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Intelligent learning system for mathematics

The pass rate of students in mathematics at the General Certificate of Education (Ordinary Level) is very low and is less than twenty percent. Further by the reports of National Institute of Education (NIE) about the performance at each grade explains that students are less familiar with fractions and manipulation. In order to address the problem, we have developed an Intelligent Learning System for fractions at grade six.

The learning system exploits David Ausubel's learning theory, which states that "*the most important single factor influencing learning is what the learner already knows, follow this and teach accordingly.*" The intelligent system developed enables experts systems features with three-layer architecture that allows navigating from visual comprehension to abstract level of manipulation of fractions via intermediate level of conceptualization. In the visual level fractions are graphically comprehend and at the conceptual level the visual concept of fractions is converted to numbers. At the abstract level an extensive problem solving is done only with numbers. These levels are restricted as coming back there by developing abstract thinking. The implementation of the visual & conceptual levels are completed by using Authorware and tested. The abstract level is being implemented and tested and make system available for students.

The system is developed not as a fancy software but as enchancing for improving abstract thinking in mathematics.