

# Dhofar University: a case study in the practicalities of collaboration and accreditation

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## Abstract

Since the turn of the 21st century, various institutions of higher education have been established in the Gulf Cooperation Council region, several of which are branches of universities from North America, Europe, Australia, and other regions. Quality education is currently a required component in the models of collaboration between Universities; yet the literature suggests that challenges remain in how the quality education will be practiced in a region that lacked for long time private universities. In this paper, we present an exploratory investigation to determine what could be learned by studying the practicalities of collaboration and accreditation of a newly established institution in Oman, namely, Dhofar University. The case study focuses on the practicalities of DU's external collaboration, national accreditation, and good practices University-wide and within the College of Engineering in particular. The paper aims to present and analyze challenges, good practices, faculty and staff experiences, and solutions that could be a useful pattern for similar institutions. The investigation builds on an internal University-wide self-study and an external review by an accreditation council.

## Introduction

Countries in the Gulf Cooperation Council (GCC) have made significant progress in reforming and consolidating educational systems at all levels including higher education (World Bank, 2008). Especially over the last two decades, the GCC region has witnessed the emergence of many universities with a focus on engineering programs (American University of Sharjah, 2013; Dhofar University [DU], 2013a; King Fahd University of Petroleum and Minerals, 2013; American University of Kuwait, 2013). The establishment of these new universities in the GCC has taken many forms. A significant number of universities in the USA, Europe and/or Australia have opened branches in GCC countries (Northwestern University in Qatar, 2013; Cornell University, 2013; University of Wollongong in Dubai, 2013; Texas A&M University at Qatar, 2013; Carnegie Mellon University, 2013). Other universities were established with technical assistance from experienced regional or other international academic institutions; one example of such collaboration is the support of the American University of Beirut (AUB) in the establishment and running of Dhofar University in the Sultanate of Oman (AUB, 2013a).

AUB's office of Regional External Programs (AUB, 2013b) has been involved over the past three decades in consulting services and/or management roles for many higher education initiatives within the GCC. Examples of REP projects include the American University of Sharjah in the UAE; Fahad Bin Sultan University in Tabuk, Saudi Arabia; and Dhofar University (DU), in Salalah, Oman.

AUB practices in education have been recognized amongst the most established and successful in the region, and can offer valuable lessons to private higher education in the region (Bertelsen, 2009). AUB has been identified by its effort to avoid the risks of commercializing education by clear commitments to

academic excellence in teaching and research. AUB can supply valuable lessons on the critical disparities, of concern within the GCC, between for-profit and not-for-profit education in terms of their mission, standards, and practices. Bertelesen (2009, p. 2) states that AUB has

[...] ample experience in how successful governance, quality assurance and funding can achieve academic success and recognition, as well as contribute significantly to human and other development in the host societies and the wider Middle East.”

Over the past two decades, the system of higher education in Oman has been witnessing rapid development. Sultan Qaboos University (SQU) was the premier university in Oman, established by the government in 1986. SQU started with only a few hundred students; at present, it has more than 17,000 students and proven to be successful in teaching as well as in research. Oman, with a population of less than three million, also has many public colleges, namely six Colleges of Applied Sciences, six Colleges of Technology, and sixteen Institutes of Health Science (Al-Shmeli, 2009; Ministry of Higher Education, 2013). At present, five newly established private universities are in operation, namely, DU, Sohar University, Nizwa University, Arab Open University, and the German University of Technology in Oman. **Table 1** summarizes the public and private institutions of higher education currently functioning in Oman.

**Table 1: Public and private institutions of higher education in Oman.**

| Institution Type               | Number of Institutions |
|--------------------------------|------------------------|
| Public Universities            | 1                      |
| Private Universities           | 5                      |
| Public Colleges and institutes | 28                     |
| Private Colleges               | 19                     |

DU was established in Salalah, Oman in 2004, in collaboration and partnership with the AUB, to follow a US model of higher education. DU founders and administration adopted the following mission:

Dhofar University strives to achieve excellence in teaching, research, and community service in an open learning environment conducive to creativity and innovation, and to the acquisition of cutting-edge professional knowledge” (DU, 2013a).

DU was established with the main objective of providing students of the remote local community, located 1000 km from the capital city of Muscat, with meaningful, up-to-date skills, and knowledge. The aim is to enable students to pursue successful careers and make deep impacts both within Oman and across the Gulf region. With these objectives in mind, the programs in the colleges are designed around fostering contemporary practices and skills in line with the job opportunities for various disciplines, mainly engineering.

The demand for engineers in various disciplines has been consistently increasing in Oman during recent decades (Gonzalez et al., 2008). The demand has been fueled by emerging construction activities, in addition to the established oil and gas industries and their associated activities. The oil and gas industries are witnessing unprecedented investment and expansion. Engineering graduates have job opportunities in the private sector or in government agencies, in the fields of consulting, contracting and management.

Accreditation in academic institutions is an affirmation of quality education. The GCC states initiated a greater focus on quality assurance in higher education after the formation of the GCC Coordination Committee on Accreditation by the Supreme Council in December 2001. GCC states have developed

various by-laws and regulations to assure quality in higher education, and have adopted a variety of structures to manage higher education, including the following:

- The National Authority of Qualifications and Quality Assurance for Education and Training in Bahrain;
- The Private University Council in Kuwait;
- Oman Academic Accreditation Authority (OAAA) - formerly known as the Oman Accreditation Council (OAC);
- National Commission for Academic Assessment and Accreditation in Saudi Arabia;
- The Commission for Academic Accreditation in the United Arab Emirates;
- The Supreme Education Council in Qatar.

