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?

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
  
  | Frameworks for designing integrated learning environments – Virginia Tech |
  |--------------------------|--------------------------|--------------------------|
  | Disciplinary literacies & disciplinary identities | Situated Learning & Cognitive Apprenticeship | Activity Theory |
  | - Discourse practices reflect disciplinary epistemologies | - Authentic contexts | - Texts as tools that mediate work |
  | - Domain knowledge | - Expert mentors | |
  | - Control strategies | - Learning | |
  | - Learning strategies | - Authentic contexts | |


VT Learning Environments: Disciplinary Literacies

Sophomore I  Sophomore II  Junior I  Junior II  Senior I-II

<table>
<thead>
<tr>
<th>Professional Development I</th>
<th>Sophomore I</th>
<th>Sophomore II</th>
<th>Junior I</th>
<th>Junior II</th>
<th>Senior I-II</th>
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</thead>
<tbody>
<tr>
<td>Situated Learning &amp; Cognitive Apprenticeship</td>
<td>- Authentic contexts</td>
<td>- Expert mentors</td>
<td>- Learning</td>
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<td></td>
</tr>
</tbody>
</table>

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

Capstone Design: Materials Science & Engineering

Non-technical Manager

Student Team
Engineering Advisor

Student Team
Engineering Advisor

Student Team
Engineering Advisor

Student Team
Engineering Advisor

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

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)
The constructive alignment sun

Decide / Revise learning outcomes
Classified:
- Categorisation revision / definition
- Feedback re-design
- Consider medium of instruction
- Consider medium of instruction
- Consider medium of instruction
- Consider medium of instruction

Barrie and the ‘generic attributes model’

- Conceptions
  - Precursor
  - Complement
  - Translation
  - Enabling

- Methods
  - Remedial
  - Associated
  - Teaching content
  - Teaching process
  - Engagement
  - Participatory


Writing in the making

From Academic literacy to ‘Language for Specific Purposes’

<table>
<thead>
<tr>
<th>LSP Model (Approach)</th>
<th>Discourse</th>
<th>Genre</th>
<th>Concept</th>
<th>Barrie Approach</th>
<th>LSP Priorities</th>
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</thead>
<tbody>
<tr>
<td>Skills</td>
<td>Creative</td>
<td>Domain</td>
<td>Translation</td>
<td>Teaching content</td>
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<tr>
<td>Socialisation</td>
<td>Creative</td>
<td>Domain</td>
<td>Functional and purposeful communication</td>
<td>Teaching process</td>
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<tr>
<td>Literacy</td>
<td>Sociological</td>
<td>Critical</td>
<td>Enduring</td>
<td>Participatory</td>
<td>4</td>
</tr>
</tbody>
</table>
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.
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?