

Embedding English in the tertiary curriculum: Promises, problems, and what is implied

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In the news ..

- *August 2010*: 400 international nursing graduates in Victoria protest outside parliament when facing deportation after an increase in the English-language requirements for registration as nurses. (Their protest won them some concessions.)
- From July 1, the test score required for registration as a nurse will rise from **IELTS 6.5** to **7** (or A or B on the Occupational English Test).
- Prof Sophie Arkoudis (Melbourne University) called for ***the embedding of English in university courses.***
- The Department of Education, Employment and Workplace Relations may extend its 'good practice guide' for English to all students in higher education.
- ***This is a move that would be likely to encourage the embedding of English in university programs.***

Language and content in EAP

- **‘Content-Based Second Language Instruction’**
 - Brinton, D., Snow, M. A., Wesche, M. (1989/2003)
- **Sustained Content**
 - Marcia Pally
 - J. Murphy & F. Stoller: ‘Sustained Content Language Teaching: An Emerging definition’ (in Special issue of *TESOL Journal*, 2001)
- **Theme based instruction**
 - Loretta Kasper - various publications
- **Content and language – integrating development**

Writing-to-Learn – Writing-Across-the-Curriculum (WAC) is ideally and in its origins knowledge focused
- Bernard Mohan, Jingzi Huang, Marilyn Low - University of British Columbia, Vancouver, Canada.

Two more recent initiatives

- CLI: Content and Language Integration (especially in Higher Education). Regular conferences (Maastricht).
- CLIL (Content & Language Integrated Learning)
The term CLIL was coined by David Marsh, University of Jyväskylä (1994): "*CLIL refers to situations where subjects, or parts of subjects, are taught through a foreign language with dual-focused aims, namely the learning of content and the simultaneous learning of a foreign language.*"
- CLIL is now popular throughout Europe (at all levels of education) including in Britain ; also now in Australia .

CLIL – Content & Language Integrated Learning

- CLIL's key concept is a **“dual focus”** – on language and content and language – simultaneous development of content knowledge and language skills.
- CLIL is sometimes used as a cover term for bilingual education, cross-curricular teaching, content-based teaching and English for Specific Purposes. However, in CLIL proper, the teacher/instructor should focus primarily on developing content knowledge while ensuring that students receive the language support needed to comprehend that content and to be able to reproduce it for assessment purposes.

Benefits of CLIL

CLIL's multi-faceted approach:

- builds intercultural knowledge and understanding
- complements other subjects rather than competes with them
- increases learners' motivation and confidence in both the language and the subject being taught
- allows language learners more contact with the target language

Economic benefits

- Ideally at least CLIL does not require extra teachers or extra teaching hours
- Initial investment in curriculum design can have long-term returns

How CLIL works

- Language is integrated into the broad curriculum
- When learners are interested in a topic, they are motivated to acquire the language needed to communicate
- CLIL is based on *language acquisition* not direct study
- Language is acquired in an authentic learning situation.
- Students become academically proficient in English after 5-7 years in a good bilingual program – long-term payoffs.
- Fluency is more important than accuracy and errors are a natural part of language learning.

Problems with CLIL

- Assessment is complex.
- Collaboration between subject teachers and language teachers can be complicated/difficult; identity issues ...

Theorising the role of language in learning

- Learning English or learning X through English – or learning both at the same time?
- Serious definitional problems still bedevil the types of initiatives described so far.
- Important theoretical issues are involved in the so-called syntax-semantics debate – Halliday & Matthiessen (1999) proposed an approach in which the relationship between lexicogrammar and semantics is non-arbitrary – as an alternative to earlier theories of ‘autonomous syntax’.
- Bereiter & Scardamalia (1987) posit a productive “gap” between meaning and form – this allows speakers to “bootstrap” one with the other to create new meanings.

Joint problematisation, joint curriculum development

- Collaborations between applied linguists and academic subject specialists can be research based
- Can lead into collaborative curriculum development
- First - ask the subject area specialist:
“What are you trying to achieve?”
- Next - work out how you – as applied linguist – can help her/him achieve that goal, or to achieve it more effectively than before.
- In a tertiary teaching context, the answer will NOT be framed in terms of language objectives. It will be framed in terms of content knowledge.
- Key words are *concepts, theories, understanding*.

