SETTING THE CONTEXT

Historical - 1981 -> present

maturing understanding re learning and effective pedagogy

National Context - Melbourne Declaration on Educational Goals for Young Australians - Dec 08 National Curriculum Framework

States
QLD - Productive Pedagogies
TAS - Teaching Learning and Assessment Principles
VIC - POLT Principles of Learning & Teaching
NSW - Quality Teaching Framework
South Australia

DIAF - DECS Improvement & Accountability Framework

SA Teaching for Effective Learning Compass
L2L approach to Professional Learning

Teacher’s knowledge from practice

‘Expert’ & research referenced

a mutually informing relationship
SA TfEL COMPASS & DECS Improvement and Accountability Framework

SA TfEL Compass provides a coherent framework for reporting individual and whole school development with regard to teaching quality.

SA TfEL Compass defines standards for quality teaching.

SA TfEL Compass resource includes review tools for individuals and whole school reflection.

SA TfEL Compass is itself an intervention and simultaneously provides support for improving practice to achieve greater success.

SA TfEL Compass points the way to improved teaching practice.

© Julia Atkin, 2009
Today’s learning focus
2009 South Australian Teaching for Effective Learning Framework

Learning for effective teaching – Teaching for effective learning

Learning for effective teaching - leaders create learning opportunities with staff

- understand how self and others learn
- develop deep pedagogical and content knowledge through the teacher builds curriculum, pedagogical and disciplinary knowledge
- participate in professional learning communities and networks
- engage with the community
- discuss educational purpose and policy
- plan and organise for teaching and learning

Teaching for effective learning – teachers create learning opportunities with students

- Create safe conditions for rigorous learning
- Develop expert learners
- Personalise and connect learning

The teacher creates an orderly and informed environment for focussed learning.
<table>
<thead>
<tr>
<th>Old picture of schooling</th>
<th>New picture of schooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching is telling</td>
<td>To teach is to create the conditions for involved learning</td>
</tr>
<tr>
<td>Learning is listening</td>
<td>To learn is to be involved</td>
</tr>
<tr>
<td>Knowledge is an object</td>
<td>Knowledge is a ‘story that works’</td>
</tr>
<tr>
<td>To be educated is to know</td>
<td>To be educated is to relate to knowledge sympathetically inquisitively, critically and creatively</td>
</tr>
</tbody>
</table>

Adapted from Harpaz, 2002, p.1-26
The educator’s role is not to put knowledge where knowledge does not exist but rather to lead the mind’s eye so that it might see for itself.
TURNING TO ‘Expert Learner’

Scan your mind over many of the students you have taught.

Identify some you believe were ‘expert’ learners.

What were their:
- Qualities
- Attributes/dispositions
- Skills
The map is not the territory.

Alfred Korzybski
We have multiple ways of knowing - powerful learning integrates our various ways of knowing.

I hear, I forget
I see, I remember
I do, I understand.

Confucius 551 BC - 479 BC

Proust was a Neuroscientist
Jonah Lehrer

Antonio Damasio’s research on the body-mind loop provides evidence from Neuroscience that supports the wisdom expressed in the ancient saying by Confucius.
# Draft South Australian Teaching for Effective Learning Compass

## Learning for teaching – Teaching for learning

### Teacher learning

- **Understanding how self and others learn**
  - The teacher develops understanding of current learning theories.

- **Developing deep content knowledge**
  - The teacher builds curriculum and real-world knowledge of teaching field(s).

- **Participating in professional learning communities**
  - The teacher participates in critically reflective inquiry to develop their teaching practice.

- **Engaging with the community**
  - The teacher interacts with communities to connect student learning.

- **Discussing educational purpose and policy**
  - The teacher contributes to educational debate which shapes policy and informs practice.

### Domains of action

- **Create safe conditions for rigorous learning**

- **Develop expert learners**

- **Personalise and connect learning**

### Pedagogical elements

- **Developing democratic relationships**
  - The teacher acknowledges shared power as a fundamental condition for learning.

- **Building a community of learners**
  - The teacher involves students in understanding how to manage themselves and support each other as learners.

- **Negotiating learning**
  - The teacher responds to students' changing needs and involves students in deciding the direction of the curriculum.

- **Supporting and challenging students to be successful**
  - The teacher explicitly challenges students and helps them to achieve high standards.

- **Teaching students how to learn**
  - The teacher helps students develop metacognitive understandings, language and skills.

- **Fostering deep understanding**
  - The teacher helps students build conceptual knowledge around big ideas and make rich connections to their application in a range of contexts.

- **Exploring the construction of knowledge**
  - The teacher shows that knowledge is open to question, serves particular purposes and explores differences respectively.

- **Promoting dialogue as a means of learning**
  - The teacher provides opportunities for students to learn through interaction and conversation with others.

- **Building on learners' understandings**
  - The teacher establishes students' prior knowledge and cultural practices as a starting point for the curriculum.

- **Connecting learning to student lives and aspirations**
  - The teacher ensures that learning builds on the resources, skills, knowledge and goals students develop in their homes and communities.

- **Applying and assessing learning in authentic contexts**
  - The teacher structures the curriculum so that students apply their learning to real-life problems.

- **Communicating learning in multiple modes**
  - The teacher ensures that the curriculum incorporates rich and varied modes of making meaning, including new and old literacies.
Learning for effective teaching - leaders of change

Domains of action

LfET

understand how self and others learn the teacher’s understanding of current learning theories and themselves as learners informs learning design

develop deep pedagogical and content knowledge the teacher builds curriculum, pedagogical and disciplinary knowledge

participate in professional learning communities and networks the teacher participates in critically reflective inquiry to develop their teaching
Develop expert learners

teach students how to learn
the teacher develops student understanding of learning and expands their strategies for thinking, learning and working collaboratively

foster deep understanding and skilful action
the teacher helps students build rich conceptual knowledge and mastery of complex skills

explore the construction of knowledge
the teacher shows that knowledge is open to question and serves particular purposes

promote dialogue as a means of learning
the teacher provides opportunities for students to learn through interaction and learning conversation with others
What do we know about the nature of learning?

What do we mean by the term learning? Can you put your response into words?

Learning is.

Perhaps you can think of a visual image or analogy for learning.

Learning is like.
Learning is a complex process.

Key Questions

WHAT do we know about:
- the nature of learning?
- the process of learning?

HOW can we enhance learning?
And the dominant analogies that have emerged from asking >200,000 people:
“What is learning like?”

- journey
- growth
- construction - reconstruction - creation - recreation
- transformation
- enlightenment
- empowerment
- enrichment
World 1 is my inner world, the world inside my skin - my very inner psychological world.

World 2 is the world of my direct experience, the world of things I’ve done, people I have met, places I have been - this, with my inner world are the worlds of my mental models - my “knowing” of the world.

World 3 is the world I know about, have read about or heard about - I do not know it directly.

World 4 is the world of infinite possibilities. I haven’t heard about it nor imagined it - it is the world of my ignorance; it is the world I don’t know that I don’t know!

© Julia Atkin, 2007
Natural, Powerful Human Learning

- personally meaningful
- integrated
- coherent
- transformative
- transferable

© Julia Atkin, 2007
Knowledge in Education

‘I have been convinced for some time that the “learning outcome” of ….education should be more than what the western world typically means by “knowledge”; that it is to engage the whole “being” of people, their heads, hearts and life-styles, and is to inform, form and transform their identity and agency in the world.’

Thomas H. Groome, Sharing Faith, p.2
Unnatural Human Learning - ‘knowing about’ and ‘knowing about what other people know’ but NOT KNOWING!

- non-meaningful
- disconnected
- incoherent
- non-transformative
- non-transferable

They work to pass and not to know.
Alas they pass and do not know!

Bertrand Russell
You can know the name of a bird in all the languages of the world, but when you're finished, you'll know absolutely nothing whatever about the bird... So let's look at the bird and see what it's doing —that's what counts. I learned very early the difference between knowing the name of something and knowing something.

Richard Feynman
What learning do you value?

