Comparison of AUN-QA and ABET Accreditation

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COMPARISON OF AUN-QA AND ABET ACCREDITATION

Abstract

The Association of Southeast Asian Nations (ASEAN) is a political and economic organization made up of ten Southeast-Asian countries. Within that organization, the ASEAN University Network (AUN) works towards educational capacity building by conducting programs and activities for institutions of higher education/learning, with a goal of working to achieve global standards. One primary mechanism to achieve this goal is AUN's Quality Assurance activity, referred to as AUN-QA. AUN-QA has implemented a regional style accreditation system spanning the ten ASEAN countries, with significant influence from European organizations. A number of countries within the ASEAN now have institutions with academic programs accredited by AUN-QA.[1, 2]

This paper provides a partial review of the similarities and differences of accreditation as implemented by ASEAN University Network (AUN-QA) and ABET Inc. The philosophical differences of ABET and AUN-QA accreditation, including constituency involvement, will be identified as well as the similarities and differences between ABET's assessment and evaluation requirements and the AUN-QA model for program accreditation. The authors have not seen a similar analysis published in the engineering education literature.

Discussion of some similarities and differences of AUN-QA and ABET accreditation is presented from both a philosophical viewpoint and a pragmatic viewpoint. ABET's approach is significantly different from that of AUN-QA and the comparison of the two can lead to complementation about the purpose of accreditation, perceived difficulties of attaining it and the perceived value of attaining different accreditations. It becomes evident that the two approaches are not duplicative and one or the other, or both, may be useful to a program within the ASEAN.

Introduction

Similar to many other accreditation bodies, both ABET and AUN-QA accreditation processes intend to provide a fair and impartial review process. In this review process, an academic program is evaluated for compliance with various criteria promulgated by each accreditation body. Both systems require that an academic program conduct an internal self-assessment before undergoing the review process. For both AUN-QA and ABET, the evaluation process is cyclical, ensuring programs are committed to making continuous improvement. ABET uses a six-year cycle of scheduled general reviews for program while AUN-QA accreditation is valid for four years.[3]

Currently, both ABET and AUN-QA provides accreditation at program level. In addition, AUN-QA strategically aims at developing a model for institutional level, with pilot visits occurring in the fall of 2016. The rationale behind this shift in focus is to allow higher education institutions in ASEAN countries to move beyond their national systems of institutional accreditation and integrate themselves into an ASEAN regional standard.[4]

While both ABET and AUN-QA are nonprofit, non-governmental organizations, they feature very different organizational structures (it should also be noted that AUN is a much younger

organization than ABET and its predecessors). ABET limits its membership to technical
societies, currently 35 members, that represent related professions. The bulk of the work within
ABET activities is done by volunteers from academia, government, and industry.[5] The member
societies nominate individuals to act as these volunteers, who are key participants in ABET's
academic program peer-review process. Programs accredited by ABET range from the associate
degree to master degrees, depending on the accreditation commission.   ABET is divided into
four accreditation commissions, again composed of volunteers, that are responsible for
conducting the program reviews and making the final accreditation decisions. Programs seeking
ABET accreditation are assigned to the different commissions based on the awarded degree
name and other program characteristics. These programs must fit within the technical purview
of the commission's representative societies. Each commission is responsible for creation of its
accreditation criteria, although some criteria are harmonized across all commissions. Member
technical societies can provide specific program criteria, which apply to specific named degree
programs. Each commission's criteria documents require approval by ABET's board structure.
The result of the accreditation/evaluation process is a binary result—the program is either
accredited or is not accredited. ABET performs accreditation activities globally and has seen
growth in the number of countries and institutions seeking ABET accreditation.

On the other hand, the AUN is a network of universities in ASEAN countries, established to
promote higher education cooperation in the ASEAN community. Each university must become
a member, initially at the associate level, of the AUN system in order to pursue program
accreditation and, at this point, only universities are offered membership. Evaluators are
nominated, either by self-nomination or by institution, with no requirement to represent a
specific discipline. Also, to date, no two-or three-year programs have been accredited by AUN-
QA. There is no internal sub-division of programmatic responsibility and there is only one set of
accreditation criteria. All programs are evaluated against the one set of criteria and programs
from any discipline can be accredited. The results of an evaluation fall upon a scale between one
and seven. Overall scores above a four allow recognition as an accredited program. AUN-QA
only accredits programs from member universities within the ten country ASEAN community
(see figure 1).