Real partnerships in research and curriculum development

Linguistically scaffolded curriculum

- No overt language teaching – just a focus on meaning in context
- Language development is **meaning-driven** – the pressure to mean, and to have one's meanings precisely interpreted, contributes to **a concern with accuracy** (Turner, 2005)
- Funded research – *The Scholarship of Teaching and Learning* (SOTL or SoTL) is a growing movement in tertiary education
- Joint publications – a great incentive to some academics

Taking knowledge seriously

- “It is interesting to observe that though knowledge is the basis of education, and we are said to now live in ‘knowledge societies’, it is often left unremarked in studies of education.” (Maton & Muller 2007: 21).
- Some reasons
- A focus on *ideologies* of knowledge and education – role of knowledge/education in reproducing “social inequality”
- A focus on genre and grammar rather than on content for its own sake – as if we were content to examine the windowpane rather than looking through it
- Nature of the “objects of knowledge” – an ontology not a grammar – albeit in the first place of concepts-and-relations

The 'new' focus on knowledge

“Language and learning,” “language in education” –

- Vygotsky – was first to link language development to conceptual development in plausible ways.
- Halliday much concerned with role of language in learning
- Jim Martin – Sydney Genre School – genre > field
- Caroline Coffin on history, etc.
- Peter Wignell (2007) on discourse of social sciences
- Clearly much has already been done; and see journals like *Linguistics and Education*, *Language and Learning*.

Focus on Concepts

(Categories, Classification)

- Bernard Mohan and his colleagues at UBC have developed a fruitful theory of **learning through language** using his concept of **Knowledge Schemas** (e.g. Mohan 1986).
- **Rita Temmerman** (2000). *Towards New Ways of Terminology Description: The Sociocognitive-Approach*. (Benjamins): “From traditional definitions of concepts to templates of units of understanding” (title of Ch 3). Units of understanding are “flexible and fuzzy” (p. 73). There are three types:
 1. Objectively perceived (molecules, motor cars, cats and dogs, humans)
 2. Mentally constructed (technology, accounting, assets, liabilities)
 3. Mixed (begin as mental , develop perceptual aspects over time)

Focus on “ideational” function

- It has become commonplace to assert that academic and/or scientific writing has important rhetorical / persuasive ‘interactive aspects, but in working with university teachers we are constantly reminded that their main concern is with conceptual understanding.
- On the whole, subject specialists prize factual accuracy over ‘correctness’ of expression – linked to a concern with caution, a recognition of inherent uncertainties.
- Well organised facts have intrinsic persuasive power.
- There is a focus on explicitness, epistemic modality, and precise uses of language (e.g. delimiting reference; *leads to* rather than *causes*; *supports* rather than *proves*, etc.)
- However, there is a paradoxical appreciation of succinctness and of “not stating the obvious”.

Types of knowledge

- The discourses of the physical sciences, the social sciences and the humanities reflect very different underlying knowledge structures (**Ks**) and different ways of developing these knowledge structures) – cf. Bernstein (1999).
- In the physical sciences we find **Vertical Ks**; in the humanities we have **horizontal Ks**
- **Vertical Ks** attempt to give a complete and coherent picture of a field using *technicality* to categorise, classify and interpret reality in a very explicit way.
- **Horizontal Ks** represent different *aspects of the world* in terms of abstract constructs and are less exhaustive/explicit.
- Professional practices are like the social sciences - both have developed very complex discourses in which vertical and horizontal **Ks** are intricately interwoven.

Let's look at Financial Accounting

- A ***Statement of Principles*** aims to define the principles that should underlie the preparation and presentation of general purpose financial statements. It thus provides a **conceptual framework** for preparing future accounting standards. The following are typically included in a SoP:

- 1 The Objective of Financial Statements. [GAAP – ‘values’]
- 2 The Reporting Entity. [i.e. Definitions.]
- 3 The Qualitative Characteristics of Financial Information.
- 4 The Elements of Financial Statements. [i.e. Definitions.]
- 5 Recognition in Financial Statements. [Principles, values.]
- 6 Measurement in Financial Statements. [Principles, values.]
- 7 Presentation of Financial Information. [Principles, values.]
- 8 Accounting for Interests in Other Entities. [Principles, values.]

