

Meta-analysis of the Impact of Cooperative Learning on Academic Performance

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Introduction

Academic performance includes the acquisition of a set of skills and abilities. Academic performance is a complex phenomenon influenced by the interaction of various factors. Cooperative learning is one of these factors. Cooperative learning is considered as some method related to the organization of classroom instruction to achieve common learning goals via cooperation. Over the few last decades, many researchers have examined the effect of cooperative learning on academic performance, which yielded different results. This study aimed to analyze and combine the results of the performed studies in this field in order to reach a general conclusion, resolve the existing contradictions, and discover possible moderators.

Method

The present study was conducted by meta-analysis method. The statistical population was all research published in a scientifically valid journal in the country that was available in computer databases (Irandoc, SID, Magiran, Noormags) and was available in related studies between 1997-2022. Using the purposive sampling method and extensive search based on the specified keywords (Teaching methods, Cooperative learning, Academic performance,

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Academic progress) and applying entry and exit criteria, 200 studies were selected as a sample and entered the meta-analysis process. The extracted data were analyzed with CMA software.

Results

From selected studies as a sample, in total, 258 effect sizes were extracted which 17 extreme effect sizes were eliminated in sensitivity analysis and the next analyzes were performed on 241 effect sizes. The value of the “fail-safe N” statistic was obtained at 12040, which indicated that after entering this number of non-significant studies, the combined effect size will be non-significant. The amount of combined effect size was calculated at 0.893 in the fixed model and 1.133 in the random model. Both models were statistically significant ($p < 0.001$). As the effect sizes were heterogeneous, gender, type of sample, type of cooperative learning, type of course, and year of research were examined as the moderator variables. The results indicated that the effect size of cooperative learning on academic performance is in males more than females, in elementary students more than others, in student teams achievement division (STAD) instruction more than other types, and in social science courses more than other courses. The results of the research showed that the year of studies has a very small contribution to explaining the heterogeneity.

Discussion

The results of the study showed that cooperative learning had a significant effect on academic performance. It has been assumed that cooperative learning is one of the most important factors or predictors for learners to achieve learning success.

Keywords: Academic Performance, Meta Analysis, Teamwork, Cooperative Learning.

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