These accreditation agencies have very similar goals and objectives, which include the following (Abouammoh, 2010):

- Establishing and disseminating educational standards;
- Establishing and implementing a national framework for university qualifications;
- Setting and monitoring standards for higher education providers;
- Organizing training programs that cover accreditation activities such as reviews, quality standardizations, performance indicators development, and self-assessment reporting;
- Enhancing national quality management programs.

This paper presents DU's experiences with the practicalities of international collaboration between institutions and accreditation within the GCC context. The next section, *Previous research and present research questions*, presents the motivation of this study, related works, and the components of the research design. The third section sheds light on the model of collaboration between DU and AUB. The strategies at the institutional level and an analysis of main challenges are discussed in the section *Analysis and outline of strategies*; the same section addresses the practicalities of collaboration. The practicalities of accreditation are presented in the *Accreditation process* section. In the section *The College of Engineering*, good practices within the college are critically analyzed and presented.

## **Previous research and present research questions**

The neighboring countries that constitute the GCC (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) are of similar socioeconomic conditions and share common development challenges. Newly established higher education institutions in the GCC region are facing a variety of common or similar challenges. Presenting a case study from one of the GCC countries provides an opportunity to share experiences and creating a pattern for solving common challenges.

Practices of higher education institutions in the GCC have been studied in several research projects. Bertelsen (2009) highlights the best practices in governance, quality assurance, and funding in private higher education in the GCC. The policy brief outlines the strengths and weaknesses of private higher education besides best practices in governance. It also outlines quality assurance and funding in terms of independent governance and commitment to academic excellence, the impacts of Western accreditation, and non-profit and endowment-based finance. Bertelsen found that the positive contributions and the strengths of private higher education in the region include the following:

- The ability to absorb increased numbers of secondary school graduates;

- Flexibility and responsiveness to private labor market needs;
- Collaboration with well-established foreign universities to transfer knowledge and skills to the host society, as well as creating important networks of information, interest, and human and financial capital.

Al-Lamki et al. (2006) surveyed the development of private higher education in Oman, with a focus on challenges facing the Omani system of private higher education, and presented recommendations and strategies that aim to enhance the system. The challenges presented by Al-Lamki et al. include low enrollment due to competition from public two-year colleges, a low number of private institutions in the country at that time and insufficient student financing schemes, to name a few. Recommendations in the paper include the following:

- Expansion and diversification of the public higher education system;
- Introduction of tuition fees in the public higher education system;
- Introduction of student loan schemes;
- Expansion and maintenance of government sponsored grant and scholarship schemes;

Mukerji & Jammel (2008) present an analytical study that identifies the challenges, the weaknesses, and the potential of universities in the GCC countries on various parameters of academic excellence. Issues highlighted by the authors include:

- The commitment of governments to support the establishment of private institutions;
- Benefitting from the existing rich teaching resources in the Arab world;
- Benefitting from the mutual experiences in developing similar programs in GCC countries;
- Reliance on non-citizen expertise for teaching;
- Perceived gap between needs of the job market and educational output;
- Self-sufficiency in developing qualitative human leadership;
- Financial challenges.

The primary goal of our investigation is to study what could be learned from the practices of DU as related to collaboration with other institutions and accreditation within the Gulf framework. In this section, the components of the research design (Yin, 2009) are presented. The analysis will attempt to answer the following three questions:

1. What are the main challenges faced during the establishment of DU in collaboration with the AUB? What could be learned from addressing these challenges?
2. What have been the main challenges encountered during the process of DU's national accreditation? What could be learned from this process?
3. What are the main challenges faced specifically by the College of Engineering at DU? What could be learned from addressing these challenges?

The paper relies on the following main sources to answer the research questions and critically analyze the findings:

- The reports of the REP office.
- DU's annual report and self-study reports.
- The external review of DU by the Oman Academic Accreditation Authority (OAAA)

- The annual and other reports of the College of Engineering at DU
- The experience of professionals from AUB and DU who were closely involved in the collaboration practices presented in this paper and the accreditation process for DU.

The criteria upon which the data has been analyzed are based on proper classification of the challenges and also on verification of the provided solutions. In the sections “Analysis and Outline of Strategies” and “The College of Engineering” the challenges are classified as internal (*strengths* and *weaknesses*), and external (*opportunities* and *threats*). In the section presenting the accreditation practices, certain practices were classified as *commendations* for good practices, *affirmations* for ongoing quality improvement efforts which merit support, and *recommendations* for improvements not yet being adequately addressed. We also reflect on the related actions that have been or could be taken in response to the given recommendations.

### **Dhofar University and the American University of Beirut**

Despite its very young age, DU has placed itself firmly on the map of higher education in Oman. While building on its own resources, DU has largely benefited from support from AUB. The affiliation agreement signed between DU and AUB in 2003 stipulates that AUB, through the REP office, assists DU in the development of its objectives, academic programs and the administrative affairs of DU until 2010 (AUB, 2013b); this agreement was renewed in 2009 for another five years.

The role of AUB covers three functions: management of DU, mainly through secondment of senior staff; design of academic programs, bylaws and procedures; and monitoring quality assurance. AUB has provided a team of academics and senior administrators residing on campus in Salalah and dedicated to the management of DU. DU has consistently benchmarked its programs against those of AUB, and against international standards. For this purpose, a number of AUB faculty members were involved in the supervision and development of the education programs in various colleges of DU. The accomplishments of the DU-AUB agreement have been reviewed annually and published in the University annual reports.

AUB seconded a Vice Chancellor to oversee the academic and nonacademic activities of the University, as well as the deans of the College of Arts and Applied Sciences, the College of Commerce and Business Administration, and the College of Engineering. In addition, AUB appointed an Academic Overseer for the period 2006-2008; since 2003, AUB has been assisting in the recruitment process of both academic and senior non-academic staff. AUB assisted DU in developing new programs and graduate curricula in various colleges. In addition, AUB assisted in coordinating with DU’s Steering Committee on Strategic Planning to ensure that the self-study report required for the external audit is aligned with the strategic plan.