Figure 1. ASEAN Countries[6]

General Approach to Program Quality Improvement

ABET and AUN-QA take different approaches to continuous quality improvement, which will be discussed in more detail later. But, in summary, the focus of ABET's continuous quality improvement component is on what students learn and the knowledge they can demonstrate at the time of graduation. ABET's Criterion 4, Continuous Improvement, which is the same across all commissions, emphasizes the continuous improvement of the academic program via assessment and evaluation of student attainment of student outcomes, and the use of that assessment and evaluation for data-driven decision making to improve student learning. Thus, ABET's approach to continuous improvement focuses on "Learning, not teaching; students, not faculty; and outcomes, not inputs or capacity."[7] Since ABET requires that a program's student outcomes be mapped to the Criterion 3 a-k or a-i student outcomes, its quality process can be viewed as somewhat prescriptive. The ABET evaluation process is a peer-review process from the disciplinary viewpoint. Thus in an ABET evaluation, an evaluator from a relevant technical society will be sent to assess the program.

In comparison, AUN-QA seeks to create viable internal quality assurance (IQA) systems within ASEAN universities. The primary focus of AUN-QA assessment at the program level (there are initial efforts underway towards doing institutional level evaluations) is for the purpose of improving the effectiveness of the quality assurance system. AUN-QA has adopted the Plan - Do – Check - Act (PDCA) approach for improving QA practices, as shown in figure 2.[8] Thus, AUN-QA accreditation is more system and process–oriented. Student attainment of outcomes related to what students "know and can do" is not a focus.[9]

Figure 2. AUN-QA Approach to Self-assessment at Program Level[8]

Rather, AUN-QA quality improvement implications are broad and involve the entire student experience and broad aspects of the academic program environment. For instance, the criteria address research done by program faculty. Since AUN-QA does not include criteria specifying student outcomes, one set of criteria is used to accredit programs from all disciplines. Thus, AUN-QA is non-prescriptive in that no specific student outcomes are identified.[9] Also, unlike the ABET process, in an AUN-QA visit, it is not required/expected that an evaluator have disciplinary expertise directly related to the program being evaluated.

General Aspects of Accreditation Preparation

In the preparation process for a new ABET accreditation, exposure to ABET and its accreditation expectations can include a number of complexities, depending where the program is based in the ASEAN community. There may be an issue with language, since in many countries and programs, English will not be the first language of the faculty or the language of course instruction. In some countries, e.g., Vietnam, the concept of student outcomes as defined by ABET Criterion 3 is new to program faculty. But, regardless of location, a program team typically spends a significant amount of time and effort in developing and implementing the assessment and evaluation system of student learning, based on its program student outcomes. It is important that the program use results of those assessment and evaluation processes to make continuous improvement actions and, ideally, assess the effectiveness of those improvements. Also, depending on the program and its local culture, establishing appropriate constituency involvement for establishment of program educational objectives and curriculum input can be both challenging and time consuming.

The preparation process for AUN-QA accreditation, as noted earlier, requires an institution to become an associate member of the AUN-QA network. In addition, the institution sends one or more representatives to receive AUN-QA training. These training sessions require an application and consist of several days in Bangkok, Thailand, where attendees receive a general orientation to AUN-QA and its accreditation requirements. Programs working towards accreditation have to make a significant effort towards writing a self-assessment report (SAR), which has to be in English. (As a contrast to ABET's relatively brief criteria documents, the AUN-QA requirements document is well over 100 pages, also in English.) The SAR is seen as a crucial, and lengthy, part of the accreditation preparation process as it requires written explanation of many processes and activities that may not be well documented at a typical ASEAN institution. A typical project timeline for SAR development suggests that it takes seven months to write, review, verify and finalize the SAR.[3] The self-assessment should include a summary of which areas the program considers to be weak (in need of improvement) and an improvement/action plan for strengthening those weaknesses. Documentation of actions to improve weaknesses are not required but encouraged.

While AUN-QA requires that the programs identify "expected learning outcomes," there is limited specific guidance as what these outcomes are to be for a program. Unfortunately, in the authors view, the AUN-QA requirements document occasionally uses the same words to mean different things, depending on context. While a knowledgeable reader can usually determine the intended meaning, such interpretation may be difficult for those whose accreditation experience is limited and whose first language is not English. However, there is specific reference to several "soft" skills such as communication and teamwork. Also, there is language that indicates

programs should identify the knowledge and skills that graduates should possess. Life-long learning skill is also mentioned in a number of the criteria. There is no criterion requirement equivalent to ABET's Criterion 2. Program Educational Objectives, which ABET defines as "broad statements that describe what graduates are expected to attain within a few years after graduation."[10]

Similarities and Differences of Assessment and Evaluation Requirements

As mentioned above, ABET and AUN-QA have adopted different approaches to continuous quality improvement. For ABET, assessment and evaluation of student outcomes are the basis for data-driven continuous improvement actions. AUN-QA's requirements have tended to heavily rely on feedback from stakeholders to enhance the quality of education. Table 1 maps ABET Criterion 4, Continuous Improvement, to relevant criteria in the AUN-QA requirements (version 2.0).

Table 1. Mapping of ABET Criterion 4 to AUN-QA Criteria

ABET[10]	AUN-QA Ver. 2.0[11]	AUN-QA Version 3.0[11]
Criterion 4. Continuous Quality Improvement	**Criterion 5.** Student Assessment **Criterion 11.** Quality Assurance of Teaching and Learning Process **Criterion 13.** Stakeholders Feedback	**Criterion 5.** Student Assessment **Criterion 10.** Quality Enhancement

ABET Criterion 4 makes a concise and explicit requirement that the process of assessment and evaluation of student attainment of the program student outcomes must be documented and utilized for continuous improvement.[10] The preferred basis of the assessment data is termed "primary evidence" or "direct assessment" of student work (e.g., someone directly observing the student's work). AUN-QA requirements are more diffuse. The AUN-QA process expects a program to have a range of assessment methods to measure the achievement of expected learning outcomes. But, it is the authors' contention that, in this context, AUN-QA criteria use the term assessment to mean typical faculty grading of student work. As an example, the AUN-QA requirements document states, "5.4. Feedback of student assessment is timely and helps to improve learning."[11]

AUN-QA's Criterion 11, Quality Assurance of Teaching and Learning, and Criterion 13, Stakeholders Feedback, both include gathering feedback from stakeholders to make program improvements. Such evidence is often based on survey data, which are regarded as indirect evidence. Desired evidence embedded within Criterion 11, Quality Assurance of Teaching & Learning Process, is: "curriculum design, review & approval process and related minutes, quality assurance of assessments/examinations, stakeholders' inputs, external examiners and students'

feedback."[11] This criterion is AUN-QA's core requirement for evaluation and enhancement of the quality of a program. The criterion states that there should be adequate (which is not well defined) structured feedback from the labor market, staff, students and alumni. Other suggested evidence includes indirect sources such as regular, ad-hoc, formal and informal surveys and feedback mechanisms via reports.

The recently revised version of the AUN-QA guidelines[8] has introduced a new criterion 10, called "Quality Enhancement." This new criterion is a combination of two version 2.0 criteria, Quality Assurance of Teaching and Learning Process and Stakeholders Feedback.   This new criterion appears to have elements that come closer in nature to the ABET Criterion 4. A map illustrating changes in the new AUN-QA criteria for assessment at program level is in Figure 3 below.

In the new Quality Enhancement criterion, quality assurance and enhancement of programs are expected to include: formulation of expected learning outcomes, curriculum design and development process, teaching and learning approach and student assessment, support resources, facilities and services, research application and stakeholders' feedback mechanisms. By combining Criterion 13 (Stakeholders' Feedback) into Criterion 10 (Quality Enhancement), it is even clearer that for AUN-QA, indirect evidence from stakeholders is used for evaluation and enhancement of the program. Moreover, stakeholders' satisfaction is one key measurement of the program's output quality. The new Criterion 10 also requires that design and review of curriculum involve stakeholders, particularly academic staff and students.

