationale of knowledge, action, an object or represented meaning. What is it for? What does it do? How does it work? What is its structure, function or connections? What are its causes/effects?*	**by thinking about who benefits** *Interrogates human purposes, intentions and interests of knowledge, an action, an object or represented meaning. What are its individual, social, and environmental consequences? Who gains? Who loses?*