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Reformed calculus teaching: the UWC experience.

J. South. Afr. Assoc. Res. Math. Sci. Educ. 1, No. 1, 41-49 (1997).

Summary: This paper reports on some aspects of the development of an alternative first year mainstream course implemented at UWC since 1993. Many students who accepted to study science related courses at UWC are poorly prepared for first year university mathematics. It has been necessary to provide these students with empowering learning experiences, helping them to surmount the scholastic inadequacies their education has left them in mathematics. With the continued development of the course, the coordinator gradually implemented, together with other experiences, some of the principles and strategies of the "calculus reform" initiative which began in the 1986 in the USA. The issues raised by the "reformers" resonate with the position of the coordinator i.e. active student involvement is fundamental to the enhancement of their learning of mathematics. Based on the results and appraisal of the students, the course has successfully given more students the opportunity to achieve a credit for first year mathematics as well as raised their affinity for the study of mathematics. The UWC experience has shown that there is not one magical method – workshop lectures, the use of technology, writing, lab sessions or curriculum changes, etc. capable of mitigating deficits in mathematical understanding. Rather, a holistic and an integrated approach has proved useful and effective in this regard.

Classification: I10

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