Articulation Partnerships with Accredited Non-traditional Programs

Arnold Peskin/Excelsior College
Walter Buchanan/Northeastern University

Abstract:

Many Engineering Technology Students earn their degrees through the '2 plus 2' program model. The first two years are often spent in community colleges, but finding a suitable institution for completing the Bachelor's Degree can prove to be a challenge. This is especially true for students whose personal circumstances inhibit them from enrolling and completing their degree at a conventional school.

Excelsior College was founded to make college degrees more accessible to qualified busy, working adults. It focuses on what its students know, rather than where or how they learned it. Its School of Business and Technology offers a variety of degree programs, including TAC of ABET accredited programs in Electronics Engineering Technology and Nuclear Engineering Technology. Because much of its interaction with students is the evaluation of coursework, experience and other sources of knowledge acquired elsewhere, Excelsior emphasizes student assessment activities, among them conventional assessment techniques, articulation agreements, industrial partnerships, and testing. It has also recently embarked on an extensive program of distance course delivery.

One particularly unique dimension of student assessment is the Excelsior Integrated Technology Assessment (ITA). This portfolio-based assessment method is a capstone experience for Engineering Technology students, documenting their ability to integrate knowledge from various technical and general education areas and apply it in a meaningful way. The portfolio development process requires students to reflect on past experiences, both academic and professional, and then use the information gained from this reflective process to develop learning statements that address specific learning objectives.

Excelsior's Engineering Technology programs represent a laboratory of innovative assessment, articulation and course delivery, whose techniques can be used by all educational institutions to further the cause of educating and recognizing worthy students who might not otherwise be able to complete traditional degree requirements.

1. Introduction

Many Engineering Technology Students earn their degrees through the '2 plus 2' program model. The first two years are often spent in community colleges, but finding a suitable institution for completing the Bachelor's Degree can prove to be a challenge. This is especially true for students whose personal circumstances inhibit them from enrolling and completing their degree at a conventional school.

There are many conditions that can prevent a student from graduating. One particularly common one is mobility enforced by job requirements that prevent a student from completing a sufficient number of credits at any one school. This is particularly prevalent for those in the military, but it can also be true in other walks of life in our increasingly mobile society and international economy. Another detriment to completing traditional requirements are health problems and handicaps, which have the opposite effect of restricting mobility so severely that the individual's options for formal education are limited to a very local area. The many other inhibiting conditions range from poverty to advanced age. The net effect is that there is a significant number of otherwise deserving students who would have enormous difficulty obtaining a degree that certifies their true level of ability and accomplishment.

It is also recognized that there are many individuals who have acquired their knowledge and capabilities through experiences other than formal classroom learning. It has long been acknowledged that in many areas, 'on the job' training, self-learning, and other life experiences can result in an individual having full competence in pursuits normally associated with study in a college setting. [1] Few educational institutions, however, have the capabilities or motivation to fully assess these individual's standing and reward them with the appropriate credit.

These two factors, credit 'residency' requirements and lack of effective assessment policies, result in a large body of students and prospective students being denied or discouraged from degree attainment. However, society has a well documented need for more engineering science and technology graduates. [2] This untapped reservoir of potential graduates needs institutions that have the will and flexibility to meet their needs. Where such institutions exist, there need to be in place articulation agreements that can remove the final barriers to the success of these students. That is a worthy challenge for American educators in the twenty-first century.

2. Excelsior College

Excelsior College in Albany, New York, was founded in 1971 by the New York State Board of Regents, and was originally known as Regents College. Its purpose from the outset was to make college degrees more accessible to qualified busy, working adults. In 1998, it was granted a charter to operate as a private, independent college. Excelsior focuses on what its students know, rather than where or how they learned it. Its School of Business and Technology offers a variety of degree programs, including professionally accredited Baccalaureate programs in Electronics Engineering Technology and Nuclear Engineering Technology. [3]

Excelsior College students may advance with a customized degree completion plan and choose from among many credit-earning options:

- Distance courses from Excelsior College and other regionally accredited institutions
- Traditional courses at a campus local to the student

- For-credit examinations including Excelsior College Examinations
- Credit through evaluated military, corporate, and academy training

Hence, Excelsior directly addresses the needs outlined in the Introduction for providing degree opportunities for historically underserved members of the global community.