DU’s 2007 to 2012 strategic plan was initiated by developing a SWOT analysis to highlight the internal *strengths* and *weaknesses* as well as the external *opportunities*, and *threats* relevant to each of the University units. Relevant key performance indicators (KPI’s) and measures (KPM’s) were identified for each college and at a later stage for the University. Experts from AUB supervised the strategic planning process, paid periodic visits, and examined the collected evidence. The strategic plan was discussed in open meetings with faculty and staff, and upon completion, communicated to all DU community. The DU-AUB agreement was premised on the belief that, within a reasonable period, DU will have the human and physical resources as well as academic programs, organizational structures, rules, and regulations that will allow it to thrive as an independent university.

The DU-AUB agreement was renewed in 2009 for another five years, during which senior administrative positions such as the vice chancellor, deans and directors have been filled by direct hire, and more Omani nationals hired to fill key administrative and academic positions. AUB still have the role of providing technical assistance.

## **Analysis and outline of strategies**

In its vision statement, Dhofar University aspires to occupy a recognized position among institutions of quality higher education. DU targets several strategic goals, such as reaching education excellence, promoting research, enhancing quality of service, nurturing individual responsibility and life-long learning, and enhancing relations with community. Although DU's intentions are ambitious, standard, and valid, such goals cannot be achieved without the necessary efforts being made consistently in the institution.

DU is also challenged to maintain several existing strengths, including the support of its Omani founders (who are mainly from Dhofar province), its relationship with AUB, the recruitment and retention of qualified faculty and staff, the quality of its curriculum, and the empowerment and expansion of its Quality Assurance Board (QAB). The founders' support is vital to the startup of the young educational institution: although DU is just completing its first decade, it has a position of academic leadership in its remote province. DU is the first and the only private University in Dhofar province, and has witnessed a steady increase in student enrollment; nevertheless, the support of founders is still critical in supplementing the limited income resources in order to maintain an acceptable level of quality.

DU and AUB have demonstrated effective collaboration during the establishment and ongoing development of DU; in its report, the OAAA

commends Dhofar University for setting up a successful affiliation with the American University of Beirut which has provided a solid foundation for its quality assurance activities. (OAAA, 2010, Page 13)

The main achievements of the collaboration between DU and AUB, as mentioned in the university's self-study report to the OAAA, are as follows (DU, 2008):

- Establishment of quality curriculum benchmarks;
- Maintaining a high quality curriculum and revising it periodically;
- A strong commitment to implementing quality assurance measures;
- Creating a research niche area capable of attracting research funds and gaining national visibility;

For example, seven consulting visits by AUB academics and three by administrative staff were made to DU during the 2007-2008 academic year alone (DU, 2008). The visits included conducting workshops and supporting the development of the University strategic plan, Catalogue, faculty manuals of all colleges, the manuals of various administrative units, and the University research report. At the programs level, the visits supported the development of assessment tools, new graduate and undergraduate programs, and departmental reviews.

During the visits of the AUB consultants to DU in the academic year 2007-2008, several quality assurance measures were reviewed and developed, in collaboration with DU's Quality Assurance Board and different units and departments, in order to build a culture of assessment as well as preparing the institution for future accreditations. The measures implemented included mapping assessment tools onto student learning outcomes in the Foundation Program (FP), which offers courses in English



language, Study Skills, Information Technology, and Mathematics for students who are not sufficiently prepared to join the university programs. In addition, the implemented measures included reviewing the tools for assessment of students, faculty, and staff; aligning the course syllabi and course descriptions in various departments; reviewing University-wide policies and admission requirements; and auditing the standards, policies, procedures, and the functioning of the IT unit.

The collaboration with AUB provided DU faculty and staff with an immense variety of assistance, support, mentoring, training, teamwork, cooperation, and communication and networking opportunities. The opportunities influenced almost every academic aspect including teaching, service, and academic research. DU faculty and staff trusted that the collaboration made the AUB reachable, and this was a much-needed relationship given the remote location of DU. For example, faculty and staff from DU and AUB were involved together in a variety of workshops, discussions and reviews, evaluations, etc. Especially in the foundation years of DU, joint teams, committees, and taskforces were frequent. Common works offered all participants unique multicultural experiences, and DU-AUB faculty research collaborations were evident through joint publications (e.g. Hassan et al., 2011; Damaj et al., 2008; Damaj et al., 2006), grants, and mutual research visits.

In the initial phases of the collaboration agreement, the DU-AUB relationship included secondment of senior staff in upper administrative positions. The secondment allowed for a smooth collaboration between the two institutions. At that time, the challenges to the collaboration were minimal and focused around the adoption and support of the strategic plan by the Board of Trustees (BOT) at DU. The BOT included local representatives and professors from the AUB. At later phases, it was planned that the collaboration agreement should not include secondment, in favor of DU direct hires. The plan assumed that DU, after years of collaboration, should be ready to become a more independent and self-managed institution.

The main challenges for DU and its collaborator, the AUB, included the following:

- Insufficient awareness of DU's vision and mission in the local community
- Shortage of qualified Omani faculty and senior staff
- Attracting and retaining qualified faculty, staff, and management personnel

Retaining and hiring faculty and staff with high academic qualifications is addressed by maintaining an attractive package of employment and effectively probing employee satisfaction. In DU's self-study report, and despite the remoteness of Salalah from metropolitan centers and the limited health services and schools for children of staff, 60% of surveyed faculty and staff were satisfied with the working conditions at DU; while in the same survey, 32% of faculty members did not agree that DU provided sufficient social events. In the Audit Report, it was 'affirmed' that:

DU has made efforts to create a positive environment to attract and retain faculty and staff. This is evidenced by the apparent low turnover rate of full time faculty (OAAA, 2013, p. 40).