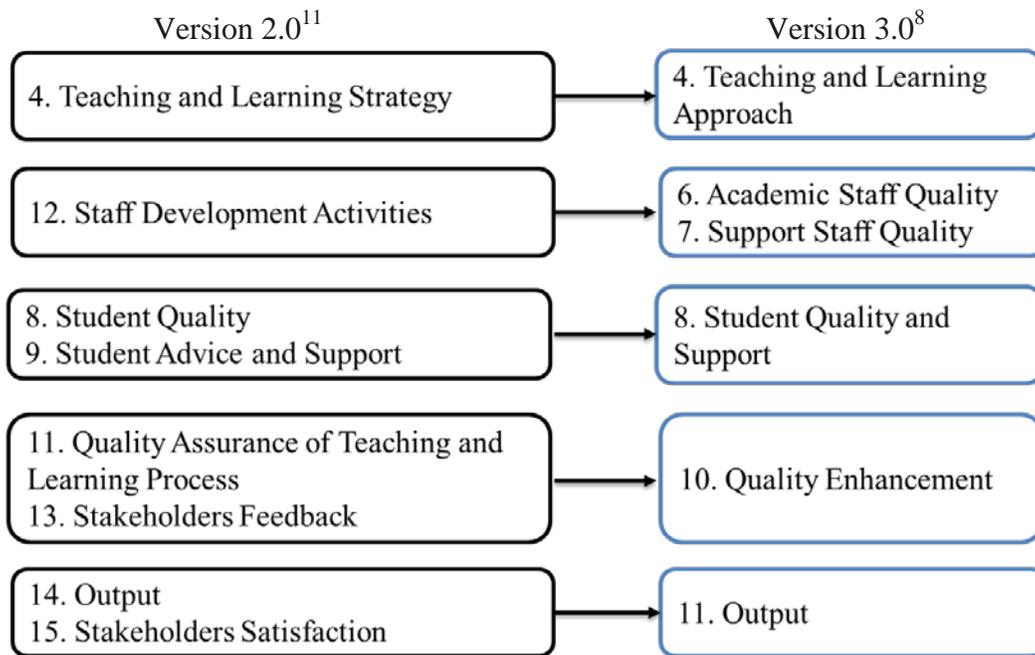| Version 2.0[11]		Version 3.0[8]
4. Teaching and Learning Strategy	→	4. Teaching and Learning Approach
12. Staff Development Activities	→	6. Academic Staff Quality / 7. Support Staff Quality
8. Student Quality / 9. Student Advice and Support	→	8. Student Quality and Support
11. Quality Assurance of Teaching and Learning Process / 13. Stakeholders Feedback	→	10. Quality Enhancement
14. Output / 15. Stakeholders Satisfaction	→	11. Output

Figure 3. Mapping of changes in AUN-QA guide
to assessment at program level version 2.0 to version 3.0

It is worthy of note that there is use of the phrase "teaching and learning approach and student assessment" in the new criterion. Unlike ABET, the AUN-QA criterion addresses how faculty

teach, e.g., the teaching and learning approach utilized, and how student work is graded, e.g., are grading criteria clear and known to the students. Also, unlike ABET, there is explicit mention of the research activity in the program being of interest in the accreditation process (Criterion 6. Academic Staff Quality Item 6.7: The types and quantity of research activities by academic staff are established, monitored and benchmarked for improvement and Criterion 10. Quality Enhancement Item 10.4: Research output is used to enhance teaching and learning).

Cost of Accreditation

To an ASEAN academic institution, the cost of accreditation is an important factor. Many ASEAN countries are developing nations, with economic conditions that accompany such status. While some ASEAN countries, e.g., Singapore, have robust economies with accompanying benefits like strong education systems, other ASEAN countries struggle to adequately fund higher education. Any accreditation process will incur both fixed (those costs not controlled by the institution, e.g., accreditation fees paid to the accrediting body) and variable costs (those costs controlled by the institution, e.g., consultants or internal costs of the accreditation team's efforts or laboratory improvements). ASEAN institutions often face significant costs in both areas as a culture of accreditation often is not present. There are relatively few programs accredited by either ABET or AUN within the ASEAN system, so many do not have experience with the costs of either system. However, the less common ABET accreditation is widely perceived as much more expensive. This perception is sometimes due to hearing what a program may have spent in their efforts to gain accreditation. For instance, an institution in Vietnam reported that it had spent over $600,000 USD to gain accreditation for two programs. However, much of this was variable costs and was supported by numerous grants (perhaps a case of "we have it, we will spend it!"). But still, it is worth gaining an understanding of at least the fixed costs of the two accreditation paths.

