Topic : "To check the effect of students learning through self-made tools in mathematics in Std. 9th & 10th"

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❖ **Introduction :** The subject of mathematics has been introduced in the present study. This research work has been conducted to solve the problem of mathematics. It is based on the concept that students can give a flawless performance in a short time. An attempt has been made to remove the questions that confuse students.

❖ **Interpretation of Word of Topic :** The study discusses the impact of self-made tools on students in Mathematics. An effort has been made to cover Vedic Maths within this topic.

❖ **Why and How Did You Choose the Subject :** After teaching Maths for a few years, I realized that students had forgotten self-constructed models and Vedic Maths. This topic is chosen so that students can solve mathematical problems better and in less time.

❖ **What Sample Has Been Selected for the Research :** Narayan Vidyalaya English Medium School in Bharuch city was included as a sample in the present study. Students from 9th and 10th grade were selected as participants.

❖ **What Method Was Used for the Research :** The academic method was used for this research. A self-designed questionnaire was prepared to collect data.

❖ **How Was the Research Process Done? (Description of the Process) :**

▲ First, a self-designed questionnaire was created and given to students to assess their prior knowledge.

▲ Then, students' knowledge was enhanced by using different self-made Teaching Learning Materials (TLM).

▲ Finally, to check the impact of self-made tools, another test using a self-made questionnaire was conducted, completing the research process.

❖ **Verification by Test :** In the first test, we identified confusing questions and the difficulties faced by students in mathematics. This was improved through explanation and practice with TLM.

❖ **Gathering Information :** Information was collected twice through a self-made questionnaire.

❖ **Analysis of Information :** In the first test, students' scores were very low. After explaining with TLM models and practice, there was noticeable improvement. Six students scored full marks (20/20), and all others also showed progress.

❖ **Results :** Through self-made models and explanations, students showed significant improvement. They began solving math problems more quickly and accurately.

❖ **Observation :**

▲ Students became familiar with Vedic Maths.
▲ Interest in Mathematics increased among students.
▲ Time taken to solve math equations decreased.
▲ Students' confidence developed noticeably.

> જૂના વિચારોને નવી રીતે રજૂ કરવાની ક્ષમતા એટલે સર્જનાત્મકતા

❖ **Conclusion :** Students were able to perform addition, subtraction, multiplication, and division in less time. They started performing better overall in mathematics.

❖ **Suggestions for Future Research :**

▲ This research can be extended to students from other standards.
▲ More Vedic Maths topics can be included for broader learning.