**transformative**
- personally meaningful
- integrated
- coherent
- transferable

**NOT**

**non-transformative**
- non-meaningful
- disconnected
- incoherent
- non-transferable

© Julia Atkin, 2007
What are the factors that contribute to learning being…

*transformative*

OR

*non-transformative*
Factors which promote meaningful, transformative learning:

**Intrinsic motivation**
- learner purpose not teacher purpose
- relevance/interest
- challenge
- curiosity

**Direct experience**
- practical application
- vicarious experience; simulation; role play

**Crisis/catastrophe**

**Sharing**, having to teach someone else, dialogue

**Teacher/mentor passion**

Strategies which *connect at the point of personal experience*

Strategies which *stimulate emotions*

Strategies which *connect with, or challenge, inner belief system*

**Metacognition** - self knowledge as learner; repertoire of learning
The impact of aspects of motivation on the nature of learning

Our challenge is to design learning experiences with **high intrinsic worth** and **high felt need**...**AND...**

to respond to what learners perceive to have high intrinsic worth.

Adapted from discussions with participants in the ‘Principles of Effective Learning & Teaching Workshop’
Apple Innovative Technology Schools Conference, Wollongong, 1998

© Julia Atkin, 1999
Authentic assessment promotes powerful learning.

Authentic learning & assessment have:
• a real purpose & real audience for a:
  - process
  - product
  - performance
  - presentation

It is characterised by being:
• personally meaningful
• self created or constructed
• assisted by ‘teacher’ mediation
• negotiated & agreed guidelines & goals

and has self, (peer) and expert evaluation of product & process
In recent years, approaches to teaching have become caught in an ‘either-or’ conceptualisation of pedagogical approach rather than a ‘both-and’ approach.

A true ‘constructivist’ approach focuses on ensuring meaning and understanding are constructed in the learner’s mind.

At times, for certain students in certain contexts this might demand direct, explicit instruction or it might mean open exploration or it might require some approaches in between.
**INSTRUCTIVIST vs CONSTRUCTIVIST PEDAGOGY**

- Learner initiates, chooses, directs
  Teacher facilitates

OR

- Direct, explicit Instruction
It is not a matter of either direct, explicit instruction vs learner driven learning but rather a valuing of learner initiated, learner directed learning and the flexibility & skillfulness on the part of the teacher to be able to use a repertoire of strategies in response to the learner's needs.
Reframing . . . going beyond ‘EITHER-OR’ to ‘BOTH-AND’

CONSTRUCTIVIST PEDAGOGY

Complex, holistic, authentic tasks
Learner negotiates -initiates
chooses, directs
Teacher facilitates

Nudging, prompting,
Giving formative feedback

Modelling & Providing
‘scaffolds’

Direct, explicit Instruction

It is not a matter of either direct, explicit instruction vs learner driven learning but rather a valuing of learner initiated, learner directed learning and the flexibility & skilfulness on the part of the teacher to be able to use a repertoire of strategies in response to the learner’s needs.

© Julia Atkin, 2007
TURNING TO Strategies for Thinking

Developing deep knowledge about thinking

Strategies for thinking, learning

© Julia Atkin, 2008
How do we process differently?
WORK PREFERENCES

- Working solo
- Applying formulae
- Accomplishing/achieving
- Analysing data
- Putting things together
- Making things work
- Solving tough problems
- Making the numbers
- Being challenged
- Analysing and diagnosing
- Explaining things
- Clarifying issues
- Logical processing
- Building things
- Being in control
- Having an ordered environment
- Preserving the status quo
- Paperwork tasks
- Establishing order
- Planning things out
- Stabilising
- Getting things done on time
- Attending to detail
- Structured tasks
- Providing support
- Administering
- Expressing ideas
- Building relationships
- Teaching
- Listening and talking
- Working with people
- Persuading people
- Being part of a team
- Communication aspects
- Helping people
- Expressive writing
- Coaching
- Counselling
- Taking risks
- Inventing solutions
- Providing vision
- Having variety
- Bringing about change
- Opportunity to experiment
- Selling ideas
- Developing new things
- Designing
- Having a lot of space
- Imagining
- Seeing the end from the beginning
- Synthesising ideas
- Getting groups to work together well
A: Defines, proposes, clarifies...

B: Names, gives example, shows how...

C: Felt meaning, value, expresses as personal story...

