

Towards the Establishment of an Arab Accreditation Board for Engineering Education

Dr. Riyad Awad¹ & Samir Helou Ph.D., P.E.²

¹(Civil Engineering/ An-Najah National University, Palestine)

²(Retired Faculty Member, An-Najah National University)

Abstract : In the second half of the twentieth century the Arab countries, by enlarge, have witnessed burgeoning activities towards the creation of higher learning institutions. Arab countries with no exception feel a dire need for focusing on higher learning; this is manifested by the establishment of special ministries within Arab governments that closely monitor higher education within each Arab country. Perhaps this is a result of a nostalgic rebirth desire of what Arabs had in their golden

days of yore. Arabs have noticed that, at this day and age, their hope for a bright future hinges upon their ability to keep par with modern technology as it forms a common language among civilized nations. To date, Arab universities have made modest dent in advanced engineering, if any, and their deliveries fall short of what is desired; they are perpetually challenged to make it to the top rankings worldwide.

To confront such a situation and to provide incentives to the academic community the following paper suggests a discourse aiming at the establishment of a fully-fledged and a politically independent academic accreditation body for engineering study programs. This is obligatory because foreign accreditation usually includes subtle linkage of esoteric strings that do not always conform to national values. The Arab League must spearhead the proposed discourse with an adventurous yet optimistic action plan targeting development undertakings in the Arab World. In order to safeguard the proposed academic board against political polarization it is suggested that it remains an independent entity within the Arab League but with well-defined and unanimously approved terms of reference and a clear mandate. This helps create a positive environment inductive for academic competition, would make available an internal audit process and would add to the lingering cooperation among Arab learning institutions and among Arab men and women dedicated to education excellence.

Keywords: Higher education, Accreditation board, Arab Universities, the Arab League.

I. Introduction

The demand for engineering education in Arab counties is on a continuous rise. This is causing a rapid increase in the number of institutions than provide such education at the private level as well as in the public sectors. Distance learning as well as e-learning are new added dimensions.

The private sector is normally interested in low risk and high yield flourishing business ventures. The number of graduates from engineering schools is therefore multiplying one year after another.

In light of the widespread availability of education, and numerous education establishments, accreditation is seen as a means of ensuring that an education program me is of an acceptable quality, which is recognized by other educational institutions and employers.

It is estimated that more than 100 institutions of higher learning across the Arab World are presently offering engineering programs. The programs are particularly located in Egypt, Jordan, Palestine and the Kingdom of Saudi Arabia. Expectedly, the abrupt increase is no doubt accompanied by a proportional decline in the quality of the final product.

Accreditation of a program implies that it is of a reasonable level expected of by the public, and is acknowledged by the educational community and industry. Within the context of engineering education, accreditation allows graduates from a particular engineering program to proceed to apply to professional engineering qualifications.

Accreditation of academic institutions enjoys a built-in value; it is of substantial importance for the institution, for the programs as well as for students and for the general public at large. Accreditation carries with itself an unwavering proof that a college program has satisfied international criteria and has met a quality standard recognized on a global scale. It is a discernible fact that students graduating from accredited programs have the edge in their job search, in licensure, in certification and ultimately enjoy a universal mobility. It should be quickly remembered that an engineering fresh graduate might work in an environment quite different from his own. Moreover, the engineering professional is expected to interact with foreign engineering firms providing engineering services to the person's own country. This emanates from the idea that the global market is expanding while the globe is shrinking. Engineering professionals are expected to perform immaculately regardless of the customary national ambiance.

Aware of the pressing need for quality assurance mechanism the general secretariat of Arab Universities set up a project to accomplish this objective in their Amman meeting of the year 1999. The initiative was endorsed by the ministers of higher education in all Arab countries in their seventh congress that was held in Al-Riyad, the capital city of the Kingdom of Saudi Arabia in May of that same year. The idea emanated from the strong belief that quality of engineering studies must be regularly monitored, particularly considering the rapid development of education programs, globalization and the policy of open markets. The authors are witnessing that local education practices emphasize added teaching while the world, in response to globalization, is shifting from teaching to learning where student centered active learning is the ultimate goal.

