

Academic Outcomes Assessment Task Force Report

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2005/2006 Task Force Members

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Background and History

In 2002, RIT began the challenge of assessing learning across the university. The committee formed to coordinate and write the 2003 Periodic Review Report (PRR) the group included representatives from the colleges and functional/support divisions.

The periodic review process put a strong foundation in place for assessment. Colleges developed assessment plans and timelines; the Institute Curriculum Committee and Graduate Council revised procedures and forms and required learning outcomes for all new courses and curriculums; colleges completed courses and program audits that resulted in outcomes and assessment plans for programs. Core task force members participated in assessment training. The result was the comprehensive analysis and plan found in the 2002 Periodic Review Report.

(<https://www.rit.edu/~accredit/2006/documents.html>)

RIT needed a formal structure to continue the outcomes assessment planning and implementation after the periodic report was completed. A standing institute-level committee

was formed with representatives from each college. These representatives are the main liaisons for outcomes assessment implementation in their respective colleges. The Academic Outcomes Assessment committee was incorporated into the self-study design plan and re-named the Academic Outcomes Assessment Task Force. This is the only task force that has met on a continuous basis since 2002. The task force is faculty-based with approximately 80-90% of the participants holding faculty rank and many are at the department chair or associate dean level. The committee also includes representatives from Student Affairs units that focus on student learning and academic success.

The formal charge of the Academic Assessment Task Force is to champion and facilitate outcomes assessment across the RIT colleges and programs, and continue to build on and implement the assessment plans developed as part of the Periodic Review.

Standard 14 Assessment of Student Learning

The Academic Assessment Task Force, as part of the Assessment Subcommittee is responsible for responding to Standard 14 – Assessment of Student Learning and the three parts of charge question 1.

‘Standard 14: Assessment of Student Learning

Institutional Context

“RIT’s academic programs are application-intensive,” the *RIT Periodic Review Report Executive Summary, June 2002* states. “From its founding, the RIT education has emphasized student mastery of current, practical, and marketable knowledge and skills in technology-based careers. The historical emphasis on applications and our resulting experience in measuring ‘what students can do’ has made us particularly respectful of concrete evidence of student learning.”

Assessments of RIT as a whole and of student learning in particular build on and complement this tradition. Our commitment to student learning and student success requires systematic and embedded assessment practices at every level and across all units. *A Call to Action*, the January 2005 implementation plan for our Strategic Plan, details seven themes that contribute to student success at RIT: Scholarship, Community, Student Support Services, Global Society, Faculty and Staff Performance Expectations, Curricular Flexibility, and Experiential Education. Intentional and continuous assessment across these areas is vital.

Charge

This subcommittee and its task forces are charged to gather and analyze information relating to assessment plans and practices across the university.

Charge questions include the following:

1. Do we ensure that all academic programs have appropriate goals and assessment plans based on student learning outcomes? Describe what evidence is used and how this evidence leads to the continuous improvement of educational practices, advising, teaching and learning. As an Institute are we supplying the appropriate resources and technological support for these assessment efforts?

RIT Self-Study Design (<https://www.rit.edu/~accredit/2006/documents.html>)

Charge Question Responses

Charge Question Part 1 Ensuring academic goals and plans for all programs

Do we ensure that all academic programs have appropriate goals and assessment plans based on student learning outcomes?

RIT has put into place many initiatives and support actions to incorporate assessment at all levels of the institute. This report specifically covers the academic assessment. The full report on assessment is found in the Assessment Sub-Committee report.

The PRR began and established the principles and building blocks that shaped and established parameters and criteria for academic assessment. Each college provided the following to the PRR Steering Committee:

- *detailed information on learning assessment measures currently in place and how these relate to institutional mission, program goals and objectives, etc.*

- *evidence (as it exists) that assessment results are being utilized as part of planning and decision-making to strengthen programs and services; and*
- *plans for enhancing outcomes assessment in the next five years.*

All college assessment plans must meet the following criteria:

- *be founded in program/college goals and objectives, which in turn are founded in the institutional mission and goals;*
- *be supported and developed collaboratively by faculty and administration;*
- *include systematic and thorough use of quantitative and qualitative methods, as well as direct and indirect measures;*
- *lead to improvement in teaching and learning*
- *be implemented regularly and drive college/institutional planning and resource allocation processes;*
- *utilize both formative and summative assessment; include provisions for evaluation of the assessment program*

RIT Periodic Review Report, 2002

These solid links across institutional, college, and program goals and objectives, faculty and administration, and the emphasis on continuous, on-going assessment formed the foundation for the assessment start-up and implementation phase. The guiding principles reflect RIT's uniqueness. Each college needed to define the assessment, metrics, data collection, and analysis that would meet the needs of their faculty, students, and programs. While RIT has established process and structure such as curriculum submission formats, the real development and responsibility of program educational outcomes and course intended learning outcomes resides in the colleges and with program faculty.

The Academic Assessment Task force has been in continuous session since 2002 and contains representatives of all academic units. The members are charged with facilitating and developing assessment in their home college/academic unit. The task force continues to be a primary impetus and coordinating body for assessment across campus. It provides a forum to share ideas and best practices, identify potential collaborations, recommend institute level solutions, establish submission timelines, and coordinate academic assessment activities across

the campus. The members worked with their college faculty and support staff to develop and implement assessment from the 'ground up' in the colleges. While there are some organizational variations in college structure, in general individual faculty participate in the intended learning outcomes at the course level; program chairs and their faculty are responsible for building program outcomes, monitoring, analysis, results and continuous improvement; college administration is responsible for assessment oversight, college-wide systems and institute level challenges. The following timeline summarizes assessment implementation across the campus.

