

Design and Construction of an Intelligent Multiplication Table for Enhanced Education and Increased Student Engagement

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Abstract : In the fifth lesson of the third-grade mathematics book, students are introduced to the concept of multiplication. However, some students showed a lack of interest in learning this topic. To address this, a simple electronic multiplication table was designed with the aim of making the concept of multiplication entertaining and engaging for students. It provides them with moments of excitement during the learning process. To achieve this goal, a device was created that produced a bell sound when two wire ends were connected. Each wire end was connected to a specific number in the multiplication table, and the other end was linked to the corresponding answer. Consequently, if the answer is correct, the bell will ring. This study employs interactive and engaging methods to teach mathematics, particularly to students who have previously shown little interest in the subject. By integrating game-based learning and critical thinking, we observed an increase in understanding and interest in learning multiplication compared to before using this method. This further motivated the students. As a result, the intelligent multiplication table was successfully designed. Students, under the instructor's supervision, could easily construct the device during the lesson. Through the implementation of these operations, the concept of multiplication was firmly established in the students' minds. Engaging multiple intelligences in each student enhances a more stable and improved understanding of the concept of multiplication.

Keywords : intelligent multiplication table, design, construction, education, increased interest, students

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