

Assessment – Evolutionary not Revolutionary

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Abstract

The Aviation Technology (AT) department at Purdue University began the assessment process in 1996 in response to an upcoming visit by the Council for Aviation Accreditation (CAA), the accrediting body for aviation programs in North America. The information gathered satisfied the CAA but only presented the requested information

In anticipation of the North Central Accreditation (NCA) regional accreditation for Purdue University as a whole in 1999, the university began an assessment initiative that would include all academic programs. The university established a series of student learning outcomes for each school. AT is part of the School of Technology (SOT). The SOT established what learning outcomes its graduates should have and the SOT Assessment Committee created an eight step assessment framework that all departments would use as a guide for their individual assessment plans.

The assessment process in Aviation Technology began by examining where assessment information was currently being gathered. Over eight sources were identified, but there was no central organization or structure in place to utilize the results. The first iteration of the AT Assessment Program gathered these sources under a central umbrella and started to address faculty issues and concerns. After the first year, the assessment process was examined and while considerable data was gathered, it became apparent that the feedback mechanisms were minimal and ineffective. The second iteration produced a solid feedback system, this time with faculty input.

The assessment process is into its third year. Faculty are becoming more supportive of these activities and the mechanisms are becoming more streamlined and efficient. The plan is simple and uncomplicated and designed to satisfy the requirements of the CAA, NC, and Federal Aviation Administration requirements. The AT assessment plan is a common sense approach that is designed to evolve with time and experience.

I. The Drive For Assessment

Every school or program engages in assessment. Often this is informal and unstructured. For many entities, developing a structured assessment program has taken place as a result of an external force being applied such as accreditation. This was the case for the Aviation Technology (AT) department at Purdue University. The accrediting body for the university is North Central. In preparation for the visit in 1999, a comprehensive effort to develop documented and structured assessment plans for the university, schools, and each department was launched. In 1995 the university created a set of learning outcomes that every Purdue student would achieve as part of successful completion of a degree program. The School of Technology (SOT) then created a series of learning outcomes that a student in one of the eight

SOT departments would need to achieve. In addition, the SOT formed an Assessment Committee to determine how the SOT would meet the assessment challenge.

The SOT Assessment Committee formulated an eight-step assessment model¹ that each department would follow. Specific methods of assessment would be left to the discretion of each department, but each plan would need to meet the SOT model guidelines. The eight items required in each assessment plan were:

1. A brief, one or two-page description of the department and its programs.
2. The Departmental Mission Statement
3. Learning outcomes for the degree and program option offered by that department. The learning outcomes should reflect the learning outcomes stated by the University and the School of Technology.
4. The current curricula and plans of study for degrees and programs offered by the individual department.
5. Documentation of the methods and techniques used to assess degree learning outcomes. These summary documents should indicate the methods, direct or indirect, used in assessment and how the result of the assessment was used or will be used to help facilitate continuous quality improvement. Assessment activities that are not directly linked to CQI should not be included.
6. Course descriptions and learning outcomes for all courses that make up the current curriculums or programs.
7. Documentation of the methods and techniques used to assess course learning outcomes. These summary documents should indicate the methods, direct or indirect, used in assessment and how the result of the assessment was used or will be used to help facilitate continuous quality improvement. Assessment activities that are not directly linked to CQI should not be included. It is the responsibility of the individual course supervisors to ensure that course descriptions and learning outcomes are current and reflect the course as it is being taught. Assessment techniques should be appropriate to the course content and delivery mode. The summary document should be in a narrative form and reflect both the results of assessment and how the assessment is or will be used to improve the quality of the course.
8. A summary of the overall efforts and results of the department's use of assessment to enable an ongoing and consistent continuous quality improvement program.

A more general model that provides an excellent framework for assessment may be found in "Stepping Ahead: An Assessment Plan Development Guide"².

