

# Implementing the ABET Quality Framework at De La Salle University (Philippines)

---

ROSEMARY R. SEVA

## Abstract

De La Salle University is a private university that offers seven engineering programmes under the Gokongwei College of Engineering. The College decided to invest in ABET accreditation in order to ensure that the quality of its programmes meet professional and international standards. The ABET approach focuses on what is learned and not what is taught. The process also entails designing the curriculum in order to achieve the programmes' educational objectives that are aligned to the University's mission. The paper outlines the process taken by GCOE in preparing for ABET accreditation. Knowledge gained from IDC that helped provide suitable interventions to the challenges faced in initiating and implementing the ABET framework were discussed and also the lessons learned.

## 1 Introduction

De La Salle University is a Catholic coeducational institution established by the Brothers of Christian Schools in 1911. Its mission is to “become a learner-centered research university bridging faith and scholarship in the service of society, especially the poor” (De La Salle University, 2012). The University is comprised of seven colleges and one school. One of the colleges is the Gokongwei College of Engineering (GCOE) that offers degree programmes in Chemical, Civil, Computer, Electronics, Industrial, Manufacturing and Management, and Mechanical. GCOE has more than 3,500 graduate and undergraduate students. The two largest departments are Electronics and Civil Engineering.

DLSU is one of only three universities in the country that is a member of the Southeast Asia Engineering Education Development Network (AUN/Seed Net). The Chemical and Civil Engineering programmes had been assessed by the ASEAN University Network<sup>1</sup>. Five of its programmes had been given the highest accreditation by the Philippine Accrediting Association of Schools, Colleges, and Universities (PAASCU) and six were given Centers of Development award by the Commission on Higher Education.

## 2 Quality Assurance in the Philippines

The internationalization of higher education indirectly compelled higher education institutions (HEIs) to engage in quality assurance as a means to get international accreditation. UNESCO defined quality assurance as “an ongoing, continuous process of evaluating (assessing, monitoring, guaranteeing, maintaining and improving) the quality of higher education systems, institutions or programmes” (UNESCO-CEPES, 2007). Recognition refers to the acceptance of a foreign certificate, diploma or degree of higher education as a valid credential by the competent authorities and the granting to its holder the same rights enjoyed by persons who possess a national qualification for which the foreign one is assessed as comparable (Ruiz & Junio-Sabio, 2012).

In the Philippines, the Commission on Higher Education (CHED) is the government body that is mandated to promote relevant and quality education (Commission on Higher Education, n.d.). However, accreditation in the Philippines is voluntary. Universities can apply for institutional or programme accreditation from different bodies such as (1) Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU) (2) Philippine Association of Colleges and Universities Commission on Accreditation (PACU-COA) (3) Association of Christian Schools, Colleges and Universities Accrediting Agency, Inc. (ACSCU-AAI) (4) Accrediting Agency of Chartered Colleges and Universities of the Philippines (AACCUP), and (5) Association of Local Colleges and Universities Commission on Accreditation (ALCU-COA) (Ruiz & Junio-Sabio, 2012). Accreditation is usually valid for 5 years. The accreditation levels provided by these organizations are used by CHED in determining Centers of Excellence and Centers of Development in different programmes.

---

1 The AUN quality assessment at the program level aims to improve academic standards and enhance education, research, and services among AUN member and non-member universities. The organization provides certificates to Universities that have undergone quality assessment.

In the field of engineering, the Accreditation Board of Engineering and Technology (ABET) accreditation provides assurance that the programme meets the quality standards established by the profession. This non-profit organization is based in the US and is run by professional organizations. The focus of ABET is not on compliance but on continuous improvement.

In the Philippines, there are two universities that have been granted ABET accreditation. In 2013, DLSU decided to pursue ABET accreditation in order to make its engineering programmes internationally recognized for quality. The Gokongwei College of Engineering, on the other hand, believes that the process of continuous improvement promoted by the ABET framework is just as important as the actual accreditation. The preparation allows the faculty members to assume a critical stance on their current teaching practices especially in the method of assessment.

