

Umræðufundur um PISA 2009

Námsmatsstofnun
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Structures of Finnish and Icelandic Mathematics Lessons

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2010



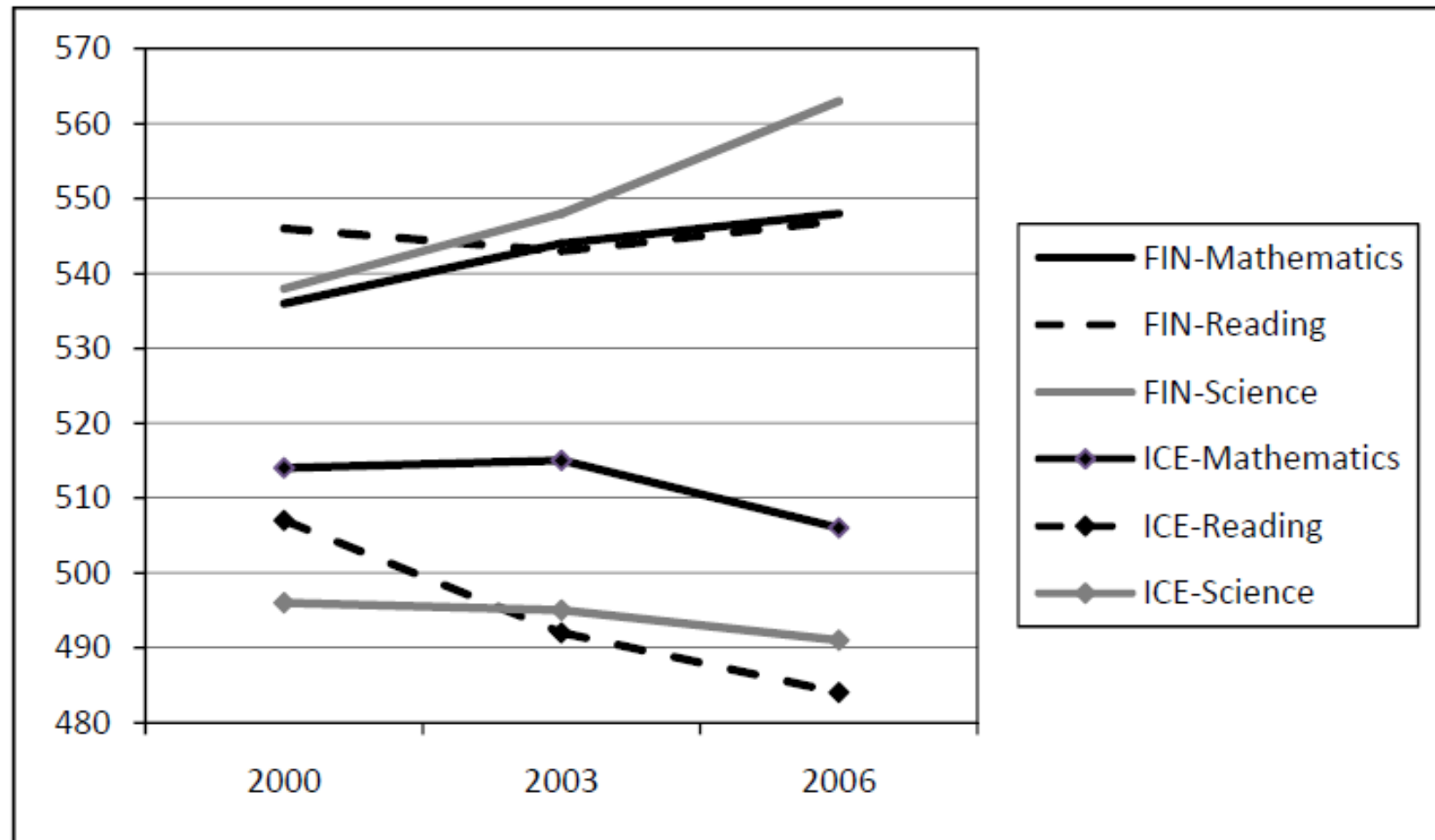



Figure 1: PISA 2000, 2003, and 2006 scores for Finland and Iceland (OECD, 2002, 2004, 2007b)



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Video 1



Codeview media Clip 1

P	3	Positioning/Preparing New Content
	2	Introducing New Content
	1	Addressing Content from Previous Lessons
PU	7	None
	6	Real-World Object
	5	Special Mathematical Material
	4	YouTube
	3	Computer/Projector
D	3	Increased Physical Activity
	2	Grouping/Station
	1	No Disruptive Problems
CA	6	Break
	5	Problem Solving
	4	Over/Summary
	3	Mathematical Organization/Management
	2	Non-Mathematical or Off-Topic
PS	6	Convergent Problem/Classwork
	5	Convergent Problem/Seatwork
	4	Convergent Problem Set-Up
	3	Assessing Only Problems
	2	Independent Problems
NP	6	Setting/Configuring Roomwork or Task
	4	Activity
	3	Mathematical Concept/Theory/Info
	2	Contextual Information
	1	Problem Solving
4	Other	

Timeline Clip 1 (paklmmakl@action.wmv)

