Designing Powerful Student-Centred Learning Environments

Dr. Sabine Hoidn — University of St. Gallen, Switzerland

ABSTRACT

In a constantly changing and increasingly globalised world high-quality education is pivotal. This poster presents ethnographic case study research on how expert instructors in the field of higher education design and bring to life student-centred learning environments that provide students with opportunities for deep learning. First, a conceptual framework was developed based on an expansive literature review. Secondly, three selected courses at Harvard Graduate School of Education (USA) were investigated between 2009 and 2011 to discern instructional surface-level and deeper-level quality features and to inform the development of a situative educational model. Implications for higher education policy and practice were derived to help educational managers, administrators, curriculum developers, instructors and faculty developers to navigate student-centred course design and implementation decisions.

RESEARCH QUESTION

How do expert instructors in the field of higher education design and bring to life student-centred learning environments that provide students with opportunities for deep learning?

An *expert instructor* shows a consistently superior performance to that of the instructor's peers, produces concrete results (e.g., course evaluations), and his expertise can be measured and replicated (research, years of experience) (Ericsson, Prietula & Cokely, 2007).

Student-centred learning environments are rooted in a constructivist view of learning and instruction that puts the student at the heart of the learning process and unfolds a broad spectrum of higher education teaching and learning practices (e.g., Land, Hannafin & Oliver, 2012).

Deep learning focuses on sense-making and involves both knowing and doing, with students acquiring the right kind of knowledge at hand and being able to use it in a particular context (Engle, 2006).

CONCEPTUAL FRAMEWORK

Design of powerful student-centred learning environments	
Surface-level quality features	Design elements: - Constructivist educational beliefs of the instructor - Course objectives and content - Course structure - Course activities and materials - Classroom routines and norms - Assignments and assessment tasks
Deeper-level quality features	*Content focus* - Students' participation in the process of constructing relevant content and - the instructor's scaffolding of students' knowledge construction processes.
	Context focus - The instructor's positioning of students for participation in classroom interactions. - The instructor's cultivation of a classroom community of learners.

CASE STUDY RESEARCH – DATA COLLECTION

The selected courses were designed by expert instructors and conducted repeatedly before this empirical study was carried out in these classrooms (e.g., Engle & Conant, 2002). Data collection methods involved:

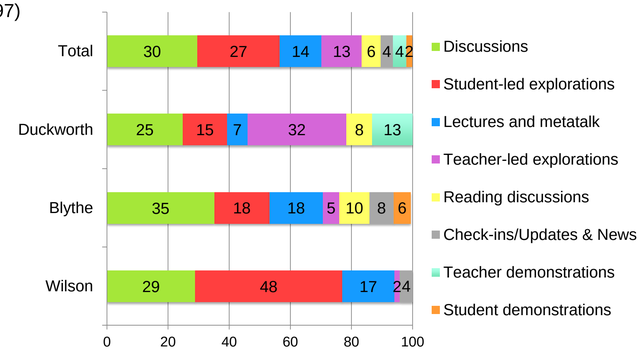
Data collection methods	Collected data	Mixed-methods approach
Participant observations	41 class sessions (81% of class time)	Qualitative
Videotaping in the classroom	84 hours (78% of class time)	Qualitative and quantitative
Semi-structured student interviews	16 interviews, 27 interview hours	Qualitative
Semi-structured instructor interviews	3 interviews, 6 interview hours	Qualitative
Course evaluations surveys (students)	N = 404; 12 student cohorts	Qualitative and quantitative

- Data selection between Fall 2009 and Spring 2011
- Mixed-methods approach (qualitative and quantitative methods)

DATA ANALYSIS – DEEPER-LEVEL FEATURES

Synthesising and averaging the activities that took place in these three courses based on the video analysis, *discussions* (30%), *student-led explorations* (27%*), lectures/metatalk* (14%, of which 5% refers to metatalk) *and teacher-led explorations* (13%) were the most practiced activities in these courses (see Figure below).

Course activities – total and case comparison (event sampling, Bakeman & Gottman, 1997)



The situative data analysis of *deeper-level quality features* focused on how the instructors

- scaffold students' *knowledge construction processes,*
- *position students for participation* in classroom interactions,
- *cultivate a classroom community of learners* over time,

and on the *challenges* these classrooms present for instructors and/or students.

The qualitative data analysis applied a grounded theory approach (Strauss & Corbin, 1998). Interaction analysis was applied to relevant video sequences (Rex & Schiller, 2009).

RESULTS: DEEPER-LEVEL FEATURES

Content focus: Scaffolding students' participation in the process of constructing relevant knowledge

Relevant and intellectually challenging content (learning outcomes) and learning tasks

- Performances of understanding (concepts and practices)
- Self-regulated learning
- Identity development
- High cognitive demands and required agency of the learning tasks

Scaffolding student activities in the process of knowledge construction

- Facilitating students' (collaborative) explorations
- Moderating students' (reflective) discussions
- Lecturing and metatalk while students listen intently
- Teacher demonstrations (modelling) while students observe closely

Context focus: Framing of the learning context

Positioning of students in the participant structures of learning activities

- Productive agency in relation to each other and the instructor
- Responsible co-designers of the educational agenda

Cultivating a classroom community of learners

- Intellectual climate of active student sense-making
- Feedback and formative assessment culture
- Positive emotional climate of mutual respect, trust and belonging

IMPLICATIONS

- More impact of situative perspectives on learning and instruction (content and context) on higher education policy and practice -> change the status quo and improve instructional quality leveraging research findings;
- Balanced orchestration and facilitation of well-designed goal-oriented course activities that foster cognitive activation and engaged student participation (e.g., student-led and teacher-led explorations, discussions);
- Metacognitive awareness and change of educational beliefs and patterns of classroom interaction on the part of the instructor and students (dialogic forms of talk).

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