Vertical knowledge in accounting

Assets

Book entry

current

non-current

tangible

long-lived tangible

intangible

non-wasting wasting:

1 Wear-and-tear

2 Obsolescence:

a. technological

b. commercial

Historical cost

Relevant 'axioms':

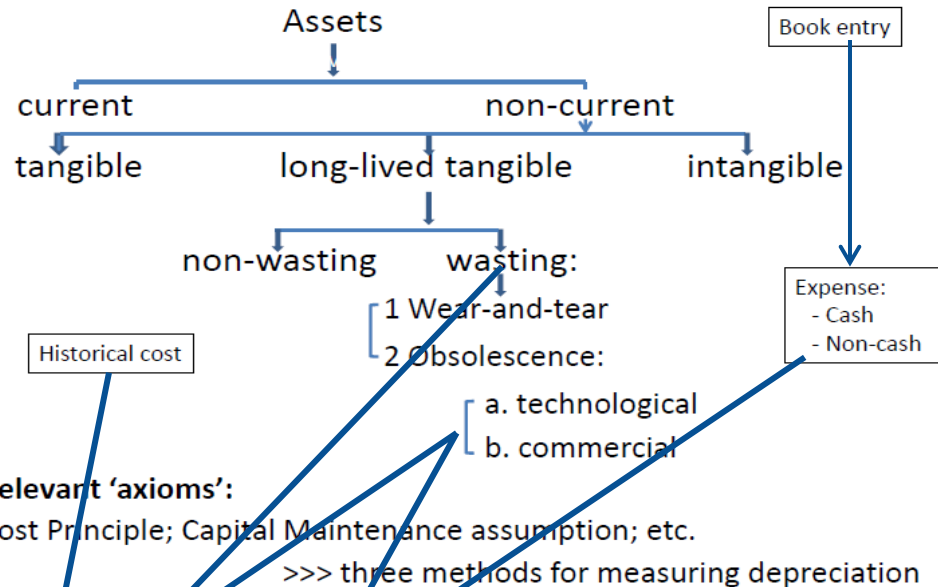
Cost Principle; Capital Maintenance assumption;

>>> three methods of measuring depreciation

Interpersonal MF

Knowledge-giver to
Knowledge-taker :
Technical
information,
non-negotiable

Hierarchical Knowledge Structure



Textual MF

Theme: 'Depreciation'
(term to be defined)

Delarative
mood

Depreciation: An expense item set up to express the diminishing life expectancy and value of any equipment (including vehicles).

Discourse of business management

[6.7 Retained Earnings, internal funds and depreciation]

Sometimes **depreciation** is also *loosely spoken of* as a 'source of internal funds'. You now know that **depreciation expense** is a 'book entry' that reduces the amount of non-current assets (in the position statement) and reduces profit (in the performance statement). There is no cash transaction or any other external transaction so **depreciation** is not a form or source of finance.

However, recording depreciation expense does have two important financial effects:

- It reduces the profit available for dividends and may reduce the cash outflow for dividend payments
- It reduces taxable income and the amount payable for income tax, which may also reduce cash outflows.

In this sense it is possible to argue that recording depreciation has a savings effect by reducing possible cash outflows, and that managers can use the cash 'saved' for other purposes. For large construction or mining companies the cash savings may be significant.

Accounting as a *codified discourse*

(Llewellyn & Milne 2007)

By “codified”[...] we mean that accounting is cast into systematic forms that **prescribe codes for practices**. Like a recipe, rule, guideline, template, protocol or law, **accounting tells people how to do things**. For example, “discounted cash flow” tells managers how to make investment decisions through a particular way of valuing their likely returns. So accounting prescribes practice in the financial world, **but accounting itself is also the result of prescriptions**. For example, a balance sheet is the outcome of a particular way of accountants following codes to represent assets and liabilities.