18 Sek. 15:00 26:40 29:20 30:00

CA	
P	
G	
PS	

0:26:05

Video 2





Video 1



Transcript mediaclip 1

GA	2	Male
	1	Female
TMSS	4	Other
	3	Practising/Playing
	2	Introducing new content
	1	Review

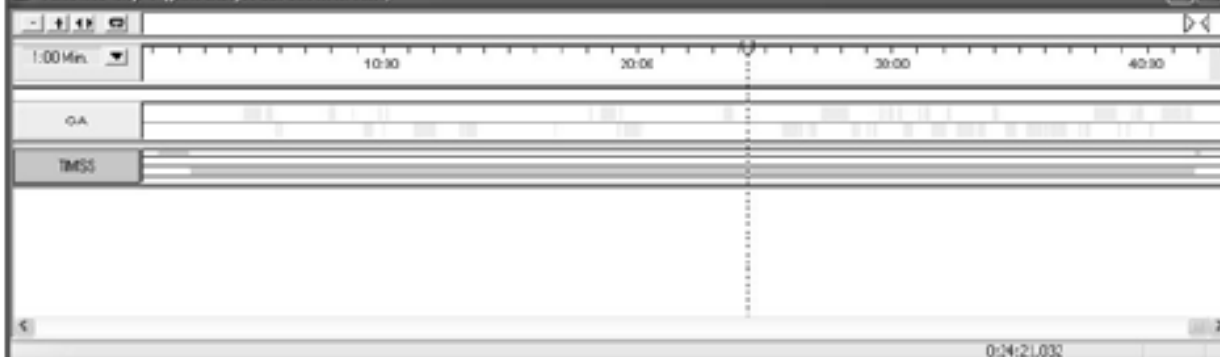
Ok, when we've written one of these rows... Johan, Anna, Lijsa: Why is it good for you to know that 1 gram of protein equals 4 calories? (T)

I don't know. (B)

It's for the calculation. (G)

0:24:29 - 0:24:40

Timeline Clip 1 (patresfordur@action.wmv)



