Between Two Worlds

Use of reflection for assessing industry-collaborative student projects
Practitioner Projects

• Industry-collaborative
  • Real client
  • Academic supervisor
  • Student organized and delivered

• Business information systems
  • Final year undergraduates
  • Real change management

• Assessment
  • Product
  • Process
Social perspective on learning

Practitioner projects: situated learning – a process of socialization into real world BIS project culture.

Focuses on the way people make sense of their experiences. Dewey defined learning as a continuous reorganization and reconstruction of experience through reflection.
Reflection in assessment

Without reflection learning fails to develop from trial and error learning to higher levels of learning (Bateson 1973).

The imperative to do well academically discourages students from engaging in honest and open reflection (Hargreaves 2003).

Assessment can be understood only in terms of the student’s attempt to influence the assessors (Holmes 1995).
A key role of reflection is to reveal theory-in-use and explore the nature of the fit with espoused theory.
Learning loops

Single-loop learning

- Single feedback loop connects outcomes to strategies
- Assumptions modified to keep performance within range set by norms
- Processes tend to be self-seeking
- Emphasis on techniques and improving efficiency

(Argyris and Schön 1974)
Learning loops

Single-loop learning
• Single feedback loop connects outcomes to strategies
• Assumptions modified to keep performance within range set by norms
• Processes tend to be self-seeking
• Emphasis on techniques and improving efficiency

Double-loop learning
• Involves questioning assumptions behind goals and strategies
• Modifies norms that define effective performance
• More creative and reflexive
• Processes can be disconfirmable
• Considers ‘notions of the good’

(Argyris and Schö 1974)
Theory-in-use characteristics

**Model I**
- Achieve the purpose as the actor defines it
- Win, do not lose
- Suppress negative feelings
- Emphasize rationality
- Control environment and task unilaterally
- Protect self and others unilaterally
- Face-saving moves

**Model II**
- Valid information
- Free and informed choice
- Internal commitment
- Sharing control
- Participation in design and implementation of action
- Surfacing conflicting view
- Increased likelihood of double-loop learning

(Adapted from Argyris, Putnam & McLain Smith 1985)
(Adapted from Anderson 1997)
Practitioners and projects need double loop learning

Practice is involved with dilemmas of value, with creating congruent outcomes in complex social, ethical and economic contexts (Lester 1999)

... as organizational and external environments become more complex, projects must evolve to be more organic in nature (Back and Seaker 2004)

The nature of project management is a barrier to learning (Turner 2005)
How does tension between learning and performance play out in assessment?

- Qualitative case study research
- 25 students completed BIS Practitioner Projects in 2005
- Students’ reflective accounts
  - Individual critical reviews
  - Team presentations
- Discourse analysis
Project management discourse

- Performance-orientated
  - time, cost, requirements
- Goals presented in concrete terms
  - discrete deliverables
- Emphasis on rationality – sensing and judging
  - compared with intuiting and perceiving that are thought to be consistent with double-loop learning (Back and Seaker 2004)
- Techniques
  - to plan, monitor and control
## Findings: Individual reflections

<table>
<thead>
<tr>
<th>Key data categories</th>
<th>Percentage of students (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>84</td>
</tr>
<tr>
<td>Teamwork</td>
<td>68</td>
</tr>
<tr>
<td>Functional knowledge</td>
<td>68</td>
</tr>
<tr>
<td>Problem-work</td>
<td>32</td>
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<tr>
<td>Goal preference - performance</td>
<td>64</td>
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<tr>
<td>Goal preference - learning</td>
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<td>Self-theories - fixed</td>
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<tr>
<td>Self-theories - malleable</td>
<td>20</td>
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<tr>
<td><strong>Model I theory-in-use</strong></td>
<td><strong>52</strong></td>
</tr>
<tr>
<td><strong>Model II theory-in-use</strong></td>
<td><strong>28</strong></td>
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</tbody>
</table>
Findings: Individual (by cohort)

<table>
<thead>
<tr>
<th>Key data categories</th>
<th>Cohort A (n=13 students with &gt;55% in ISP)</th>
<th>Cohort B (n=12 students with &lt;= 55% in ISP)</th>
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<tbody>
<tr>
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<tr>
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<tr>
<td>Model I theory-in-use</td>
<td>31</td>
<td>92</td>
</tr>
<tr>
<td>Model II theory-in-use</td>
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Findings: Team performance

<table>
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<th>Key data categories</th>
<th>Type 2 (n=8)</th>
<th>Type 1 (n=7)</th>
<th>Type 0 (n=10)</th>
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<tr>
<td>Teamwork</td>
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<td>Self-theories - fixed</td>
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<td>Self-theories - malleable</td>
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<tr>
<td>Model I theory-in-use</td>
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<td>60</td>
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<td>Model II theory-in-use</td>
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<td>0</td>
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### Distribution of cohorts between team types

<table>
<thead>
<tr>
<th>Team type</th>
<th>Number of students from cohort A (n=13 students with &gt;55% in ISP)</th>
<th>Number of students from cohort B (n=12 students with &lt;=55% in ISP)</th>
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</thead>
<tbody>
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Conclusions

- Project management discourse tends to promote performance and can drive out learning.

- For some students, practitioner projects are likely to reinforce model I theory-in-use inhibiting double-loop learning.

- Academic capability and development of organizational norms seem to influence how tension between learning and performance plays out.
And so …

- Students are likely to be better prepared for the world of work if they are encouraged to develop a capability for double, rather than single, loop learning.

- A starting point of enquiry, critique, reflection and reconstruction is more likely to develop a capacity for ‘map making’ than an education in ‘map reading’.

- Further work is needed to support the development of organizational norms that encourage learning in student projects.

- Further research is needed to explore the relationships between double-loop learning, self-theories and other aspects of personality.

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References