Complex mixture of 'hard' and 'soft' skills

- From 2002-2004 carried out funded research at Macquarie to investigate the nature of the necessary 'skills' and how these could be built into the existing UG accounting curriculum
- It was a response to the codification of Generic Skills by the professional accounting bodies (who are also the joint accrediting bodies) in Australia and New Zealand.
- ***Generic Skills for Accounting: Competencies for Students and Graduates*** (2003) was co-authored with an accounting academic, Dr Samantha Sin, based on 6 months' "talk".
- Designed as a template for the integration of content and language in tertiary education through ***scaffolded task design***
- Underlying but tacit rationale – “writing-&-speaking-to-learn”

Jones and Sin (2003); Birkett (1993)

Analytic and design skills

Identify, find, evaluate, organise and manage information and evidence

Research skills

Analyse, reason and logic, conceptualise

Solve problems

Construct arguments

Interpret data

Ethical reasoning

Appreciative skills

Evaluate and react to new ideas

Make judgements

Think and act critically

Know what questions to ask

Recognise one's own strengths and limitations

Appreciate ethical dimensions

Appreciate professional behaviour

Personal and interpersonal skills

Ethical behaviour

Thinking and acting independently

Toleration of ambiguity

Creative thinking

Interpersonal skills

Listening

Present and discuss

Negation skills (with people from different backgrounds)

Understanding group dynamics

Collaboration skills

Certain skills only meaningful in relation to specific content

- Collaborative development of a linguistically scaffolded curriculum relies on –

co-constructed learning exercises/tasks:

1. linguistically informed learning tasks that subliminally ‘scaffold’ discipline-specific language development while maintaining an overt focus on content;
2. thickly contextualised learning tasks
 - in terms of a situation and the relevant personalities
 - in terms of ethical principles and potential legal sanctions.
3. Recontextualising HKSs for situated and motivated use
> creates pressure for precise/accurate expression

Task design and process

- Input: financial problem + social context
 - > discussion
 - > written response
 - > feedback, discussion, negotiation of meaning

Pedagogic principles:

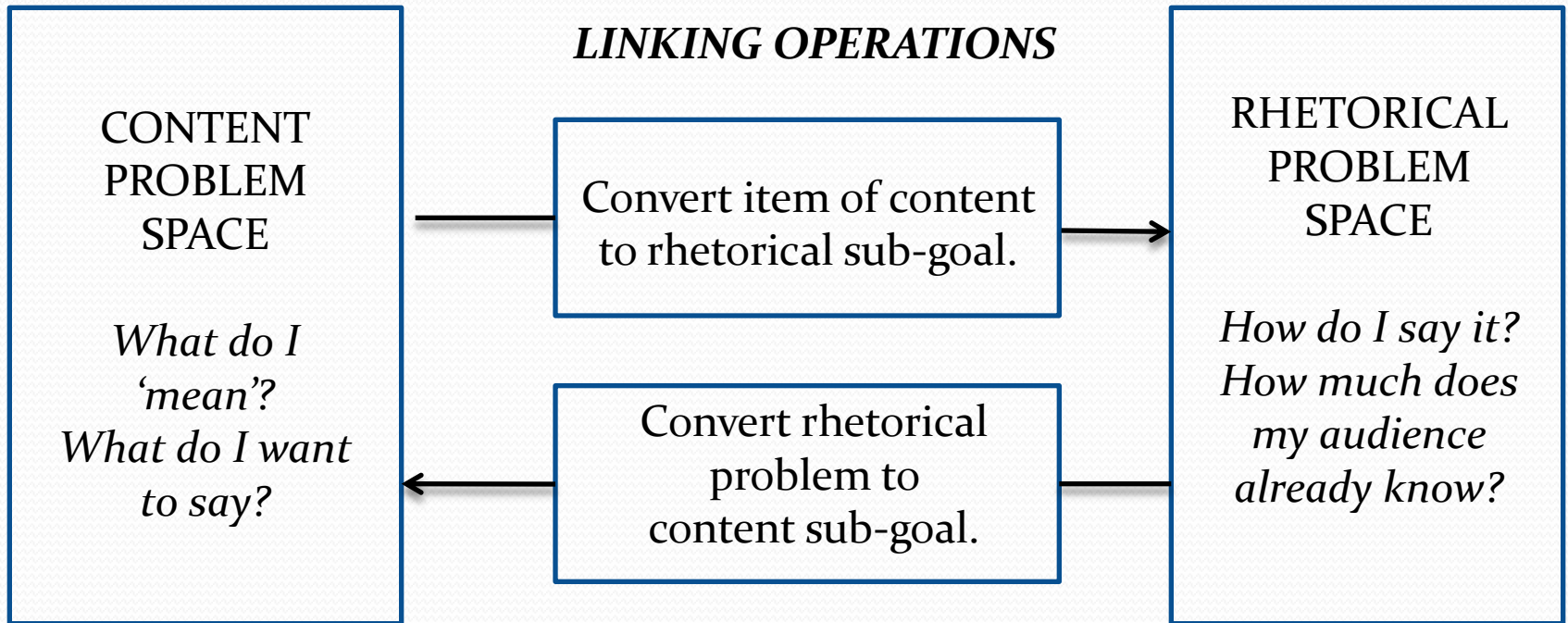
- 1) The conceptual framework (incl the concepts/categories , principles and assumptions of accounting) is applied to a succession of novel financial problems (as in traditional textbooks)
- 2) The solutions to the problems are **a)** presented verbally, and **b)** formulated for consumption by a specific audience (knowledge transforming rather than knowledge telling)

