

**APPLICATION OF AUTHENTIC ASSESSMENT IN A JUNIOR
SECONDARY SCHOOL MATHEMATICS IN SRI LANKA – AN
ILLUSTRATIVE STUDY ON GRADE 9 – USES CONCEPTS,
PRINCIPLES AND THEORIES RELATED TO LIQUID MEASURES**

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This study examined the effectiveness of authentic instruction and assessment over the conventional instruction and paper-pencil assessment in Grade nine Mathematic. As the sample it was selected considering easy accessibility, availability, and getting consent for the study and also a mixed school (urban area) in the district of Kandy which had two parallel grade nine classes and also the same math teacher teaches the mathematics subject in the two classes. Quantitative and qualitative data collection techniques such as a pre-test, post-tests, observations and focused group discussions, videotaping, photographs, as qualitative instruments were employed in data collection from 63 students of two comparable groups as control and experimental. To check the comparability of both groups a pre-test was done and analysis showed the two groups are comparable. Thirty three students participated in the control group with conventional instruction and assessment, while thirty students were in the experimental following authentic instruction and assessment. Two post tests were administered to both groups to assess any content loss due to authentic instruction as teachers usually claim and also included the higher order thinking abilities. For the qualitative analysis student behavior were observed using an observation check list.

Research was conducted after a deep analysis of recent literature related to Authentic Assessment (AA). Then a surface analysis was done on the existing Mathematics curriculum, Teacher's Guide and Mathematics text books to decide the suitability of authentic instructional strategy in teaching Mathematics in Sri Lankan context.

Overall, the study revealed that the successfulness of Authentic Assessment approach oppose to the conventional method of teaching and assessment in learner achievement of the expected learning outcomes, students' development of the higher order thinking skills as well as 21st century skills and soft skills while gaining a better conceptual understanding of the unit. Moreover there is no any loss of learning content in using authentic instruction and assessment method oppose to the conventional method of teaching and assessment. All assessments were statistically and significantly better in favour of the authentic instruction and assessment. In conclusion, it is clear that the authentic instruction and assessment method can be successfully adapted in Sri Lankan context to teach Mathematics concepts for 9th graders even with the available facilities.