Presently, the Accreditation Board for Engineering and Technology (ABET) is a primary goal that many Arab Engineering Schools are grappling with. It is an appealing sales gimmick with which local universities, public or otherwise, lure students in order to propagate the notion that engineering education of American standards is being offered much closer to home and far away from the exorbitant cost it normally entails. Furthermore, accreditation in its present form targets study programs only and does not in any way address the quality of the graduates who in themselves demand an altogether different focus. The proposal in the following presentation is an Arab Accreditation Board that presides over all disciplines of engineering programs in all participating Arab countries.

Furthermore, the proposed action would add credibility to the present higher learning system; it creates desired job opportunities and saves badly needed capital. On the other hand, it is necessary to point out that in 2007 an Arab quality assurance body was established in Belgium under the name 'Arab Organization for Quality Assurance in Education, AROQA'. However, this is an International Organization that does not specifically target accrediting Engineering Education programs.

II. Purpose and Mission of the Proposed Accreditation Board

The stated mission of the proposed Arab Accreditation Board is in assisting institutions of higher learning in developing higher education study programs, improving the quality of education and setting guidelines for higher education and institutionalizing the process of accreditation. Furthermore, the proposed Accreditation Board would provide an advisory assistance and training needs for the undertaking. This is a direct application of the very meaning of the word education which in Latin means to bring up or draw out. The accreditation criteria must include the following:

- 1) Participation in creating and developing indigenous higher education guidelines, which complement the standard requirement for quality assurance.
- 2) Spreading the culture of quality assurance
- 3) Setting approved standards for higher engineering education
- 4) Creating serious research undertakings applied to national needs
- 5) Preparing Study programs tailored to develop critical thinking and analytical skills
- 6) Cooperating with other agencies that have similar objectives
- 7) Inculcating the attitude that the knowledge earned by graduates of engineering programs must be used in a creative, humane, independent and in a just manner
- 8) The process should eventually lead to social advancement, cultural enrichment, economic growth and political success

However, the justification of the proposed Arab Accreditation Board is briefly outlined as follows:

- 1) To monitor the continuous increase in demand
- 2) The increase in the number of institutions of higher learning
- 3) To address challenges resulting from globalization
- 4) Guaranteeing top of the line quality education in all Arab countries

III. Global Engineering Accreditation Agencies

The following is a brief overview of a well-known American accreditation board. ABET is a non-profit non-governmental organization that accredits engineering and engineering technology programs in applied science and computing. It has recognized programs in many countries around the world. ABET accredits programs outside the United States; however, it does not accredit the learning institutions themselves. ABET accredited 365 programs at 72 institutions in 23 countries outside of the United States. Experience reveals that little if any attention is given to the final product. Understandably, this would place the onus of quality assurance on the licensing agencies within the sovereign nations. ABET works within and under the various national educational systems; it respects, without interference, the prevailing accreditation activities within the respective nations. This imparts a de facto difference between local education and the US based education. In

the year 2013 An-Najah National University succeeded in their quest for ABET accreditation. The accreditation process consumed about 4 years of serious preparation.

IV. A Credible Arab Engineering Accreditation Agency Proposed

The importance of having a one credible accreditation board for the entire Arab world that addresses quality of education programs cannot be more emphasized. However, the process and the final product of such programs should be left for local Engineering Associations. It should be mentioned, at the onset, that presently and traditionally Arab Educational institutions favor international recognition, which is justifiable. The proposal of having one pan Arab Accreditation Board should not be in conflict with the stated objective but rather a complementary one. The accreditation process of study programs should consider the following quality criteria items in addition to the standard requirement that include, inter alia, faculty competence, student faculty ratio, facilities and internal bylaws:

- ⊕ Training of Students for local and international practice
- ⊕ Accepting language skills, cultural exchange and international experience as obligatory elements of the graduation requirements
- ⊕ Aiming at graduates who are considered as public intellectuals with broad based skills and having articulate leadership abilities.
- ⊕ Applicability of the theory to market practice
- ⊕ Mutual recognition agreements with foreign and inter Arab institutions of higher learning i.e. education equivalency among governments.
- ⊕ Appropriate mobility for engineers' graduates
- ⊕ It is of importance to discern the Arab institutions' shortcomings and work towards overcoming them
- ⊕ Encouraging research geared towards the respective national needs
- ⊕ Promoting the spirit of entrepreneurship among students.
- ⊕ Promoting the meaning and value of quality education
- ⊕ Emphasizing ethics and conduct during the study programs
- ⊕ Demanding Professional conduct from engineering graduates
- ⊕ Demanding active participation of Institutions of Higher Learning in regional development projects
- ⊕ Finding a balance between Social Equity vs. Technology
- ⊕ Unequivocal Support of Women and Minority Rights
- ⊕ Application of engineering skills towards addressing global problems and finding proper solutions.

