

TEACHERS' BELIEFS ABOUT LEARNING DIFFICULTIES

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This study gives new knowledge on mathematic teachers' beliefs about students in learning difficulties. Fifteen teachers' written case descriptions of one of their own students formed the starting point for focus group interviews. During the interviews changes in teachers' descriptions on what causes learning difficulties seemed to occur. Possible implementation in teacher education is consequently presented.

Background

A wide range of topics concerning teachers' beliefs are being researched within the field of mathematics education (Francis, Rapacki, Eker (2015)). Beswick (2007-8) exemplifies how teachers think differently about students with difficulties compared to other students; however, teachers' beliefs on students with mathematical learning difficulties are sparsely researched.

Engström and Magne (2010) provide a framework for how to understand causes, consisting of neurological, psychological, sociological and didactical causes.

Method

Fifteen mathematic teachers in primary schools Grade 1 – 6 were asked to write descriptions of one of their own students, who faced mathematical difficulties. Analysis of the descriptions inspired an interview guide for focus group interviews with the fifteen teachers in three groups.

First: every teacher presented his/her written description. Second: A modified Engström and Magne's framework was presented. Third: every teacher gave his/her view on the causes for their students difficulties. Fourth: Whole group discussion and reflection.

All interviews were recorded and analyzed. Statements were categorized according to the framework.

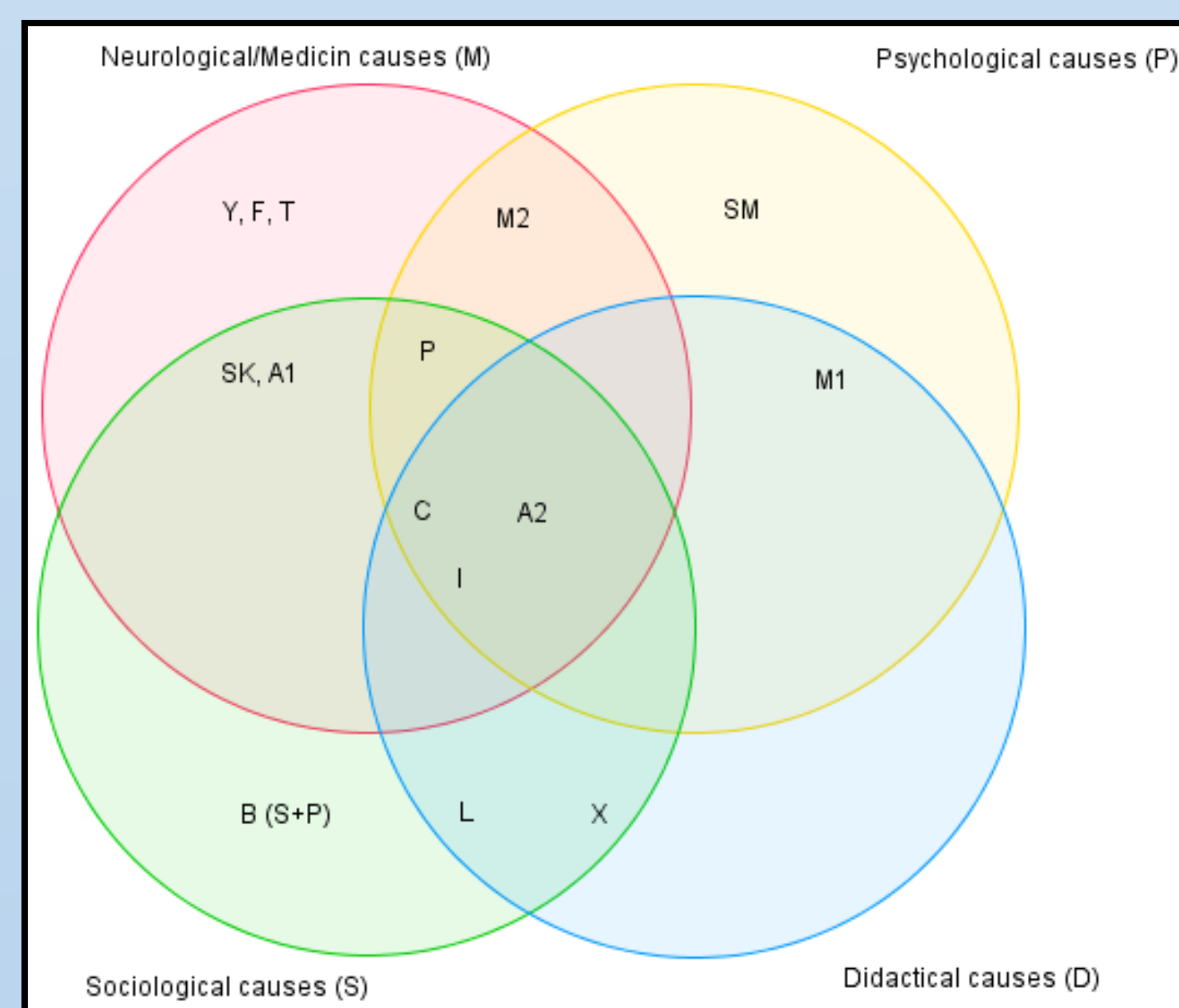


Results

One main result showed that in third phase only one teacher identified didactical causes as primary cause while neurological and psychological causes were chosen most frequently. Another main result showed that during whole group discussion and reflection in the fourth phase, ten teachers included didactical causes.

