ROUTE TO BECOMING A MEMBER OF EVALUATION PANEL FOR THE ENGINEERING ACCREDITATION COUNCIL (EAC) OF MALAYSIA

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Abstract- Accreditation of Engineering programmes in Malaysia is currently undergoing major changes, which was brought about by the criteria set by the Washington Accord. This paper discusses the training programmes that need to be implemented for panel evaluators.

Key-Words: - Accreditation, Engineering Education, Panel Evaluator, Washington Accord, Training Programmes

1 Introduction

Prior to the establishment of the National Accreditation Board of Malaysia (LAN) in 1996 by the Malaysian Parliament through the passing of Act 556, Engineering Degrees in Malaysian Institution of Higher Learning (IHL) were regulated and accredited by the Board of Engineers, Malaysia (BEM) with the assistance from the Institution of Engineers, Malaysia (IEM). With the establishment of LAN, a new entity, namely, the Engineering Accreditation Council (EAC) was established in 1999/2000. EAC is made up by representatives of BEM, IEM, LAN and the Public Services Department (PSD) [1-3]. EAC is the body delegated by BEM for accreditation of engineering degrees in Malaysia. The 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 BEM and for admission to graduate membership of IEM. In addition, accreditation also ensures that Continual Quality Improvement (CQI) is being practiced by IHL [3]. Registration with the BEM is mandatory, thus making it compulsory for IHLs in Malaysia to seek accreditation from EAC, though the EAC maintains that accreditation exercise is done on a voluntary basis.

Prior to 1999, accreditation of engineering degrees in Malaysia is very much a domestic affair. However, the scenario changes drastically when both the Ministry of Higher Education (MOHE) and EAC decided that Malaysia should be a signatory of the Washington Accord. In February 2005, all Public IHLs offering engineering programmes were instructed to move towards outcome based education (OBE) in order to satisfy the main criteria of the Washington Accord. With this new scenario, rapid, chaotic and drastic changes were made in the curriculum and syllabi of engineering programmes. This is attributed to the fact that the whole concept of OBE was not fully understood by the regulators and IHLs alike. What is more worrying is that the criteria for accreditation kept changing as evident by the rapid revision of the EAC manual, there has been three versions of the EAC manual released between 2001 and 2005. These changes were made as a result of comments made by mentors from Washington Accord after observing a number of accreditation exercises by EAC over several visits from 1999 to 2006.

Although the reports from Washington Accord mentors were not made public, it is apparent that there were serious shortcomings with the effort made by Malaysian IHLs in implementing OBE and to a greater extent with the conduct of accreditation exercise by EAC in Malaysia. Much needs to be done by EAC in order to streamline the accreditation procedures and criteria before Malaysian's application can be favorably considered by Washington Accord.

Meanwhile, owners of engineering programmes in Malaysian IHLs will be thrown into confusion until

EAC is clear with regards to two major aspects. First, the criteria and procedure for accreditation must be made clear to all universities. To a greater extend this has been achieved through a more comprehensive manual (EAC manual version 3) and the various workshops being organized by EAC with the support of BEM. Secondly, the appointment and training for members of the evaluation panel visiting IHLs must be reviewed. Serious thoughts and efforts must be directed towards this aspect. This paper presents a discussion on the training required in making a competent member of the evaluation panel.

2 EAC Evaluation Panel

In the present EAC manual, not much emphasis is given on the attributes and competencies required of members serving on the evaluation panel. Clause 6.2 of the EAC manual 2005 gives a broad definition on the qualifications needed to become a member of the evaluation panel, namely [3];

"Members of the Evaluation Panel are selected on the basis of their expertise and standing in a particular discipline of engineering".

A more detailed description is given in Appendix A of EAC manual 2005, which elaborated on the appointment of the evaluation panel [3];

"The (accreditation) panel shall be appointed by EAC and normally consists of a Chairperson and two members, typically chosen for their broad experience in engineering and their ability to evaluate the generic programme outcomes and quality systems. The panel should include at least one member with extensive academic experience, and one member with extensive experience of employing engineering graduates in practice situations. Both members must be chosen from related field to the programme being evaluated. All members of the panel shall be professional engineers".

It is comforting to know that, at least, conceptually EAC appreciates the need to appoint a panel, which collectively has the attributes and experiences underlined in the above text. However, there is no documentation of how assessments and evaluation are made in order to ascertain that the members appointed do have the required attributes and experiences. Proof and evidence must be provided that such an individual actual attained that status. Clear and transparent criteria must be established to evaluate the competency of the panels.

The evaluation panel is entrusted with a heavy responsibility of ensuring not only that high standards of academic teaching and achievement are being met, but also that the skills taught and quality of graduates, are relevant to the practices and continued development of engineering. The evaluation panel will assess all the accreditation criteria set forth in the EAC manual. The assessment includes the auditing and confirmation of documents submitted by the IHL. Thus panels are expected to be aware of the stipulated accreditation criteria in the EAC manual. To be aware of the criteria would not qualify as a panel member. A panel member must fully understand the criteria and must be experienced enough to make valid assessments and evaluations of engineering programmes under the various operating environments in different IHLs in Malaysia. Thus a comprehensive and continuous training programme for the making of evaluation panel members must be instituted by EAC.

