

# Literacy across the school subjects: theory into practice

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# Overview of presentation

- Academic literacies: the historical context
- Literacy Pedagogical Content Knowledge and Insights from SFL
- Demonstration of LASS
- LPCK in a Masters pre-service program

# Early attempts at LAC policy

- In the UK
  - Corson 1990, Language Policy Across the Curriculum (also Barnes et al, LINC)
- In Australia
  - The PNS report Teaching English Literacy (Christie et al, 1991)
  - ‘Teachers’ knowledge about language and literacy and the pedagogical principles for their teaching are central to the successful transition of novice teachers to competent practitioners’ (Vol 1 p. 98).
- However, desultory implementation of these cross-curriculum policies.

# Revitalization?

- In North America
  - ‘Reading in the Content Areas’ Fang & Schleppegrell, (2008)
  - ‘An understanding of how language works is essential for teachers to effectively support all students’ growth in academic language - the language used in schools to learn, speak and write about academic subjects’ (Valdes, Bunch, Snow & Lee, 2005)
- In NZ
  - The Secondary Schools Literacy Initiative, a three year research project (May & Smyth, 2007)
- In Australia
  - Beyond the Middle Report (2003)
  - National Literacy Enquiry (2005)

# ‘Beyond the Middle’ Report

- Luke et al (2003) *A Report about Literacy and Numeracy Development of Target Group Students in the Middle Years of Schooling* DEST (200 schools surveyed across Australia)
- ‘Subject teachers have insufficient knowledge of the language and literacy demands of their discipline’ (118)
- ‘Teachers use a “grab-bag” of approaches to literacy ... Schools were scrambling to put together materials from diverse resources without any principled understanding of language and literacy” (135).

# **National Inquiry into the Teaching of Literacy (DEST, 2005)**

- **Recommendation 12**  
“that literacy teaching within subject areas be included in the coursework of secondary teachers” (p. 52)
- **Recommendation 14**  
“that the conditions for teacher registration ... include a demonstrated command of personal literacy skills ... and a demonstrated ability to teach literacy” (p. 53)

# The time is right?

In Australia, we now have:

- Sufficient research knowledge about the role of language and literacy in learning
- Understanding of how disciplinary content knowledge is reproduced, often in highly classified and strongly framed curriculum structures (Bernstein, 1996).
- Political ‘will’ at state and federal level, with the introduction of a National Curriculum, and various government enquiries into Pre-Service Teacher Training Courses (2005 and 2007)
- A clearer understanding about the processes of teacher professional development

# Academic literacy: an example from Maths

<b>Congruent (spoken - like) form</b>	<b>Nominalized (written-like) form</b>
<ul style="list-style-type: none"><li>• how long something is</li><li>• how far across something is</li><li>• how far off the ground something is</li></ul>	<ul style="list-style-type: none"><li>= length</li><li>= width</li><li>= height</li></ul>

- Relationships between multiple abstractions
  - $\text{Area} = \text{Length} \times \text{Width}$
  - $\text{Volume} = \text{Area} \times \text{Height}$

# Nominalisation and abstraction

- The demands of increasingly technical and abstract mathematical language accumulate dramatically by the middle years of high school, when many fragile learners are left behind.
- Teachers who can explicitly discuss such language features with their students, and their role in making mathematical meanings, can engage them more deeply with mathematical content (Huang & Normandia, 2008).

# Academic literacy: an example from History

- From a text used regularly in Australia to teach about the causes of the Boxer Rebellion in China.
  - “**Imperialist powers** had been competing to carve the country into **spheres of influence** for years, while **enforced opium addiction** and **widespread corruption** had reduced most of the populace to **abject poverty**” (Denny, 2008)
- Students must unpack abstract and highly nominalised concepts (bolded).
- In addition, they must recognise that what are presented as ‘facts’ are often interpretations to be evaluated, as historians make more or less explicit judgements about the people and events in history.

