Developing a Centralized Process for Assessing Program Performance for Accreditation

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Abstract

Assessment and accreditation have become more intertwined and relevant in higher education over recent years. Many stakeholders (students, parents, employers, etc.) watch carefully to see if academic programs achieve and maintain accredited status. Historically in the Purdue Polytechnic each department or school has overseen their own individual accrediting and assessment procedures. This has proven both inefficient and potentially damaging. We have begun the process of centralizing the college's accreditation activities under one office. It has been revealing to go through the first accrediting process under the new structure, and much benefit has been derived by the college through this work. The next step is to centralize the assessment of program, and the strategic approach that is being taken in that area is promising. Plans for a pilot program in Computer Graphics are discussed and explained.

Academic Program Assessment for Accreditation

At a high level, program assessment exists to review student learning. At a deeper level, the goal is to identify teaching methods and content that are effective in enabling student success from various facets. Accreditation of academic institutions and programs was created and implemented during the 20th century as a means of providing peer review based on standardized criteria to ensure academic quality ("Accreditation in the United States," n.d.). Lubinescu, Ratcliff, and Gaffney (2001, p. 6) identify these items as the purpose of accreditation:

- Fostering excellence through the development of criteria and guidelines for assessing effectiveness
- Encouraging improvement through ongoing self-study and planning

- Ensuring external constituents that a program has clearly defined goals and appropriate objectives, maintains faculty and facilities to attain them, demonstrates it is accomplishing them, and has the prospect for continuing to do so
- Provides advice and counsel to new and established programs in the accrediting process
- Ensures that programs receive sufficient support and are free from external influence that may impede their effectiveness and their freedom of inquiry

These purposes resonate with multiple stakeholders, including students, students' families, potential employers, federal and state government agencies, and of course, the academic institutions being accredited ("Accreditation & Recognition," n.d.).

Traditionally, program assessment used to involve faculty taking a few minutes to submit grades of a few students each semester, and giving college seniors a general survey immediately before graduation asking how they viewed their time at school. This level of activity may have been augmented with a follow-up survey several years later to see how the graduates were doing in the workforce. Such limited efforts and minimal data are no longer sufficient for accurate program assessment.

In recent years, as assessment and accreditation have moved to the forefront of higher education, administering multiple programs requires progressively more time of faculty and administrators (department and school heads, deans, etc.) whose schedules are already full. With the importance of industry-specific accreditations on a college graduate's résumé, universities are looking for ways to assist in the success of their graduates' education and careers by gaining program accreditations. Part of this effort includes aligning their academic programs with industry and professional requirements.

Program Level Assessment within the Purdue Polytechnic

Historically within the Purdue Polytechnic each department has administered their own assessment and accreditation processes. This has resulted in information silos, repetitive efforts, and has reduced the opportunities to collaborate and share common goals and ways of working.

It became clear there was an urgent need to have a dedicated resource at the college level to lead all assessment related activities. As a result, in January 2018, an assessment program specialist was hired for the Purdue Polytechnic. In the college, there are eleven programs (in addition to our Computer Graphics Technology program) that are accredited by five industry-specific accrediting organizations (see Table 1). The program assessment specialist's job is to manage and coordinate all assessment activities for these programs, while working to ensure all related accreditations remain in good standing.

Department or School	Program	Accrediting Body
Aviation & Transportation Technology	Aeronautical Engineering Technology	ABET
Aviation & Transportation Technology	Aviation Management	AABI
Aviation & Transportation Technology	Professional Flight	AABI
Computer and Information Technology	Computer and Information Technology	ABET
Computer Graphics Technology	Computer Graphics Technology	ATMAE/ABET
Construction Management Technology	Construction Management Technology	ACCE
Engineering Technology	Electrical Engineering Technology	ABET
Engineering Technology	Industrial Engineering Technology	ABET
Engineering Technology	Mechanical Engineering Technology	ABET
Technology Leadership & Innovation	Engineering Technology Teacher Education	CAEP
Technology Leadership & Innovation	Organizational Leadership	ATMAE

Table 1. Programs and Accrediting Organizations

Immediately upon starting in the position, the assessment specialist was tasked with the preparation of six ABET self-study reports covering programs in four different departments. Within several months, the Polytechnic hosted on-site multi-day visits for several ABET evaluating teams. In addition to our large West Lafayette campus, these visits involved six additional locations of smaller Polytechnic campuses across the state of Indiana. Although the coordination of logistics for these multi-site visits was daunting, the result was a significant amount of useful information. One glaring weakness was the realization that the college needed to be better organized across all campuses with a much more consistent set of procedures. The evaluators informed the Polytechnic that the college had some inconsistent processes that, left unchecked, could create bigger problems for the next accreditation cycle. That prompted an internal discussion focused on creating procedures that centralize at the college level assessment activities previously done separately by each department.

