Work in Progress - The Evolving Role of an Advisory Board for Continual Improvement

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Abstract - Ongoing accreditation by TAC/ABET requires that an active advisory board provides input from industry to improve the program. Over the past few years, the processes used to interact with board members have evolved to increase their participation. The meetings have been restructured, and processes are under development for obtaining feedback outside of meetings. Employers of recent graduates are another valuable source of feedback. Employers, especially first-line supervisors, are in a position to provide direct assessment of program outcomes. A survey is being developed to obtain anonymous feedback using an online questionnaire. An initial trial had been conducted by members of the advisory board. After completing the survey, members are providing feedback on the questions and results, and they are recommending improvements. After revisions, a link to the survey will be emailed to employers of recent graduates. Employers will be asked to complete the survey anonymously online. The goal is to obtain candid feedback that may be used to identify improvements.

Index Terms – Advisory Board, Assessment, Continual Improvement, On-line Survey.

BACKGROUND

At SUNYIT, the Mechanical Engineering Technology (MET) and Industrial Engineering Technology (IET) programs are housed in one department with faculty having overlapping teaching responsibilities in each program. The two programs are separately accredited by TAC/ABET [1]. An overview of the continual improvement and outcomes assessment processes are presented in [2] and [3].

The IET and MET programs have advisory boards that play vital roles in ongoing accreditation. Each board consists of ten representatives from local industries that employ student interns and alumni, and several professors from community colleges which are feeder schools for transfer students.

Board members generally have valuable input for both programs. By consciously seeking their input on outcomes, the programs have been getting more feedback from industry. However, meetings of the advisory boards have several limitations:

- Conversations tend to be dominated by a few individuals, and some members have little chance to speak.
- Some members are unable to attend due to other commitments.
- Members may be reluctant to criticize the programs, especially after eating a free meal.
- Potential members who are not geographically close to SUNYIT are less willing to participate due to travel time.

An on-line survey is being developed to address these limitations and to supplement, not replace, biannual meetings.

PROGRAM OUTCOMES

The MET program has the following outcomes. Graduates will demonstrate the ability to:

1. Design and modify components of mechanical systems
2. Apply principles of solid mechanics to existing and new mechanical systems
3. Apply principles of fluid mechanics and thermal sciences to existing and new mechanical systems
4. Generate computer-aided engineering graphics using commercial packages
5. Conduct experiments; analyze and interpret data
6. Work effectively in small teams
7. Communicate orally; write effective technical documents

The IET program has the following outcomes. Graduates will demonstrate the ability to:

1. Develop, apply, and improve integrated manufacturing systems
2. Apply knowledge of probability, statistical quality control, and quality improvements
3. Apply knowledge of engineering economic analysis, cost control, and production operations management. Outcomes 4-7 for IET are the same as those for MET. The goal is to assess these outcomes by getting feedback from students, board members, and employers.

ON-LINE SURVEYS

On-line surveys have been used over the past two years to assess students’ perspectives on attaining program outcomes [4]. These surveys have the ability to:

- provide anonymous feedback,
- be completed anytime, anywhere with web access, and
- provide input from individuals who do not physically attend classes or meeting.
Results of these surveys have helped to identify areas for improvements. However, students’ perspectives are indirect measures of program outcomes, and so the surveys are being redesigned to obtain direct measures from members of the advisory board.

It is important to note that surveys are intended to supplement, not replace, face-to-face meetings. The meaningful discussions and synergies that occur in meetings will continue.

I. Advisory Board Survey
The initial survey for the advisory board asks to rate the graduate’s ability to perform each of the program outcomes on a scale of: 0. No basis for evaluation, 1. Very poor, 2. Weak, 3. Excellent. They are asked to type suggestions for improving the program to enhance skills in each outcome. Then they are then asked to type comments in the following four areas:
- Strengths that characterize SUNYIT graduates
- Weaknesses that characterize SUNYIT graduates
- Emerging trends
- Additional comments and suggestions, including feedback on this survey.
A trial run has been conducted by emailing the link to advisory board members.

II. Employer Survey
Many universities are finding it increasingly more difficult to get candid feedback from employers, especially when identifying weaknesses or sharing salaries of alumni. Employers generally uncomfortable providing personal information, and may simply not provide any feedback due to legal concerns. As a result, many programs are no longer contacting employers due to the time requirements and lack of adequate response. When discussing these issues in a recent advisory board meeting, members recommended the use of an on-line survey.

After summarizing results of the advisory board survey, the survey will be modified and sent to employers who are on the board, including those who are not geographically close enough to attend meetings. The goal is to conduct the surveys on a regular basis to maximize the input.

Initially, the primary goal is for employers to assess program outcomes for recent graduates. Eventually, the survey may be extended to get feedback from potential employers, those who do not currently hire SUNYIT graduates. Information on the reasons why they do not hire graduates may be useful, and the curriculum may be improved to satisfy their unmet needs.

CONTINUOUS IMPROVEMENT
The advisory board has been increasingly active in working with faculty to develop and define the program educational objectives and outcomes. Although changes are frequently identified, the programs have reached a point where objectives and outcomes will remain fixed for several years. Otherwise, it is difficult to assess the value of changes that are made.

Improvements to the surveys have already been identified. For example, board members suggested that the surveys be kept very short; otherwise most people will not respond. The plan is to share the summaries of results with board members and employers, with the intent to engage them in the improvement processes. The strengths and weaknesses in recent graduates will be tied to program outcomes, which will lead to improvements in the curriculum.

CONCLUSION
Simple changes in the agendas have made the advisory board meetings more effective and productive, increasing the contributions of advisory board members. To help with the ongoing demands of continual improvement, automation of the assessment processes may reduce the effort, increase the pool of participants, and provide documentation required for accreditation. The plan is to conduct ongoing surveys of students, board members, and employers. Although it takes initial time and effort upfront to set up the surveys, the future burden may be reduced. In the long-run, less time may be needed to maintain the surveys, make incremental improvements, and document the process.

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REFERENCES