EDUCATING FUTURE CHANGE AGENTS

HIGHER EDUCATION AS A MOTOR OF THE SUSTAINABILITY TRANSFORMATION

Aaron Redman | UAS Spring Campus Conference | April 3rd, 2019
Enjoy the cookies
WHY?
NEED FOR PEOPLE WHO CAN TRANSFORM THE WORLD
CHANGE AGENTS...
...NEED KEY COMPETENCIES IN SUSTAINABILITY
Key Competencies in Sustainability

- Systems Thinking Competence
- Futures Thinking Competence
- Values Thinking Competence
- Strategic Thinking Competence

Collaboration Competence

Problem-Solving Competence
HOW TO EDUCATE FOR KCS?
How to Educate for KCS?

- How are KCS operationalized at different scales (courses – curriculum) and different disciplines?

- What are the *characteristics* which best support the development of the KCS?
  - Of curriculum and institutions
  - Of course level teaching and learning

- How do these need to vary between disciplines?
Project Objective

What are empirically supported insights that can guide university instructors and administrators in initiating or establishing sustainability courses and curricula best suited to convey key competencies in sustainability?
**PROJECT PHASES**

**Phase I - Conceptual Specification**
Contextualization and validation of key competencies (interviews, focus groups)

**Phase II – Research on Novel Sustainability Courses and Curricula**

- Research on competence-oriented teaching and learning in courses
  - **Comparative Qualitative Case Studies**
    - Competence acquisition through project-based learning
      - Context 1: Sustainability program
    - Competence acquisition through discursive learning
      - Context 2: Teacher education program
    - Competence acquisition through consultative learning
      - Context 3: Entrepreneurship education program
  - Micro-level (Courses)

- Research on competence-oriented innovative curriculum
  - **Comparative Qualitative Case Study**
    - In-depth study of sustainability curriculum for a shared program at two universities
  - Research on drivers and barriers of implementing sustainability curricula
    - **Comparative Quantitative Sample Study**
      - Building a database of cases and defining the sample
      - Coding of cases
      - Quantitative analysis
      - $N > 100$
  - Macro-level (Curricula)

**Phase III - Triangulation across Levels and Scales**
DESIGN ELEMENTS
Lots being published but little generalizability
All over the world
Some issues….

- Insufficient grounding in educational sciences
- Heterogeneity of case studies
- Case studies are mostly descriptive
DESIGN ELEMENTS
## 1 Research Methods: characteristics

<table>
<thead>
<tr>
<th>Study</th>
<th>Subject</th>
<th>Research Approach (~N subjects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Project-Based Learning</td>
<td>Course</td>
<td>Qualitative (3)</td>
</tr>
<tr>
<td>#2 Teacher Education</td>
<td>Course</td>
<td>Qualitative – Quantitative (2)</td>
</tr>
<tr>
<td>#3 Entrepreneurship</td>
<td>Course</td>
<td>Qualitative (1)</td>
</tr>
<tr>
<td>#4 Curriculum</td>
<td>Curriculum</td>
<td>Qualitative (3)</td>
</tr>
<tr>
<td>#5 Curriculum Implementation</td>
<td>Curriculum</td>
<td>Quantitative (~180)</td>
</tr>
</tbody>
</table>
1 Research Methods: shared innovations

- Assessment of Key Competencies
- Process Tracing/Photo-voice
- Case Survey Method
2 Variance and Overlap in Cases

- **Context**
  - 5 countries/universities (2 primary)
  - Shared vision of sustainability science

- **Teaching and learning approaches**
  - From online to real-world project based
  - Overlapping instructors etc

- **Disciplines**
  - Entrepreneurship to Teacher education
  - Use of KCS as starting point
3 Shared Empirical Design
RESULTS ARE COMING
Publications submitted so far

(1) Weiss, M., Barth, M. (in review) Global research landscapes of sustainability curricula implementation in Higher Education. *International Journal of Sustainability in Higher Education*

(2) Brandt, J., Burgener, L., Barth, M., Redman, A. (in review) Becoming a competent teacher in ESD: learning outcomes and processes in teacher education for sustainable development. *International Journal of Sustainability in Higher Education*


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Micro-level (Courses)

Research on competence-oriented innovative curriculum

Comparative Qualitative Case Study
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  \( N > 100 \)

Macro-level (Curricula)

Phase III - Triangulation across Levels and Scales
CALL FOR COLLABORATION
Triangulating case studies

Course Level

Quantitative

#5

#4

#3

#1

#2

Curriculum Level

Qualitative

YOUR CASES

YOUR CASES

YOUR CASES

YOUR CASES

YOUR CASES

YOUR CASES
For project updates:

http://educatingchangeagents.org

https://www.researchgate.net/project/Educating-Future-Change-Agents

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