0:24:21,032

Video 2



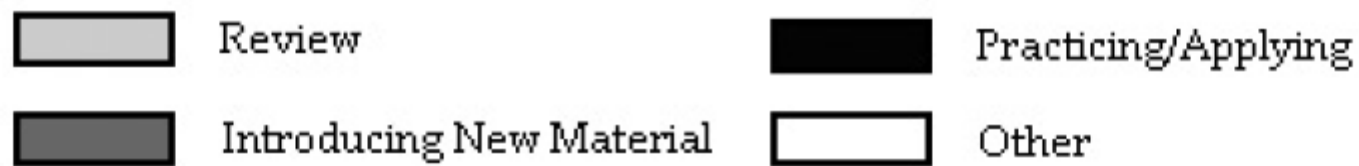


Figure 3.1: A first pass coding of a mathematics lesson

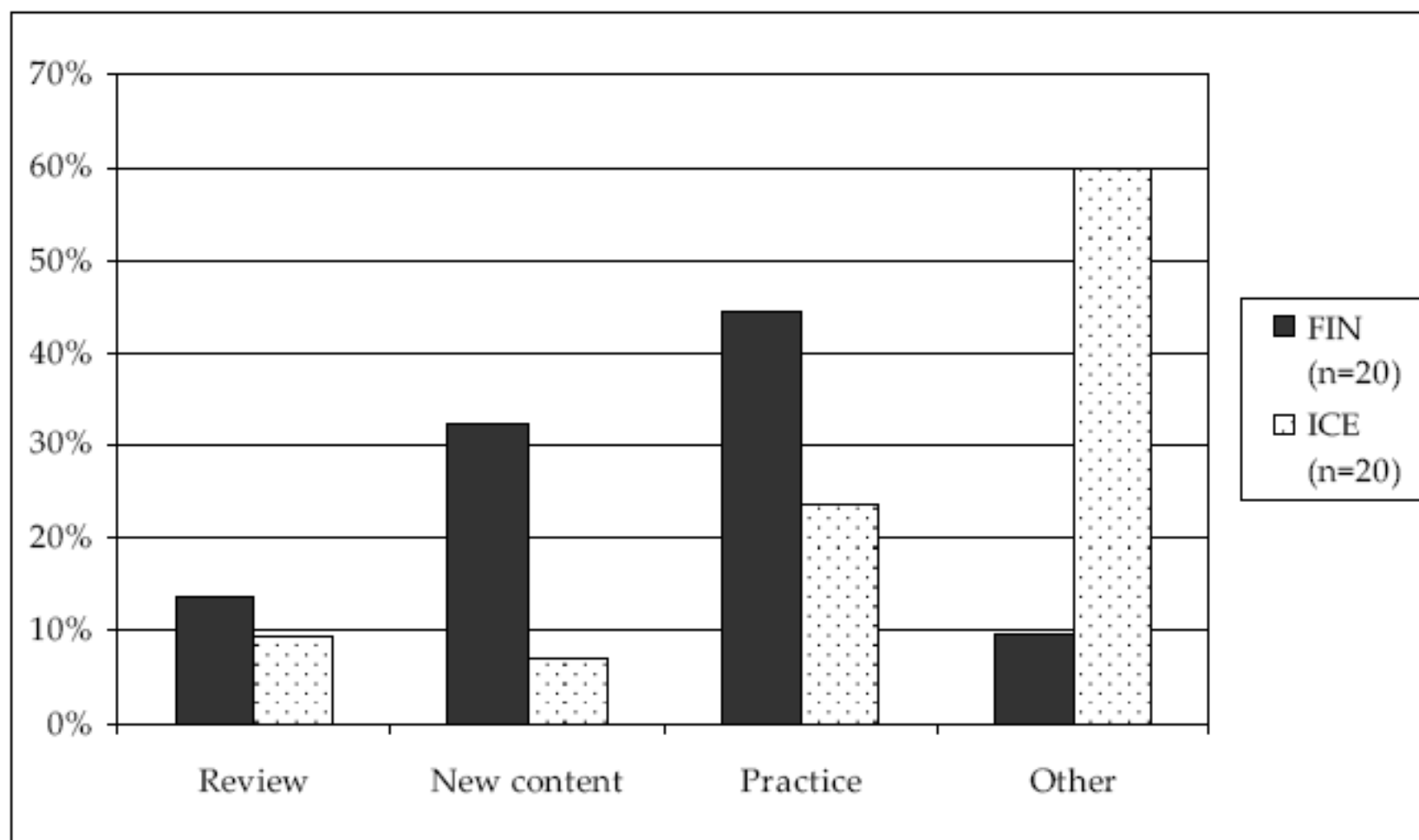


Figure 4.4: First-pass categories: Finland and Iceland

- 
- IL : Independent Learning
 - RLP : Review – Lesson – Practice

9 RLP schools in Iceland

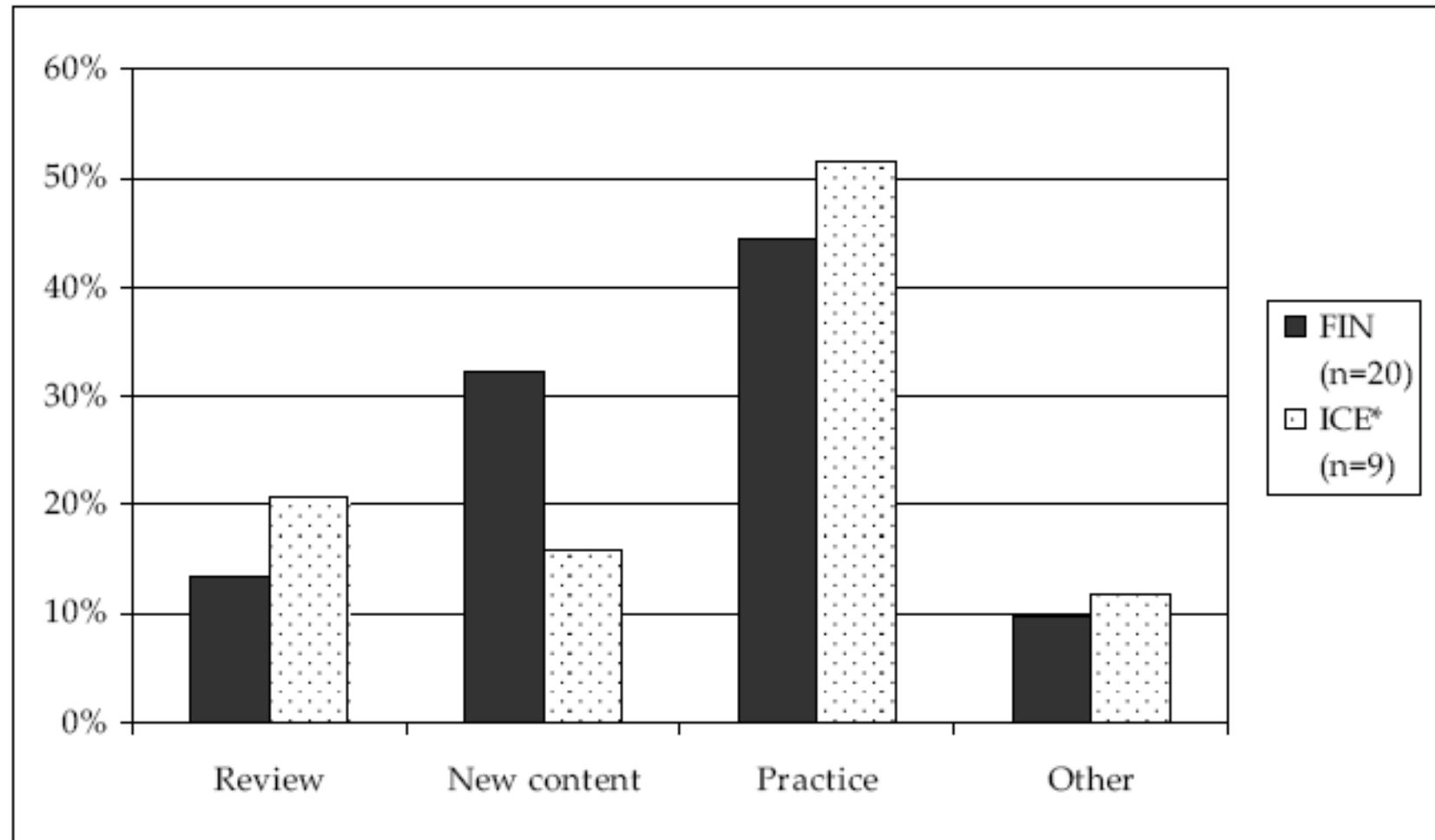


Figure 4.5: First-pass categories: Finland and Iceland*

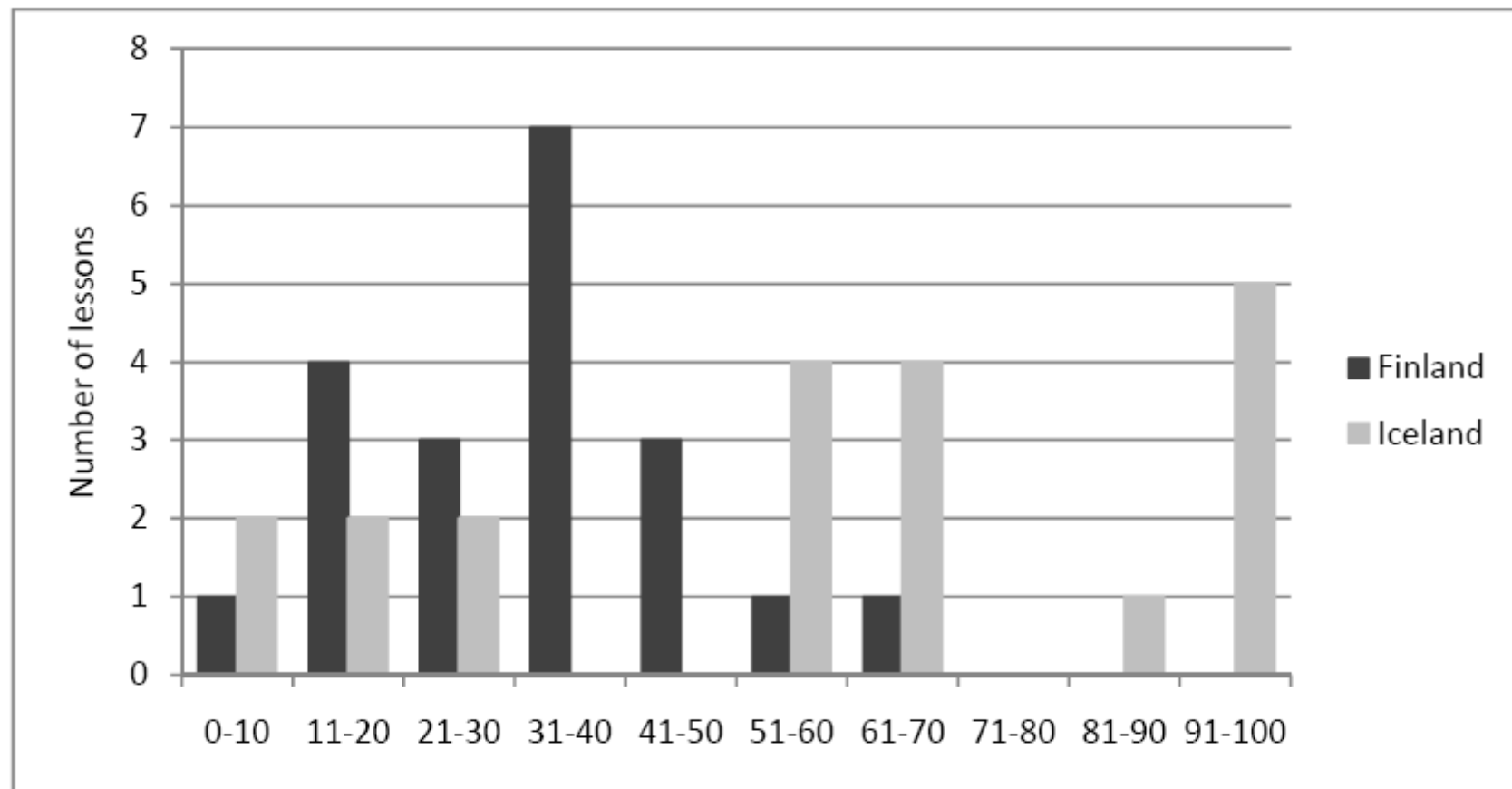


Figure 1: Percentage of class time devoted to assisting students during seatwork











Review	Teacher discusses examples on the board	
	Students write solutions on the board	
Introducing New Content	Teacher presents a lesson	
	Teacher elicits responses from the class by asking a series of connected questions	
	Students copy text from the board (no other interaction)	
Practicing/ Applying	Students work individually on practice problems while the teacher helps those in need	
Other	Classroom management	
	Mathematics management	
	Social talk	
	Interruption	

Table 3.3: Second pass categories




Review	Teacher discusses examples or a concept in the front	
	Students write solutions on the board	
	Class works together on a problem	

Table 4.5: *Review* categories






Introducing New Content	Teacher presents new content, intermittent questions	
	Teacher elicits responses from the class by asking a series of connected questions	
	Students work on a new type of problem, teacher helps	
	Students copy text from the board or the book (no other interaction)	
	Students read the book (no other interaction)	

Table 4.6: *Introducing New Content* categories



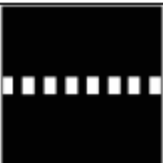

Practicing/ Applying	Teacher discusses examples in the front	
	Students work on practice problems individually or in small groups, teacher helps	
	Students work on practice problems individually or in small groups, teacher does not help	
	The class, led by the teacher, works together on a problem	

