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What is the impact on learning of Integrated WID?

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Critical Questions

- What frameworks offer valuable ideas and methods for assessing impact that may be applicable for WID purposes?
- What outcomes and outputs should we be concerned with and when?
  - Which ones are available within WID and/or within various frameworks?
- What measures can we use to assess the effectiveness of WID?

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Frameworks for designing integrated learning environments – Virginia Tech

- Disciplinary literacies & disciplinary identities
  - Discourse practices reflect disciplinary epistemologies
- Activity Theory
  - Texts as tools that mediate work
- Situated Learning & Cognitive Apprenticeship
  - Authentic contexts
  - Expert mentors
  - Learning
    - Domain knowledge
    - Heuristic strategies
    - Control strategies
    - Learning strategies

Lea, Mary (1998). "Academic Literacies and Learning in Higher Education: Constructing Knowledge Through Texts and Experience." *Studies in the Education of Adults* **30**(2).

Russell, David R. (1997). "Rethinking Genre in School and Society: An Activity Theory Analysis." *Written Communication* **14**(4): 504-554.

Brown, John Seely, Allan Collins and Paul Duguid (1989). "Situated Cognition and the Culture of Learning." *Educational Researcher* **18**(1): 32-42.

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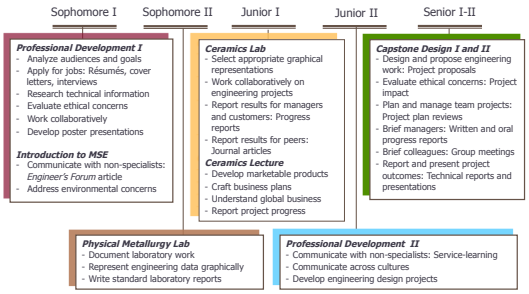
VT Learning Environments: Disciplinary Literacies



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VT: Cognitive Apprenticeship in Capstone

- Two-semester sequence for team-based authentic projects
- Learning Objective: Goal: Demonstrate all ABET criteria in an open-ended, collaborative design project
  - Proposal
  - Progress Reports
  - Final Reports

Senior I-II

Capstone Design I and II
- Design and propose engineering work: Project proposals
- Evaluate ethical concerns: Project impact
- Plan and manage team projects: Project plan reviews
- Brief managers: Written and oral progress reports
- Brief colleagues: Group meetings
- Report and present project outcomes: Technical reports and presentations

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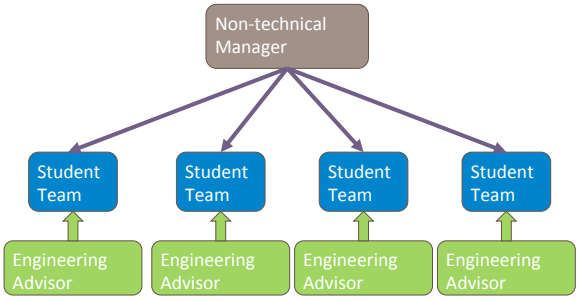
Capstone Design: Materials Science & Engineering



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VT - Outcomes and Assessment

Outcomes
- Discourse and genre competition
- Professional practice (organizing work & making decisions)
- Technical competence (conceptual understanding)
- Domain identification
  - the extent to which students define themselves through a role or performance in activities related to the domain

Assessments
- Instructor evaluation of course assignments
- Portfolio assessment
  - Communication experts
  - Domain expert
- Quantitative measures
  - Skills assessments
  - Domain identification
  - Motivation
  - Conceptual

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Frameworks for designing learning environments – Chalmers

- Generic attributes model
- Academic literacies model
- Discourses on writing

But also:
- Constructive alignment
- (English as medium of instruction <> EIL / EFL / ESL)

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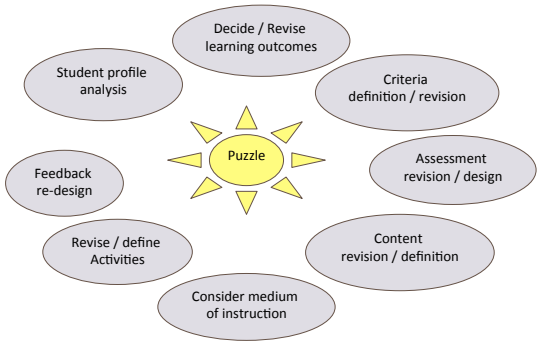
The constructive alignment sun



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Barrie and the 'generic attributes model'

- Conceptions
  - Precursor
  - Complement
  - Translation
  - Enabling
- Methods
  - Remedial
  - Associated
  - Teaching content
  - Teaching process
  - Engagement
  - Participatory

Supplementary

Teaching

Integrated

Learning

Barrie. (2007). "A conceptual framework for the teaching and learning of generic graduate attributes". Studies in Higher Education. 32(4), 439-458

