The students had to agree on which argument was correct, which proposed solution was more elegant or faster.

It seems that in a situation when the student is standing at the blackboard, he/she feels the responsibility to make a solving proposal. That initial act elicits communication. For the submission of a solution proposal initial act, the student's reasoning has to be done. Social interaction is therefore acting as a catalyst for cognition of what is in accordance with the communication approach to thinking (Sfard, 2001).

**Conclusions**

The initial motivations for the study were records of the students who described in mathematical autobiography the moment of writing on the blackboard as one of the most stressful moments in their mathematical education. Since in Slovenia this is a deeply rooted traditional way of teaching mathematics, we decided to explore the advantages and disadvantages of this method. After the students had expressed their preferences and the majority of them had not considered solving problems on the blackboard as an efficient way of learning, we almost decided to suspend this method at least for some period of time. We hoped that the anxiety level would decrease in this way. However, the results of the post-test, in spite of statistical insignificance, convinced us to stick to the established way of teaching in the mathematical community in Slovenia. Therefore, we intend to keep all the described proposed methods in future and to combine them with special attention paid to social norms that develop higher responsibilities in participation and thinking.

The described phenomenon is of special importance when considering teacher education. We observed that in problem solving mathematical courses designed for elementary pre-service teachers fostering small group cooperative work is beneficial in the area of attitudes and beliefs those students have about mathematics. That is consistent with the finding of Tatar's (2012) study in which a significant negative correlation between anxiety and collaborative learning was indicated. However, further research is needed to highlight anxiety levels.
References


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