

## **A BLUEPRINT FOR AN INTEGRATED PROJECT BASED LEARNING FRAMEWORK IN ENGINEERING EDUCATION: A CASE STUDY AT TAYLOR'S UNIVERSITY**

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### **Abstract**

As a means to produce highly sought after graduates, education institutions are now turning to Project-Based Learning (PjBL). The road to a successful implementation of PjBL at the institutional level is lined with challenges and has deterred many. One of the major challenges is the number of projects needed to sustain such an implementation. As a means to overcome this, an integrated PjBL framework is proposed. It is observed that this framework makes it very obvious to staff working on a research project that they could leverage on students in the various design modules by carving out different aspects of their research projects into smaller projects that could be offered as student projects. In doing so, staff research workload and the need to develop projects to support PjBL are no longer seen as separate workload but are synergistic.

Keywords: Project-based learning, Integrated framework, Talent farm.

### **1. Introduction**

Engineering is a profession where the ability to apply technical principle while remaining human with effective interpersonal skills is extremely important. While engineering principles are taught in class, the ability to apply these principles and interpersonal skill are learned and sharpened in projects. Today, Project-Based Learning (PjBL) is widely accepted as a means to develop competent graduates especially in the engineering and technology fields [1-4]. This is especially so when projects offered are current, industry linked and/or research driven. Initiatives, such as the CDIO (Conceive, Design, Implement, Operate), provides a framework to educate engineers using a curriculum that mirrors the product development and deployment lifecycle [5].