AC 2009-1912: LESSONS FROM EFFORTS TO DEVELOP AND IMPLEMENT A MODERN EDUCATIONAL PROGRAM IN AFGHANISTAN

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Lessons from Efforts to Develop and Implement a Modern Educational Program in Afghanistan

Abstract

Working to improve engineering education in the developing world is rewarding, frustrating, challenging, maddening, surprising, and vitally important. It provides an unpredictable mix of successes and struggles. The authors have been engaged in an ongoing effort to start up, build and implement a civil engineering program at the new National Military Academy of Afghanistan (NMAA) in Kabul, Afghanistan. NMAA, modeled on the US Military Academy at West Point, aspires to have a modern four-year western-style academic program that has a large math, science, and engineering component. The academy has gone from a vague idea in 2003 to graduating its first class in January 2009. Along the way there have been many successes, challenges, and struggles encountered by the U.S. advisors working in Afghanistan. There have also been many lessons learned that the authors believe will have a wider applicability to all efforts to improve the higher level educational systems in the developing world. This paper will discuss in detail the efforts that have been expended to bring NMAA to the point where it is and address the challenges that remain, with special emphasis on the engineering program. The authors will also address the implications of these lessons for the broader endeavor of educational capacity-building in the developing world. While each country and culture offers its own unique challenges and opportunities, we feel several lessons we learned have universal applicability. Among the topics discussed will be the use of face-to-face and distance mentoring, cultural and ethical challenges, faculty development, providing resources and equipment, and ensuring the continuity and sustainability of programs.

Introduction

As noted by the World Bank "Higher education is the modern world's basic education, but many countries are falling further and further behind" and they go on to emphatically state that "Higher Education is no longer a luxury, it is essential for survival" [1] In the World Declaration on Higher Education for the Twenty-first Century: Vision and Action the report says that "without adequate higher education and research institutions providing a critical mass of skilled and educated people, no country can ensure genuine endogenous and sustainable development and, in particular developing countries and the least developed countries cannot reduce the gap separating them from industrially developed ones."[2] With this declaration, the role of higher education cannot be doubted as a necessity for developing nations. As one way to advance this cause the report goes on to say that "the principle of solidarity and true partnership amongst higher education institutions worldwide is crucial for education and training in all fields…"[2] That "partnerships, based on common interest, mutual respect, and credibility, should be a prime matrix for renewal in higher education." [2] In their document aimed at making these goals a reality, the World Conference on Higher Education stated that "Institutions of higher education in industrialized countries should strive to make arrangements for international co-operation with sister institutions in developing countries and in particular

with those in poor countries."[3] The plan also recognized the need for academic development and improving skills and learning methods and called for establishment of "appropriate staff development structures and/or mechanisms and programmes."[3]

Since 2003, the United States Military Academy (USMA) at West Point has had a close relationship with the National Military Academy of Afghanistan (NMAA) in Kabul and has been working to accomplish some of these goals. Throughout this relationship, West Point has, over time, increased and improved the level and quality of assistance, due largely to our learning and understanding as we have gone along. The authors have been involved with the development of the Academy in Kabul both on the institutional level as well as program level with the civil engineering program. The authors believe the lessons we have learned though our years of experience with NMAA in Afghanistan are very likely applicable and can be used to benefit other efforts to provide assistance to other higher education programs elsewhere in the developing world. While the authors know that no two countries share the same culture, exact needs, situation or history; we do think that on a general level most will share the same basic requirements to develop and improve higher education programs.