A delegate from each department to the SOT Assessment Committee headed up the individual departmental efforts. Developed plans were submitted to the SOT in September 1998. In January 1999, a review team consisting of a representative from the Dean's Office and two members of the SOT Assessment Committee visited each department. The review team examined the departmental assessment plan, implementation, and current assessment progress. Based on the results, departments were required to modify their plans and submit the revised version for 1999-2000 academic year. Although the NCA visit had taken place, a second round of visits took place in January 2000, performing similar review activities. By that point, each

department had developed a well-conceived plan that was working reasonably well. As a result, no program reviews were scheduled for the 2000-2001 academic year. However each department is expected to continue and improve the assessment programs.

II. Analyzing Current Practices

The Aviation Technology department was not unique in the way assessment was performed prior to the structure imposed by the university and school. Similar to many departments, AT was accredited by a body particular to its needs. In this case, the Council for Aviation Accreditation (CAA). Since the AT department was visited by the CAA in 1996, a considerable amount of background information had already been compiled. However an assessment component was not required at the time of the CAA visitation. To begin the process of developing an assessment program that met the SOT requirements, the AT department first reviewed what data was being gathered.

Surprisingly, it turned out that data was being gathered from a large number of sources (see Table 1). Course evaluations, discussions with students, department faculty reviews, etc., are a few examples of information gathered. The problem was that there was no central structure to control what information was gathered and what it was then used for.

Table 1: Assessment Activities

Areas Being Assessed Prior to Formal Program	Areas Added After Formal Program
Course Evaluations – Faculty input Course Evaluations – Student input Course Improvement Plan Curriculum Chair Review Department Head Review Facility and Equipment Review Faculty Goal Setting Industrial Advisory Committee Input Senior Exit Interviews	Course Information Document Employer Surveys* Alumni Surveys* Section Goal Setting Student Services Freshman Survey <i>*Being developed for 2001-2002</i>

The first task in developing assessment in AT was to review the data sources already being collected and decide whether the information provided was useful. Next, areas where no information was being gathered that would be important to assess were identified. The areas of additional information are noted in Table 1.

III. Developing An Assessment Plan

Using the SOT assessment model as a guide, it can be seen that assessment in AT takes place at three distinct levels: Departmental, which include all areas that are department wide such as faculty reviews, student services, and industrial advisory committee input. The second level is conducted at the program level. The AT department has three distinct majors, each with unique

programs. Finally, the third level of assessment is at the individual course level. Faculty and administration at each level developed assessment pertinent to the particular level. The major accomplishment at this point was identifying what was to be assessed and a central structure through which this would occur. With the exception of Student Services, all of the areas to be assessed had been performing assessment in some fashion. The plan was submitted in September 1998 to the SOT.

IV. Implementation and Revision

Implementation of a centralized assessment program has two major challenges. First and foremost is faculty participation. In many situations, faculty members view assessment as intrusive and threatening. Outstanding faculty perform assessment as a matter of course and sometimes resent the imposition of an external structure. On the other hand, faculty who would benefit from what assessment can tell them fear the process and are concerned that the information will be used against them. Aviation Technology was not unique in this respect.

Overall the faculty are receptive and have proved cooperative. Three main areas of concern were noted. First, was this merely a passing program as has often happened in the past? Purdue University had invested in several initiatives such as Total Quality Management that required extensive activity for a short period of time then disappeared. The faculty were willing to participate but only if it was worth their time and effort. Previous attempts at assessment for accreditation or program initiation resulted in furious activity for a period of time then assessment ceased. The centralized university effort indicates that the current assessment activities are permanent. Second, the faculty were concerned about the expenditure of time and effort. After being shown that almost every assessment activity being proposed was already being performed, they showed tentative support. Finally, the faculty expressed concern about how this information was to be used.

In AT, we began with a formative approach. At the course assessment level, where the greatest degree of activity occurs, faculty were informed they needed to perform assessment with the purpose of providing continuous course improvement. Problem areas noted would not be held against them as long as changes to address those problems were made. In fact, this process meshed with the current methods of faculty review, which contain course improvement and goal setting components. In short, the faculty had to be convinced that assessment was being done to help them, not punish them.