Note that the OAAA affirmed DU's attraction and retention of faculty and staff as an *ongoing* quality improvement effort which merits support. A large proportion (40%) of surveyed faculty and staff were either dissatisfied or neutral with regard to the working conditions at DU: for the OAAA's affirmation to become a commendation requires consistent quality results: providing evidence of higher satisfaction among qualified staff, and a low turnover rate over an extended period.

DU should continue to create a positive organizational climate by organizing staff activities and social events, attending to social commitments, encouraging staff development and implementing staff promotions in line with its policies. Increasing remuneration packages annually is one measure that could be adopted to increase staff satisfaction and retention of qualified members.

The first programs at DU are now almost ten years old, and it is essential that DU maintains the high quality of its programs and refines the programs to best fit the institution. As per standard programmatic accreditation practices, a program review cycle is of several years; for example three years in the case of the international Accreditation Board for Engineering and Technology (ABET) accreditation. Program reviews are best done systematically and using well-defined accreditation criteria. DU programs are mainly benchmarked against those of the AUB; if DU is to compete at the national and regional levels, it should pursue broader-based programmatic accreditations. For example, currently there are 23 institutions in the GCC region with programs accredited by ABET (ABET, 2013). We believe that such programmatic accreditations enable DU to firmly promote and create a culture of assessment at the programs level.

DU enjoys several opportunities; for example, the institution benefits from continuous governmental support in expanding its student body as well as its resources. The government supports a significant number of students at DU, and the establishment of the Research Council in Oman allows DU faculty to benefit from external research funds. Generous financial support also enabled the building of DU's new campus on a 450,000 square meter plot of land. DU also has the opportunity to develop relationships with the private sector to raise sufficient funds to sustain quality education. DU should continue to capitalize on its beautiful natural environment to increase enrollment and attract qualified students particularly in the famous summer season - also known as the Khareef season.

On the other hand, DU is challenged by the following key threats and weaknesses:

- Remote location of the city of Salalah, away from major activities in the capital
- Community pressure to adopt open admission of students
- Low academic standards of students applying to join the University
- Lack of quality international K-12 schools in the region
- Low level of motivation to study among substantial numbers of students
- Limited job opportunities for DU graduates in the Dhofar region
- Gaining adequate support from the private sector

DU's remote location could be reduced by promoting the region's natural beauty, instituting a high quality university education, and carefully addressing the needs of faculty and staff members. DU faculty members are in almost total agreement that the focus should be on providing a quality international K-12 school: DU faculty and staff discussed, on various occasions, the establishment of a DU-affiliated international K-12 school.

## **The accreditation process**

It is globally recognized that education aims not only to meet present needs in terms of quality, but also to pave the way for future developments. Continuous improvement of education is best achieved through well-standardized accreditation processes. The Oman Academic Accreditation Authority (OAAA, 2013) carries out institutional quality audits and institutional and programmatic accreditations in the country.

From 2007, DU engaged in an intensive effort to develop its self-study report as the first step in gaining accreditation from the OAAA – the quality audit process. DU's Quality Assurance Board (QAB) spearheaded the effort of preparing DU's self-study using the continuous improvement approach, *ADRI* (Oliver et al., 2006; McGregor, 2003). In March 2010, DU was the first University in Oman to complete this quality audit process.



ADRI is a four step cyclical model comprising **A**pproach, **D**eployment, **R**esults, and **I**mprovement. ADRI is derived from Deming's PDCA cycle (**P**lan, **D**o, **C**heck, **A**ct) (Deming, 1986). ADRI combines an assessment of the quality system with a comprehensive and constructive analysis. ADRI is an evidence-based method of determining the following:

- *Approach*: What is the institution planning, or aiming and proposing, to do? How is the institution proposing to implement its plans?
- *Deployment*: What has been implemented? Are the plans followed in practice?
- What are the *Results* collected from assessing the deployment and comparing the results with the initial target plans? How effective are the Deployment and Approach?
- *Improvement*: How the institution is reviewing its Approach and Deployment in order to achieve better results? What corrective, preventive or other actions are being taken to improve these?

ADRI is adopted by the Tertiary Education Quality and Standards Agency, Australia's regulatory and quality agency for higher education (TEQSA, 2012). Many Australian institutions use an ADRI model for the self-review process, including Australian Maritime College, Charles Darwin University, Southern Cross University, Griffith University, University of Tasmania, and the University of Wollongong.

The self-study at DU required considerable effort and time on the part of administration, faculty and staff. Preparing the self-study involved the following (DU, 2010):

- A steering committee was formed and chaired by DU's Vice Chancellor;
- Members of the steering committee chaired subcommittees comprising faculty and staff and aiming to conduct the self-study in an assigned area in accordance with the OAAA manual, including governance and management, students and student support services, industry and community engagement, etc.
- A large number of faculty and staff members contributed to the self-study through questionnaires and interviews;
- The portfolio was subjected to rigorous and comprehensive multi-stage internal and external review by experts including AUB administrators and faculty;
- The subcommittees used various methods of data collection, in order to ensure triangulation, including analysis of statistical data, sample surveys and in-depth interviews with experts.

