Looking for Evidence of Deep Learning in International Economics

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EFFECTIVENESS

What goals?

- Learning outcomes
- Transfer of knowledge
- Retention
- Competencies
- Capabilities
- Affective Domain

Economics

- Surveys of how taught (Watts & Becker 2008; Bloemhof 2012; Schaur, Watts & Becker 2008)

- Didactic lecturing, traditional testing

- Content-driven, teacher-centric

- Threshold concepts (Meyer & Land 2004)

Deep Learning in Economics?

Appropriate instruments apparently unrepresented in published ec.ed literature

- Santos & Lavin (2004): uses MC test with 8 "deep" and 8 "surface" questions "learning inputs ➔ knowledge output"

- Smith and Ravitz (2008) similarly uses MC instrument

Student Approaches to Learning

(Entwistle 1987 Table 3.1)

- Deep approach
  - Intention to understand
  - Vigorous interaction with content
  - Relate new ideas to previous knowledge
  - Relate concepts to everyday experience
  - Relate evidence to conclusions
  - Examine logic of argument

- Surface approach
  - Intention to complete task requirements
  - Memorize information needed for assessments
  - Treat task as an external imposition
  - Unreflective about purpose or strategies
  - Focus on discrete elements without integration
  - Failure to distinguish principles from examples

Lancaster Approaches

- A family of survey instruments developed in the 1970s and 1980s (Ramsden, Entwistle and coauthors): student *approach* and *intention*
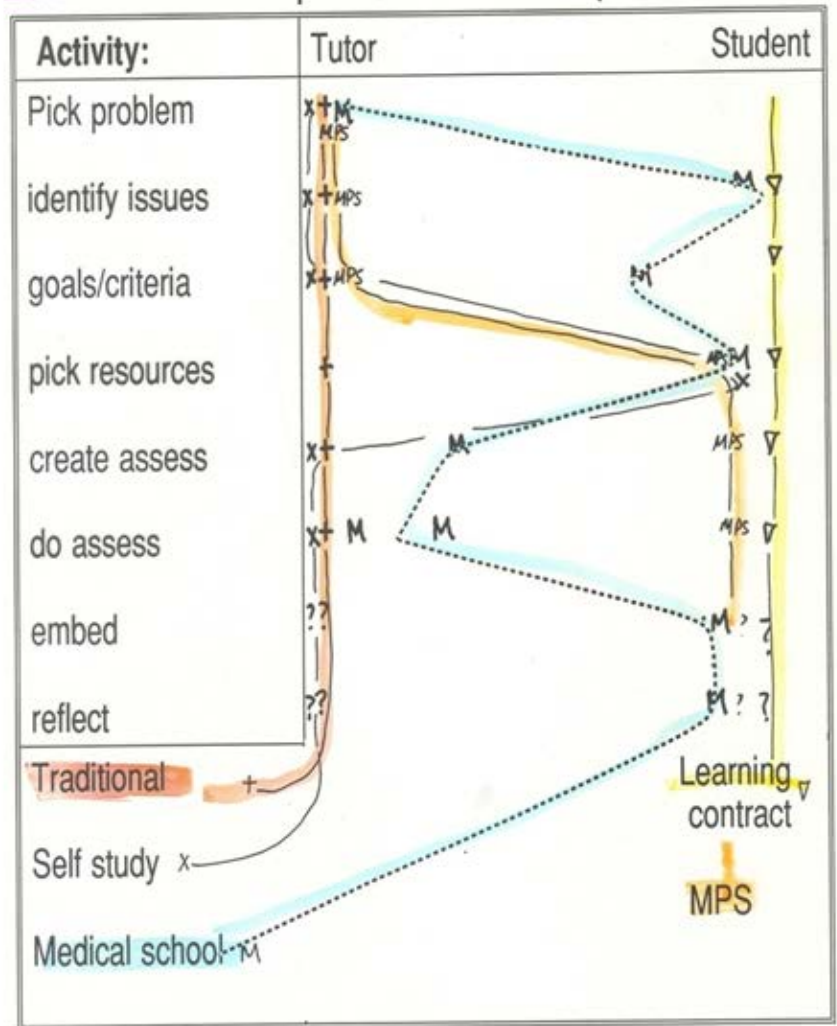
Approaches to Studying Questionnaire:

(Entwistle 1981) Differentiates learning for understanding (*deep*) and rote/unintegrated (*surface*) approaches to learning

Course Perceptions Questionnaire:

(Entwistle 1987) students' perception of the learning environment influences learning

(Woods, Cornell Univ. keynote Jan 2012)

Students' Ave. Approach to Learning

	Strategic	Surface	Deep	SCORE
Beginning of Class (n=50)	16.7	15.5	17.2	18
End of Class (n=53)	16.3	15.4	16.4	17
Paired Difference (n=44)	-0.5	-0.7	-1.1	-0.9
Entwistle & Ramsden 1983	12.7	13.7	14.2	13

Students' Average Course Perceptions

	GT	OS	FL	CG	VR	SC	WL	FT	CPQ	CC	SC	s/c
Beginning of Class (n = 50)	7.8	7.2	6.7	8.3	7.3	5.8	6.0	7.7	30	9.4	15	2.1
End of Class (n = 53)	9.3	9.9	8.6	5.6	6.5	6.0	5.8	4.5	36	7.3	18	3.5
Paired Difference (n = 44)	1.4	2.8	1.7	-3.2	-1.2	0.1	-0.4	-3.5	5.5	-2.3	3.1	1.35

GT = good teaching; OS = openness to students; FL = freedom to learn; CG = clarity in goals
VR = vocational relevance; SC = social climate; WL = workload; FT = formal teaching methods
CPQ = total of these; CC = control-centered (10 + workload – freedom)
SC = student-centered (sum of good teaching + freedom);   s/c = ratio of SC/CC

Final thoughts

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"Why use PBL?"

The traditional sequencing of learning does not reflect real life interaction with the material (Neufeld & Barrows 1974, 1043)

"PBL… is really about knowledge, learned in the context in which it will later be used so that hopefully transfer can be facilitated."
(Norman 1997, 264)

Next steps

- Focus groups (completes data collection)

- Analysis of variance, power: ASQ & CPI

- Preferences inventory: response inconsistencies? (Meyer 1996)

- Qualitative analysis of course reflection: "How have the experiences in this course enhanced understanding of international events? What do you need to do to respond in an informed way in future?"

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