Background of NMAA Development[4]

In August 2003 a small team from West Point, consisting of the Vice Dean for Education and a military training and development specialist went to Afghanistan at the request of US Forces. They met with the US Forces and Afghan military officials to discuss starting a military academy. Historically Afghanistan had a number of military academies; all modeled after Soviet institutions. These past academies provided only military training; academic disciplines were not taught at all. During the initial discussions, and after looking at several models of military education used throughout the world, the Afghans requested that their future academy become a four year academic degree producing institution modeled after the US Military Academy at West Point. The Afghan leadership stressed their desire to implement a four year western style educational model to best prepare their future officers for the challenges of living in a dynamic and changing global community. This decision was obviously made with an eye toward the future and long term benefit of the country. There are more expedient and commonly used and accepted ways to train officers for an Army currently at war, such as a 90-day Officer Candidate School course. Over the next year and half plans were drawn up, a site selected, faculty hired, facilities prepared (renovated or newly constructed), and equipment and furniture procured. In September 2004 the first class of 120 cadets was admitted from a pool of 360 candidates. The following February this first class of cadets began their cadet basic training and the academic year was formally started in March 2005. Since that time three additional classes have been enrolled, the most recent one saw 310 cadets selected from 1789 applicants.

The strategic vision for NMAA is to be "the crown jewel of university level educational and leader development institutions in Afghanistan." It is a degree-producing academic, military, physical training, and character development program that will eventually commission 300 new Lieutenants annually. Graduates will set the highest standards of

professionalism throughout a lifetime of service to Afghanistan in military and civilian leadership positions. The Academy's mission is "to educate, train, and inspire the Cadet Brigade so that each graduate is a competent, courageous, and honorable officer in the Afghan National Army committed to continuous professional development and a lifetime of military and civilian service to the nation." This mission and vision continue to provide the guidance in the development of NMAA.

In way of background it is necessary to understand the dual mission of the Academy and its model. In addition to educating students, or cadets in this case, the Academy must also train and prepare them for a military career. NMAA is modeled after the US service academies, chiefly the U.S. Military Academy at West Point, New York and the U.S. Air Force Academy (USAFA) in Colorado (itself modeled on West Point). The NMAA adapted model contains four pillars: academic, military, physical, and character and leadership development that all rest on a moral/ethical foundation based on Islam. Support has been provided in all four areas as well as in the addition of physical facilities and equipment. There is a small support team that guides this effort comprised of assigned military personnel from all the US armed services. The team chief has always been a graduate of West Point and most recently has been a past or current member of the staff and faculty there. In addition there have been over 90 academic specialists from West Point and the Air Force Academy, both military and civilian, who have voluntarily gone to Afghanistan on a short term basis to provide assistance with a specific course or program. The Turkish Army also has supplied a team that has provided some support to these efforts in academics and military studies as well. While this paper will focus on the academic program development, specifically the civil engineering program development, it is important to understand that there is a significant and critical effort going on to assist with construction of facilities, running the academy, developing academic administration, and providing military training as well.

The curriculum (see figure 1) is adapted from the West Point curriculum and provides a broad based liberal arts education that strives to mix the sciences and engineering (in tan) and the humanities (in yellow). The program was designed to provide a core curriculum and then offer an opportunity to concentrate in a discipline (shown as white). Currently there are three programs that provide a major type experience: Civil Engineering, Legal Studies, and Computer Science and Information Technology. Future plans call for a Leadership and Management major, History major and English Studies major. The white spaces labeled "Elective" are used to hold a space for a prescribed list of courses that make up the major experience. They do not represent electives as we understand that term in the US. An Afghan cadet chooses his "major," which then prescribes his course of study for those electives listed. The curriculum, while not unexpectedly heavily weighted toward the academic pillar, does incorporate the other three pillars as well. The military studies courses (in light green) and physical education (blue) each support their pillar, and many courses contribute directly and indirectly to the leadership and character development pillar.