During the preparation of the self-study, some challenges were encountered. At early stages, the steering committee had to focus on clarifying the definitions of the portfolio preparation methodology as specified by the OAAA. In the subcommittees' work, the main challenges included the limited English language proficiency of a few staff members and the uniformity of presentation of the self-study. A key challenge for the self-study preparation was the low motivation to do extra work that made meeting the pre-set ambitious deadlines not an easy goal. Other challenges for completing the self-study at DU included defining the vision, mission, and goals of the institution, with long debates on quality versus profit, teaching versus research, etc. The effort involved in satisfying the accreditation requirements and preparing the self-study put into question the high teaching and administrative loads assigned to faculty and the limited research support as well. Faculty members observed that accreditation work, high teaching/administrative loads, and limited professional development support by the institution appears to contradict the institutional goals and academic practices. Indeed, the self-study promoted an open discussion on quality education institution-wide.

The institution exercised several good practices in response to the main challenges faced. The institution proficiently coordinated focus group discussions, retreats, and trainings in collaboration with external professionals. The discussions somewhat reduced the ambiguities related to the dilemmas of quality versus profit and teaching versus research. The discussions effectively clarified the self-study model and facilitated the subcommittees' work. To encourage participation in the self-study subcommittees, the institution adopted a special reward policy as part of its employee annual performance review, so that the degree of participation of a member was mapped to a percentage salary increase.

The structure of the self-study subcommittees insured the availability of members with complementary key skills, and soundly compensated for the limited English language proficiency of a few staff members. In order to produce a high quality report, the institution adopted a multi-level editing approach at the levels of subcommittee, steering committee, internal professional editors, and an external double review by professionals. The steering committee played an essential role in ensuring the uniformity of the self-study. Tight and regular follow-ups by the steering committee minimized the delays in meeting deadlines. Nevertheless, delays were significant in a few cases.

Several lessons could be drawn from DU's experience in preparing a self-study portfolio. The self-study provided an opportunity for deep reflection on the institution's strategic goals and objectives, as well as providing the faculty and staff with unique training opportunities and experiences. Moreover, it stimulated a thorough examination of institutional accomplishments, identification of continuing challenges, and definition of future opportunities.

In mid-April 2009, the OAAA panel of external reviewers visited DU for three days to interview around 125 people, including DU administration, members of the Board of Trustees and the Board of Directors, Deans, AUB representatives, faculty, staff, students, and external stakeholders. The panel also visited selected campus facilities and examined a large number of documents such as bylaws and course files.

On March 30, 2010, the OAAA published the Quality Audit Report for DU (OAAA, 2010). The OAAA's report is a comprehensive review of DU's portfolio and its accuracy in evaluating DU systems. The report contained a summary of the Panel's findings and formal commendations, affirmations, and recommendations. In addition, the text of the report included supplementary remarks. The text of the OAAA's report included a complimentary remark on the considerable time and effort put by faculty and staff to understand and apply the principles of ADRI in each of the areas in the scope of the audit and on the overall quality of the Portfolio. The OAAA's report also noted the comprehensiveness and high quality of the annually produced DU Catalogue, as well as the expected significant impact of the new campus, which was under construction, on achieving strategic objectives of DU.

The OAAA's report commended DU for setting up a successful affiliation with AUB, establishing the Centre for Teaching and Learning (CTL), and supporting faculty research through the provision of a variety of funding mechanisms by the University Research Board. Moreover, the report commended the strong foundation of community relations built through multiple projects at different levels, the establishment of a well-regarded and peer-assisted learning system, and the comprehensive and well-received staff induction process. DU faculty members observed the commendations as a hope and an opportunity that the University will continue to function in quality and increase its research and development support for faculty and staff.

The OAAA's report presented affirmations of quality improvement for several DU efforts. Under general support services and facilities, the affirmations mentioned building a new campus to support DU's mission and vision, and establishing a preventative maintenance system throughout the old campus. Building upon this affirmation, the maintenance department subjected all existing maintenance policies

to review to meet quality standards. These campus-related affirmations were expected, and the issues concerned were completely resolved after moving to the new campus in December 2010.

Regarding governance and management, the OAAA's report affirmed DU efforts to run awareness campaigns for its mission and core values, develop operational plans linked to its Strategic Plan with key performance indicators and communicate these effectively to all faculty and staff. In line with this affirmation, it was subsequently decided to promote the mission statement and values in the publications of the Office of Information and Public Relations, as well as in student and faculty handbooks produced by the colleges and the Foundation Program. The task of developing operational plans with key performance indicators was assigned to the QAB.

The affirmations also highlighted the substantial efforts to deal effectively with plagiarism and to support students in developing academic integrity, to strengthen the monitoring of student progression and completion rates, and to use this information to identify and support 'at risk' students. Accordingly, the University worked to spread awareness of its academic integrity policy through its regular orientation days. A statement on plagiarism was included in every course syllabus and academic honesty was discussed in every course. In addition, the University executed an information system upgrade that automates the monitoring of student progression. The University stressed the importance of student referral by faculty and advisors to the Learning Support Center of the CTL and to the Counseling Department. Despite these measures, controlling plagiarism and supporting academic integrity continues to be viewed by faculty as a challenging task that still needs careful improvements.

The OAAA's report included some recommendations related to the affiliation agreement with AUB, which was to expire in June 2010. The Panel was concerned about the risks involved when this agreement expired, and recommended that DU urgently develop a comprehensive management plan to consider all strategic and operational risks associated with this transition. The OAAA's report presented other recommendations related to deficiencies in the current rented facilities. The agreement with AUB was renewed in August 2009 for five years.

Implementation of the OAAA's recommendations and affirmations was addressed by the QAB, with the aid of human and physical resources to carry out its mission. Among its members, it was recommended that the board include a Quality Assurance Manager in charge of quality assurance in non-academic departments, and a Risk Management Officer. More recently, DU has established an independent Quality Assurance Unit (QAU) headed by a full-time director to monitor the quality of teaching and services, and to ensure compliance with the requirements of the Ministry of Higher Education and the OAAA. In addition, DU established a Risk Management Unit (RMU) to integrate risk discussion into strategic deliberations and identify the interrelations of risk factors across activities. The RMU is responsible to identify and assess strategic, compliance, financial, operational, human resources and reputation risks.