The following summarizes the "fixed cost" for a new program in ASEAN preparing for ABET accreditation.[12]

> $9000 USD base fee for initial readiness review and site visit
> $8000 USD per program + travel costs for site visit (business class for flights in excess of six hours)
> $1285 USD annual fee after accredited
> $1285 USD per program after accredited

Table 2 summarizes the "fixed cost" for a new program in ASEAN preparing for AUN-QA accreditation. Not shown in the table, is the institutional annual associate membership dues, which are currently $500 USD per year.[3]

Obviously, the fixed costs for AUN-QA, while not trivial, are not as large as ABET's costs. Travel costs are higher for an ABET visit due to the long distances traveled by most evaluators on the accreditation team, leading to higher costs of business class fares. (During typical ABET domestic visit, evaluators travel economy class, just as do AUN-QA evaluators.) It is also interesting to note the honorariums paid by the school to the AUN-QA evaluation team. This philosophy is much different than that of ABET, whose volunteer evaluators receive no honorarium. Also, while not evident in the cost table, the institution is expected to host several social events for the evaluation team.

Table 2. AUN-QA Accreditation Costs[3]

Item	Member	Associate Member
1. Honorarium for Lead Assessors	USD 600 per programme (borne by host)	USD 600 per programme (borne by host)
2. Honorarium for Assessors	USD 300 per programme (borne by host)	USD 300 per programme (borne by host)
3. Airfare for Assessors and two AUN Secretariats	Borne by host(economy class)	Borne by host(economy class)
4. Accommodation for Assessors and two AUN Secretariats	Borne by host	Borne by host
5. Administrative Fee toAUN Secretariats	USD 1,000 per assessment (borne by host)	USD 1,000 per assessment (borne by host)
6. Local Hospitality (meals and transportation)	Borne by host	Borne by host
7. Development fund	None	USD 1,000 per programme (borne by host)

Constituency Input

Both ABET and AUN-QA encourage, if not force, program interaction with stakeholders/constituencies. ABET's Criterion 2, Educational Objectives, requires constituency review of program educational objectives (what students should be able to achieve in two to three years after graduation). Some commissions require that an industry advisory board, representing employers of the program's graduates, review and provide guidance on the program's curriculum and content. While such constituent feedback to the programs (on program educational objectives, curriculum, etc.) is viewed as important, ABET criteria focus more on the evaluation of student learning, as measured by attainment of student outcomes, as the catalyst for program improvements. In this sense, the constituencies help define what the students should know, but do not necessarily play a role in assessing the student's attainment of that knowledge or have a defined role in the program's quality improvement system.

The AUN-QA requirements embed constituency interaction in several of the criteria. Criterion 10, Quality Enhancement, has stakeholder feedback in two specifications. Criterion 10, Quality Enhancement Item 10.1; "Stakeholders' needs and feedback serve as input to curriculum design and development" and Item 10.6; "The stakeholder's feedback mechanisms are systematic and subjected to evaluation and enhancement" are accreditation evaluation components referring to stakeholder's input. In addition, Criterion 11, Output, requires stakeholder participation via its Item 11.5 which states, "The satisfaction levels of stakeholders are established, monitored and benchmarked for improvement." The criterion specifies staff, students, alumni, employers, etc., as the stakeholders.[8] These AUN-QA criterion components are more specific and reach beyond the constituency input required by ABET's criteria.   Thus, unlike ABET's approach, the AUN-QA criteria place the stakeholders directly in the quality assurance system of a program.

This concept of focused interactions with stakeholders can be a new concept for ASEAN programs, at least in the experience of the authors. Personal observation of newly formed advisory boards meeting with the program leaders and faculty validate that when asked, industry representatives provide lots of comments. So, industry representatives are willing to comment but is has not been common for academic programs to ask industry for such comment. The observed feedback falls directly into AUN-QA's diagnostic questions within Criterion 15 (in version 2.0, now in Criterion 11 version 3.0) Stakeholders Satisfaction, including the questions "Do employers appreciate the graduates?;" "Are there any specific complaints about the graduates?;" and "Are specific strengths of the graduates appreciated by the employers?"[14] It appears that programs seeking AUN-QA accreditation will not lack for industry input when industry representatives are invited to comment.