Table 4.7: *Practicing/Applying* categories



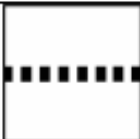


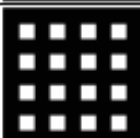
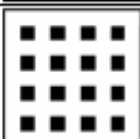
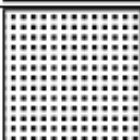
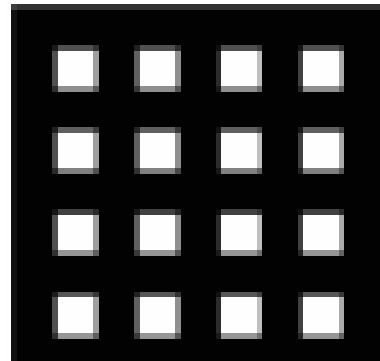
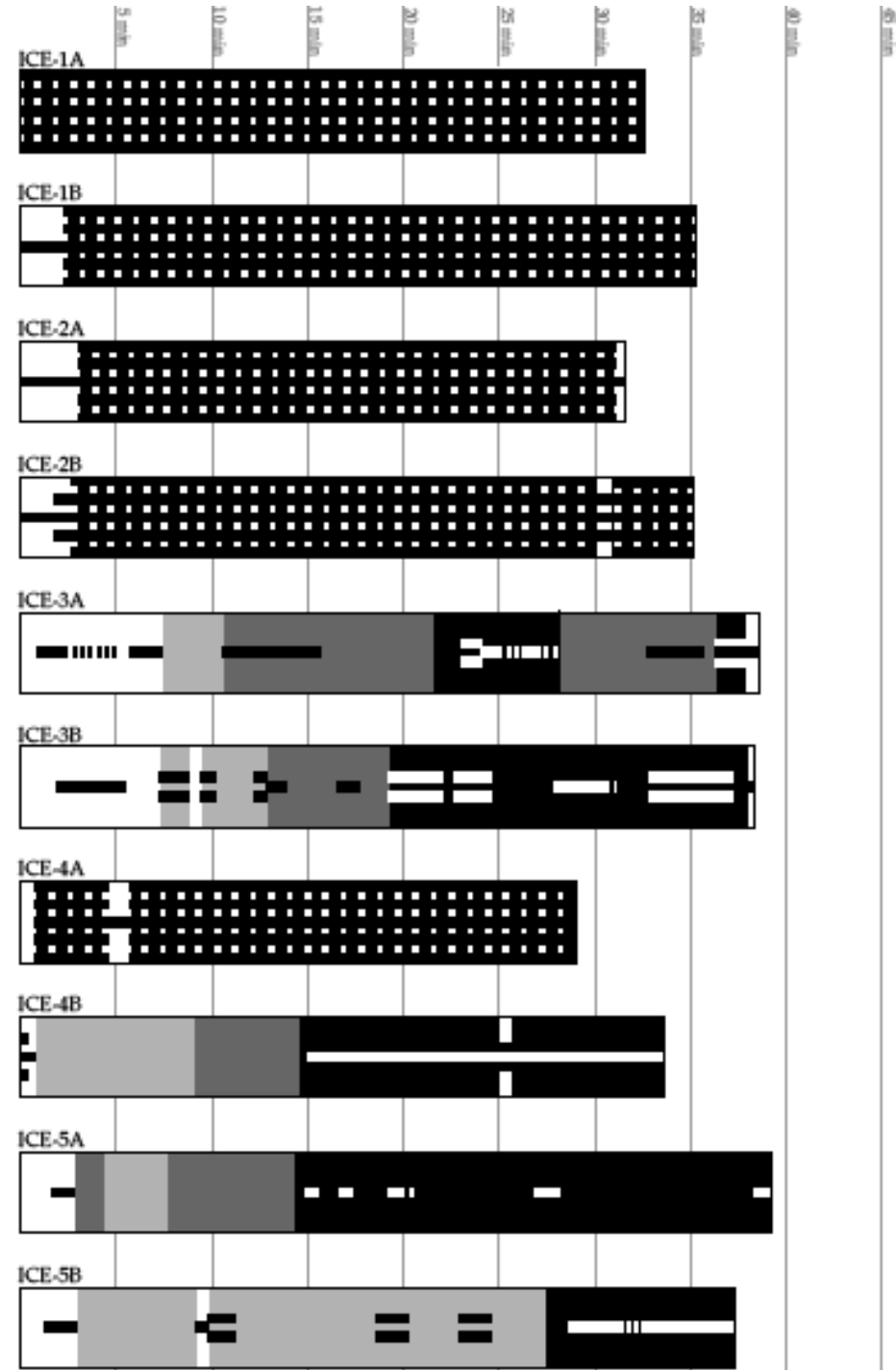
