

Educational impacts of the G.C.E. (Advanced Level) Combined Mathematics syllabus

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The subjects Combined Mathematics (CM) and Higher Mathematics (HM) were introduced for the G.C.E. advanced level (AL) Physical Science stream instead of Pure Mathematics (PM) and Applied Mathematics (AM) under the educational reforms of 1998. CM is offered by all Physical Science students but HM is offered by very few students (0.13% from Physical Science stream) at the G.C.E. (AL) examination. In the present study the educational impacts of the introduction of CM at the G.C.E. (AL) from the point of perception of numerous stakeholders in the relevant fields was investigated via the survey research method.

A sample comprising G.C.E. (AL) 60 school teachers, 16 University Lecturers, 36 Science and Engineering Undergraduates, 4 Educators involved in tertiary education and 4 entrepreneurs were selected. Questionnaires, interview schedules and documentary survey were used to collect data.

The 82 % of school teachers indicated that the allocated teaching-time is inadequate; the University Lecturers in the Mathematics Departments at Engineering and Science Faculties indicated that the Curriculum Content of the subject CM is not adequate for the provision of the necessary back-ground knowledge and skills to proceed to their undergraduate courses. The directors of advanced technical institutes stated that the knowledge and skills of the students who followed CM is adequate for mathematics related technical courses. For entrepreneurs, what is most required of prospective recruits is the capacity to analyze problems critically, but not mere book knowledge.

Results revealed that the curriculum content of the subject CM has failed to cater the needs of the 77% of the stakeholders. Therefore, a major revision of the format and the curriculum content of the subject CM is absolutely necessary. According to the findings of this study, a syllabus is also formulated to have a single mathematics subject for the G.C.E. (AL) Physical Science stream instead of two subjects CM and HM.

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