New dimension to traditional tasks: *motivated reformulations*

- Selection – in light of communicative purpose
- (Re-)instantiation & commitment (Hood 2008)
- Writers spontaneously generate knowledge as they write – “point-of-utterance” hypothesis (Galbraith 1996, 1999)
- Multiple (re-)formulations – “recipient design”
- Diversification of genres (Prain & Hand 1998)

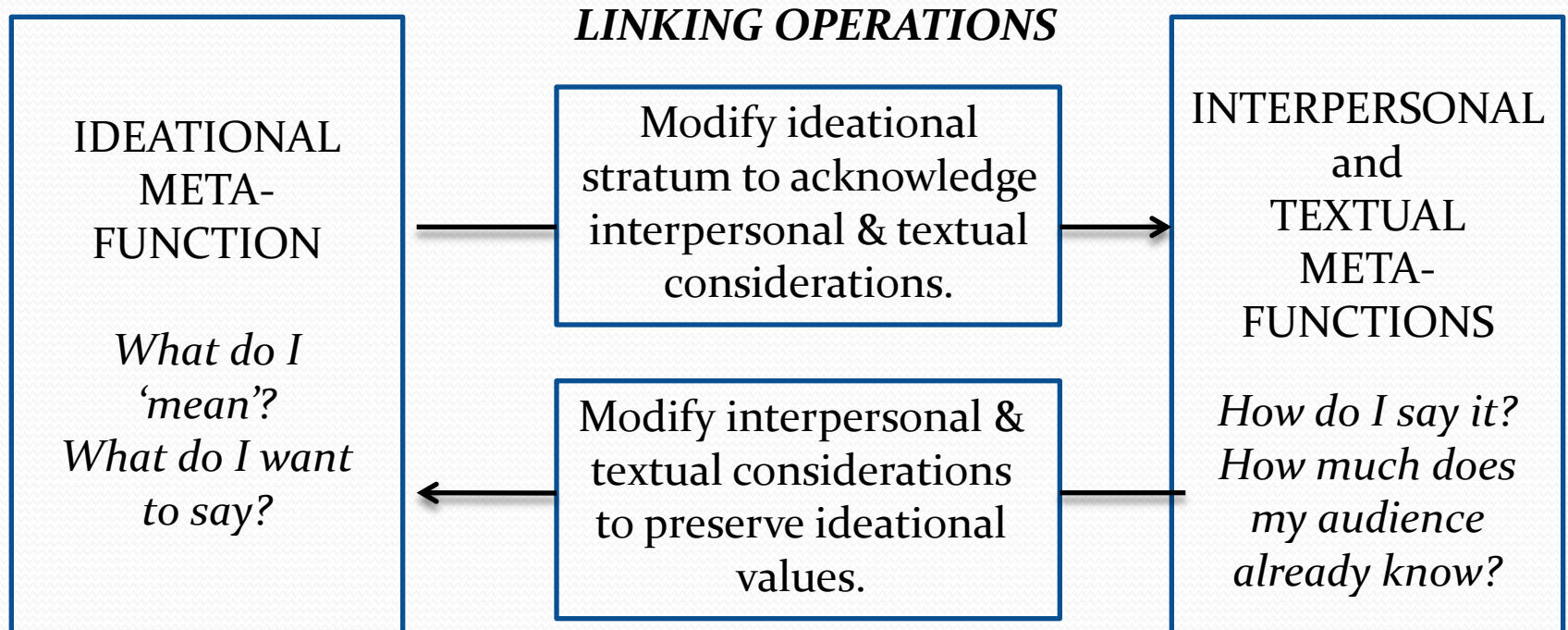
Several authors claim that diversification of genres is important. E.g. Prain & Hand argue that “...results indicate that diversification of writing types enhances opportunities for students to develop higher order thinking skills, including metacognitive understandings” (1998: 158).