The Bachelor of Science in Electronics Engineering Technology is the program with which the authors are most familiar. It has similarities with all of the College's Technology Unit offerings, and is particularly similar to the school's other Engineering Technology offering, Nuclear Engineering Technology. The BSEET degree requirements are conventional, requiring 124 semester hours of credit, including at least 60 credits in the arts and sciences component, and at least 48 credits in the technology component. Upper level technical coursework is calculus-based.

The program diverges from the conventional in three significant respects. First, there is no minimum credit-earned requirement from Excelsior College itself – almost all the credit could have been earned elsewhere. Hence, the student may use the good offices of the College as primarily an assessment tool, to verify that he or she has met the knowledge requirement of the program, and to identify any deficiencies in background that require additional study.

The second major difference is in the many ways that credit can be earned. The major categories are transfer credit from another school, distance learning experience from many sources including a growing on-line catalog from Excelsior, for-credit examinations including those offered by the military, and evaluated life-experiences such as on the job training.

The third major difference is the Integrated Technology Assessment requirement, which is discussed in the next section.

Because of the non-traditional nature of the program orientation, the major focus of interaction for the student is with the advisory staff, rather than the faculty. The School's advisors are specifically qualified and trained to assume this primary-interface role, and have been recognized nationally for their particular competence. Since 1991, the National Academic Advising Association has presented two Outstanding Advisor Awards and six Certificates of Merit to Excelsior Advisors. The most recent Outstanding Advisor Award was granted this year to a Senior Advisor in the Technology unit.

The faculty component contains both a teaching faculty, who develops and administers on-line coursework and an advisory faculty, who develops and reviews curricula, acts on academic policy matters, evaluates courses and other credit-worthy experiences, and backs up the Advisors on specific questions. There are also very active Industrial Advisory Committees for EET and NET, who work closely with the faculty and attend almost all faculty meetings.

3. ITA Experience

All BS candidates in Engineering Technology must complete an Integrated Technology Assessment (ITA) requirement. [4] The ITA process requires the student to reflect on past academic and professional experiences and to use the information gained from this reflective exercise to develop written narrative statements related to the degree program Learning Objectives. The narrative must be supported by documented evidence of mastery of these objectives. Such documentation may include, but is not limited to, copies of term papers, tests, laboratory reports, and other class assignments. It may also include videos of presentations given in class or on the job, and letters from professors or employers attesting to skills in the particular areas of interest.

An independent study guide, which outlines all of the information needed to prepare a successful ITA, is provided on-line or in a booklet. A faculty mentor is assigned to advise the student throughout the process. The ITA is evaluated in detail with extensive feedback provided to the student. Most recently, the ITA experience has been presented as an on-line WebCT course with the mentor serving as the course instructor.

The ITA is driven by the program's published learning objectives. The students are required to demonstrate their accomplishment of each objective with individualized learning statements drawn from their own academic, professional, or life experiences. The portfolio is to also contain evidence supporting these statements; examples of such evidence may include copies of examinations or laboratory reports, design drawings, citations from supervisors or peers, honors or awards, or similar documentation. The faculty mentor evaluates the body of information in the portfolio and provides the student with feedback throughout the process, and ultimately a quantitative grade.

The ITA is a primary assessment tool with several important functions. It fills in the picture of the student, whom the school may know only from dialog at a distance to this point. It serves as a quality check on the student evaluations performed by the school on the student. It also demonstrates to the faculty and staff the efficacy of the student body's achievement of the program objectives and provides feedback on what areas of the program may need improvement. The ITA thus helps the school fulfill its 'continuous improvement' responsibilities in addition to evaluating the individual.

The ITA also serves as a capstone experience. It helps reinforce to the student his or her accomplishments, and provides a sense of 'belonging' to Excelsior College that may have largely been missing for students that have not have extensive contact with the school. The ITA requires that learners take an active part in the learning process and participate by formulating initial ideas, considering the faculty mentor's responses, and reflecting on ideas in the light of contribution to the discussions with the faculty mentor. In this way, learners go through a cognitive process whereby thoughts and ideas are refined and adapted taking into consideration other views and perspectives of the original concept. The ITA students experience this development as a transforming process that leads to greater personal understanding and professional confidence.

4. Articulation Partnerships

The nature of Excelsior College makes it very important to have a comprehensive data base of feeder schools and courses, so that the advisors and faculty can take advantage of prior judgments they have made about the credit-worthiness of courses. Individual new student assessments are performed first by consulting that data base along with transcripts documenting the student's experience. For courses encountered that are not already classified, the staff reviews the course descriptions and consults the faculty as necessary before awarding credit.