3 Training for EAC Evaluation Panel

Training of evaluation panel members is the most important element in the implementation of an accreditation policy. It is the evaluation panel that translates into practice the words that are written in the accreditation manual. Owners of engineering programmes at IHLs, look upon panel members as experts who know "everything" about policies related to accreditation and how they should be correctly implemented. They are expected to advise IHLs on the short-comings of the programme and what measures should be taken to improve the situation. Thus, their advice must be sound and consistent with the advice given by other panels appointed by EAC. Cases where different panels end up delivering conflicting advice or recommendation must be kept minimum, possibly eliminated altogether. Such cases constitute detrimental pitfall in the whole system. EAC must also provide a mechanism through which potential panel members can be assisted in attaining the status of an "expert of high standing". It is proposed that panels be selected through a process shown in Figure 1.

Application to serve on evaluation panels

Individuals interested to serve on the EAC evaluation panel should submit an application with a brief resume indicating;

(a) recent involvement in designing/evaluation

engineering curriculum or extensive reading on engineering curriculum development.
(b) awareness and understanding on engineering education and OBE

(c) have mastered the eleven basic attributes of an engineering graduate

(d) understand the needs of the industry

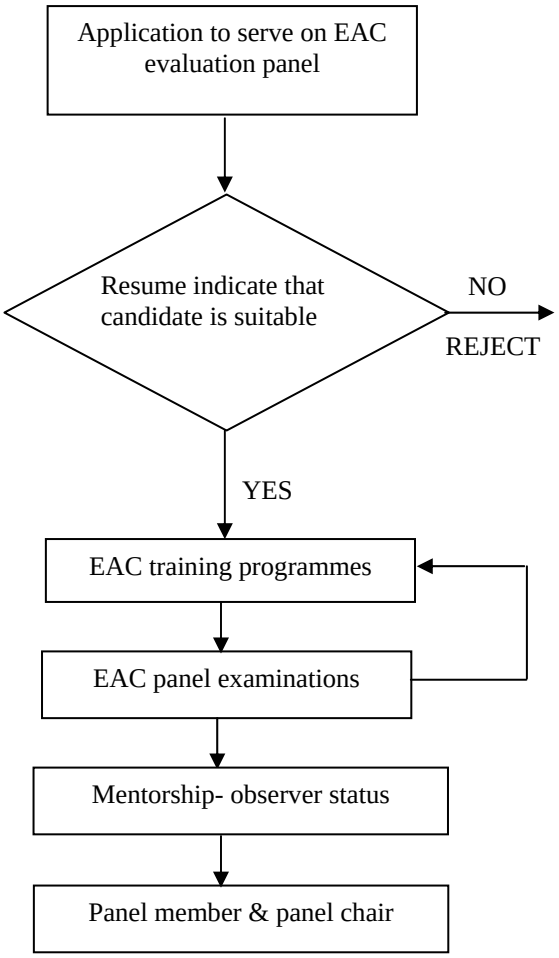

Fig.1: Route to becoming EAC evaluation panel member/chair

Similarly, academician should not be automatically accepted unless they are able to demonstrate that they have been active or at least in the know of the development in the industry. EAC must realize that members of accreditation panel should be experts and have high standing in the industry as well as amongst fellow academician.

This application shall be vetted by EAC and only suitable candidates should be admitted into the training programme. It must be noted here, that the present practice of only accepting Professional Engineers as panel members is not appropriate as the Professional Engineers exams and interview were meant to establish the competencies of the individual in their particular discipline of engineering – which may not be engineering education.

Enrolment into EAC training programmes
Suitable candidates must undergo a series of training modules to further enhance their understanding on development of engineering curriculum, methods of delivery, assessment and evaluation related to OBE. This is essential as they will be assessing and evaluating practices by academicians at various IHLs.

Training modules should emphasize on case studies based on previous accreditation reports, highlighting the strength and weaknesses of the reports. The main outcome of these exercises is to ensure consistency in understanding and interpretation of situations at IHLs by panels. Inconsistencies in comments, advice and reports by different panels reflect poorly on EAC.

EAC panel examinations
At the end of the training module, an examination must be administrated to assess and evaluate the competency of the candidate. This is in-line with other "audit panels" either for ISO or Health and Safety auditors. The idea of panel members as volunteers to help EAC must be re-assessed. Accreditation is a serious and important issue. It cannot and must not be conducted by panel of volunteers. It must be conducted by a panel comprising members that are trained and competent to discharge this duty professionally.

Mentorship through observer status
Having passed the competency exams, potential panel members shall be appointed as observers in evaluation panels for a specified number of visits before being appointed to be a panel member.

Panel member and panel chair
Having served on a specified number of evaluation panel, a member may be appointed to chair a panel at a later stage.

4 Concluding Remarks

It is strongly recommended that EAC institute the above training programme and establish the procedure as a route to becoming an accredited

member of EAC evaluation panel. Implementing such measures will ensure the integrity and credibility of EAC. Once this has been established, it will be much easier to direct IHLs into complying with the accreditation criteria and policies set EAC.

References:

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