Knowledge Transforming model of the writing process after Bereiter & Scardamalia, 1987.



New knowledge, ideas, insights

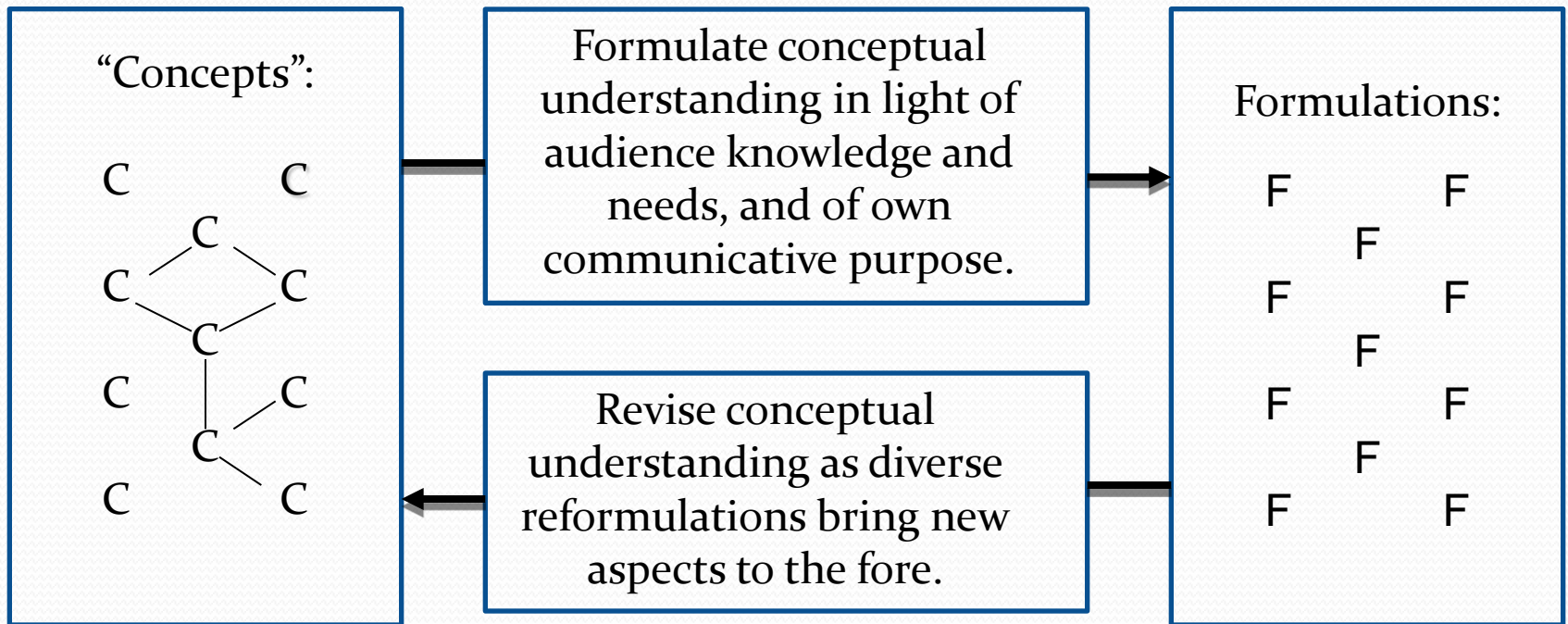
Knowledge Transforming model of the writing process after Halliday, 1994 (IFG).



New knowledge, ideas, insights

Concept-and-formulation model of learning through language

LINKING OPERATIONS



New knowledge, ideas, insights

What can we take away?

Working closely with our partners in diverse fields – in this case subject area specialists – is a prerequisite for success in the integration of content and language in tertiary education. However, to be taken seriously by disciplinary experts we need to make *their* topics, goals and problems our starting point. As language specialists we need learn to attend to the content of the message as well as to its form, and to become sensitive to the ways in which the form reflects both the content ***and the concerns*** that dominate in a given field.