# Nominalisation, abstraction and critical literacy

- In evaluating the Boxer text as a commentary on a period of Chinese history, students must assess the writer's 21<sup>st</sup> century post-colonial stance by focusing on his choice of value-laden epithets ('abject'), verbs ('carved' and 'reduced') and nouns ('corruption').
- Students need support in learning to read in these highly specialised ways, drawing attention to how such language operates to construct a particular **argument** about history
- ie learning to be critical historians, able to interrogate various viewpoints.

# Pedagogical Content Knowledge

- Darling-Hammond (2006). Involves:
  - Knowledge of how learners come to understand disciplinary concepts
  - A repertoire of strategies for engaging students in disciplinary content
- ie a ‘science’ of teaching, with its own specialized knowledge base, adaptive and responsive to the needs of diverse learners in their varying contexts.

# Literacy Pedagogical Content Knowledge

- Knowledge about how spoken and written language are structured for learning
- Recognition that subject areas have their own characteristic language forms and hence entail distinctive literacy practices
- Capacity to design learning and teaching strategies which account for subject-specific literacies and language practices.

# LPCK in Maths

- T. What distance do you have to measure?  
S. The distance.  
T. Which distance?  
S. The distance from the vertex.  
T. Which vertex?  
S. (pointing) That one.  
T. Can you be more precise?  
S. The top left vertex.  
T. OK. So what do we measure?  
S. The distance from the top left vertex.

- T. Good. To where?  
S. The outside of the other shape.  
T. I'm not sure what you mean. Where on the other shape?  
S. The bottom left hand corner.  
T. OK. And what do we call that shape?  
S. The object.  
T. OK. So the line's going to ...  
S. The bottom left vertex of the object.  
T. OK. Put that all together and tell me what you're measuring, what distance?  
S. The distance from the top left vertex of the image to the bottom left vertex of the object.
- Transcript Robert Veel, 1997

# The language of mathematical reasoning

- Precision in use of language for locating and measuring
- Use of abstract and technical concepts
- Written-like conventions of the language preferred over spoken-like
  - endophoric, not exophoric reference
  - lengthy noun groups.

# Melbourne's M.Teach

- A cohort of 400 graduate TCs, with approx
  - 40% Humanities
  - 20% Visual & Performing Arts
  - 30% Maths and Sciences
  - 10% Physical Education, Business Studies and IT
  - Their disciplinary 'consciousness' (Bernstein, 1996) shaped through specialized undergrad/ post-grad study & professional experience
- Close articulation of theory and practice
  - 2 days each week in school placement
  - School-based seminars designed by 'Clinical Specialists' in conjunction with 'Teaching Fellows'
  - Uni assessment grounded in school practice

# Language and Teaching

- A small (18 hr) introduction to the nature of the advanced literacies required across secondary subjects
- Time- and resource- poor, with a history of reluctance
- Historically, challenging to teach and to sustain within the politics of GSE.
- In an initial survey of students in 2008, approx
  - 30% believed literacy development was not the concern of the secondary school teacher;
  - 15% spoke English as an additional language at home;
  - 75% worked with students who speak English as an additional language;
  - 80% taught students who struggled to meet the academic demands of their subjects.

# Introducing LASS

- LASS Index Screen
- Unit 1 Screen 6 - the various reading demands of Geography and HPE
- Unit 1 Screen 13 - Joe Lo Bianco discussing literacy and various subject demands
- Unit 1 Screen 15 - the various writing demands of English and Science

# LASS

- Unit 3 Screen 21: The rehearsal of subject-specific ways of reasoning through oral language (first video) and through written language (second video).
- Unit 4 Screens 1, 2 & 5: the standard genres of schooling
- Unit 5 Screen 5: the blended genres of a history text book
- Unit 5 Screen 8: written reviews in Media, Art and English
- Unit 5 Screens 13-14 (genre development)

- Unit 7: Screen 11, (Marie) video 2;  
Screen 14 (Chris)
- Unit 1: Screen 20 (video 2) The take  
home message from Gatachi

# TCs planning for literacy

- Solids, Liquids and Gases: Literacy in Year 7 Science
- Techniques of enameling: Literacy in Year 9 Art
- Autobiographical recounts in World War 1: Literacy in Year 9 History
- Analytical expositions of the Boxer Rebellion; Literacy in Year 12 History

