

after the problem solving process. More specifically, metacognitive awareness encourages students to plan, monitor, and evaluate the effectiveness of the problem solving process. Hong-Nam (2014) also stated that cognitive and metacognitive actions taken by students during the problem solving process allow students to enhance their learning. He claimed that when students have metacognitive awareness, they are able to apply their knowledge and skills effectively when solving a mathematical problem, including when dealing with mathematics assessment that usually involves problem solving. This in turn helps in contributing to the improvement of students' mathematics achievement.

Conclusions

The findings of this study have several important educational implications, especially in the secondary school context. Based on the findings, it is clear that both problem solving skills and metacognitive awareness play an important role in improving secondary school students' mathematics achievement. Therefore, attention should be paid to the development of problem solving skills and metacognitive awareness in order to improve students' mathematics achievement. Apart from that, this study also provided evidence regarding the role of metacognitive awareness as a mediator in the relationship between problem solving skills and mathematics achievement. This finding indicated that the development of problem solving skills can be enhanced when students possess metacognitive awareness, which consequently leads to higher student achievement. Thus, it is very important to help students develop both metacognitive awareness and problem solving skills since both factors were found to be related to mathematics achievement. Based on these findings, teachers are recommended to integrate the elements of metacognitive awareness in developing students' problem solving skills in order to help them become metacognitive experts, who are aware of their thinking processes and have self-regulated learning skills, which consequently leads to the improvement of their mathematics achievement.

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