

appeared statistically, with effect size value significantly higher after participation in the programme.

Both analyses allow us to presume that the results, especially of the first (pre-test) measurement in Experimental Group 1, may be a consequence of test administration conditions - the exceeded time limit for solution of individual sub-tests. The re-test measurement in Experimental Group 1 showed a decline of values in fluency and flexibility, which could be attributed to the relatively late timing of the measurement just before the holidays, which could have led to children having poor motivation to solve the test tasks. The subsequent change in administration and timing of the re-test measurement for Experimental Group 2 will be further verified.

Conclusions

The results of the study contribute to the investigation of pre-school children's empirical cognition and appear to support inquiry-based teaching as a means of teaching also in conditions of pre-school education.

Development and implementation of the authentic, original programme aimed to foster empirical cognition in pre-school children using physical experimentation, conceived as creative problem solving and inquiry-based learning, and brought valuable knowledge which is applicable in the practice of pre-school science education.

Through evaluation of the effectiveness of the developed and implemented programme with regard to variables loading on the creative thinking of children, the contribution meets methodological standards for development and application of intervention programmes based on research evidence.

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