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The influences of self-regulated learning support and prior knowledge on improving learning performance

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## **The influences of self-regulated learning support and prior knowledge on improving learning performance**

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### **Abstract**

Self-regulated learning (SRL) is helpful to students. On the other hand, prior knowledge has great effects on students' self-regulation and learning performance. To this end, this study aimed to examine how high prior knowledge students (HPKs) and low prior knowledge students (LPKs) behaved differently when interacting with a SRL environment. To achieve this aim, we proposed a self-regulated learning support system (SRLSS) for a mathematical course. The results showed that the gap of learning performance between the HPKs and LPKs was removed after a long-term learning process. Moreover, the LPKs and HPKs behaved similarly in the forethought and self-reflection phases but some behavior differences were found in the performance phase, where the LPKs relied on the notes and sought support the dashboard and quiz records while the HPKs did not demonstrated such a tendency. Our results' theoretical and methodological implications and possible applications for further research are also discussed.

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