Throughout the accreditation process, there is a great emphasis on improvability. The OAAA's report complemented the understanding and the application of a continuous improvement approach that produced a high-quality Portfolio. The OAAA's report also stressed the role of the newly constructed campus in the future strategic objectives of DU, as well as affirming the effort of DU to align its macro- and micromanagement with its long-term Strategic Plan, and highlighting DU's effort to disseminate its core values and Strategic Plan to the whole DU community.

Most of the OAAA's report conclusions confirmed the self-understanding of the DU community. At that time, the main concerns were with the ability of DU members and units to maintain and improve the good practices that crystalized during the self-study preparations. Additional concerns were around the

ability of DU units and members to maintain and improve the good practices upon the expected change in the nature of collaboration with the AUB. Like any high-level change, it involves high risks, and the variation in the collaboration scheme included a change in the upper administration of DU. The future quality profile of DU and its achievements are an important measure of how well timed the gradual independence and self-management plan was.

## The College of Engineering

In business, there are two kinds of values: *situational* values and *sustainable* values (Friedman, 2010; LRN, 2013). Leaders, companies, or individuals guided by situational values make decisions based on the existing situation and regardless of the future interests of their communities. People who are inspired by sustainable values act and behave in ways that would sustain the employees, customers, suppliers, environment, produces, and future generations. As such, it is realized that countries with developing education systems need institutions that are built upon, behave according to, and teach sustainable values.

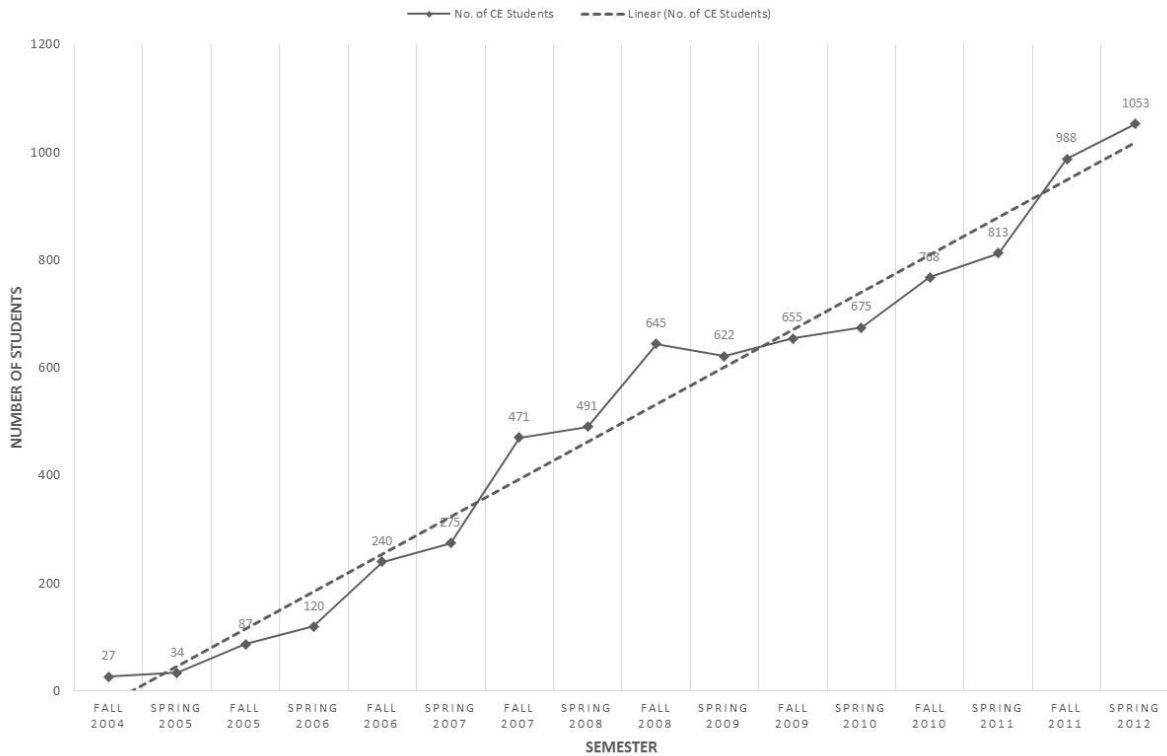
Integrating sustainable values within engineering programs should be associated with the demand for higher quality and a broader knowledge base. Throughout the second half of the 20<sup>th</sup> century, energy and economy have been paired by industries and manufacturers, with the objective of achieving the most economic option for their products. The environmental factor has been added into this process and hence engineers are currently becoming more concerned with the 'three E's': energy, economy, and ecology. Besides the three E's, engineers are expected to master the use of state-of-the-art computing tools and to work within service-oriented businesses. Indeed, today's engineers work in environments that require rigorous cross-disciplinary knowledge.

The need for cross-disciplinary knowledge in engineering is expected to intensify. A reassessment should be done for the way engineers are prepared (Bordogna, 1993; Ditcher, 2001). We believe that the reassessment of engineering education should include raising engineers within an environment that is rich in sustainable values. Engineers should acquire the sustainable values of being self-directed learners and thus lifelong learners. In a country like Oman, where the reliance on imported expertise is significant, the raising of local engineers with sustainable values is of great importance to the development of the country.

The structure and programs of DU's College of Engineering (CE) were inspired by those of AUB, and were mainly developed through collaboration between the two institutions. The first two founding deans of the CE spearheaded the structural and programmatic implementations; both deans were on secondment from AUB. Currently, there are five departments in DU's College of Engineering, namely, civil engineering, chemical engineering, electrical and computer engineering, graphic design and interior architecture, and mechanical and mechatronics engineering. To provide students with hands-on experience, state-of-the-art laboratories were installed in the temporary premises and in the new campus.