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Writing in the making

Discourses	*Layer in the comprehensive view of language*	*Beliefs about writing*	*Beliefs about learning to write*	*Approaches to the teaching of writing*	*Assessment criteria*
1. A SKILLS DISCOURSE	THE WRITTEN TEXT	Writing consists of applying knowledge of sound–symbol relationships and syntactic patterns to construct a text.	Learning to write involves learning sound–symbol relationships and syntactic patterns.	SKILLS APPROACHES *Explicit teaching* 'phonics'	accuracy
2. A CREATIVITY DISCOURSE	THE MENTAL PROCESSES OF WRITING	Writing is the product of the author's creativity.	You learn to write by writing on topics which interest you.	CREATIVE SELF-EXPRESSION *Implicit teaching* 'whole language' 'language experience'	interesting content and style
3. A PROCESS DISCOURSE		Writing consists of composing processes in the writer's mind and their practical realization.	Learning to write includes learning both the mental processes and the practical processes involved in composing a text.	THE PROCESS APPROACH *Explicit teaching*	?
4. A GENRE DISCOURSE		Writing is a social text-types, shaped by social context.	Learning to write involves learning the characteristics of different types of writing which serve specific purposes in specific contexts.	THE GENRE APPROACH *Explicit teaching*	appropriacy
5. A SOCIAL PRACTICES DISCOURSE	THE WRITING EVENT	Writing is purpose-driven communication in a social context.	You learn to write by writing in real-life contexts, with real purposes for writing.	FUNCTIONAL APPROACHES *Explicit teaching* PURPOSEFUL COMMUNICATION *Implicit teaching* 'communicative language teaching' LEARNERS AS ETHNOGRAPHERS *Learning from research*	effectiveness for purpose
6. A SOCIOPOLITICAL DISCOURSE	THE SOCIOCULTURAL AND POLITICAL CONTEXT OF WRITING	Writing is a sociopolitically constructed practice, has consequences for identity, and is open to contestation and change.	Learning to write includes understanding why different types of writing are the way they are, and taking a position among alternatives.	CRITICAL LITERACY *Explicit teaching* 'Critical Language Awareness'	social responsibility?

Figure 2 Discourses of writing and learning to write

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From Academic literacy to 'Language for Specific Purposes'

Lea & Street Model (Approach)	Ivanic		Barrie		LSP Priorities
	Discourse	Approach	Concept	Approach	
Skills	Skills	Explicit skills	Precursor	Remedial	3
	Creative	Self-expression	Complement	Associated	
Socialisation	Process	Focus on process	Translation	Teaching content	1
	Genre	Genre informed		Teaching process	
	Social practices	Functional and purposeful communication		Engagement	2
Literacy	Sociopolitical	Critical literacy	Enabling	Participatory	4

Table 1. Generic attributes and approaches and their possible relation to LSP practice.[3]

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Learning Environments – Chalmers

- Mechanical engineering
- Chemical engineering
- Physics

Mixing interventions in both Swedish and English but the majority of the examples are delivered in Swedish

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Examples from Chalmers I

Mechanical engineering:
CDIO-focus
Design reports

Year 1:
Product development course
Technical report (collaborative)
- Peer response
-Teacher response
Oral presentation
Report guidelines

Year 2:
Product development course
Technical report (collaborative)
Oral presentations:
- Peer feedback
- Teacher feedback
- Industry represented
Report guidelines

Year 3:
Bachelor thesis (collaborative)
Guidelines and criteria
Peer response seminar
Teacher response
Oral presentation
Thesis seminars

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Examples from Chalmers II

Mechanical engineering:
CDIO-focus
Design reports

Chemistry:
Technical report; critical concepts seminar; design project

Commentary
Seminar 1
Exchange
Seminar 2
Design project

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Examples from Chalmers III

Mechanical engineering:
CDIO-focus
Design reports

Chemistry:
Technical report; critical concepts seminar; design project

Physics:
Data commentary, Experimental lab report, Debate

Commentary
Seminar 1
Exchange
Seminar 2
Design project

Lay introduction
Data commentary
Full lab report
Strength of claim
Argumentation

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Outcomes and Assessment Approaches - Chalmers

Outcomes

- Meeting higher education agency requirements
- Meeting university-wide criteria for theses
- Genre and activity system awareness
- Audience analysis skills
- Peer response work
- Language proficiency

Assessment

- Assignment level
  - Specific learning outcomes and criteria negotiated with course manager
- Course level
  - 'Report writing' components
  - Critiques
- Programme level
  - Annual contract and evaluation
  - External audits

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A Final Question

- How might research and assessment inform one another to help us better design and evaluate WID programs and approaches?