D: Abstracts essence, concept, expresses as image analogy
ANALYSES
Clarifies
Quantifies
Is logical
Is critical
Is realistic
Is direct
Likes numbers
Knows about money
Knows how things work

TAKES PREVENTATIVE ACTION
Is task focussed
Likes to know the facts
Establishes procedures
Gets things done
Is reliable
Organises
Is punctual
Is neat
Plans

INFER
Speculates
Qualifies
Conceptualises
Is intuitive (ideas)
Imagines
Lakes risks
Is impetuous
Bends the rules
Is curious/plays

TAKES RISKS
Is spontaneous
Is sensitive to others
Is intuitive (feelings)
Likes to teach
Is supportive
Is expressive
Is cooperative
Is emotional
Talks a lot
Feels/flows
FOUR REACTIONS TO A “HOT” IDEA
Languages or our brain/mind system....

**Analytical**
- abstract symbolic
  - word, musical notation, $x + y = 2$

**Holistic**
- *image language*

© Julia Atkin, 2008
Particulate, linear
- stepwise
- analytical
- serial processor

Global, random
- holistic
- intuitive
- parallel processor

© Julia Atkin, 2008
Report on a car accident

Focus?
Language?

Focus?
Language?

Focus?
Language?
Examples of four reporters views of the same accident.
**RATIONAL, THEORETICAL SELF**
- Analyses
- Clarifies
- Quantifies
- Is logical
- Is critical
- Is realistic
- Is direct
- Likes numbers
- Knows about money
- Knows how things work
- Takes preventative action
- Is task focussed
- Gets things done
- Is reliable
- Organises
- Is punctual
- Is neat
- Plans

**IMAGINATIVE, EXPERIMENTAL SELF**
- Infers
- Speculates
- Qualifies
- Conceptualises
- Is intuitive (ideas)
- Imagines
- Takes risks
- Is impetuous
- Bends the rules
- Is curious/plays

**ORDERED, SAFEKEEPING SELF**
- Takes preventative action
- Is task focussed
- Likes to know the facts
- Establishes procedures
- Gets things done
- Is reliable
- Organises
- Is punctual
- Is neat
- Plans

**EMOTIONAL, INTERPERSONAL SELF**
- Infers
- Speculates
- Qualifies
- Conceptualises
- Is intuitive (ideas)
- Imagines
- Takes risks
- Is impetuous
- Bends the rules
- Is curious/plays
For communication & learning, likes and expects

**A**
- **Expects:**
  - Brief, clear concise info.
  - Well articulated ideas
  - Logical format
  - Accuracy
  - Certainty
- **Enjoys:**
  - A good debate
  - Critical analysis
  - Readings

**B**
- **Expects:**
  - Step by step unfolding
  - Detailed program
  - Punctuality
  - Explanation of how
- **Enjoys:**
  - Structured approach
  - Low risk
  - Concrete examples

**C**
- **Expects:**
  - Involvement with others
  - Personal anecdotes
  - Experiential approach
  - Feelings to be considered
- **Enjoys:**
  - The personal touch
  - Group discussion
  - Harmony

**D**
- **Expects:**
  - An overview
  - A conceptual framework
  - Freedom to explore
  - Analogies/metaphors
  - Visuals
- **Enjoys:**
  - Initiative and imagination
  - Connections to other approaches
  - Newness & ‘fun’
Adapted from Teaching for the Two Sided Mind. Linda Verlee
The whole is more than the sum of the parts.

The multiplier effect NOT an additive effect.

\[ 3 + 3 + 3 + 3 = 12 \]

whereas

\[ 3 \times 3 \times 3 \times 3 = 81! \]
Adapted from Herrmann, N. 1989, The Creative Brain, Brain Books

© Julia Atkin, 2008

A: Defines, proposes, clarifies, classifies. . .

B: Names, gives examples, describes how . . .

C: Felt meaning, value, expresses as personal story . . .

D: Abstracts essence, concept, expresses as image, analogy . . .
Human learning is deepened and amplified by integrating our multiple ways of knowing.

Teach to ENGAGE and INTEGRATE all modes of processing regardless of personal thinking style.

© Julia Atkin, 2008
A chair is an object designed to support one person in a sitting position and it either has a back or is designed to support the back.

