Regulation and innovation: stimulating students’ creativity and thinking through innovation education in Ingunnarskóli

Svanborg R. Jónsdóttir
Allyson Macdonald
Iceland University of Education
What is innovation education?

In the curriculum for compulsory schools in Iceland since 1999

School subject about:

• Inventing new objects, redesigning things that already exist - to enhance and improve the conditions of social life
• Students search for needs that are important to them
• Solve needs or problems
• Find solutions that can become
  – Personal solutions, new designs, technological innovations or social innovations and business ideas.

We need innovation on many levels

IE requires flexible organization, giving value to student voice, eliciting the tacit knowledge of students and situated learning.
Purpose of this study
Case study in Ingunnarskóli

• To understand the regulative and instructional discourse in the implementation of innovation education (IE)

• To find out how schools, teachers and students experience the 'innovation' which underlies innovation education.
Method

• Research in Ingunnarskóli in the school year of 2006-2007
• participants (teachers) took active part and had something to gain from the research
• field observations in innovation education classes
  – in general classes
  – free periods
  – lunch breaks
  – coffee breaks
  – at IE teachers meetings
• interviews with four IE teachers
  – the head teacher
  – A group of students.
• digital photographs
• teachers’ journals and mindmaps
Theoretical tools

• Basil Bernstein’s classification and framing
  – recognition and realization rules
  – regulative and instructional discourse

• Bronfenbrenner’s ecological approach
  – Influences from various social settings or systems: micro-, meso-, exo- and macro systems
Bernstein’s pedagogical code

• Sociological “glasses” to uncover influences in pedagogy – sensitive to context
• respect, power and responsibility

The pedagogic device
• Educational practice is founded on codes of conduct and traditions
• regulates the communication it makes possible
• has internal rules that are about social order and rules of what counts as legitimate skills and knowledge.
Bernstein’s tools to detect the internal rules of the pedagogic device

- **Regulative discourse (RD)**
  - order, relation and identity
  - appropriate values for behaviour, conduct, ethics, manner, character and criteria of knowledge.

- **Instructional discourse (ID)**
  - competences relative to a given discipline
  - Who controls
  - Selection, sequence, pacing and criteria of knowledge

- **RD is the dominant discourse** and produces the *order* in the ID
Bernstein’s concepts

- **Classification** – strong or weak
  - define the construction of a social space (i.e. school subjects)

- **Framing** – strong or weak
  - Who controls: the selection of communication, sequencing, pacing, the criteria and control over the social space.

- **Recognition rules**
  - understanding of “the rules of the game”,

- **Realisation rules**
  - The ability to realise the necessary skills to produce the legitimate communication - to behave, write or speak correctly in a given context
Framing is strong when the teacher has explicit control e.g. the pedagogic practice is visible, weak framing gives the student more control and tend to have invisible pedagogic practice.
Ingunnarskóli - structure and ideology
The ideal RD for innovation education?

Innovation education – weak classification and framing

mathematics

“slojd”
technology

Buisness

Ict

Icelandic

Arts
Findings

The regulative discourse of Ingunnarskóli

- The open school requires a strong structure (order – towards a stronger classification)
- The open structure and team-teaching allows small student groups -supportive to IE (towards a weaker C)
- Ingunnarskóli is developing assessment that includes process and hands-on projects - (criteria of knowledge that is beneficial for weakly classified subjects)
- Strong emphasis on practical subjects (arts, “slojd”, textiles) and integration of subjects indicates weakening of RD (criteria of knowledge – weakened classification)
- A clear vision on behalf of the school that IE fits well into (deliberately works against a strong classification of subjects)
- The use of PBS was an indicator of stricter RD then the opennes suggests (strong classification between students and teachers)

A deliberate RD that pulls against a strong classification of subjects but also indicators of a different RD
Other findings

The instructional discourse of innovation education lessons

Framing: who controls: selection of knowledge, the communication, sequencing, pacing and criteria and control over the social space.

