## NEWSLETTER

## How do Learning and Teaching Strategies Improve Students' Academic Performance?

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Acational Science) analyzed the three questions, including which teaching strategies are more effective, which learning strategies are more effective, and whether the teaching strategies can improve learning strategies. Teaching strategies can be divided into individualized teaching strategies (ITS), participatory teaching strategies (PTS), and guided inquiry teaching strategies (GTS). Meanwhile, learning strategies are consisting of cognitive strategies (CS), metacognitive strategies (MS), and inquiry strategies (IS). Researchers used the Hierarchical Linear Regression Model and the Coarsened Exact Matching (CEM) to design the quasi-experimental and then adding variables of teaching strategies and learning strategies to compare the results through effect size calculation. The research results are as follows:

- The results of the hierarchical linear model show that the cognitive strategy has the most significant influence among the three learning strategies, which means it is necessary for students to master the methods of information processing, in this way can information be efficiently accessed in memory.
- Among the three teaching strategies, the guided inquiry strategy turned out to be the most significant. To be specific, when teachers guide students to discuss a certain problem, it is suggested that teachers could connect the teaching content with daily life, guiding students to think and put forward their own views, and encouraging students to solve problems in different ways, as a result, to effectively promote students' academic performance.
- The results prove teaching strategies can significantly promote various students' learning strategies. But there was a significant difference between elementary and middle school. Cognition and inquiry strategies were significantly affected by teachers' teaching strategies in elementary school, while metacognitive strategies were significantly affected by teachers' teaching strategies in junior middle school.

In summary, researchers suggest that parents and teachers should have a deep understanding of the impact of learning strategies and teaching strategies on elementary and middle school students' learning, focusing on improving students' academic performance through more effective strategy guidance. At the same time, it is necessary to follow the tendency of international education evaluation and drive the reform of basic education examination assignment in China more innovative and cooperative.

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