

Accreditation Practice in Faculty of Engineering, UNIMAS

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Abstract

The last accreditation exercise by Engineering Accreditation Council (EAC) in Faculty of Engineering, University Malaysia Sarawak (UNIMAS) was conducted in August 2008. The faculty was addressed with some concerns that require improvement within 2 years. The faculty had given the responsibility to Faculty Accreditation Committee (FAC) to improve and take actions on concerns arise. The concerns are mostly on improving the Quality Management System (QMS) and Continuous Quality Improvement (CQI) of teaching and learning embracing OBE. FAC also need to update and prepare document to be submitted to EAC before next accreditation visit. The documents consist of Self Assessment Report (SAR), Supporting Document-Digital Format and Appendix C. These 3 sets of documents had been submitted on 8th April 2010.

1. Introduction

In Malaysia, engineering programmes must be accredited by Engineering Accreditation Council, EAC. EAC is the body delegated by Board of Engineers Malaysia, BEM. EAC Manual, 2007 mention that, objective of accreditation is to ensure that graduates of the accredited engineering programmes satisfy the minimum academic requirements for registration as a graduate engineer with the Board of Engineers Malaysia (BEM) and for admission to graduate membership of IEM. In addition the objective of accreditation is to ensure that Continual Quality Improvement (CQI) is being practiced by IHLs, and accreditation may also serve as a tool to benchmark engineering programmes offered by IHLs in Malaysia. The EAC provide Manual where its include elements of outcomes in the engineering curriculum to ensure a Continual Quality Improvement (CQI) culture in the spirit of Outcome Based Education (OBE).

Faculty of Engineering is one of the eight faculties in University Malaysia Sarawak, UNIMAS. The faculty consist of four departments namely Civil Engineering, Mechanical Engineering and Manufacturing System, Electronic Engineering and Chemical Engineering and Energy Sustainability.

The last accreditation visit in the faculty is on August 2008. The programme had been accredited by EAC but with some concerns. The concerns are mostly on CQI where it includes;

- a) Continuous quality improvement of assessment and evaluation.
- b) Continuous quality improvement on Quality Management System (QMS) to cover complete Teaching, Learning and Assessment activities.

The faculty management had form new committee members of Faculty Accreditation Committee, FAC whom is given the responsibility to discuss, take action, co-ordinate and improve on the concerns being mention by EAC within 2 years of next accreditation visit. FAC consists of 8 members from 4 departments in the faculty. The committee first meeting was on 11th February 2009 to discuss and plan for the improvement on the next accreditation and ensure the Faculty meets the minimum standard stipulated on manual EAC 2007.

2. FAC Strategic Planning

FAC aims to ensure the Faculty is accredited by EAC. Hence, the first step is to take action from concerns mentioned on previous accreditation visit. Then, to fulfill requirement of EAC Manual, 2007.

2.1. Action from Previous Accreditation

EAC commented on unclear philosophy of assessment and evaluation which affects the CQI process. FAC suggest to revise, review and improve the unclear assessment and evaluation and close the loop of the CQI process. Thus, assessment of Course Outcome (CO) and Program Outcome (PO) of every course must come up with well End Semester Report (ESR) with review of teaching technique, delivery and assessment method. Hence, direct tool in assessing the outcomes is used whereby ESR template was introduced by the Faculty's Outcome Based Education Committee (FOBEC) and has been used to assess students' performance on achieving every programme's PO. In addition, all lecturers' in the Faculty are involved in incorporating OBE in programme delivery and assessment through series of conducted curriculum review. Responses and relevant input from stakeholders are considered. Series of curriculum review conducted consists of;

- Curriculum Review: December 2008
Restructuring of curriculum allowing Industrial Training (IT) to be shifted to 3rd year inter session hence one semester is fully utilized for lectures.

- Curriculum Review: July 2009
Objectives of this meeting are to prepare and reproduce an appropriate breadth and depth of department curriculum design as well as to come out with new revise curriculum of instructional design on assessment and delivery method for all courses.

- Curriculum Review: November 2009
Curriculum review at department level was performed on November 2009 to further improve delivery methods assessment and evaluation in all courses.

- Curriculum Review: 10th - 11th December 2009
This Curriculum Review is held at Faculty level. Objectives are to update courses, enhance OBE implementation, optimize student's workload and oversee continuous quality improvement of the faculty.

EAC concerns also include improvement on Quality Management System (QMS) which are needed to cover complete Teaching, Learning and Assessment activities for CQI purposes. Thus, FAC plan to provide and prepare manual of academics and co-curriculum activities which include policies, regulation and guideline, flowchart process, QMS part and CQI process and relevance forms. FAC realize the importance of well documented management activities to provide systems such as manual and policies on transfer credit, moderation including marking scheme/paper, stakeholder

responsibility such as External Examiner and IAP (based on the objectives, output and report) and staff development e.g. attending conference, training and industrial attachment. Thus, Faculty Quality Management Committee (FQMC) had been formed to coordinate and monitor the QMS and CQI in the faculty.

FQMC had successfully published Quality Manual (Teaching, Learning & Assessment) and made available to faculty member online in Faculty of Engineering webpage. Quality Manual is developed for Faculty of Engineering Quality Management System in Teaching, Learning and Assessment where it is aimed primarily at achieving customer satisfaction by meeting Engineering Accreditation Councils requirements and industries' needs through the application and continual quality improvement of the system. The scope and application of the Quality Management System (QMS) covers complete teaching, learning and assessment processes (FQMC, 2009).

2.2 EAC Manual 2007

Upon Accreditation, the Faculty must submit 3 set of documents consists of Self Assessment Report (SAR), CD of Supporting Material Document (consists of evidences of SAR) and Appendix C of EAC Manual, 2007.

Accreditation exercise is conducted by programmes in which the Faculty needs to prepare 4 set of SAR. FAC is responsible to coordinate and make sure SAR is updated and complete within time. EAC Manual, 2007 provide general structure and guidelines described in Section 8.2.1 to 8.2.9. FAC decided that the Faculty must have standard content and format of SAR among its programmes since procedures, policies, resources and systems is same among each programmes.

First step on completing SAR is to divide the task among FAC member. Then, each member is assign to prepare template, standard content and format for each section in SAR of the faculty. SAR is divided into 8 section consist of Section 1: General Information, Section 2: Programme Objectives, Section 3: Programme Outcomes, Section 4: Academic Curriculum, Section 5: Students, Section 6: Academic and Support Staff, Section 7: Facilities, Section: Quality Management System. After that, the complete template and standard content is distributed to Departmental Accreditation Committee to fill in and updated on overall content in their own department.

Departmental Accreditation Committee also dividing the task based on the section. Completed SAR in the department is compiled, reviewed and revised by FAC. SAR completed Draft is then

presented to Dean, Deputy Dean (Academic and Student Development) and Head of Department for final correction.

Each Section in SAR of every programme is supported by evidences such as survey, external examiner report, curriculum review minute meeting, picture of stakeholders involvement etc. The evidence is provided in the CD of Supporting Material Document. EAC Manual, 2007 mentioned that, Supporting Material Document-Digital Format is to provide supporting material for the programme in digital format of Section 8.3.1 to Section 8.3.5 and Section J. Other document submitted to EAC include Appendix C which is the checklist of documents for accreditation.

4. Conclusion

All the documents had been successfully submitted on 8th April 2010. It is a long process which takes so much hard work and times among the faculty members. Co-operation, responsibility and support among the staff are very much appreciated. Moreover, the faculty's' management support and concerns had motivate FAC member to make sure the documents is submitted in time for Accreditation purposes.

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