Planning for a Centralized Assessment Process

In order to strategically approach the centralized assessment effort, a plan was implemented to establish a pilot program that involved two departments out of the six academic units in the Polytechnic. The two pilot departments, Computer Graphics Technology, and Technology Leadership & Innovation have agreed to experiment with new assessment procedures and processes beginning with the fall 2019 semester.

These include the following:

- Transitioning assessment administration away from the departments to the new college-level Office of Assessment and Accreditation.
- Working with the Program Assessment Specialist to create a uniform, consistent way of tracking assessment data and continuous improvement processes.
- Developing assessment schedules for each of the Polytechnic's accredited programs.
- Working with departmental curriculum committees to review their oversight processes of regularly reviewing curricula, and implementing changes when necessary.
- Working with accrediting organizations to ensure we are in compliance with their policies and procedures, and implementing changes they make regarding accreditation.
- Keeping statewide locations (Computer Graphics Technology only) informed of any changes that may impact them.
- Leveraging a consistent technology application (Nuventive TracDat) to:
    - Manage curriculum/course mapping outcomes
    - Serve as a repository for course outcome data documentation
    - Maintain rubrics, performance measures, and other embedded outcomes
    - Create meaningful and useful reporting tools

Within the Technology Leadership & Innovation Department, the Organizational Leadership Program (ATMAE accredited) will be utilized for the pilot under the existing ATMAE criteria. The pilot will utilize data gathered from multiple courses across the Organizational Leadership curriculum. This approach will allow us to validate the method of assessing a program via multiple course inputs.

The eight programs in the Computer Graphics Technology Department are in the process of transitioning from ATMAE to ABET accreditation, which provides an additional level of complexity to the pilot. However, this may work to the advantage of the effort, as the process of updating educational objectives and student outcomes that would have been required to switch from ATMAE to ABET matches well with the requirement to move from ABET a-k to the new ABET 1-5 criteria. The Computer Graphics Technology data will be gathered primarily from their two-

semester senior level capstone course that all students in the department are required to take. The course content and requirements cover multiple accreditation outcomes, so we expect that it will provide excellent feedback and provide a potential model for other programs with capstone courses for higher level student outcomes.

The Department of Computer Graphics Technology involves a wide spectrum of computer graphics applications, including academic programs in Animation, Building Information Modeling, Data Visualization, Game Development and Design, UX Design, Virtual Product Integration, Visual Effects Compositing, and Web Programming and Design. Real-world projects and research opportunities help students put theories into practice, and allow for interaction with professionals in their respective graphics industries. The engineering design graphics aspect of the Virtual Product Integration and Building Information Modeling majors position these two programs as perhaps slightly easier to correlate with the ABET 1-5 criteria for this pilot study. The results of the study will help direct future strategic decisions impacting the engineering graphics components of these programs.

The pilot program will conclude at the end of the spring 2020 semester. The results of the pilot will be used to develop and implement new and amended policies and procedures that will be rolled out to all of the units in the Purdue Polytechnic for use for the fall 2020 semester.

The updated procedures will be regularly reviewed to ensure that the goals and purposes of assessment are being met. We expect continuous change to occur with programs, courses, industries, and accrediting organizations. Therefore, the processes and procedures we employ to look at academic structure and content must also be flexible and open to change. As Lubinescu et al. (2001) note:

> Everyone in the educational enterprise has responsibility for maintaining and improving the quality of services and programs. Equally important are regular reviews of the validity and viability of the systems for examining quality. (p. 17)

In summary, program assessment exists to review student learning, and to identify effective teaching methods and content that will enable student success from various facets. As assessment and accreditation have moved to the forefront of higher education, the visibility has forced us to retool how we do things. With the creation of a college-level office, this allows us to centralize assessment activities, and have consistent policies and procedures across all departments and schools in the Polytechnic.

References

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