# Solids, Liquids and Gases: Literacy in Year 7 Science

- Engagement stage: Sticky Putty
  - “I will ask them to brainstorm in small groups, a list of adjectives which describe the sticky putty as either a solid or liquid. The term adjective will be explained prior and an example given to model appropriate ‘describing words’ to students. Using the subsequent adjective list, students will form their own definition of a solid and a liquid by completing the sentence starter: “A solid/liquid is...” and being told to include three adjectives and one example. This technique gives students clear structure in their writing and ensures that they include all necessary elements, thereby scaffolding them into writing their own technical definitions” (Elyse, Planning for literacy in a unit of work).

# Generic requirements of school Science (adapted from Veel, 1999)

<b>Doing Science</b>	<b>Organising Scientifically</b>	<b>Explaining Science</b>	<b>Challenging Science</b>
Procedure	Descriptive Report	Sequential Explanation	Argument
Procedural Recount	Taxonomic Report	Causal Explanation	Discussion
		Theoretical Explanation	

# Building Knowledge stage

- Preparing for reading
  - Previewing genre: Moving from personal **observation /description** of the properties of ice, water and steam to text book **explanation** of their states as solids, liquids and gasses.
  - Explicitly teaching S's how to “skim the headings, illustrations and first and last sentences of each paragraph in order to establish what the text is about”.
  - Explicitly deconstructing linguistically dense and highly nominalised constructions such as ‘The reverse of melting is solidification or freezing’.
  - Organising students in groups to take on one of the four roles of the reader (Freebody & Luke, 1990)

# 'Transformation' stage

- “The Transformation Stage presents the largest literacy challenges of this unit. Students are asked to write their first practical report, and for many this is a daunting task. In order to assist students in this, a scientific report structure will be given, along with a modified model report whose sections students can re-arrange and ‘play’ with ... Student activities at this stage have been designed to reflect a deconstruction, joint construction and finally an independent construction approach to scaffolding students as they learn to write clearly structured scientific reports” (Elyse, Planning for literacy in a unit of work)

# Presentation and Reflection

- “Finally, in the Presentation and Reflection Stages, students will be asked to submit their reports to the teacher for assessment and feedback. Reports will only be assessed on use of the model structure, and inclusion and understanding of listed compulsory key terms, in order to maximise the chances of students mastering these base-elements and receiving positive feedback on their first practical reports. Students will also be asked to reflect on their learning so far, by engaging in a class discussion, and by finishing the sentence: ‘I have learnt...’ on pieces of coloured card for display around the classroom – in this way again, student writing is scaffolded and given direction” (Elyse, Planning for literacy in a unit of work)

# Techniques of enameling: Literacy in Year 9 Art

- Claire teaching diverse learners, many from the horn of Africa
- Designed a project enameling booklet
  - “... a multi-genre text containing explanations, an historical recount, a map, images, diagrams and instructions. To support students in their role as decoders and meaning-makers of the various texts within the booklet, it will be necessary to go through the booklet with the class and make the purpose of each section of text transparent through oral instruction and discussion. For example, some students may need to be told that the “Brief History” page provides an historical recount of the origins of enameling. The map on this page showing the Byzantine Empire in 565AD may need quite a bit of decoding for some students who may not be familiar with the conventions used” (Claire, Planning for literacy in a unit of work).

# Explanations and Color theory

- The second writing task was an explanation for why students chose certain colors in the design of their enameled pendant. Claire modeled the writing requirements by
  - “using my sample enameled pendant which contains green and blue enamel to explain the reasoning behind my decision to use these colors. I will write my explanation on the whiteboard to demonstrate a key feature of explanatory text that I expect the students to use - causal connectives. My model text might look something like this: ‘My pendant design contains imagery of foliage. I associate foliage with the color green **therefore** I have decided to use green enamel to depict the foliage’.”  
(Claire, Planning for literacy in a unit of work)

# Literacy in Year 9 History

- Identifying problematic linguistic features.
  - “ highly abstract terms such as ‘alliances, imperialism, militarism, nationalism’ will present reading challenges for my diverse groups of learners. I will explain the abstract concepts contained in the nominalization ‘the growth of nationalism’ using more spoken-like forms such as ‘Some countries or nations started to think of themselves as distinctive from other countries’ (Bryce).
- Identifying generic requirements
  - From comprehending and producing the more accessible story-like genres of Autobiographical Recount (of a soldier on the Western Front), to more complex Historical Accounts of the war which explain the factors that contributed to particular outcomes.