Teachers' first views on the causes for their students difficulties

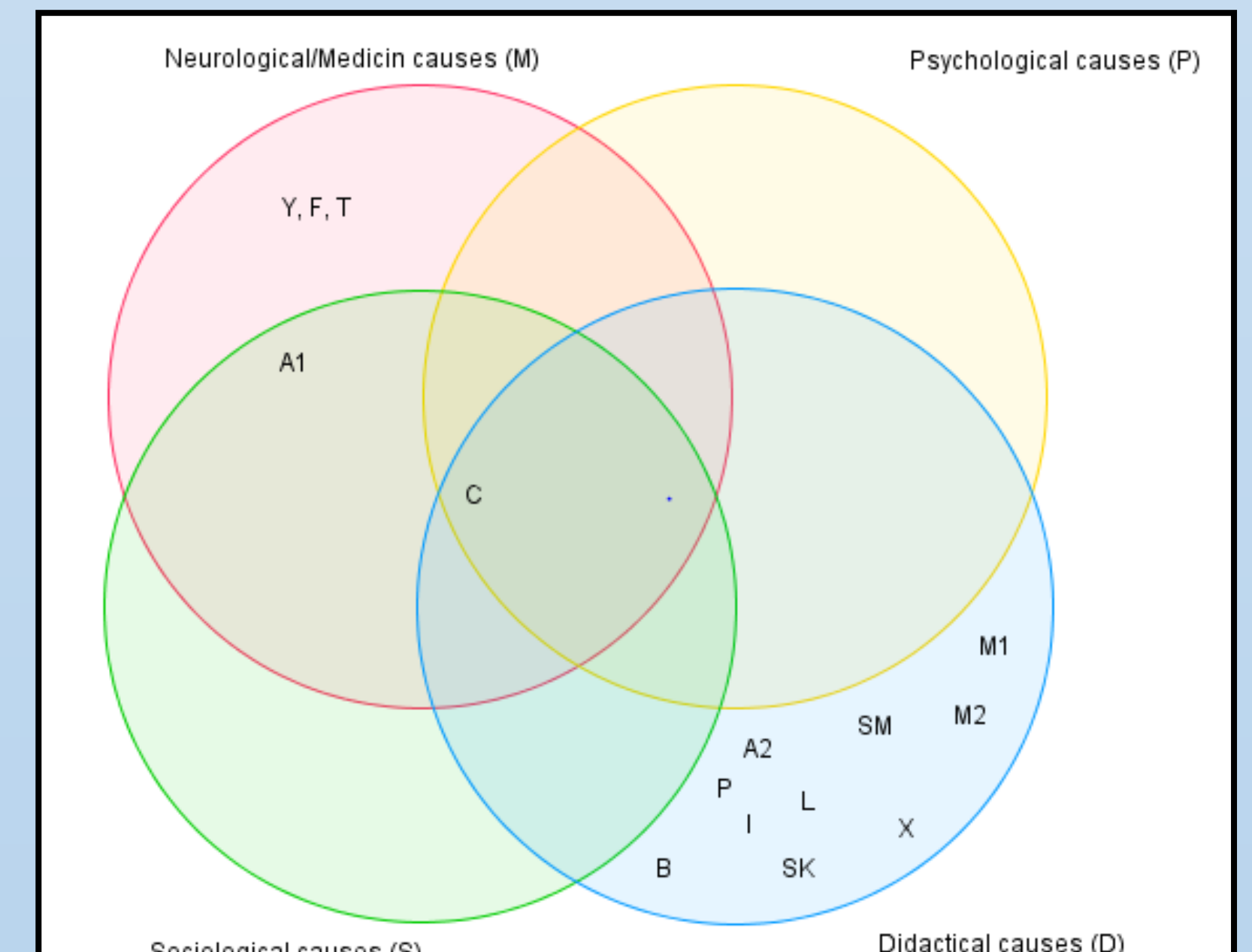
Teacher	Neurological	Psychological	Sociological	Didactical
Y	1			
T	1			
F	1			
M2	1	2		
SM	1		2	
A1	1		2	
C	1	4	2	3
SK		1		
A2	3	1	2	4
M1		1		2
L			1	2
I	3	2	1	4
B		2	1	
P	3	2	1	
X			2	1



Group discussion and reflection



Views after group discussion



The beliefs were challenged

- The teachers' beliefs – as frames for defining problems and filters for interpretation – were challenged, when the teachers heard and created more and different stories.
- The teachers' beliefs – as guides or standards for action – were challenged. Finally ten teachers included didactical causes, and more teachers saw new possibilities for action.

Perspectives

The design of letting teachers' own case descriptions be followed by a focus group interview seems to bring forth effective starting points for teachers to become aware of, modify and widen their beliefs about causes for mathematical difficulties. The results advocate for implementing the design on a larger scale in in-service teacher education, while modifications are necessary for implementation in pre-service education.

References

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