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## ***Supporting creativity and changing teachers' beliefs about creativity in the context of an experiment in a school***

### **Extended summary**

Creativity is an important educational goal of national educational systems and of global contemporary societies, while significance of research into teachers' beliefs about creativity lies in their influence on perceiving creativity and relating to their own and creativity of others. In this paper we report results of a study into changing implicit beliefs about creativity held by teachers who participated in an experiment aimed at supporting creativity in a primary school (N=32). The goal of the experiment was to support students' initiative, cooperation and creativity by training teachers in the following areas: group work as a tool for encouraging cooperation; open ended tasks and creative game as tools for encouraging divergent thinking; inquiry and dialogue as tools for encouraging divergent and critical thinking; and project based learning as a tool for encouraging students' initiative. During one school year, teachers were trained in teaching methods, used these methods in their own practice and analyzed their effects in teachers' meetings.

Teachers' beliefs about creativity were examined before and after the experiment, using a questionnaire, to which almost all teachers responded in the first study (N=30) and majority of the teachers in the second study (N=18). The same questionnaire was used in both studies, containing open ended and closed questions about the concept, manifestations and development of creativity at school. Collected data were analyzed qualitatively and quantitatively, by categorizing answers into predefined categories and calculating their frequencies in the first and the second round of research. Responses about the concept of creativity were categorized in line with the 4P Model of creativity, which includes the following elements in defining creativity: person, process, product and press. Teachers' responses about developing creativity

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were analyzed according to the Expert model for supporting creativity in school, including the following categories: teaching activities, extracurricular activities, school climate, curriculum, teachers' professional development, managing creativity and partnership for creativity.

Comparison of teachers' responses in the first and the second round of the research points to similar conceptions of creativity and its manifestations. Before and after the experiment teachers described creativity in terms of a creative person, while manifestations of creativity at the primary school level were mainly associated with the creative process. Majority of teachers, before and after the experiment, estimated that school could contribute to the development of creativity to a great extent. In both studies, teaching activities were the most dominant answer to the question how creativity could be supported in school. Changes were registered in the decreasing importance of extracurricular activities and increasing importance of the curriculum after the experiment. Content analysis of responses within the categories pointed to subtle differences, which could be associated with the experiment.

Generalization of results is difficult because of the fact that one third of the teachers did not participate in the study after the experiment. This could be a result of their diminishing motivation, work overload or the influence of negative social environmental factors. However, it can also be assumed that a number of teachers who participated in the study developed a more complex set of beliefs about creativity. This research experience may be useful for shaping support for teachers in the field of recognizing and supporting creativity, as well as for planning experiments in schools. Experiments should be preceded by a thorough preparation, which would stress the rationale for teachers' participation in the experiment. Incremental involvement of teachers could start with the most motivated teachers. It seems necessary to address the teachers' resistance in the phase of intervention planning.

The most important pedagogical implications of the study focus on the implementation of the experiment as an action research project in which teachers participate in decision making and monitoring of change as both participants and observers. Resources for carrying out the experiment should be provided as well as the adequate duration of the experiment in order to be able to outline its positive effects. Teachers' motivation to participate in the experiment may be supported by individual contracts pointing to the commitments of both parties. Teaching teams could be formed according to the shared student groups in order to facilitate correlation among the subjects and to create a holistic approach to students. It would be important to raise awareness of teachers' implicit beliefs about child development and the role of education, together with the beliefs about creativity. In short, systematical approach to teachers' beliefs is needed in order to develop an image of an active child and teacher as a change agent.

**Key words:** beliefs, creativity, teachers, primary school, stimulating creativity.

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