

Does a differentiated instruction increase or decrease interactions between students?

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Theory

- ❖ In **inclusive classes** in which students with and without special educational needs are learning together the **range of the students' individual abilities** is wider than in regular classes.
- ❖ Therefore, teachers of inclusive classes are challenged with respect to the principle of the appropriateness of their instruction.
- ❖ One of the most promising approaches to work with heterogeneous classes is **differentiated instruction** (Mitchell, 2008; Tomlinson, 2014).
- ❖ It is assumed that differentiated instruction increases the quality and **the intensity of teacher-students-interactions and student-student-interactions**, and, thereby, leads to better academic and social skills (Klieme & Warwas, 2011; Lipowsky, Kastens, Lotz, & Faust, 2011).
- ❖ Empirical evidence of these assumptions is still scant.

Research Questions

In the present study we focussed on observations of inclusive lessons. The main aim was to describe interactions between students in relation to differentiated instructions in math and German lessons.

Questions:

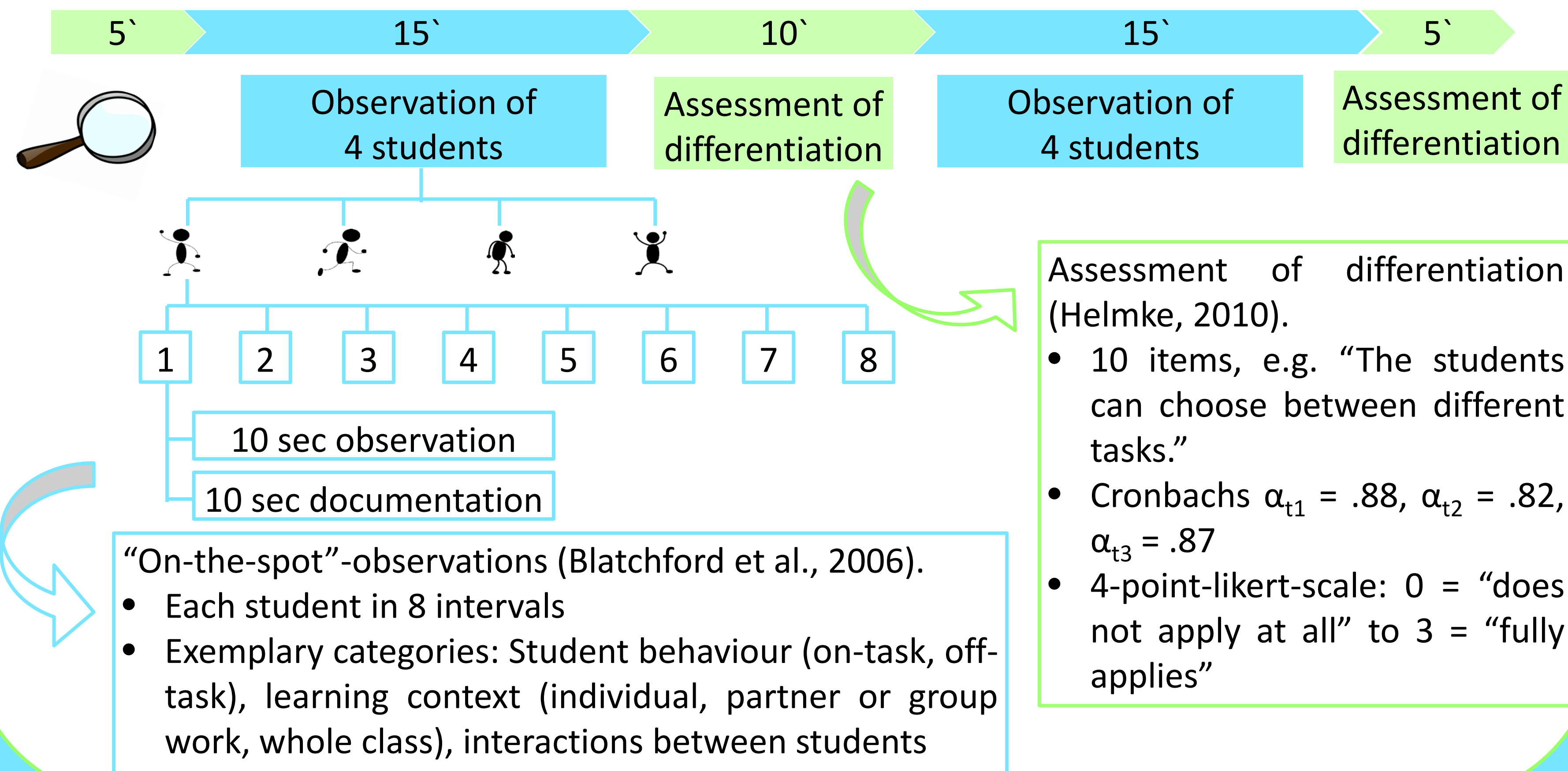
1. What are characteristic descriptions of inclusive lessons within the sample?
2. Is there a relation between differentiation and the amount of on-task interactions between students?