During the first review of the AT assessment program, a major shortfall common to assessment was identified. No methods of feeding the gathered information back into the system existed. Assessment is often viewed with skepticism since information is gathered but nothing ever seems to change. As mentioned earlier, this was a major concern of the faculty. The first plan did an excellent job of identifying what information to gather, when to obtain it, but lacked the feedback component to use the information to make changes.

The program was reexamined and methods of feedback developed. As seen in the AT Assessment Plan Model in Table 2, each data collection area identifies the information to be collected, by whom, and what is to be done with it. Although it would seem obvious that this

would occur, the common problem in assessment programs is focusing on gathering information and not considering what to do with it. Part of the difficulty is the term itself. Typically, assessment implies evaluating the state of something, or a summative view. A strong assessment program needs to be formative, rather than summative, in nature.

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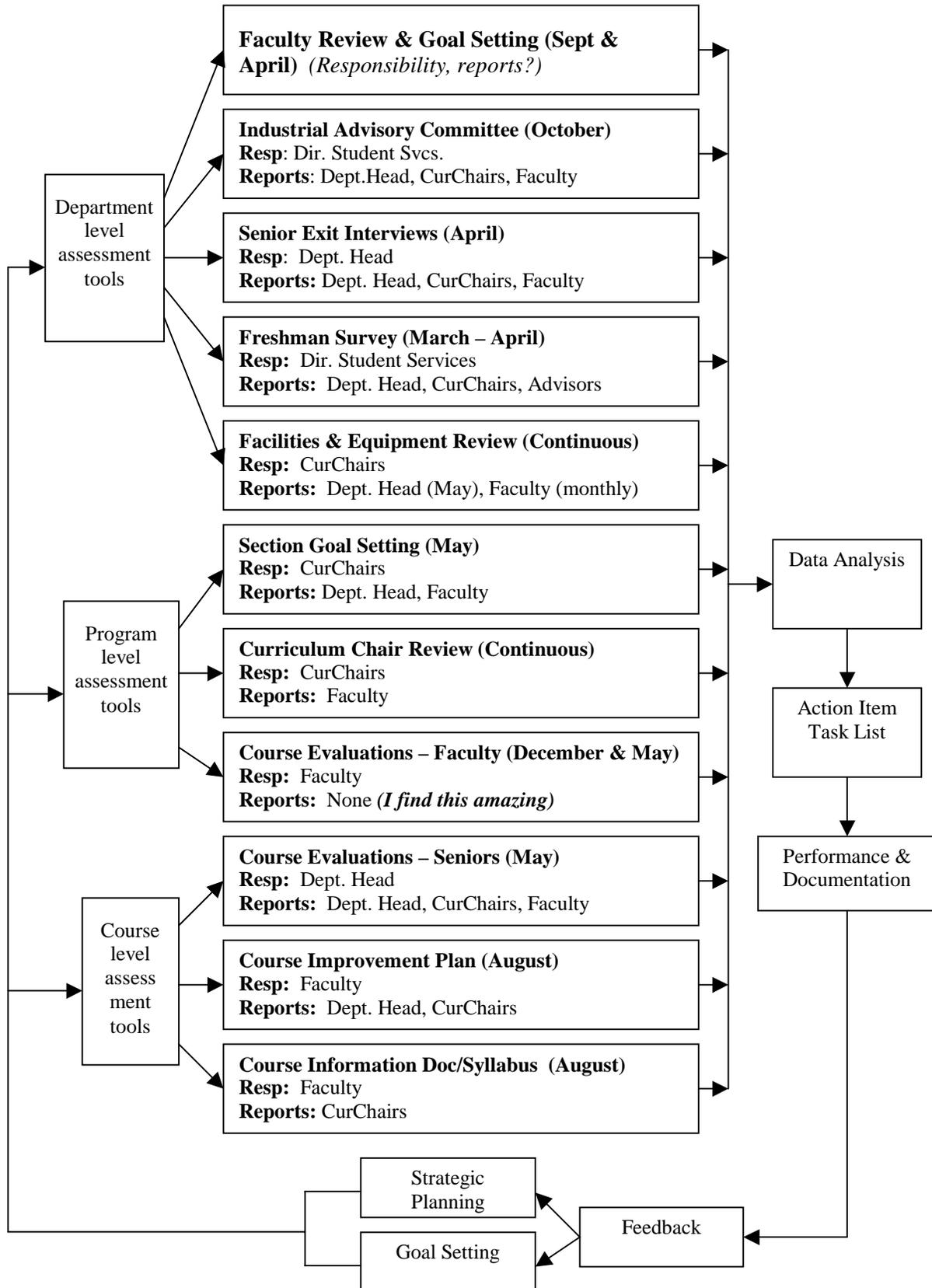
The AT assessment program is now entering its third year. Nothing about the program is revolutionary in any sense. However the program itself continues to evolve through a self-assessment process. At present, a faculty committee has been tasked with examining the entire assessment program. Which components are working? Which are not? How to we increase support among faculty? Do the feedback mechanisms truly generate change? As the committee examines and answers these questions, the assessment program will change and evolve.