### **3 Project Objectives**

This project aims to prepare the GCOE for ABET accreditation. The ABET approach focuses on what is learned and not what is taught. The process also entails designing the curriculum in order to achieve the programme's educational objectives that are aligned to the University's mission.

#### **3.1 Literature Review**

Accreditation has played an important role in higher education for the purpose of maintaining a quality standard that is acceptable to some professions. ABET, formerly known as Engineering Council for Professional Development (EPCD), was one of the first organizations to promote and enhance engineering, technology and applied science education (Phillips, Peterson, & Aberle, 2000). A network of experts from industry and academe visits institutions to evaluate if the programme satisfies the criteria.

Unlike other accreditation systems in the past, ABET focuses on what is learned and not what is taught (Phillips et al., 2000). Thus, the engineering criteria developed for the purpose of evaluation focused on the attainment of student outcomes. Another crucial feature of ABET that is new and beneficial for HEIs is the requirement for continuous improvement. This practice had been prevalent in the industry but uncommon in the field of education. Continuous improvement will keep HEIs always on their toes in order to be competitive and will eventually keep the stakeholders' high level of satisfaction.

Globalization also played a key role on the need for accreditation. Engineers work with people from around the globe especially in the process of designing and manufacturing products. As such, they need to prepare for this eventuality and must possess the necessary skills for teamwork (Apelian, 2011). Quality assurance, such as those provided by ABET accreditation, facilitates student mobility and the existence of international markets for education (Jarvis, 2014). With ASEAN 2015 integration, many HEIs in the Philippines see the need for accreditation. The quality stamp gained from international accreditation agencies will allow students to move freely within ASEAN and seek employment as engineers outside the country.

DLSU, one of the leading universities in the Philippines, aims to make its programme competitive nationally and internationally. Its move to have all its seven engineering programmes ABET accredited is a means to attract more students to enrol in engineering.

### **3.2 Implementing a Quality Assurance Framework**

Organizing for quality assurance in a university follows the same principles and methods used in the industry. Since seven programmes will apply for ABET accreditation, the departments that support them have been organized in a fashion resembling quality circles. Quality circles are created in order to promote collaboration among employees in making improvements in the workplace (Blaga & Jozsef, 2014). The processes undertaken to initiate and implement the ABET quality framework are discussed in detail in the following sections.

#### ***Project initiation***

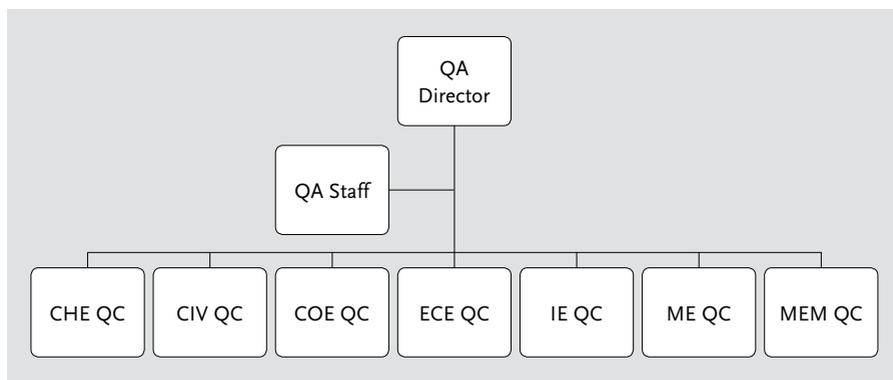
The Dean with the approval of all department heads initiated the project. Since ABET accreditation is tedious and expensive, there is a need to obtain the support of faculty members. The faculty members will do much of the task so it is important that they agree to this initiative.