Categories of chairs:
- Barber's chair
- Dentisit's chair
- Desk chair
- Rocking chair
- Squatter's chair

This chair has four legs, it’s made from Tassie oak... 

Could also be instructions for building a chair

Definition
Language is words and/or symbols

A

Concept
Language is image and metaphor

D

WAYS OF KNOWING "chair"

Language is facts and details such as labels, and description

B

Examples

My favourite chair is a "sleepy hollow" chair I bought in an old antique shop in Bendigo and then had done up. When I was a kid we had a sleepy hollow chair at home and it was everyone's favourite. Being one of six I didn't hold out much hope of ever owning that one so I bought my own.

Experiences

Essence of chair
WHY the title?

Ways of thinking--> Ways of knowing

Integral Learning Model

Designing for Effective Learning

Mu dictionary - Four ways of knowing

Strategies - what strategies, experiences are needed for students to develop these ways of knowing
Ned Herrmann’s Whole Brain Processing Model

Cerebral modes - abstract thinking

A: LOGICAL
   ANALYTICAL
   QUANTITATIVE
   FACT BASED

D: HOLISTIC
   INTUITIVE
   SYNTHESIZING
   INTEGRATING

B: PLANNED
   ORGANIZED
   DETAILED
   SEQUENTIAL

C: EMOTIONAL
   INTERPERSONAL
   FEELING BASED
   KINESTHETIC

Thinks and acts step by step

Limbic modes - thinking stimulated by emotions and senses

Thinks and acts holistically randomly

Herrmann, N. 1989, The Creative Brain, Brain Books
Human learning is deepened and amplified by integrating our multiple ways of knowing.

**Teach to ENGAGE and INTEGRATE all modes of processing regardless of personal thinking style.**
Strategies to Promote Integral Learning

**Cerebral Mode Thinking Processes**
- Logical
- Analytical
- Quantitative
- Fact-based
- Planned
- Organised
- Detailed
- Sequential

**Limbic Mode Thinking Processes**
- Emotional
- Interpersonal
- Feeling-based
- Kinaesthetic

**Left Mode Thinking Processes**
- Application formulae following models, 'scaffolds'
- Methods, procedures, blueprints
- Step by step working,
- Mind journey - sequence, process
- Graphic representation - flowcharts, timelines
- Structured worksheets, practice, consolidation
- Programming, planners, goal setting, lists
- Questioning - How? How can I use this? What are the facts?

**Right Mode Thinking Processes**
- Models - physical and conceptual
- Analogy, metaphor, imagery
- Mind journey - images
- Graphic representation - images, posters
- Mnemonics
- Brainstorm
- Questioning - Why? What if?

**Mind Journey**
- Images
- Graphic representation - flowcharts, timelines
- Step by step working,
- Methods, procedures, blueprints
- Mind journey - sequence, process
- Graphic representation - flowcharts, timelines
- Structured worksheets, practice, consolidation
- Programming, planners, goal setting, lists
- Questioning - How? How can I use this? What are the facts?

**Thinking 'nudged' & Stimulated by:**
- Collaboration, cooperative learning
- Questioning
- Posing problems, challenges
- Design process
- Games
- Predict - observe - explain
- Teaching, re-presenting eg multimedia

© Julia Atkin, 1990-2000
Ways of thinking---> Ways of knowing

Integral Learning Model

Designing for Effective Learning

Mu dictionary - Four ways of knowing

Strategies - what strategies, experiences are needed for students to develop these ways of knowing
WHY the title?

Ways of thinking --> Ways of knowing

Integral Learning Model

Designing for Effective Learning

Mu dictionary - Four ways of knowing

Strategies - what strategies, experiences are needed for students to develop these ways of knowing
Two students are discussing how they can determine the area of an irregular garden shape to order mulch.

One suggests they could use a trundle wheel to determine the perimeter and then turn it into a regular shape and calculate the area. The other student isn’t so sure that would work.

What do you think?

Prove your answer through images and calculations.
These two shapes have the same perimeter. Which has the greatest area?
Proof: The perimeter is kept constant at 16. As the shape changes the area is changing. The first student is not correct.