If there is a prior articulation agreement in place between Excelsior and the 'feeder school,' the process is immensely streamlined. This directly benefits the student, and thus indirectly provides mutual benefit to Excelsior and the feeder school. It is often of great advantage to a geographically isolated two-year institution to be able to point its students to a path to a four-year degree in their chosen field.

There have also been partnerships forged with sources of learning other than colleges. The Excelsior database has many entries for military training experiences, to give one example. More recently, agreements are being explored with sources of industrial training. Members of the faculty have recently evaluated offerings from General Physics Corporation, a prominent provider of industrial training to the fossil fuel power plant industry. It has found opportunities for awarding significant amounts of credit to a number of Excelsior technology offerings, including some elective credits in Electronic Engineering Technology.

For evaluating life experiences other than formal coursework, personal interaction between the advisory staff and the student may be more intense. Among the tools relied upon may be portfolio assessment through another college, Ohio University examinations or other well recognized tests, or completion of an on-line course that demonstrates mastery of the material. If the life experiences are not deemed to be appropriate to the BSEET degree, the advisor may steer the student to other, less rigorous technology degree programs.

It is not unusual for the advisory staff to consult the faculty as a group and even include the opinions of the Industrial Advisory Committee on an award of credit. Such deliberations frequently take place during the several times per year that the faculty is called together for meetings, almost always accompanied by the IAC. As a further check on the process, the faculty together reviews the record of each candidate for graduation, examining the transcript, the ITA results, and any other relevant information.

As a result of its efforts on behalf of transfer students, Excelsior has attracted a student population from every State in the Union and many other countries around the world. In a recent study reported in U.S. News and World Report, in an article on America's Best Colleges, Excelsior ranked first in terms of the greatest number of transfer students; with more than double that of the runner-up institution. [5] Although the technology unit is one of the smaller schools in the college, it benefits fully from this phenomenon, and is substantially enriched by the size and diversity of its student body.

5. Role of Professional Accreditation

The assessment and articulation processes benefit greatly from both regional and professional accreditation. A successful accreditation experience is widely and properly seen as a 'seal of approval' of the institution and its object programs. [6] Advisors note the accreditation status of each institution from which transfer credit is requested. While this is clearly not the only consideration, it is an important indicator that the coursework and its delivery had appropriate content and rigor. Furthermore, the fact that Excelsior enjoys regional accreditation and that its programs have professional accreditation helps reassure the student who is assessing his or her options for degree completion.

For a non-traditional school such as Excelsior, accreditation is frankly not easily earned. Peer reviewers in accreditation are trained to evaluate a traditional school, and can be confused by how to evaluate an institution or a program such as the one they find here. Using the TAC of ABET process for illustration, Program Evaluators expect to observe students, classrooms, textbooks, work samples and similar objects of the educational environment. These are not routinely at hand at the school's location.

Some of these elements can be and are provided in preparation for the Accreditation visit. The ITA was established as much to collect student work for accreditation visits as it was for its value to the student and the school, and only later was it recognized as the remarkably effective tool that it turned out to be. The adoption by TAC of ABET of the TC2K Criteria also helped bridge the gap by emphasizing outcomes assessment over process. [7] Since Excelsior is predominantly an assessment-oriented school, this orientation in the accreditation process is a welcome advance.

6. Conclusion

The 'typical' undergraduate college student, one who enters college straight out of high school, attends for four years, graduates and then begins his or her professional career, is a shrinking percentage of the population. That student is increasingly being displaced by those with more complicated life histories that may make it difficult for them to realize their full potential in a traditional learning environment. One of the major challenges of the twenty-first century for colleges is to provide the kind of support that ensures that such prospective students are not disenfranchised by the hurdles of their life situation. Indeed, there may be attributes to their background that can abet and enhance their prospects for a college career if an inventive approach to assessment is performed.

Excelsior College offers a model for accommodating the non-traditional student, one that has worked in a variety of disciplines with a large number of students over time. It has been shown that this model is effective for creating engineering technologists, who pass all the benchmarks for success in this field; professional recognition, employer satisfaction, and a growing record of alumni accomplishment. It is offered to the engineering education community as a testament to the credo that what matters is what the individual knows, not where or how he or she learned it.

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