V. Maintaining Momentum

The North Central visit was completed in 1999 and Purdue University received accreditation. At the department level, the CAA is not due for another visit for two years. Without the push of accreditation, the momentum developed has begun to fade. A common problem with assessment is that it is seen as burdensome. Without some driving need or deadline, many participants tend to relax and reduce effort, at least until the next deadline looms. At Purdue University, it has been decided however that assessment and continuous improvement need to continue. How then does one maintain that early momentum.

In the School of Technology, each department is creating a culture where assessment is a part of the normal course of business – not a special activity to meet some special need such as accreditation. To create this culture, motivators have to be selected that encourage participation. These range from departments where pay increases are based on participation to incentives such as extra travel funds. In AT, course evaluation has been centralized and the results incorporated into the faculty review process. The information is used to determine where to target special funding and travel support. Assessment areas above the course level have been made part of the job assignment for curriculum chairs, director of student services, etc. The annual reports and goal settings these people produce for those areas require the use of assessment data. In short, an atmosphere is being created where performing assessment is second nature. Is there complete cooperation? No. However as the process continues to evolve, those who participate will be rewarded and supported while those who refuse will not. The need to actively assess is being made part of the regular faculty review process in Aviation Technology.

Table 2: Aviation Technology Assessment Model



This would seem to validate the perception that assessment is used against people. In a sense this is true since those who support and participate will receive the additional rewards. However the information is being used to help develop each individual personally and professionally.

Those who have difficulties but seek to improve are not punished for having problems but rewarded for making the effort to make positive change. Unfortunately, there will always be a few who refuse to participate. In the AT department, an atmosphere has been created that encourages one to assess, identify areas to improve, selected methods of change, and implement those changes. When that occurs, then the assessment program is successful

VI. Summary

Assessment programs are not new. Various methods and initiatives have been taking place for many years. However assessment is becoming more structured and standardized and moving from meeting a unique need to an everyday activity. When the Aviation Technology department began to develop a comprehensive assessment program, it seemed a daunting task. However examination revealed that a number of assessment activities were taking place, but were not coordinated. Hence the assessment methodology organized existing activities while adding new initiatives under a central structure. For the past three years, the program has grown, been reviewed and modified, and evolved.

Assessment is not a revolutionary process. Regardless of the starting point, it evolves by continually examining itself as well as the target areas. Establishing an assessment program that is second nature to all the participants will take many years. Numerous issues such as faculty support, maintaining momentum, etc., will have to be addressed. However with persistence, an effective assessment program can be established.

Bibliography

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