Quick Guides

Academic Programs: Analyzing Data and Using Results for Improvement

After collecting data and ensuring that it is trustworthy (i.e., reliable; representative; valid), results should be compiled. Results should be presented in a clear and meaningful way so that all interested parties can easily understand them. This may entail using tables or charts to present data graphically, counting or aggregating data, or calculating percent changes. Statistical analysis of data (e.g., testing statistical significance) is typically not necessary in program assessment. Longitudinal trends (results over multiple assessment cycles) can be much more informative.

Once summary results have been compiled, they should be disseminated to faculty, staff, advisory boards, and any others who are involved in assessment processes to ensure a thorough evaluation. Collaborate with colleagues to reflect on the meaning of assessment results and use these discussions to plan for targeted interventions to improve the program (these improvements may be substantial or incremental). Your annual assessment report should present results, analyses/interpretations, and action plans in a clear and meaningful way.

Data Analysis

Listed below are some helpful guidelines/questions to consider as evaluation of assessment results proceeds:

Compare the results with the expectations of achievement.
- How do the actual results line up with expected results? With prior results?
- Did students meet expectations for achievement? Why or why not?
- What contextual factors might have contributed to the observed results?
- What strengths do the results reveal about the program? How can these be further strengthened?
- Where do the results show that additional attention is needed to correct problems or issues? Avenues for improvement can sometimes be identified by comparing subgroups or reviewing error patterns.
- Were strategies/interventions in use that were intended to produce improvements? If so, were they successful? What strategies were not successful? Should a strategy change or new strategies be developed to further improve outcomes?

Review the expectations of achievement set during planning.
- Are the established expectations adequate, or was the bar set at the wrong height? If you were collecting baseline data last year, where should the bar be set? If all expectations were achieved, should expectations be set higher?
    > *Note: Even if a program is achieving all expectations (e.g., 80% of students wrote a good or excellent essay), there is always room for improvement (e.g., What issues were apparent in the essays of the other 20%?). Continuous, strategic assessment allows pinpointing weaknesses in order to make thoughtful, data-driven decisions that lead to improvements.*
- Are expected performance levels adequately set for undergraduate-level achievement? Graduate-level achievement?

Evaluate the assessment instruments, rubrics, and methods.
- Did the tools chosen for assessment (rubric, survey, etc.) provide enough information to make informed conclusions about the effectiveness of the program?
- Are areas of strengths and weaknesses apparent? Does the program's curriculum map reveal areas (student learning outcomes) where instructional coverage/practice should be increased?
- Does a new measure or instrument need to be piloted?

**Using Results for Improvement**

The purpose of assessing outcomes is to provide meaningful information that will help determine where modifications are needed (or wanted) to improve those outcomes. Development of an action plan (a strategy or intervention) to make improvements to an academic program is the next step.

Each problem or issue that is identified during data analysis represents an opportunity to develop an action plan to improve outcomes for students. Even for outcomes where expectations were successfully met or exceeded, analysis of results/subgroups/error patterns may reveal opportunities to further improve via a specific strategy/action plan. If an outcome is repeatedly assessed and results continue to show that expectations are achieved or exceeded, it may be prudent to "retire" that outcome and identify a different outcome to assess.

Listed below are some helpful guidelines/questions to consider during development of an action plan:

Make sure that action plans:
- Are developed for each outcome where a need for improvement was apparent.
- Are based at least partly on findings reported in the results.
- Are feasible given available resources and time.
- Appear likely to lead to improvement.

Identify areas in the academic program where changes can be made to improve student learning.
- What changes need to be made?
  - _Determine the kinds of corrective actions that will have the greatest potential to lead to significant increases in the quality of student learning. These types of corrective actions can include changes to how a program is structured, how a program is taught, how a program's expectations are defined, or others._
- What additional data are needed? Is modification of measures, targets, or method of data collection needed?

Develop a plan of action.
Include what is to be done, the person or persons who will implement the change(s) and by what methods the data will be collected.
- What is the timeline for implementation and completion?
- When will data be collected to assess the impact of the changes?
- What resources are needed?
- Who is responsible?
- What actions need to be taken?
  - _Make sure these actions are aimed directly at improving student learning (not simply changing assessment measures), and that expectations of achievement are set._

Monitor changes after implementation of the action plan.
- Ideally, the same or similar assessment strategy used in the previous cycle (pre-intervention) should be used. The new data can then be compared directly to data from the previous cycle.

- Analysis of the results after implementation of the action plan should proceed as outlined above and will demonstrate if interventions are having the desired effect on outcomes. If not, perhaps a different action plan should be implemented or other changes made (such as allowing a longer period of time for improvement to occur).

Report the results.
- The final assessment report needs to tell the story of what happened. Include a description of the evidence of improvement (or no improvement), why it happened, what the faculty learned from it, and what changes will be made to improve student learning. Remember, the results of assessment are not used to evaluate faculty or staff performance, but are used to evaluate educational programs.

Assessment of academic programs is an ongoing process. For continuous improvement to be achieved, each academic program must look at its student learning outcomes and goals on a regular basis and determine if there are better ways to improve student learning. An effective assessment plan should be routinely reviewed and

modified to reflect best practices in measuring student learning.