MATHEMATICAL INVESTIGATIONS IN THE CLASSROOM

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Doing mathematical investigations in classrooms can help boost the skills and confidence of students in solving mathematical problems analytically. The mathematical investigation is suitable to three categories or problems which usually start to respond to students’ questions. Such questions could be: “Is the same procedure appropriate with other numbers?” and “What would happen if…?”

An investigation approach is applicable to many topics in the mathematics curriculum. It encourages confidence, motivation, communication, interaction, and understanding of mathematical thinking and analysis. Using this technique allows pupils to exceed carrying out routine tasks with thorough thinking of what they are doing.

In beginning the investigation, the students would wonder if they will come up with a suitable answer or if they could arrive at more than one answer. In this case, the teacher may not know the answer or may pretend that he does not know what would happen.

The skill of investigational problem solving can be improved when students are encouraged to ask their own questions. The teacher can introduce beginning questions to the class and then let the students work at the beginning questions for a given time. Encourage them to list down questions and pool their ideas. The teacher may provide some example of pooled questions until the students have practiced enough in doing this activity.

Some examples the class may use as questions are: “Does it always work?”; What is the reason for the results?”; “How many other numbers can be affected by this?”; and “Is there any connection between the problems being investigated upon?”

The students can work in group like they what they are doing in scientific experiments. They can start pooling their ideas and discussing possible solutions. Mathematical investigation is a crucial avenue for educating students since it promotes...
interest, develops common sense, and improves decision making, and discriminating for the best solutions. It also encourage flexibility, responsiveness to any situations, and helps develop perseverance. It helps students to build up ideas and take responsibility for their own comprehension and learning. All of which can contribute to the essential holistic approach to student learning and life values.

References: