Process and design of a collaborative research project

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Purpose of this presentation

• To share an example of a collaborative study on teaching and learning in Icelandic schools.
• An analytical framework, the “evidence production-to-use system”, is used to describe the project.

Point of view:
• Academic researcher
• Former teacher and administrator in school system
The study:

- Teaching and learning in Icelandic schools 2009-2011
- [www.starfshaettir.hi.is](http://www.starfshaettir.hi.is)

- In twenty elementary and lower secondary schools (6 – 16 years old)

- Directed from The University of Iceland – School of Education

Research team / consultation group:

- Ca. 20 academic researchers from two universities in Iceland, a group of master and doctoral students, representatives from three municipalities, from an ICT company and an architectural firm.
Aims:

1. To investigate how schools have developed their internal strategies towards individualised learning and student collaboration.

2. To encourage and support school development based on results

3. To establish a database for longitudinal research, accessible for future researchers and for schools to evaluate effects of school development
• Separated

• Partly linked
Research questions:

• What kinds of teaching and learning strategies are currently practiced in schools, in terms of the research model?

• How have school practitioners adjusted their practices and student learning following social changes?

• Is there a relationship between various school practices and student academic outcomes, as measured by national tests?

• How are national and regional policies evident in school practices and to what extent have predictions made about school development in recent decades been realised?
Methods

- Twenty schools in four municipalities participated, seventeen schools randomly selected, three schools purposively selected.

Data collection

- Focusgroups / interviews with teachers, principals, students and parents (around 200 interviews)
- Classroom observations (for approx. 100 schooldays, 400 – 500 lessons)
- Electronic questionnaire survey:
  - staff (860, 80%-93%), - aprox. 600 items
  - students (2100, 86%)
  - parents (5200, 67%)
- School environment observations and photography
- Document analysis
Steering structure

- Parental involvement
- Student activities and responsibilities
- Teaching practices
- Internal structure
- Attitudes towards student learning
- Physical learning environment

Consultation group / research team (50 people)
Analytical framework

1. **Internal structures: School-based planning and administration.**

2. **Physical learning environment:** The environment within classrooms and in the school building as a whole.

3. **Attitudes towards students learning:** The attitudes of students, teachers, administrators and parents towards strategies, national policy, the role of the school in student learning and school development.

4. **Teaching strategies and practices:** Teacher roles and practices.

5. **Student activities and responsibilities:** Student assignments and learning, classroom climate, students voice.

6. **Parental involvement:** The involvement of parents in school practices and school-community relations.
Measurement Tool on Individualized and Cooperative Learning

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1. Internal Structures

- Stage 1: Individual work
  - Work is individually based
- Stage 2: Group work
  - Work is based on group activities
- Stage 3: Project work
  - Work is based on project tasks
- Stage 4: Independent work
  - Work is based on independent study
- Stage 5: Cooperative work
  - Work is based on cooperative tasks

2. Learning Environment

- Stage 1: Individual work
  - Work is individually based
- Stage 2: Group work
  - Work is based on group activities
- Stage 3: Project work
  - Work is based on project tasks
- Stage 4: Independent work
  - Work is based on independent study
- Stage 5: Cooperative work
  - Work is based on cooperative tasks

3. Attitudes Towards Students' Learning

- Stage 1: Individual work
  - Work is individually based
- Stage 2: Group work
  - Work is based on group activities
- Stage 3: Project work
  - Work is based on project tasks
- Stage 4: Independent work
  - Work is based on independent study
- Stage 5: Cooperative work
  - Work is based on cooperative tasks

4. Teaching Strategies and Practices

- Stage 1: Individual work
  - Work is individually based
- Stage 2: Group work
  - Work is based on group activities
- Stage 3: Project work
  - Work is based on project tasks
- Stage 4: Independent work
  - Work is based on independent study
- Stage 5: Cooperative work
  - Work is based on cooperative tasks