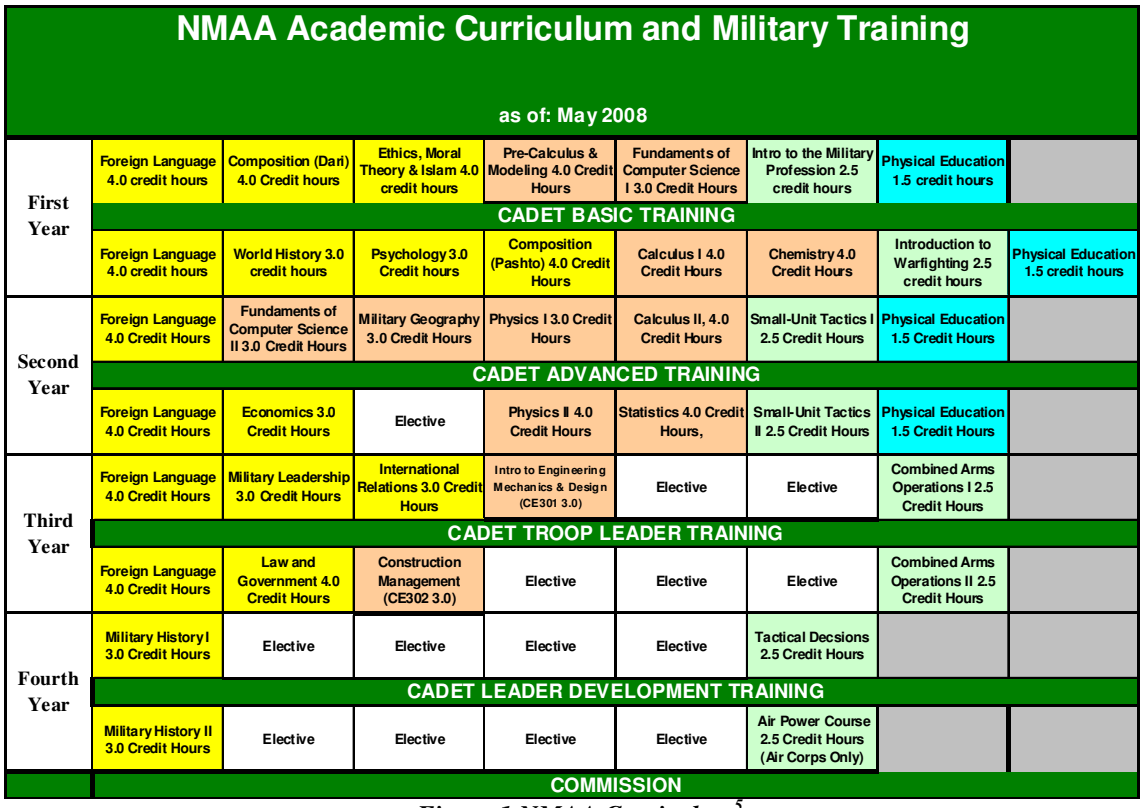

Figure 1 NMAA Curriculum[5]

The courses described in Figure 1, with only a few exceptions, have been developed using academic discipline specialists from the US. While the Afghan faculty has been involved and present, the vision, direction and specifics of course development has come mostly from US sources.

Since the generation of the initial idea for NMAA to this day, the success can largely be attributed to a dedicated team of both military professionals and academic discipline experts. They have volunteered and sought to help the Afghans by planning, preparing and executing a university curriculum and program. These efforts have also been complimented by heavy financial support through US military aid that has provided facilities construction, renovations, equipment and supplies necessary to run a university and has resulted in the best educational facilities and equipment currently in Afghanistan. While the Afghan leadership has always been involved and concurred with this process at every step, it has been the coalition support, largely from the US military, with some significant but smaller assistance from the Turkish Army and others, that have provided the direction, vision, and plans for NMAA. Without this support NMAA would not exist.