After getting the support of the faculty, the next step was to solicit the support of the University administration especially in terms of funding. The proposal was presented to the QA Director of the University and the Academic Council headed by the Vice Chancellor for Academics. The benefits that would be derived from accreditation were highlighted in the proposal such as competitiveness of the programme and enhancement of student mobility.

### ***Organizational structure***

An office was created to handle quality assurance for the College. A Quality Assurance (QA) director under the Dean of GCOE headed this office. Under him are the QA coordinators that are responsible for the seven programmes.

The QA director was given teaching de-loading while the coordinators were compensated upon submission of deliverables.



### ***ABET Training***

The most crucial part of the programme is educating faculty members about the whole process of quality assurance. The University invested in sending the Dean and the QA Director of the college to attend the ABET Institute for the Development of Excellence in Assessment Leadership (IDEAL) training in the US. The IDEAL training allowed them to gain the competence to train the department heads and QA coordinators of each department on the QA process. These QA coordinators and department heads will in turn train the faculty members in their own departments.

In-depth training was done per department in order to allow more time for discussion between colleagues. The departments were also asked to form clusters that will tackle teaching and assessment issues for a certain group of courses in the curriculum. Every trimester, all faculty members of the College are required to attend trainings that would help them in the process such as creating rubrics, test construction, etc.

### ***Programme Educational Objectives (PEO)***

ABET accreditation is done on a per programme basis. As such, each programme must identify its educational objectives in consultation with the stakeholders. Programme educational objectives formulated were aligned to the University's mission and vision (Iqbal Khan, Mourad, & Zahid). In the case of GCOE, the faculty members of each department first drafted the programme educational objectives in a workshop. These PEOs were then presented to the student body, parents, and alumni for comments. Each of these groups was met separately. The PEO's were revised according to the inputs obtained and then finally published at the University website.

The PEOs specified by the stakeholders must be achieved by the Student Outcomes (SOs). SOs describe what the students are expected to know after taking the programme. The SOs per programme have already been identified by the Technical Working Group appointed by the Commission on Higher Education (CHED). The list of SO's per programme have been disseminated by CHED through their website.

### ***Curriculum Mapping***

In order to make sure that the SO's are attained by the programme, a curriculum map had been done by each department. The curriculum map identified the following:

The courses that are related to the attainment of each SO.

The level of competency developed by each course in relation to the SO. A course may be classified as 1-introductory, 2-reinforcing, and 3-emphasizing. Each course in the curriculum corresponds to at least 2 of the SO identified.

The curriculum map enabled the department to identify which courses are redundant. The map also allowed each department to streamline the content of each course.

### ***Performance Assessment***

The attainment of each SO is evaluated through the use of performance indicators (PI's). Thus, it is very important to determine the appropriate PI that will measure the attainment of the SO. One SO is "an ability to recognize, formulate, and solve engineering problems". One department identified the following PI's:

- i. Define/identify/select appropriate issues, problems and opportunities
- ii. Plan/formulate/create/design appropriate technique

Based on these PI's the department also identified the appropriate assessment method such as term paper, capstone project, quiz, final examination, etc.

### ***Programme Assessment***

Programme assessment aims to ensure the realization of PEOs and SOs. Since not all courses are offered in a trimester, data gathering was scattered throughout the year until all relevant courses have been assessed. Each QA coordinator created an assessment schedule that specified data gathering schedule for each SO.

At the end of each term, data gathered were summarized and analysed by the faculty members and submitted to the QA Coordinator of the department. The coordinators then forwarded the reports submitted to the QA Director of the College for inspection and safekeeping.

### ***Programme Evaluation***

After the whole cycle of assessment was finished, each department assessed the programme in terms of achieving the SO's. The PI's identified for each SO were the bases for measuring the attainment of objectives. Faculty members of each department met for the whole day to discuss process improvement interventions. During the faculty meeting, the causes of non-attainment of target student performance were identified. Faculty members were clustered based on subject groups taught in order to see the pattern of learning of students for a series of courses offered. Strategies to be implemented for the next cycle were determined.