Moreover, the recommendations presented at the Beirut conference of March 2012 and in other similar forums need to find their way towards implementation. The proposed board could become instrumental in seeing such recommendations implemented. Those recommendations included but were not limited to the following:

- a) Continuous Development of Engineering Education Programs.
- b) Encouraging Faculty and Student Exchange
- c) Increasing Funding for Serious Research
- d) Publishing Engineering Periodicals
- e) Addressing the Issues Related to the Evolving yet Popular e-learning Study Programs

V. Modality of Operations

It is not the intension of the present discourse to dwell on the mechanism of operation neither on the administrative hierarchi or the work flow details. This is best deligated to the professionals in management; granted that this facet in particular and the venue selection may form formifdable barriers to overcome considering the present rift in inter Arab political relations. However, the following structure may form a starting point.

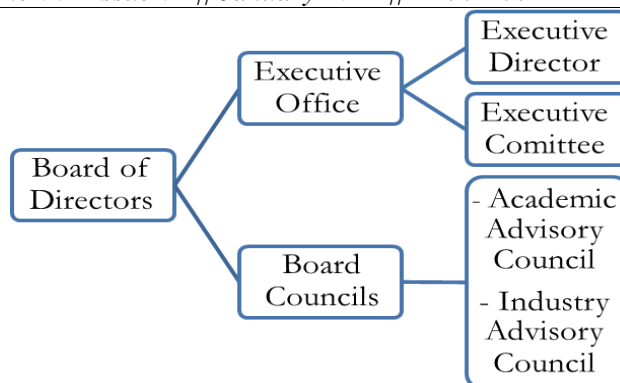


Figure 1: Proposed Structure for the Board

An elected Board of Directors by the representatives of The Arab Universities accredited by The Association of The Arab Universities is the governing authority of this body. An executive office composed of an executive committee and headed by an executive director is expected to do all managerial and correspondence works. Two advisory councils are suggested to provide the board with their ideas, suggestions, and feedbacks.

VI. Conclusion

It is imperative that education should be taken out of politics. The authors strongly believe that short of this basic unarguable conception nothing positive will propagate from the present proposed structure. The Arab world is going through tumultuous and rapid developments that complicate matters yet present an added challenging demand for the improvement of quality education. Quality education prepares quality future leaders. The Union of Arab Engineers shoulders the responsibility of licensing engineers and other technical aspects and needs of the engineering profession. Its function compliments and never contradicts the proposed accreditation body which aims at accrediting study programs as well as relevant academic institutions. It is appropriate to echo Khaleel Joubran *“If he ‘the teacher’ is indeed wise he does not bid you enter the house of his vision, but rather leads you to the threshold of your own mind”*. [The Prophet 1923]

References

- [1]. Website for Abet Accreditation Board for Engineering and Technology, <http://www.abet.org/>
- [2]. Website of Arab-Euro Conference Towards Higher Education, Amman-Jordan, 2014, http://ujnews2.ju.edu.jo/en/english/Lists/News/Disp_FormNews1.aspx?ID=4516.
- [3]. Website of Association of Arab Universities, Amman-Jordan, www.aaru.edu.jo
- [4]. A report on The Situation of Engineering Work in Palestine, Engineers Association, Ramallah-Palestine, 2014.
- [5]. The 8th World Congress on Engineering Education, Beirut-Lebanon, 2012. <http://www.wfeo.net/>
- [6]. Website of Accreditation Board for Engineering and Technology (ABET), USA. <http://www.abet.org>.
- [7]. Website of the Arab Organization for Quality Assurance in Education. <http://www.aroqa.org/>
- [8]. Suhana Mohd Said et al, Accreditation of Engineering Programs: An Evaluation of current Practices in Malaysia, International Journal of Technology and Design Education, 2011.