Successes

The fact that an academy exists at all and has conducted its first graduation is a huge measure of success. Going from an idea to graduating its first class in less than six years is certainly noteworthy by any measure. On January 25, 2009 NMAA graduated 84 students after a four year program.[6,7] But beyond the institutional level of success, the

civil engineering program is particular noteworthy. This program has been a source of pride for NMAA as well as a method of outreach to the rest of the country. Due to a lack of trained and educated engineers in the Afghan National Army, the ideal and more typical source of faculty for NMAA, a cooperative effort with Engineering School at Kabul University was established, where their faculty would teach at NMAA as adjunct faculty. This arrangement provides a much needed second source of income for the Kabul University faculty, keeps them working in the educational field, and exposes the faculty to modern textbooks and teaching methods. The faculty development they receive at NMAA by working with West Point and Air Force Academy faculty is also being used to improve teaching at Kabul University.[8,9] Another sign of success is that the faculty that is executing this unique and challenging academic program is 100% Afghan. While in many respects it would be easier to have US advisors conduct the instruction, for the long range success it is not optimum. The continued commitment both from Afghans, to building a western style university, and from the US, in terms of monetary support as well as academic subject matter support, is again another large mark of success.

Challenges

Despite the successes NMAA has enjoyed in its short history to date, many challenges continue to face its development and are likely to continue in the foreseeable future. Chief among them are the state of education in Afghanistan, which is reflected both in the educational level of the faculty as well as that of the students. There are clearly no easy or quick fixes to this challenge. During 30 years of war and isolation from the world educational institutions and systems in Afghanistan understandably did not keep pace with the rest of the world, and often ceased to exist. This gap between Afghanistan and the developed world is large and cannot be ignored. For many years it will continue to be a challenge for the new emerging Afghan nation.

The educational level of the faculty is quite low. At NMAA most of the faculty are Afghan National Army members who had seen former service and were schooled in Soviet Military Schools. They do not have experience with or a background in western educational standards, to include homework, achievement standards, course failures, or active learning. Any teaching method other than an uninterrupted lecture period is a new concept. Those educated in Afghan civil universities have an education that is 30 or more years out of date and is at a quality level much below what can be found in any western developed nation. The adjunct civil engineering faculty from Kabul University are often very recent graduates, as recent as the past year, and while graduating at the top of their class at Kabul University, their level of education is still much less than a average civil engineering graduate from a western developed nation. They are not used to rigorous study requirements outside of the classroom, laboratory experiences, or different instructional methods other than a lecture. Although Afghan and adjunct faculty are eager to learn and succeed, they have not yet shown the ability to develop credible academic courses on their own. The engineering faculty, as all technologically educated faculty in Afghanistan, have many other opportunities for employment that will compete for their time or take them out of higher education all together. In Afghanistan the

authors encountered this first hand. Each member of the Kabul University civil engineer faculty needed one or two other jobs to support their family which took them away from the university. Often faculty members spent time at Kabul University only when schedule to lecture. Similar examples of this challenge have been noted in several African nations as well.[1]

There is a culture in the academic community in Afghanistan of senior leaders desiring to control and have standardization. The extent of this control is mind boggling to any US faculty. The administration makes all decisions, no matter how minor, and academic freedom as we know it does not exist. One faculty manual said that all classes would consist of 5 minutes of taking attendance and welcome, 40 minutes of lecture, and 10 minutes of student questions. When we presented the ExCEEd (Excellence in Civil Engineering Education) model of instruction[10] during a faculty development workshop, we were told they could not teach in the highly interactive and engaging method presented. It was only after having a few cups of chai (tea) with the Dean and gaining his approval that the ExCEEd model of instruction was adopted. Another example is that a "Control Committee" selects the questions that will be asked on all exams. The midterm exams were decreed to be 30% of the grade and consist of only six questions, for all courses, in all disciplines, and at all levels. The six questions would be selected from 12 submitted by the instructor. On the control committee not a single member was educated in or familiar with engineering, yet they selected the exam questions.