The engineering programs at CE are designed to meet the curriculum criteria of ABET. The graphic design curriculum is designed to meet the National Association of Schools of Art and Design (NASAD) standards for professional undergraduate degree programs. The Interior Architecture curriculum is designed to meet the Foundation for Interior Design Education Research (FIDER) standards for professional undergraduate degree programs.

The College of Engineering (CE) has been fast growing: the student body increased from 27 students in 2004 to 1,053 students in 2012 (See **Figure 1**). The increase in student numbers was matched by an increase in the number of faculty members; six in 2007 and tripled over the following years.



**Figure 1: Number of CE students at DU between Fall 2004 and Spring 2012, including FP students.**

Since 2005, the various departments of CE have been providing graduates that will have careers in modern industries such as chemicals, petroleum, architecture, media, aviation, information technology (IT), communications, power systems, etc. CE graduates are expected to serve in a wide range of industries in Oman and in the GCC region. One of the main objectives of the CE programs is to seek in its curricula a careful balance between core technical and non-technical skills of engineering students. A great focus is placed on building non-technical skills that include lifelong learning, effective communication, interpersonal skills, and organizational skills.

The CE programs are of three components, namely program requirements, college requirements, and a general education component that includes English composition, humanities, and social sciences.

To be eligible for admission to CE programs, the requirements include having minimum scores of 400 in in the Scholastic Assessment Test I (SAT I) in both English Writing and Mathematics. For the English requirement, alternate standardized tests are also considered. If the admission requirements are not met, students are placed in the FP. Upon the completion of the FP, students joining CE have to take internal proficiency entry tests (PETs) in Mathematics, Physics, and IT. Failing students are required to take extra Mathematics, Physics, and/or IT courses based on their test results. The number of students failing the PETs justifies the importance of such an entry check. The PETs were implemented as a temporary procedure until a more standardized testing is feasible. Standard procedures that were investigated included Scientific Quarterly (SQ) tests that enjoyed considerable utility in Lebanon, at the

AUB in particular during the eighties and nineties (Saigh 1990), and the repeat of the SAT tests after completing the FP.

Typically, in order to be able to work effectively in a multidisciplinary environment, engineers have to pursue training and internship opportunities. Engineering students willing to benefit from having a two-year diploma should fulfill an internship period of eight weeks. All senior engineering students working for Bachelor degrees are required to fulfill another summer internship period of eight to twelve weeks. This graduation requirement entails that each student gain practical training experience during the summer prior to graduation.

Throughout the fourth year, engineering students are required to carry out a substantial graduation project that requires creative activity, original thinking, teamwork, and documentation, all in alignment with the program student outcomes. The final year project provides students with another transitional experience from the academic to the professional world. For the final year project and other course projects, DU has introduced a section during its annual student's activities week to exhibit selected projects. The results of this activity have been encouraging since it provided incentives for students and promoted the College in the region. The event has been made open to the public and has been heavily attended by students, industry and government representatives, and the media. Each team of students presents their project to the audience and more importantly to juries from the College. By the end of the week, the top projects are selected and rewarded. The practice is found to be positive in the following points:

- It stimulates students through practically informing them of what engineering is really about;
- It inspires younger students;
- It allows for a successful outreach and buy in to the media and the community;
- It enhances student communication skills.

The exhibition practice has been very successful in developing the students' written communication skills through publishing papers in national and international conferences and workshops. Taking their projects to national and international exhibitions, and winning prizes and competitions on many occasions, has allowed for a wider exposure for DU engineering students (e.g. Al-Shahaimi et al., 2010; Khan et al., 2008; Samadi et al., 2008).

On the other hand, the CE is challenged by several threats. Students admitted to the CE demonstrate a weak background in mathematics, science, and language, evidenced by low student scores in the entrance exams to the FP and the PET's. The level of entering students is a University-wide challenge. For example, in the academic year 2009-2010, about eighty percent of entering students had to join the FP. Nevertheless, many admitted students report fairly high school grades that do not seem to reflect their readiness for higher education.

The female student element in the CE has been almost steady between 50-60% of the overall student body in the college. However, social stereotyping regarding gender-related issues has affected the student's choice of major within CE. The students' criteria in their choice of majors has resulted in a low number of students and a lack of gender diversity in the Mechanical Engineering (ME) and Electrical and Electronics Engineering (EEE) majors in particular; the Graphics Design (GD) major has been the primary choice of female students in CE. In 2008, out of 300 female students in CE, only six were majoring in ME and two in EEE, while 106 were majoring in GD. Discussions with female students regarding their choice of major have revealed their imprecise understanding of the specialties and the professions associated with these majors. In terms of overall student numbers in 2010, 135 students from both genders were majoring in GD, 29 students in EEE, and 27 in ME. The trend in student choices has continued until the



present: in year 2012, 206 students were majoring in GD, 43 in EEE, and 44 in ME, and since more than half of the student population are females, their choice of major has affected the overall student numbers in each major (Figure 2). Properly promoting majors, benefits of diversity, and presenting the market needs is essential to respond for such a challenge.

The CE enjoys several opportunities. The college developed the new programs of Interior Architecture, Civil, Mechatronics, and Chemical Engineering, which have provided an opportunity for promoting the college and the institution. The CE's links with local industries in Oman play an important role in introducing CE students to the local job market. These links have been built up through mutual visits, student internships, and student employment. The main links with industry have been made with the power, communications, marine, construction, sanitary services, and petroleum and chemicals sectors.

