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Continual Quality Improvement Process for Undergraduate Programs

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Abstract

The Outcome Based Education (OBE) practice requires that the continual quality improvement (CQI) process is implemented in order to continuously improve the quality of teaching and learning of an education program. In purpose of implementing CQI processes, the inputs from the program stakeholders consist of external assessors, industry advisory panel (IAP), students as well as accreditation panel should be considered, weighted and implemented as deemed appropriate by the department. The program external assessors' inputs also will determine the quality of the program's curriculum and contents as benchmarked with other top international universities. Thus, this paper describes the current CQI processes and self-initiated changes exercised by the Department of Electrical, Electronic and System Engineering, Faculty of Engineering & Built Environment, Universiti Kebangsaan Malaysia based on the inputs from accreditation panels, industry advisory panels, external assessors and students which are gathered periodically by means of visits, meetings and discussions. The stakeholders' and accreditation panel inputs are mainly on the aspects of teaching and learning, program objectives, program outcomes, curriculum structure, staff, student assessment, facilities and the system quality management as a whole. The department scrutinizes each input before appropriate CQI processes and changes are implemented. Evidently, the CQI and changes made by the JKEES department are not only implemented based on these inputs but some of them are self-initiated. It is highly affirmed that the continuous improvement process carried out at this department level has significantly improve students' learning.

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Keywords: Outcome Based Education; CQI; feedback; accreditation; Industry Advisory Panel; stakeholders;

1. Introduction

The Department of Electrical, Electronic & System Engineering (*Jabatan Kejuruteraan Elektrik, Elektronik & Sistem*, JKEES), Faculty of Engineering & Built Environment (*Fakulti Kejuruteraan & Alam Bina*, FKAB), Universiti Kebangsaan Malaysia (UKM), has implemented the Outcome Based Education (OBE) approach since 2004. The department offers three degree programs leading to the Bachelor of Engineering with honors in Communication & Computer (CC), Electrical and Electronic (EE) and Microelectronic (uE). These three programs are amongst the various broad-based engineering programs offered by the faculty. The program provides a strong

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based in engineering with a good balance between theory and experiments during the four years of study. To guarantee that the quality of its engineering program is comparable to other prestigious universities, the JKEES has established Quality Management System (QMS). This system can effectively ensure that the requirements of professional bodies such as *Engineering Accreditation Council (EAC)* and *Malaysian Qualification Agency (MQA)*, (EAC 2007, MQA 2008) are satisfied. The curriculum is constantly in line with the current development of industrial technologies and the facilities as well services provided by the department match with the customers and stakeholders’ needs. Conforming to this system, the department has plans and implements several activities in a systematic manner to improve the quality of the programs, and subsequently to put into practice the continual assessments to guarantee the effectiveness of the actions taken. In quality management of every program, feedback from stakeholders and external assessors of the program is important to ensure that the program provide the best and effective teaching and learning experiences to the students.

In reviewing the program curriculum and syllabus, inputs from engineering accreditation panels, program external assessor, industry advisory panels (IAP), students, alumni, potential employers and industrial training employers are considered. This paper discusses the suggestion and recommendations by the JKEES stakeholders, focusing on four main groups. They are the accreditation panels, students, IAP and external assessors. Apart from that, this paper also presents the actions taken by department in addressing these inputs in effort to implement the continuous quality improvement (CQI) process. Generally, the CQI of programs is closely related to the curriculum review process. Figure 1 show the flow chart of the curriculum review process in JKEES. From this figure, it can be observed that the curriculum review process starts by considering the inputs from constituencies. Every recommendation is discussed and evaluated by the Curriculum Review Committee (CRC), which is headed by a Program Coordinator, to amend the current curriculum if necessary. Afterwards, the new curriculum draft is presented in the Department meeting before submission for approval to the Department of Academic Planning and Development (*Jabatan Perancangan dan Perkembangan Akademik, JPPA*) at the faculty level. The draft which has been endorsed by JPPA will be submitted to University Senate meeting for final approval.

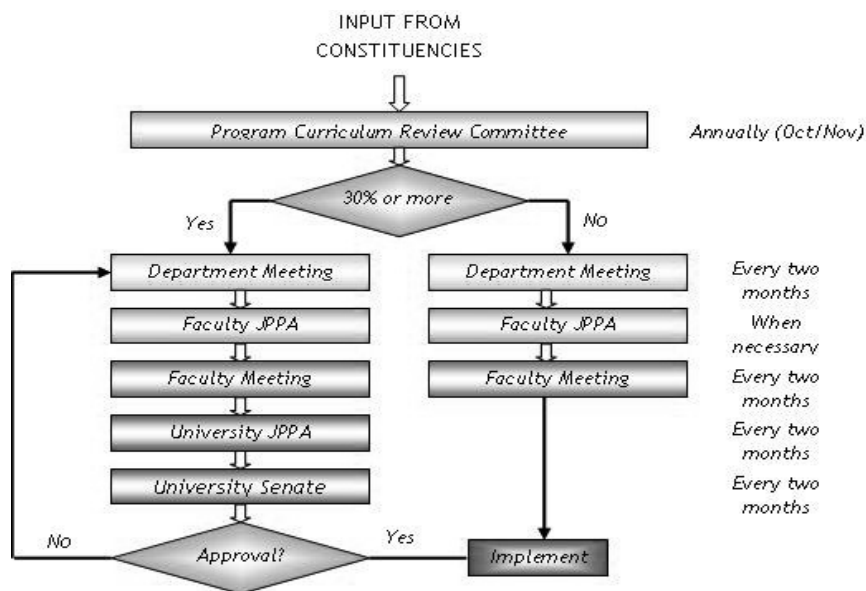


Figure 1 Flow chart of curriculum and syllabus review process

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