The students like the faculty were largely incredibly motivated to learn and very active in the classroom. They clearly lacked, however, what we could consider an adequate pre-college background. As an example, after a three phase written and oral screening for English language and math abilities of almost 1800 applicants, the top 8 candidates with the highest scores were given an SAT test to see if they might be eligible for a scholarship abroad. The results were very telling; no cadet scored above the third percentile in math or the first percentile in reading or writing. Given the recent history of Afghanistan these results are not surprising and they are provided merely as a point of reference to the relative ability of the student body, even in a highly selective group of students. Anecdotally it is also seen that top Kabul University engineering students selected to come to the US, or other developed countries, for advanced degrees can expect to take three to four years to complete a one to two year master's degree. All of this points to the challenge presented in providing a modern western higher education in Afghanistan.

Lessons Learned

Getting this far has been a monumental task, and has provided both successes and many challenges still to be overcome. In many ways the realization of the NMAA strategic vision and mission will require even harder work in the future to accomplish than has already been expended. However, we feel that our experience thus far in helping to establish and improve higher education through a civil engineering program at one school in Afghanistan has provided many valuable lessons that can be shared and likely will be useful in similar effort in other developing countries as well.

The most important lesson is that there is no substitute to being present. If you cannot be present on the ground, there is a very limited amount of tangible assistance that you can provide. Time and again this lesson has been born out. In Afghanistan there is a culture of hospitality, the need to establish relationships before work can be done. This is especially true when new methods and information are being introduced. Without pausing for a cup of chai (tea), no work could be done. The more "foreign" or new the ideas, the more a relationship of trust must be established in order to have them accepted and understood. There is also no way to truly understand a foreign culture, despite efforts to "study up", then to experience it. The authors have found that their Afghan counterparts almost universally claimed to understand everything we provided to them, however, once relationships were established, they felt more comfortable asking questions, invited us to probe their understanding, and allowed us to check on their reception of the material.

The authors found that even after have spent time in Afghanistan, later attempts at distance advising and course development were simply not nearly as effective. We have also observed that once an academic discipline specific advisor departed there was often a regression on implementing plans and new initiatives left behind. This is especially true when providing lab equipment or computers. In many instances the lag time in ordering and receiving equipment could be quite long and things would arrive after the advisor who ordered it had departed. The equipment would often sit untouched until a new advisor came and was able to demonstrate it and show how it was used. Even when equipment was demonstrated and set up, it would take several iterations of advisors training the faculty on it before the Afghan instructors would use the equipment. Simply put, despite lots of preparation and research there is also no substitute for being on the ground to understand the current state of things. It takes actually being there to really understand the state of things in a foreign country.

While course and program development are important, faculty development is even more critical. Given the educational background and experience of the faculty in Afghanistan, this is probably the most lasting and significant contribution we have made. This is true of educational development at lower levels as well, as was pointed out in a March 10, 2009 lecture at West Point by Greg Mortenson and also made in his book, *Three Cups of Tea*.[11] As mentioned in the introduction faculty development is also a necessity for academic progress and something the developed world clearly can support. Early on in our experience at NMAA we tended to focus on course and program development and often did faculty development as an afterthought. We came to learn, however, that faculty development made the course development more effective. We now plan to conduct faculty development sessions with each deployment. For the civil engineering faculty, we conducted a version of the Excellence in Civil Engineering Education (ExCEEd) teaching workshop[9,10,12,13,14] numerous times. Advisors spent lots of time providing board notes, helping to create detailed lesson plans, making problem sets, and providing context to course material presented.[4,9]

Being able to communicate is an absolute necessity. Out of over 100 advisors to serve at NMAA not a single one spoke Dari or Pashto, the main languages of Afghanistan. While the engineering faculty all spoke English, and English is the declared language of engineering in Afghanistan, the reality is not that simple. Many of the engineering faculty at NMAA did speak English remarkably well, but none were really advanced and many did not understand the engineering terms, exactly. We had one instance where 'statistics' was being used for 'statics' in a lesson document. We also found that although the faculty at Kabul University, which supplied most of NMAA's engineering adjunct faculty said they taught in English, in reality they used English language engineering texts and examples, but most of the classroom instruction was in Dari. The students also faced similar problems with understanding English, especially engineering terms. The NMAA advisor team was fortunate to have 11 full time translators assigned to support the entire academy, but none of them had an engineering background, or one in any other academic specialty. Translators became the critical resource in determining how many advisors could effectively server at NMAA at a given time. We actually had to turn down well qualified volunteers with needed academic skills due to a lack of translator support. The ideal solution to this is to have advisors that understand and speak the local language.