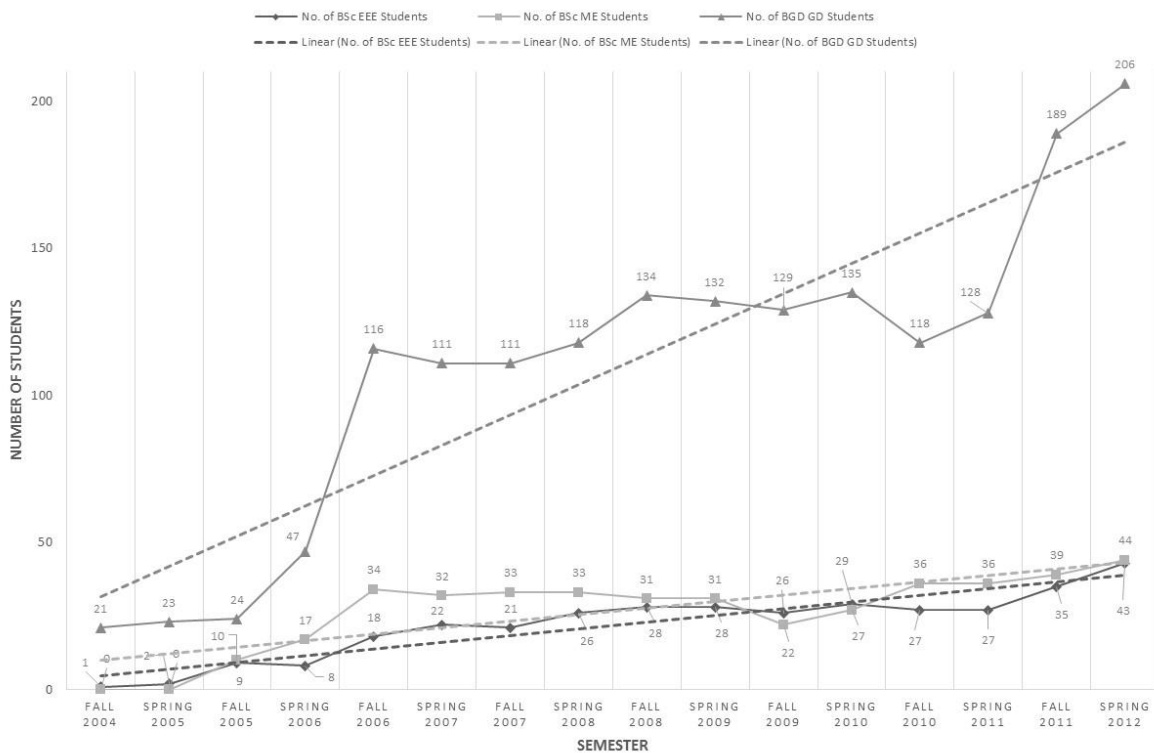


Figure 2: Number of students in CE majors (Fall 2004 - Spring 2012, including FP students).

The CE is challenged to improve several key weaknesses. A lack of student motivation towards learning and of self-confidence have been serious challenges to the institution and to CE. A common opinion among CE faculty members, as expressed in meetings and discussions, is that a majority of the student population has demonstrated a lack of deep commitment to assignments and projects, a regular inability to meet deadlines, and a lack of participation in extracurricular activities. Creating agency and self-efficacy among students requires considerable time and effort on the part of faculty and staff, both inside and outside classrooms. A positive change in attitude toward assignments has been clear during upper-level courses. After very few showcases during the early annual activity weeks, the number of participating students has multiplied in the later years; students were best encouraged to participate by observing the success of their peers.

The CE is also challenged by the teaching and work overloads of faculty and staff. Balancing workload has always been a critical requirement to providing quality education. The college had to deal with the

somewhat little opportunity for internal and long-term research and self-development support, although the college has responded to the need for research support by strengthening links with the local industry and applying through external funding agencies.

The CE is challenged to maintain several key strengths. Retaining and hiring faculty and staff with high academic qualifications is challenged by maintaining an attractive package of employment and promoting the college. The CE has benefitted from the excellent relationship between faculty and students, and students are widely considered to be well-behaved and polite. There has not been a single case of student dismissal due to misconduct. The effort required to deal with and deliver a message to students is minimal; nevertheless, the effort required to transform ideas into actions is great.

Many of the challenges presented at the CE are very location- and region-specific; it required careful attention and deep understanding by expatriate DU faculty members and the representatives from AUB who were mostly non-Omanis. Based on the experience of CE faculty and staff, the CE should focus on the continual pursuit of the following goals:

- Build a culture of assessment
- Address the strategic needs of local industry and the society
- Continuously improve the college work environment
- Assist in attracting, supporting, and retaining high-achieving students

## Conclusions

The GCC region has been witnessing a vast expansion of private higher education in an effort to increase higher education capacity. The similarities among GCC member countries enable a mutual exchange of experiences in addressing various challenges. In this paper, we present an exploratory investigation to learn from studying the practicalities of collaboration and accreditation in a newly established institution in Oman, namely DU. The case study focuses on the practicalities of collaboration between DU and the AUB, accreditation of DU by the OAAA, and good practices University-wide and in the College of Engineering in particular.

Several lessons could be learned from the collaboration between DU and AUB including the gradual preparation of DU to become a self-dependent and self-managed institution. DU, like other institutions in the GCC, has benefitted from its collaboration to set itself firmly on the course of continuous quality improvement. DU has to deal with a variety of challenges in order to move closer towards its strategic goals within a long-term framework of national development. DU has to face the challenges of financing quality education, clearly defining its collaboration schemes based on stakeholder needs, maintaining continuous self-checking and improvement, and creating a positive work environment that aids hiring and retention of faculty and staff members. DU should continue to explore ways to enhance the academic level of entering students before joining their majors.

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