Method

- **Design & sample**
- Longitudinal study in Germany in the federal state of Brandenburg
 - Three measurement points within the school years 2014/15 (t1), and 2015/16 (t2, t3)
 - Class observations in 10 inclusive primary school classes by external observers
 - Table 1: Descriptive parameters of the sample

	t1	t2	t3
N	213	204	209
Girls	53.8 %	52.9 %	51.9 %
M _{age} (SD)	11.4 (0.67)	11.9 (0.71)	12.5 (0.72)

- **Instruments & assessment procedure:**
- Each measurement point: observation of 10 math and 10 German lessons per class
 - Software-based observations (Henke & Spörer, 214)
 - Each lesson (45 minutes):



Results

- **Comparison of measurement points**
- Table 2: Descriptive parameters of the observations

	t1		t2		t3	
	Math	German	Math	German	Math	German
Observations	6088	6000	6144	6144	6040	6008
On-task behaviour	89.5 %	87.8 %	84.9 %	83.2 %	88.0 %	90.2 %
Learning context:						
Individual	45.1 %	37.8 %	42.4 %	31.3 %	41.6 %	29.7 %
Partner-/group	5.4 %	10.0 %	4.6 %	10.0 %	6.6 %	10.6 %
Whole class	49.5 %	52.2 %	53.0 %	58.7 %	51.8 %	59.7 %
Interactions between students	11.1 %	15.0 %	13.7 %	16.8 %	15.4 %	16.2 %
Differentiation:						
M	0.78	0.90	0.78	0.71	0.84	0.92
(SD)	(0.69)	(0.76)	(0.64)	(0.59)	(0.74)	(0.67)

- Table 3: Correlation matrix

Correlations		(1)	(2)	(3)
(1) Differentiation	t1	-		
	t2	-		
	t3	-		
(2) On-task behaviour	t1	-.05	-	
	t2	-.07	-	
	t3	.08	-	
(3) Interactions between students	t1	.40*	-.20*	-
	t2	.37*	-.19*	-
	t3	.08	-.27*	-

Annotation: * $p < .05$.

Discussion

- ❖ Our study showed a **rather restrained application of differentiation** in math and German lessons.
 - ❖ In both subjects, observed students mainly showed **on-task behaviour**.
 - ❖ Comparing math and German lessons, the forms of **learning context** had **similar patterns**.
 - ❖ For all three measurement points the **proportion of interactions between students with regard to all observations was comparable** (between 11 % and almost 17 %).
 - ❖ **Differentiation and interactions between students** were **positively correlated** at the first two measurement points. That means that more differentiated instructions are accompanied with more interactions.
 - ❖ **Interactions between students** were **negatively correlated** with **on-task behaviour**.
- **Next**, we will continue longitudinal analyses with a focus on **causal relationships** and **multi-level evaluation**. Furthermore, the relationship between **differentiation and student outcomes**, e.g. academic success and social competencies, will be analysed.

Literature

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