However, observation of those newly formed advisory boards suggests that employers are generally not familiar with, or have hardly thought of, the idea of specifying what students should be able to achieve two to three years after graduation. The requirements levied by ABET's Criterion 2. Educational Objectives appear to be new ground for ASEAN programs.

The authors' impression is that the AUN-QA process and criteria views education as a service–which needs to meet the clients' satisfaction. Therefore, feedback of all stakeholders (labor market, students, alumni and staff) should be taken into consideration for almost all aspects of the teaching and learning process. This view is in contrast to a more traditional perception in ASEAN countries, especially Vietnam, that education, from primary to higher education, is based on valuing teachers as the heart of the teaching and learning process and whose service is expected to be appreciated unconditionally by the stakeholders.

When working to satisfy AUN-QA criteria, a significant change may be required in how faculty and administrators in ASEAN, especially Vietnamese, higher education institutions see their work as a "service." The AUN-QA requirements regarding stakeholders' feedback and the use of that feedback as integral to quality improvement systems of the program may well require a cultural shift of the institution's administrators and faculty.

Conclusions

For continuous improvement processes, ABET's Criterion 4 focuses the primary mechanism program improvement on appropriate assessment and evaluation of student outcomes (what students need to know and be able to do at the time of graduation), e.g., data driven improvement actions based on demonstrated student learning (or lack of such learning). The AUN-QA criteria have a much broader focus on quality improvement, asking programs to use a wide variety of inputs within their quality system. Some of the measures of quality included in the AUN-QA criteria include traditional output measures, e.g., Criterion 10's specification of "quality of the graduates (such as pass rates, dropout rates, average time to graduate, employability, etc.) is established, monitored and benchmarked."[8]

ABET accredits only programs falling under the purview of its member technical societies and accreditation commissions, providing an evaluation by peers from the same technical area as the program. The accreditation criteria have variation among the four commissions, depending on

the nature of the programs accredited and provide opportunity for specialized program criteria relating to a specific degree area, e.g., electrical engineering. ABET's commissions may accredit programs granting associate, bachelor or master degrees at any college or university with proper authority to operate as an institution of higher learning. Finally, the accreditation decision is not based on a scoring system; the program is either accredited or is not accredited. No program rankings are issued.

In comparison, AUN-QA utilizes assessors that are not tied to the program's degree area. The accreditation criteria apply to any program being accredited. Currently, accreditation is offered only to four or five-year baccalaureate programs from AUN-member universities. Thus, universities that are not members or colleges offering two or three-year degrees do not have access to AUN-QA accreditation. A program with an overall ranking of four or higher on the AUN-QA scale of 7 is granted accreditation.

In terms of cost, obtaining ABET accreditation can rightly be viewed as more costly. However, programs and their institutions recognize there is a benefit-cost ratio consideration. When asked, many institutional and program leaders indicate that ABET is recognized as having strong international recognition, serving as a global brand in terms of accreditation. AUN-QA is an ASEAN (regional) brand in accreditation and thus, while it has value, it has more limited value. However, since one of the driving forces within the ASEAN community is the current economic and social integration of member countries, AUN-QA accreditation may be the most dominant factor in inter-ASEAN recognition by students and their parents in the near future.

Pragmatically, it is reasonable that institutions and programs view AUN-QA as a stepping stone to ABET accreditation (assuming ABET accredits the specific program). Program leadership may view the one to seven scoring system of AUN-QA as less demanding, allowing a program to achieve accreditation even if some evaluation areas are not strong, e.g., earning only a four on the scale of seven. Thus, while different, the process and self-study elements have significant commonalities. For instance, a quality improvement system build to meet the ABET model will serve a program seeking AUN-QA accreditation. Thus, the authors have observed ASEAN-based programs deciding to seek AUN-QA accreditation as a building block to seeking ABET accreditation. Thus, institutional leadership may see value in obtaining both AUN-QA and ABET accreditation. In fact, institutional leadership may purposely select programs for ABET accreditation that have already run the gauntlet of AUN-QA accreditation.

Acknowledgements

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