The authors found that continual reinforcement and encouragement are necessary to keep a newly developed program from regressing from what has been accomplished. Until adequately educated and trained faculty can be found or developed, a process that will be measured in years, or decades, this is to be expected. A continual string of advisors, each spending several months on the ground is the ideal solution. Having follow-on advisors contact and communicate with their predecessors paid great dividends. We found this allowed us to maximize the assistance given and provided continuity even when successive advisors were not from the same institutions in the US. Our advisors came from West Point and the Air Force Academy and were able to conduct "hand-off" even though they may have never met in person. The benefits of this were enormous and added to the advisor's credibility when they could refer to work previously done and past advisors by name.

It takes time to build relationships and to bring about change. In the US we have a culture of wanting things done quickly and to see results immediately. For much of the developing world, and certainly in Afghanistan, this is not the way it is looked at it. As advisors we needed to learn to pace ourselves and expect things to take time. As mentioned above, relationships are critical and not only do you have to be there to establish and build them, but relationships take time. It is not realistic to expect to come in for a few weeks and "get right to work", set things up and have those left behind execute your plan. Support must be provided over time, and the longer an advisor can stay the better. We found that a minimum of 90 days was required when providing discipline specific support, such as working on just a single course or program. To work on academic administration or large systemic type issues, six months to a year is required. Larger changes will require stronger relationships and thus will take even more time. Change in any culture is difficult and even more so in developing countries that

have a more traditionally based culture and society. Results will be slow and not always steady; two steps forward and at least one step back was the norm for us.

Understanding the culture, political situation and local customs/habits is very important and probably the most difficult thing we tried to do. It was relatively easy to learn to have a cup or two of chai (tea) before every meeting and expect things to go at a slower pace. It was much more difficult to appreciate the effects 30 years of warfare and internal strife have on a society. It was near impossible to truly understand all the tribal, political, and social allegiances that come into play every day and permeated everything. Each country has its own past, customs and habits that must be learned. To even get a reasonable understanding of a culture requires intense studying, discussions with those who have been, time on the ground, and time to reflect on one's experiences; all of this requires additional time and effort, but is essential to those who wish to advance education in the developing world.

The development of NMAA has had ample and adequate financial support—an advantage that not many assistance efforts can match. While our funding was not unlimited, it was generous. Our support came from the US Military assistance provided in the Global War on Terrorism. This financial support however, did not alleviate problems in getting textbooks shipped, supplies delivered, or equipment secured, but it did provide the necessary material to be able to accomplish much. It allowed us to hire adjunct faculty, completely equip engineering labs, buy computers (along with surge protectors, uninterrupted power supplies, and power strips), textbooks, calculators, and to pay for faculty from the US to come to Afghanistan to advise NMAA. Not every program can provide the level of financial support the US Military was able to provide and continues to provide to NMAA. However, above all money is required to successfully develop engineering programs or any program[1,15]. Having one or two persons on site will probably not advance the program without an accompanying source of financial support, either from local sources or from foreign assistance.

Conclusion

The experiences the authors have had in Afghanistan at NMAA have been rich and rewarding on many levels. We have learned through trial and error, from mistakes and successes. While our experiences were in Afghanistan and are certainly unique in many ways, we are still convinced the lessons we offer in this paper would be useful in any assistance effort in the developing world and at a minimum would provide a starting place or provide an initial road map for making specific plans. The need for higher education to survive and advance in the new global world cannot be denied. Similarly, the higher education gap between developed and developing nations, especially in the poorest countries, is great. The authors believe that efforts to narrow this gap are worthy endeavors and when done well can provide great benefits both now and in the future.

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