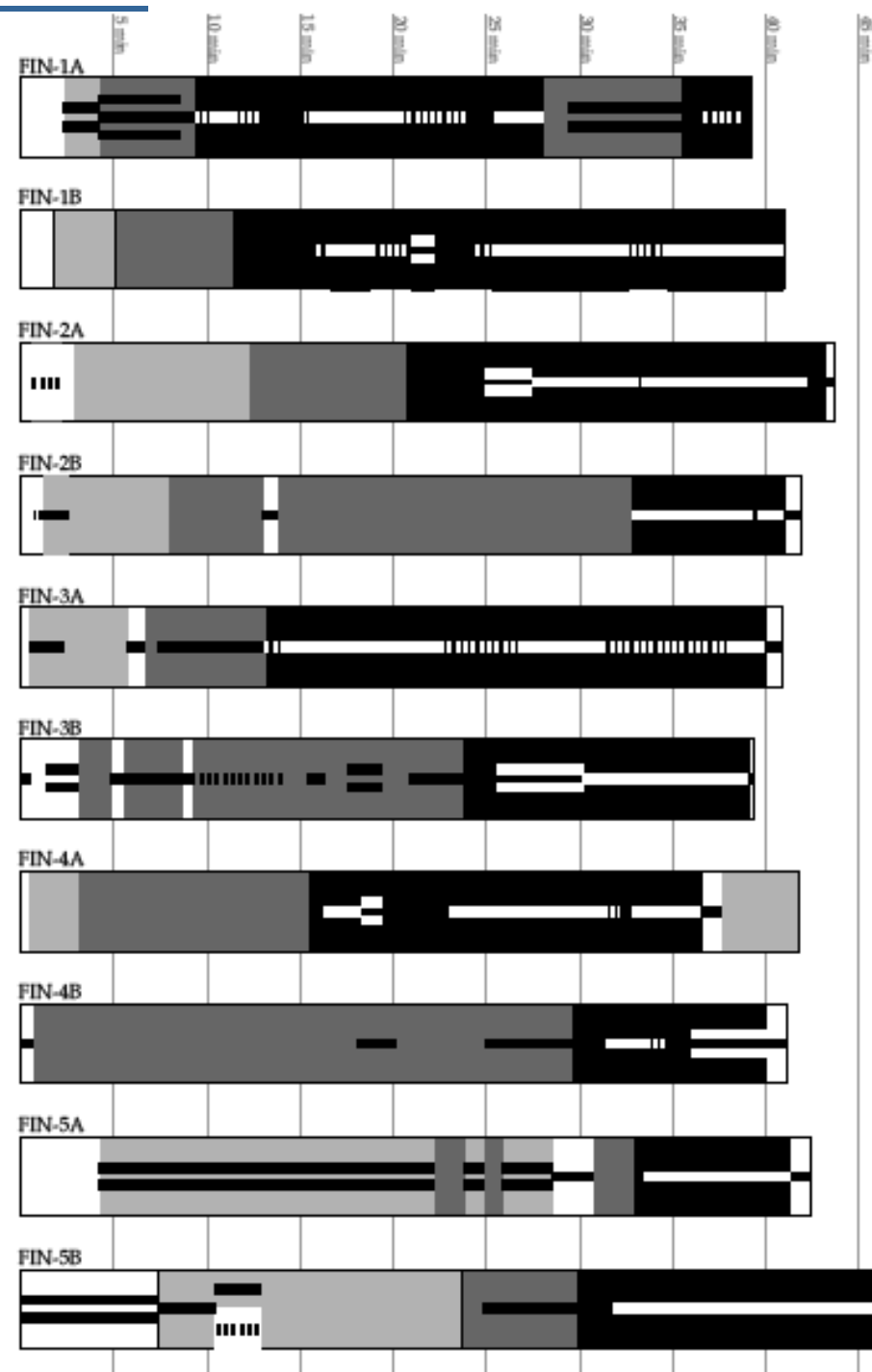
Other	Classroom management	
	Mathematics management	
	Homework/progress check	
	Interruption	
	Social talk	
	Independent learning – Kikan-Shido	
	Independent learning – Teacher presents in the front	
	Independent learning – Student presents in the front	

