An Outline of Possible In-course Diagnostics for Derivatives and Integrals of Functions

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ABSTRACT The research reported in this paper was conducted in an attempt to provide support to first year mathematics students who took a core calculus module for which the relatively low pass rate was of concern. The objective was to make available suitable diagnostic questions to students so that they could detect their strengths and/ or weaknesses in particular sections before they took the formal assessments for those sections. In this paper, the researcher documented his findings on the formulation of expected student learning outcomes for derivatives and integrals, in the context of calculus. Those were arrived at after conducting document analyses of the aim, content and past assessment papers for the module. Then the literature review and the expected student learning outcomes were used to document sample diagnostic questions for the sections on derivatives and integrals that should facilitate student learning of concepts in those sections.