Educational Model Development: Powerful Student-Centred Learning Environments

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

Research Objective and Key Terms

Develop an educational model to guide the design and implementation of powerful student-centred learning environments (SCLEs) in higher education classrooms that provide students with opportunities for deep learning.

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 (e.g., Engle, 2006).

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 teaching and learning practices (Land et al., 2012).

1. Conceptual Framework Development

Literature review and synthesis: What common design principles and instructional quality dimensions/features of SCLEs can be derived from learning sciences research in general, and empirical education research on the effectiveness and quality of learning and instruction in particular?

Data analysis methods to identify underlying patterns and practices:
- Event sampling to record events in the classroom (BAKEMAN & GOTTMANN, 1997);
- Quantitative descriptive analysis of video data using the spreadsheet program Microsoft Excel (distribution of class time);
- Univariate variance analysis of closed student evaluation questions;
- Grounded Theory using a constant-comparison approach to analyze qualitative interview, video and evaluation data (Straus & Corbin, 1998);
- Broad approach to interaction analysis informed by the literature review and applied to relevant video sequences (Rex & Schiller, 2009).

2. Ethnographic Case Study Research (CSR)

Empirical study: How do expert instructors in the field of higher education design and bring to life SCLEs that provide students with opportunities for deep learning?

Empirical research sub-questions:
- What are the teaching and learning challenges these student-centred classrooms present for the instructors and/or students?

Design elements:
(a) What are characteristic curricular design elements and quality features of the student-centred higher education classrooms under study (e.g., course goals and content, course structure, course activities)?

Instructional strategies: How do the instructors—(a) scaffold participatory processes of knowledge construction? (c) cultivate a classroom community of learners over time?

Empirical study: How do experts in the field of higher education design and bring to life SCLEs that provide students with opportunities for deep learning?

3. Participation-oriented activities and materials
- Collaborative: accountable authors – active/novel participants – responsible co-designers

4. Well-established routines and norms of interaction
- Productive and supportive classroom community of learners

5. Open-ended assessments and formative assessment
- High-level learning outcomes (deep learning)

Data collection methods:
- Unit of analysis: Three different seminars with 25-38 students each, designed by expert instructors at the Harvard Graduate School of Education (teacher education program)
- Data selection between Fall 2009 and Spring 2012
- Mixed-methods approach (qualitative and quantitative methods)

Data analysis methods:
- Event sampling to record events in the classroom (BAKEMAN & GOTTMANN, 1997);
- Quantitative descriptive analysis of video data using the spreadsheet program Microsoft Excel (distribution of class time);
- Univariate variance analysis of closed student evaluation questions;
- Grounded Theory using a constant-comparison approach to analyze qualitative interview, video and evaluation data (Straus & Corbin, 1998);
- Broad approach to interaction analysis informed by the literature review and applied to relevant video sequences (Rex & Schiller, 2009).

Discussion

Core components of powerful SCLEs:
1. Aligned curriculum design elements (1-5.) that allow the students to engage with relevant and challenging content so that they achieve the desired learning outcomes;
2. Students are positioned for active participation in knowledge construction and interactions as accountable authors, active and vocal participants and responsible co-designers;
3. Instructors apply adaptive instructional strategies to support students’ participatory processes of knowledge construction and to cultivate a productive and supportive classroom community of learners;
4. Teaching and learning challenges of student-centred classrooms.

Implications

- Situative perspectives on learning and instruction in higher education policy and practice (leverage research findings);
- Metacognitive awareness and change of educational beliefs and patterns of classroom interaction on the part of the instructor and students (e.g., dialogic forms of talk);
- Well-designed unguided/guided participation-oriented course activities that foster cognitive activation and engaged student participation;
- Classroom communities of learners that cultivate an intellectual climate, a feedback culture and supportive social relationships;
- Promoting the scholarship of teaching in higher education as well as professional faculty development and support.

References


The research leading to these results has received funding from the European Community’s Seventh Framework Programme (FP7/2007-2013), grant agreement n° 237673.