

LEARNING MATHEMATICS IN A METACOGNITIVE APPROACH

by:

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The main role of teachers is involved in assisting students in their learning process by conveying knowledge and skills, for the students to be actively engaged in societal matters and their own development. Therefore, teachers must promote a positive and conducive learning environment, yet compelling a challenging learning process for students' development.

As a teacher we must know our students because every student that enters our classroom is different. They come with diverse backgrounds in experiences, opinions, and interests. Therefore, it should not be surprising that students learn new content in a variety of ways. Every learner can benefit from personal learning tactic and method of teaching. Hence, we, teachers, must have a repertoire of teaching methods, approaches, and strategies to assist our students in the way their brains learn it most effectively. Moreover, the techniques, steps, or other processes a teacher employs when imparting knowledge in a classroom are referred to as effective teaching strategies. To satisfy standards and meet the educational requirements of our students, teachers use several approaches to guide their instruction.

As a Mathematics teacher, I had trouble in imparting important knowledge to the students because of their mindset that the subject itself is difficult - many students struggling in Mathematics because of this notion. Hence, I must act accordingly for the students to love and embrace that Mathematics subject is important and easy to learn.

One of the notable approaches of education is metacognition. According to Livingstone (2003), metacognition in education fosters Higher Order Thinking Skills (HOTS), that

refers to the active management and engagement of the cognitive functions involved in learning. This approach is crucial in the teaching and learning process due to its active development in the success of students' learning. Moreover, Izzati and Mahmudi (2018), stated that the ability to use metacognition is crucial for solving mathematical problems. Metacognition, which may be summed up as thinking about thinking, is the capacity to observe and regulate students' own thoughts, including how they approach problems, how they select solutions, or how they question those decisions. Mathematical problems must be analyzed, a solution must be developed, the solution must be carried out, and the solution must be verified to ensure that the stages were taken correctly. As a result, metacognition is essential for effectively solving mathematical issues.

Metacognitive approach can be used in a variety of way in teaching Mathematics. For instance, student reflection, monitoring, and evaluation of their problem-solving skills and approaches are aided by students verbalizing and documenting the procedures to solve an issue. It has been demonstrated that doing so improves conceptual knowledge and gives students a chance to assess their progress. Another way is students are encouraged to reflect together, provide justification for their decisions, and expound on their cognitive processes by responding to questions concerning concepts. Select questions that present math as a series of techniques for addressing problems rather than as a final product. Therefore, they can evaluate how well they comprehend the class material and engage in reflection on their own ideas and feelings about their learning by reflecting during formative assessment. On the other hand, teachers must employ powerful focused questions, in that way we are gradually made our students independent in their learning. Also, we must provide students with examples of how to ask clarifying questions in later learning phases when they ask themselves those clarifying questions.

In a nutshell, teachers must be well-versed in a variety of teaching approaches and have access to a wide range of these approaches. These approaches can help teachers in

involving their students and maintaining classroom participation in the learning process. Additionally, by building on the support of a teacher's modeling and progressing toward autonomous practice, students soon be able to take charge in their own learning.

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