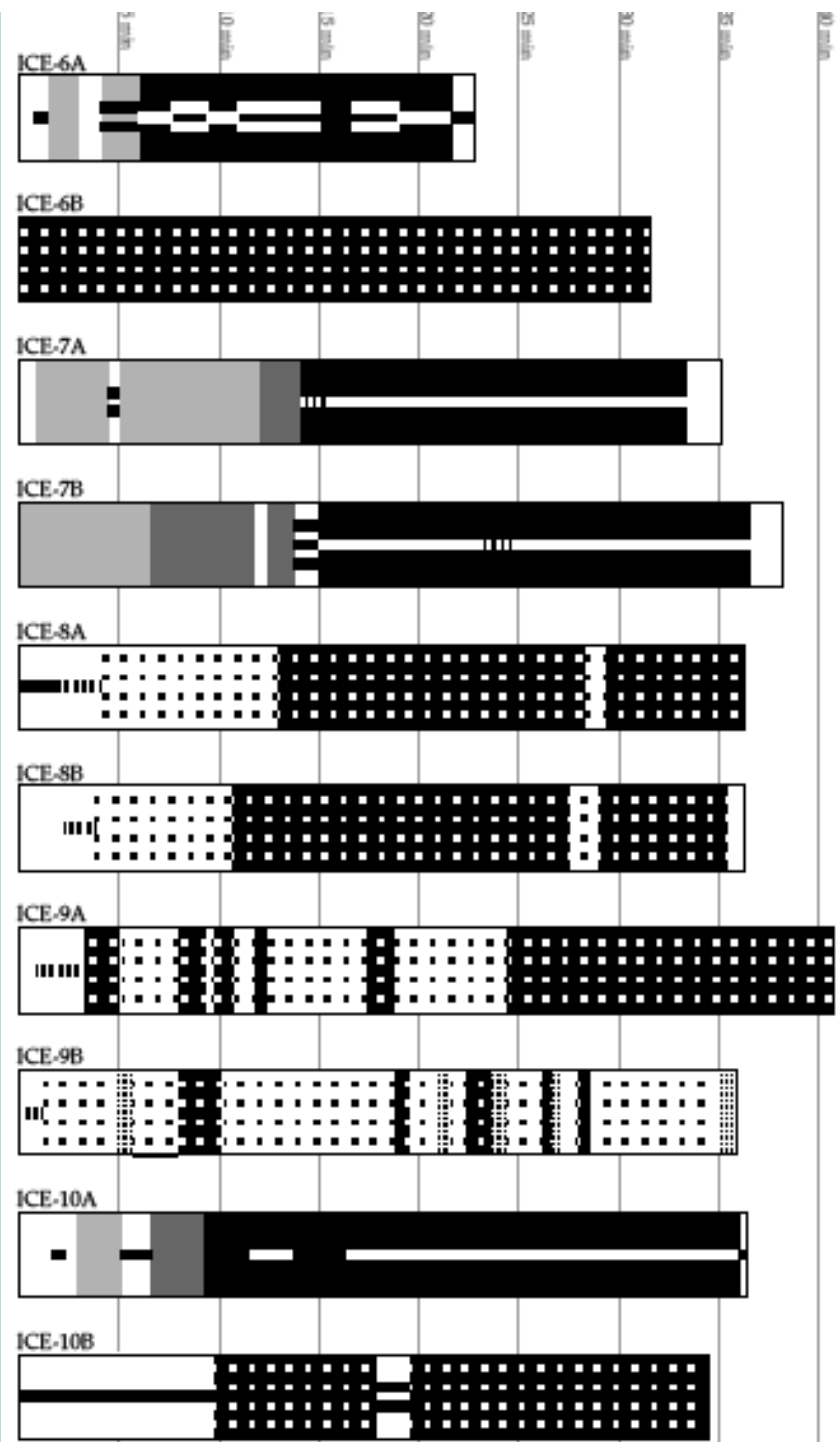
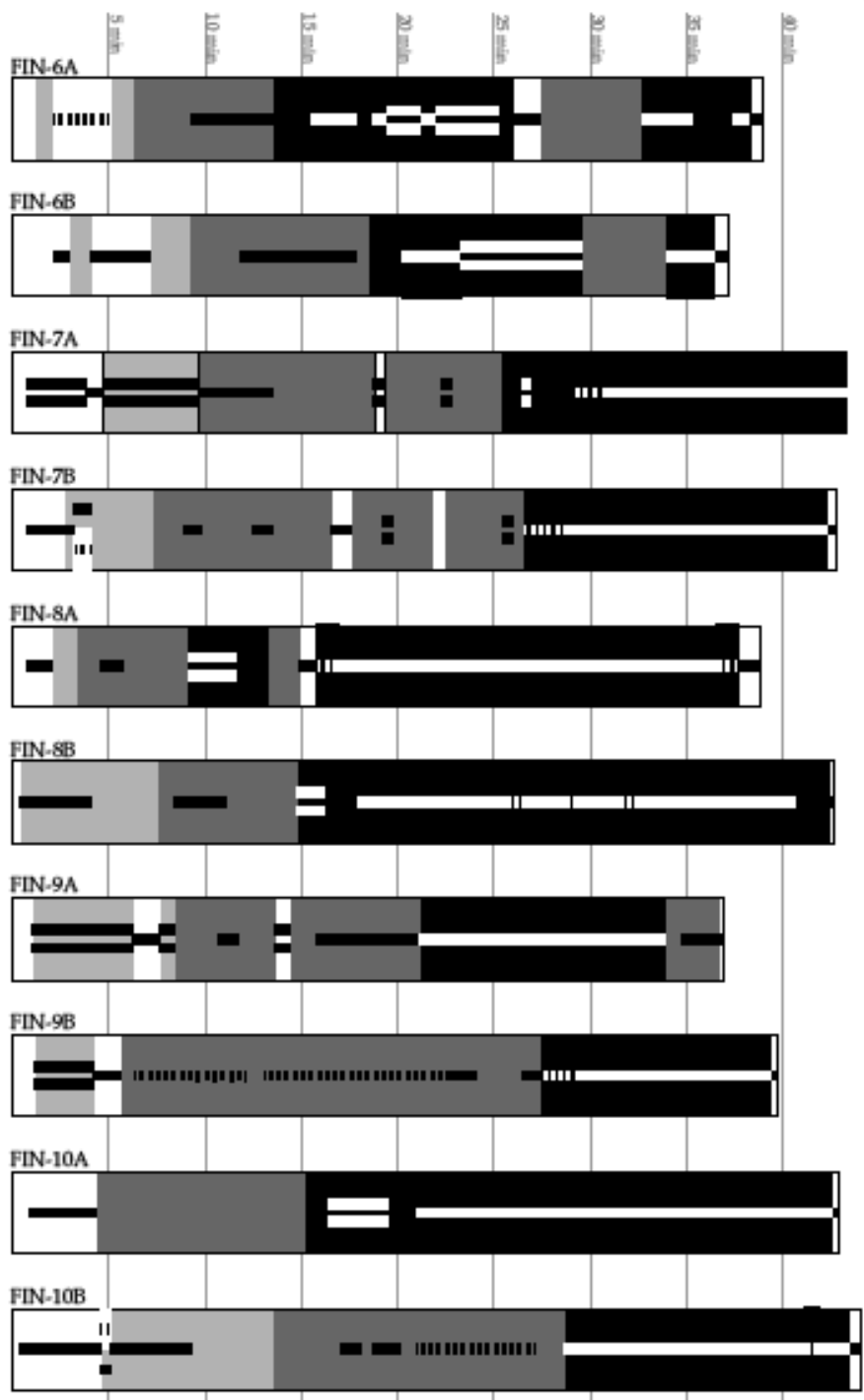
Table 4.8: *Other* categories

