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ENCOURAGING INNOVATIVE THINKING AND CONCEPTUAL UNDERSTANDING IN THE BIUST FIRST-YEAR COURSE

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In Botswana, a drive is underway to transform the country's economy from being mining/resource-based to research and technologically driven. In aid of this cause, the Botswana International University of Science and Technology (BIUST) was recently established, with classes starting in 2012.

With few large-scale industries, the formal employment possibilities of graduates in Botswana are limited. Therefore, encouraging innovation and innovative thinking amongst students are priority areas of the university.

The approach adopted in this first-year Physics course aims to enable students to transfer the gained knowledge and skills to new contexts, thus enabling innovation. The achievement of this conceptual understanding is a key factor in terms of the teaching approach and the assessment criteria of the course. The teaching approach is guided by Kolb's learning cycles. The objective is to equip the students to apply Kolb's learning cycles as a way to reflectively assess/gauge their progress. Furthermore, it should also assist students to identify areas in their understanding that need improvement, which in turn would encourage more self-directedness amongst the students. The overall aim of the intervention is to foster greater ownership by the individual of his/her learning experience.

In support of the above objective the course's assessment criteria is expanded to include reflective exercises and an increased focus on conceptual understanding. In practice the number of formal assessments is increased, but the assessments, compared to that of the previous academic year, are much shorter in length and more focused on specific aspects of the curriculum.

My presentation will elaborate on the approach and implementation as well as discuss the preliminary results.

Apply to be considered for a student award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

N/A

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