References

- Bereiter, C. & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Erlbaum.
- Flower, L. and Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication* , 32(1), 365-387.
- Galbraith, D. (1999). Writing as a knowledge-constituting process. In M. Torrance and D. Galbraith (eds.), *Knowing What to Write: Conceptual Processes in Text Production* Amsterdam: Amsterdam University Press.
- Galbraith, D. (1996) Self-monitoring, discovery through writing and individual differences in drafting strategy. In G. Rijlaarsdam, H. van den Bergh and M. Couzijn (eds.), *Theories, Models and methodology in Writing Research*. Amsterdam Uni Press.
- Hyland, K. and M. Bondi (2006). *Academic Discourse Across Disciplines*.
- Hood, Susan (2008). Summary writing in academic contexts: Implicating meaning in processes of change. *Linguistics and Education* 19, 4, 351-365.
- Huang, J. (2004) Socializing ESL students into the discourse of school science through academic writing. *Paper presented at the American Association of Applied Linguistics Annual Conference*, Salt Lake City, Utah, April 6–9.
- Huang, J. and Morgan, G. (2003) A functional approach to evaluating content knowledge and language development in ESL students' science classification texts. *International Journal of Applied Linguistics* 13 (2) (234–262).

References cont.

- Halliday, M. A. K. (1993). Towards a Language-Based Theory of Learning. *Linguistics and Education* 5, 93- 116.
- Jones, A. 2005. Conceptual Development in Technical and Textbook Writing: A Challenge for L1 and L2 Student Readers. *Proceedings of the International Professional Communication Conference, Limerick, July 2005*. IEEE Professional Communication Society (05CH37660C)
- Jones, A., and S. McCracken. (in press). Crossing the boundary between finance and law: The collaborative problematisation of professional learning in a postgraduate classroom. In Candlin and Sarangi, *Handbook of Communication in Organisations and Professions*. Mouton.
- Jones, A., and S. Sin. 2004 The integration of language and content: Action research based on a theory of task design. *Journal of Applied Linguistics*, Vol. 1 No. 1, 95-100.
- Jones, A., and Sin, S. 2004. Integrating language with content in first year accounting. In R. Wilkinson (ed.) *Integrating Content and Language: meeting the challenge of a multilingual higher education* 478-492. Maastricht University Press.
- Jones, A., and S. Sin. 2003. *Generic Skills for Accounting: Competencies for Students and Graduates*. Sydney: Prentice Hall/Pearson Education.
- Jones, Anna (2010) Generic Attributes in Accounting: The Significance of the Disciplinary Context. *Accounting Education* 19: 1, 5-21.
- Hood, S. 2008. Summary writing: implicating meaning in processes of change. *Linguistics and Education*, 19, 351-365.

References (cont.)

- **Maton, K.** and Muller, J. (2007) A sociology for the transmission of knowledges, in Christie, F. and Martin, J. (Eds.) *Language, Knowledge and Pedagogy: Functional linguistic and sociological perspectives*. Continuum.
 - Mohan, B. (2007) Knowledge Structures. In Social Practices. In *International Handbook of English Language Teaching* (Springer International Handbooks of Education). Volume 15, Section 2: 303-315.
 - Mohan, B. (1986) *Language and Content*. Reading, MA: Addison-Wesley.
 - Prain, Vaughan and Hand, Brian (1998) Students Perceptions of Writing for Learning in Secondary School Science, *Science Education*, 83, 2 151-162.
 - Wilkinson, R. (ed.) (2004). *Integrating Content and Language: meeting the challenge of a multilingual higher education* 478-492. Universitaire Pers Maastricht.
 - Wilkinson, R.; Zegers, V. (eds.). 2007. *Researching content and language: integration in higher education*. Universitaire Pers Maastricht.
 - Wilkinson, R.; Zegers, V. (eds.). (2007). *Realizing Content and Language Integration in Higher Education*. Universitaire Pers Maastricht.
- Also perhaps
- Ahrens, Thomas (1997). Talking Accounting: An Ethnography Of Management Knowledge In British And German Brewers. *Accounting, Organizations, and Society*, Vol. 22, No. 7, pp.617-63.