

# LEARNING MATHEMATICS WITHIN THE CONTEXT OF LINGUISTIC AND CULTURAL DIVERSITY – AN EMPIRICAL STUDY

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In the research project to be presented, the role of pupils' linguistic and cultural background for learning and teaching mathematics in a multi-lingual classroom is studied (limited to students with Turkish background or students from the former Soviet Union with a historical German background going back several hundred years). Recent results of educational research show how strongly learning success depends on the school-relevant command of the predominant language in which lessons are conducted - in Germany the German language. These results convey the impression that teaching itself does not cope with its task to impart its own language. In the planned paper a description of an empirical study will be presented in which we examine the relationship between learning/understanding of language and learning of mathematics in multi-lingual classrooms.

As theoretical background the project refers to the culturalistic-theoretical approach of Pierre Bourdieu with its central conception of habitus, where the forms of habitus are understood as systems of durable social and historical dependent dispositional systems (Bourdieu, 1987). According to Bourdieu habitus expresses itself in schemes of perception, thinking and acting. In the paper to be presented we will show that the different linguistic and cultural backgrounds of the pupils participating in the study find its expressions in various habitual ways of perceiving and processing mathematics.

Concerning concrete results received so far, our study points out that there exist remarkable differences in the perception of mathematical problems influenced by the different lingual, cultural and social background of the students as there were:

- alternative comprehension and understanding of different key concepts within the problem;
- different lingual comprehension of the problem solving situation;
- specific treatment of the context, especially gender differences could be observed concerning the seriousness of the context and the distance to it;
- differences in the ways of communicating the solution;
- differences of the contexts in which the pupils have embedded the task.

## References

Bourdieu, P. (1987) *Sozialer Sinn. Kritik der theoretischen Vernunft*. Frankfurt: Suhrkamp.