	<b>Text type</b>	<b>Social purpose</b>
Chronicling history	Autobiographical recount	To retell the events of your own life
	Biographical recount	To retell the events of a person's life
	Historical recount	To retell events in the past, not necessarily of a person
Reporting history	Descriptive report	To give information about the way things are or were
	Taxonomic report	To organise knowledge into taxonomy
	Historical account	To account for why events happened in a particular sequence
Explaining history	Factorial explanation	To explain the reasons or factors that contribute to a particular outcome
	Consequential explanation	To explain the effects or consequences of a situation
Arguing history	Analytical exposition	To put forward a point of view
	Analytical discussion	To argue the case from two or more points of view
	Challenge	To argue against a view

# Literacy in Year 12 History

- Remember the Boxer Rebellion text earlier?
  - “**Imperialist powers** had been competing to carve the country into **spheres of influence** for years, while **enforced opium addiction** and **widespread corruption** had reduced most of the populace to **abject poverty**” (Denny, 2008)
- Coffin (2006) sees the increased sophistication of thinking and writing about history as a movement from History as Narrative (through a process where time is ‘dismantled’), to a concern with Explaining and Arguing history. This shift from thinking, reading and writing about History as a story, to History as a set of issues to be explained and argued about is generally not made explicit, or even understood by secondary school teachers, causing difficulties for more fragile learners.

# A platform for attitudinal change?

- The capacity of Lilian, Bryce, Claire and Elyse to reflect systematically on literacy and disciplinary content is representative of M.Teach cohort.
- In a formal questionnaire distributed at the end of their first semester (n=191, submission anonymous and voluntary), 95% of TCs indicated that they had significant responsibility for supporting learning through literacy.

# Ongoing Challenges

- To what extent will these attitudes and LPCK translate into their active professional knowledge and practice?
- The extent to which teachers absorb externally produced 'expert' knowledge depends on complex factors such as the context of the teaching, the perceived relevance of the 'expert' knowledge, the degree of autonomy available, the opportunities for sustained professional development, and the presence /absence of a like-minded professional community (Freeman, 2002; Johnson, 2006).

# Conditions for success

- Confronting perceptions about whole school approaches to literacy, which are seen as
  - acts of ‘imperialism’ by English teachers (Moje, Dillon, & O’Brien 2000)
  - attempts by English teachers to avoid responsibility for literacy (Wells, 1991)
  - threats to the unique academic content of secondary subjects (including English) (O’Brien, Stewart & Moje, 1995)
- Financial/systemic resourcing for teacher PD on the link between language/literacy and learning
- Designing programs that are theoretically coherent, extensive, long-term and cyclical (May & Wright 2007)

# The last word ...

- I'm teaching drama at the moment and my supervisor really doesn't see the value in scaffolding literacy tasks into her curriculum as much as I now do. I told her about how they could help all of the kids and tried a few out, and they worked so well! The senior drama students were doing their school assessed tasks and they couldn't understand the metalanguage of the discipline, nor what their outcome questions were asking them to do. So I ran through on the board the words in the questions and what they meant and used examples for them. I was scared that perhaps I hadn't really made that big a deal but most of the kids expressed their relief at now knowing how to understand something I really took for granted. I've now started really thinking about the words I use in other assignments and making sure I run through with the kids how to understand and use the language and now we practice it more in class. My supervisor thanked me for helping her!!! It is amazing the way language can affect your life, especially at the school I am in, with a lot of refugee and Sudanese kids especially, they have so much trouble and it makes me proud to see how well they are doing and how much more they get out of the drama lessons (Liz, personal communication, 6 months after the course).