## **4 Findings**

Launching a formal method of programme assessment and evaluation had been challenging for the Dean and the QA Director. Some faculty members cited the following reasons for not supporting the initiative:

- 1) Faculty members think that the current process is already good
- 2) Accreditation does not add value
- 3) The process is time consuming
- 4) Accreditation is expensive

Analysis of data obtained from the assessment of seven programmes revealed that only around 45% of SOs have been fully achieved during the first cycle. PIs gathered showed that students are technically competent but there is a gap in the application of knowledge to solve real world problems. As such, there was a need to alter the design of some syllabi to focus teaching and assessment on the application of knowledge learned inside the classroom.

### ***Interventions***

Knowledge gained from IDC enabled the Dean to determine suitable interventions to the challenges faced in initiating and implementing the ABET framework as follows:

- a) **Leadership and communication.** Faculty members from GCOE have preconceived notions about quality assurance. Some of these notions are negative and are affected by the current situation in the University. The Dean found it important to openly communicate to the faculty about this issue and tackle the sources of their negative views. The plan was presented for comment at the Council of Chairs. The Dean, who is the main proponent of the project, discussed in detail the activities to be done by the College, the expected costs and benefits. During the meeting, the need for accreditation was carefully explained. The same slides were presented during the faculty meeting so that information would be disseminated uniformly. Questions and apprehensions were discussed and addressed during the faculty assembly.
- b) **Conflict management.** Differences in opinion about the benefits of a formal quality assurance framework were settled through dialogue between the members of the Council of Chairs and the faculty members of the department. The Dean obtained the trust and confidence of the Department Heads and this enabled the Department Heads to “preach” about quality. They assisted the Quality Coordinators in explaining and implementing the most difficult aspects of the programme, which is data gathering and analysis.
- c) **Quality management.** Knowledge of quality management practices in other countries based on discussion during the IDC allowed the Dean to address the first two issues enumerated by the faculty. Training them on quality management empowered them to use the knowledge they have gained to improve the teaching and assessment process. The success of the programme hinged on educating the faculty members and granting them ownership of the process. Unlike other universities that hired consultants to help them in the preparation for accreditation, GCOE trained the faculty to determine what needs to be done and learn the process on their own with just the basic

principles in mind. Consultants have a tendency to dictate processes to undertake without considering the context and this situation was averted in the case of GCOE. Faculty members identified the processes that will fit their needs so there was less resistance during the data gathering stage.

- d) **Internationalization.** The trend towards internationalization of programmes was used as a primary reason to convince top management to fund the costly process of ABET accreditation. Engineering programmes in the Philippines are not recognized in some countries abroad and getting this accreditation will be beneficial to GCOE graduates. It can also be used to better market the engineering programmes of the University. The Philippines was granted provisional membership to the Washington Accord through the Philippine Technological Council (PTC) but it is not known when the full membership will be granted. Meanwhile, there are already two private universities in the Philippines that are ABET accredited.

## 5 Lessons Learned

Changing a culture is an arduous task for management because it requires people to veer away from their comfort zone. The experience in the implementation of ABET framework provided the following lessons that other organizations can benefit from:

- i. Culture change can only happen if there is strong top management support. The funding support provided by top management to engage in this costly endeavour is a proof that they are willing to invest in quality assurance and the investment should be matched by the commitment of faculty members.
- ii. Good leaders at the department level are crucial for successful implementation. Faculty members agreed to cooperate but when they become busy with examinations and other teaching-related tasks, there is a tendency to set aside the required activities for accreditation. The Chair of the Department, in this case, needed to constantly remind the faculty of their commitment and talk to those who are not performing well. The Dean also needs to sometimes communicate directly with the Chairs and remind them of the importance of complying with the requirements.
- iii. Faculty members need to be constantly trained on different areas that they need to successfully hurdle the accreditation process. Part of the orientation of new faculty members is the ABET training so that they will not be lost in the activities of the College. Every trimester, all faculty members of GCOE had to attend training related to teaching and assessment.