5. Students' Activities and Responsibilities

- Stage 1: Individual work
  - Work is individually based
- Stage 2: Group work
  - Work is based on group activities
- Stage 3: Project work
  - Work is based on project tasks
- Stage 4: Independent work
  - Work is based on independent study
- Stage 5: Cooperative work
  - Work is based on cooperative tasks

6. Parental Involvement

- Stage 1: Individual work
  - Work is individually based
- Stage 2: Group work
  - Work is based on group activities
- Stage 3: Project work
  - Work is based on project tasks
- Stage 4: Independent work
  - Work is based on independent study
- Stage 5: Cooperative work
  - Work is based on cooperative tasks

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<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual tables organized in rows, facing blackboard in all classrooms, teacher in front of class</td>
<td>Some teachers workstations in their classroom</td>
<td>Debated whether teaching or learning is the central issue</td>
<td>Students’ learning is the central issue</td>
<td></td>
</tr>
<tr>
<td>Students’ work is not displayed – empty walls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No openings between classrooms</td>
<td></td>
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<tr>
<td>One computer per classroom; computer room</td>
<td>12–14 students computer</td>
<td></td>
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<tr>
<td>“Closed” library, only for loans</td>
<td></td>
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</tbody>
</table>

**Stage 1**
- Teachers’ teaching is the central issue
- School is considered to be the workplace of teachers
- Some students can’t learn – school is not for all students
- Students within grade levels supposed to learn the same material, in the same way, at the same rate
- Teachers’ preparation, responsibility and continuing education on an individual basis
- Teachers make their own decisions, except for work hours
- One-way information delivery to parents seen as sufficient

**Stage 2**
- Students’ learning is the central issue
- School is considered to be the workplace of teachers and other staff
- Believed that some students can learn in regular classes, others in special classes
- Some teachers accept differentiated progress, e.g. for short periods or in some subjects
- Teamwork by some accepted for short periods; shared continuing education acknowledged up to a certain point
- Acknowledged that the principal manages some tasks
- Information delivery considered to be important and parents always welcome to visit the school

**Stage 3**
- Students’ learning is the central issue
- School is considered to be the workplace of teachers, teachers and other staff
- All students can learn and the school is for all students
- It’s accepted that individuals are different; various learning methods, goals and progress rates accepted
- Teamwork, shared responsibility and shared continuing education seen as a matter of course
- The principal is regarded the professional leader of the school and coordinates cooperation among staff
- Parental involvement in students’ learning taken for granted and part of daily work
## Mechanism and activities

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accessibility</strong></td>
<td>Results were made available along the way, reports with results from questionnaire surveys were made for each school. Data analysed at school level, presentation/consultancy. Researchers get access to data on “real life”.</td>
</tr>
<tr>
<td><strong>Relevance</strong></td>
<td>The aims focus explicitly on educational policy. Analytical framework was created by school leaders to use in self-evaluation.</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Consultation and networking.</td>
</tr>
<tr>
<td><strong>Facilitation</strong></td>
<td>Joint application for grants, consultancy.</td>
</tr>
<tr>
<td><strong>Seek and/or interpret</strong></td>
<td>Schools were offered consultation/support from researchers in analysing or interpreting the results and in making development plans.</td>
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<tr>
<td><strong>Interaction/collaboration</strong></td>
<td>Collaboration at all levels of the study, two-way flow of information. Regular meetings with the school leaders.</td>
</tr>
</tbody>
</table>
Some benefits and considerations

- All partners were highly interested in the results.
- School leaders were “active” partners in data collection.
- Good access to schools/classrooms, high response rate on questionnaire surveys.
Some benefits and considerations

• Relatively few schools have accepted consultancy from researchers, two of them have started formal school development projects based on the results.

• Qualitative data seem to be more useful or understandable for schools than the quantitative data for several reasons (it takes longer time to analyse the qualitative data and there are also problems with confidentiality)
Grants from:

The Icelandic Research Fund
The University of Iceland Research fund
The University of Akureyri Research fund