Mixed framing of ID:

- Freedom and structure (F + - )
- PBS – strong teacher control (F + +)
- Selection: choice of work limited (F - +)
  - Creative solutions personal (F- -)
- Pacing (F - -)
- Location of work restricted (F+ +)
- Evaluation criteria (F -+)

- Teachers were very busy, assisting and guiding– individual support to students
- Patient, warm yet steadfast
- Disciplinary matters dealt with in a defined process
- Artistic approach : freedom vs structure

The framing in IE lessons was somewhat mixed where the freedom of the students was limited to some extent. In spite of the weak framing inherent in IE there was tendency towards strong framing in the IE lessons in Ingunnarskóli
Students long for manual work

- The students loved the hands-on part and were less enthusiastic about the discussions and written assignments.
- A balance between the written and hands-on work is necessary to achieve on one hand the thinking and deliberations and on the other hand to experience the joy of seeing their ideas realized in substantial form.
- A weaker framing of selection might be beneficial.

A indication of strong framing of selection content/method was the repeatedly expressed wish of the students to do more hands-on work.
Students’ recognition and realisation rules were developing

Understanding the “rules of the game” and be able to behave accordingly

• Difficulties in getting the students to “fly” in their creative process
• Sometimes the students mis-interpreted the freedom as permission to “act out”

Even though the students should have recognition rules from other schoolwork (work independently) that would fit well the weak framing of IE they sometimes either did not make use of the freedom offered (to “fly”) or they were not able to accept the responsibility of the freedom (did not have the realisation rules for IE)
Bronfenbrenner’s model
Ecological environment

• Different levels of environments or settings are described in terms of their structure.
• These systems are not isolated, rather they are organic, interacting systems.
Interactive ecological system of professional development

**Personal level:** The individual is the foundation for the development

Micro: The individual interacts with others within the **microsystem**.

A **mesosystem** comprises the interrelation among two or more settings, a system of microsystems.

The third level of the ecological environment, the **exosystem**, refers to one or more settings that do not involve the person as an active participant.

Within each society or subculture there exists a kind of a blueprint for the organization of every setting. Such generalized patterns are referred to as **macrosystems**.
The social ecology of Ingunnarskóli
A proposal of a way to understand the interacting systems of the SYSTEM

<table>
<thead>
<tr>
<th>Personal level</th>
<th>Supports taking risks, experiments and folly. Balance control and freedom skillfully. Artistic approach 3 of Ingunnarskóli’s teachers F - 1 teacher F - +</th>
<th>One teacher more controllling in her teaching, the other three are are able to allow students more freedom</th>
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<tbody>
<tr>
<td>Microsystem</td>
<td>Actively familiar with IE. Leaders mediate external support. Secure support of school community towards IE. Colleges support IE. The ethos of the school supports weaker framing. F -</td>
<td>School leaders intentionally weaken classification of subjects and framing towards students’ control and choice</td>
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<td>Mesosystem</td>
<td>School receptiveness to learning and change Emphasis on arts and manual subjects as tools for learning and on integrating subjects in creative projects C - - Physical arrangement of IE C + - Use of PBS system F ++ Lesson length supportive of project work C - - Evaluation procedures supportive of IE F - + Builds on a system of strong classification and is a deviation from it</td>
<td>Classification is weakened by integrating subjects and length of lessons give space for students’ control of sequencing and pacing. Evaluation criteria for project work, - may need to be more explicit.</td>
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<td>Exosystem</td>
<td>Reliance on traditional measures of school quality. Traditional school subjects given priority. C ++ Parents minimally involved in school activities. Indifference towards IE C ++ (strong classification between home/society and school)</td>
<td>Parents (and society) do not oppose IE but seem to pay most attention to the national tests that build on a strong classification of selected (respected) subjects</td>
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<td>Macrosystem</td>
<td>Law and policy expects innovation education. National curriculum includes innovation education. Official evaluation procedures focus on selected subjects. C - +</td>
<td>The official discourses call for creative and cooperative individuals but offer an evaluation system on an individual and strongly classified subjects basis</td>
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In Ingunnarskóli an RD is developing that is moving away from strong classification and strong framing.

The regulative discourse in schools seems to include contradicting notions of innovation and traditions which in turn affect the nature of the instructional discourse.

RD and the ID of Ingunnarskóli are by and large supportive of IE.

Many influencing factors from different levels (systems) pull the school towards a strongly classified curriculum and strong framing.

Findings show that personal and professional values influence the way in which innovation education is being taught and can be seen in differences in framing.

The part of framing regarding criteria of knowledge and evaluation of IE may need to be strong to give students and society clear messages about what is expected of students and how it is to be assessed and so enhance their recognition and realization rules.