“Kikan-Shido”

- Between-desks instruction: students work while the teacher walks around the classroom and helps (O'Keefe, Xu, & Clarke, 2006)







- Eleven of the twenty Icelandic lessons were conducted using the IL-pedagogical strategy. Figure 10 shows the relative frequencies of the forms of classroom interaction the teachers of these lessons chose to employ.

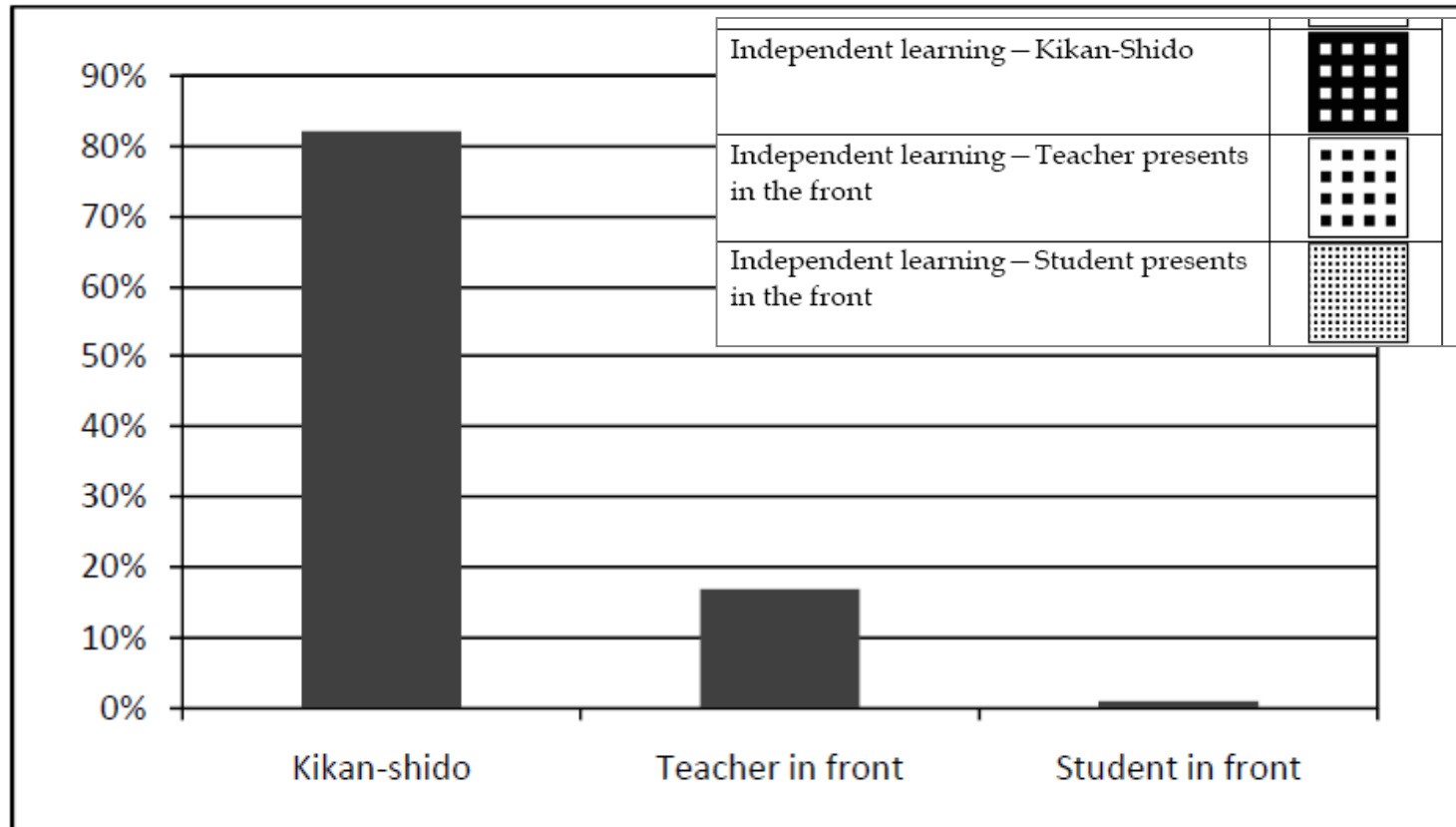


Figure 10: Prevalence of the interaction forms during *Individualized learning*