- iv. Conducting regular meetings is a way of showing commitment to improvement. During these meetings, the Dean had been present to listen to reports and inputs of Quality Coordinators.
- v. The process is tedious and requires a lot of time and dedication from faculty members. The Dean must constantly show appreciation openly through different channels of communication.

## 6 Conclusion

Quality assurance is a difficult process because it involves a change of culture. There are three cultures that shape the attitudes of people: national, professional, and organizational culture (Helmreich, 1999). The most difficult culture to change is the national culture because the person had been exposed to it since the beginning. DLSU, through the ABET accreditation tried to foster an organizational culture that requires assessment and evaluation. The process of initiation had been tough but strong leadership and constant communication played a crucial role in changing the attitudes of the faculty members. Faculty members needed the support of top management to be inspired in performing their tasks. Simple gestures of appreciation and attendance in meetings reinforce the value of the project in the eyes of the faculty members.

Quality is a journey. GCOE is just at the beginning of this journey. Many student outcomes have not been fully achieved according to targets. However, the ABET quality framework gave the College a means of assessment and evaluation. The documentation provided in the process is a good way of identifying problems and interventions so that future leaders of the College can learn from the past.

## References

---

- Apelian, D. (2011):** Quality Assurance of Engineering Education in the 21<sup>st</sup> Century. In A. M. Alameddine (Ed.), *Improving Quality Assurance in Engineering Education* (Vol. 17, pp. 41–50). Lebanon: World Federation of Engineering Organizations.
- Blaga, P., & Jozsef, B. (2014):** Human Resources, Quality Circles and Innovation. *Procedia Economics and Finance*, 15(0), 1458–1462. doi: [http://dx.doi.org/10.1016/S2212-5671\(14\)00611-X](http://dx.doi.org/10.1016/S2212-5671(14)00611-X)
- Commission on Higher Education. (n.d.):** Vision and Mandate. Retrieved June 29, 2015, from <http://www.ched.gov.ph/index.php/home/about-ched/vision-mandate/>
-

- De La Salle University. (2012):** About DLSU. online: <http://www.dlsu.edu.ph/inside/vision-mission.asp>, accessed 27<sup>th</sup> June 2015
- Helmreich, R. L., Merritt, A. C., & Wilhelm, J. A. (1999):** The evolution of crew resource management training in commercial aviation. *International Journal of Aviation Psychology*, 9, 19–32.
- Iqbal Khan, M., Mourad, S. M., & Zahid, W. M.(2014):** Developing and qualifying Civil Engineering Programmes for ABET accreditation. *Journal of King Saud University – Engineering Sciences*(0). doi: <http://dx.doi.org/10.1016/j.jksues.2014.09.001>
- Jarvis, D. S. L. (2014):** Regulating higher education: Quality assurance and neo-liberal managerialism in higher education—A critical introduction. *Policy and Society*, 33(3), 155–166. doi: <http://dx.doi.org/10.1016/j.polsoc.2014.09.005>
- Phillips, W. M., Peterson, G. D., & Aberle, K. B. (2000):** Quality Assurance for Engineering Education in a Changing World. *International Journal of Engineering Education*, 16(2), 97–103.
- Ruiz, A. J., & Junio-Sabio, C. (2012):** Quality Assurance in Higher Education in the Philippines *Asian Journal of Distance Education*, 10(2), 63–70.
- UNESCO-CEPES. (2007):** Quality Assurance and Accreditation: A Glossary of Basic Terms and Definitions. Online: <http://unesdoc.unesco.org/images/0013/001346/134621e.pdf>, accessed 2<sup>nd</sup> June 2015