Table 1

Task Force and Colleges – Outcomes Assessment Timeline	
Periodic Review Report	2002
Academic Assessment Task Force	2002 - present
Course Outcomes Project (all new and existing courses put into new format that requires intended learning outcomes)	2003 - 2005
Colleges develop, refine assessment, collect data	2003-present
Spring, 2005 All RIT curriculums revised to meet Provost's Directives for implementation in fall 2006 for entering students and current students wishing to change to the new requirements.	All RIT programs were revised to meet these directives. This had a major impact on assessment planning and required plan revisions
Program assessment reports due in the colleges	Fall, 2005
January 17- February 24, 2006	Compile college report including program plans, outcomes attachments, and college/program assessment plans for 2006/2007. Submit to Task Force
February 24 – March 13, 2006	Academic Task Force completes report for Assessment Sub-Committee C

Spring, Summer, and Fall 2006 -	Continue outcomes assessment. Collect data during these quarters
Fall, 2006 through December, 2006	Write next round of Program Outcomes Assessment reports covering winter quarter 2005 through fall quarter 2006. These reports build on and continue the assessment detailed in the previous report. Note: this report must have specific results, analysis of data, show decisions/changes/modifications based on the data, and appendices that include the data/documentation on which decisions/changes were based. Report should re-visit changes made in the prior year and analyze if those were successful or need further modification. Note: this continuing reporting plus what was submitted in 2005/2006 is on display and analyzed by Middle States during the April 2007 visit
January 10, 2007	Colleges submit to Academic Assessment Task Force second round of program assessment reports with supporting data/documentation and college summary. (Colleges create an internal timeline to meet this deadline)
January, 2007	Preliminary Middle States Visit to check our readiness
April 2007	Middle States Visits RIT

In support of assessment, RIT Academic Senate, Institute Curriculum Committee, and Graduate Council developed and implemented curriculum processes that require all new academic proposals to include outcome assessment plans; all new courses approved by college curriculum committees must include intended learning outcomes. All existing course outlines had to be re-written to include intended learning outcomes (Table 2).

Charge Question Part 2 Evidences

Describe what evidence is used and how this evidence leads to the continuous improvement of educational practices, advising, teaching and learning

Since 2002 the colleges have taken the lead role in establishing assessment within the degree programs. While the philosophy and guidelines of assessment spanned the colleges, the methodology was unique not only to each college but often among programs within a college. Appendix I contains the executive summary of each college's assessment implementation. Appendix II contains each college's individual program reports. Reports from programs that have gone through complete assessment cycles detail program outcomes, data sources, metrics, assessment frequency, analysis and recommendations. Programs that are in different stages of assessment describe their current status with plans for complete implementation.

Table 2 summarizes the current course outline initiative to incorporate intended learning outcomes into existing courses. The college executive summaries (Appendix 1) contain complete details. Several colleges have noted that the process is proving to be a vehicle for updating their course portfolio and discontinue courses no longer offered.

Table 2

Course Outlines revised w/ Intended Learning Outcomes	Outlines Complete
College of Applied Science and Technology	@95%
College of Business	@98%
Kate Gleason College of Engineering	@95%
College of Science	@23%
National Technical Institute for the Deaf	@94%

B. Thomas Golisano College of Computing and Information Sciences	@66% (average) Program rates range from 24% -100%
College of Liberal Arts	@70%
College of Imaging Arts and Sciences	100%

During spring, 2005 major curriculum revisions were implemented in all degree programs following directives from the Provost. This major initiative required that many programs revise assessment plans and make course and curricula changes. All colleges experienced the impact of these changes and the need to take immediate action to meet current student needs. Spring quarter 2005 was spent revising curriculum, and changing course offerings and schedules for fall. To varying degrees, all the colleges experienced setbacks in their assessment implementation and data collection plans. The need to advise and accommodate students' advising, scheduling, and transition needs took precedence.

Charge Question Part 3 Resources and Technological Support

As an Institute are we supplying the appropriate resources and technological support for these assessment efforts?

The most positive response to this question came from the College of Imaging Arts and Sciences, which has found existing Institution offices helpful and adequate in providing information and reports for the on-going success of their students. Additionally, the College of Applied Science and Technology notes that the “institute has made gains in supporting outcomes assessment” and cites the co-op and placement reports that are available. However, assessment

of outcomes goes beyond these instruments. Instruments must also be developed within each program across the university.

CAST, as well as the other Colleges indicated that the work of assessment has been supported by re-allocating existing College resources. For example, the Kate Gleason College of Engineering noted that in order “to meet, and at times exceed, ABET and middle States assessment accreditation standards,” they continue to re-allocate College resources. The elaborate process described by NTID also is sustained by re-allocation of existing resources. This reallocation for all Colleges is in areas of budget, and faculty and administrative time. While the startup phase has been accommodated by reallocation of existing resources, to sustain the process over time incremental resources are needed.

The need for Institutional support falls into two categories. First, there is need to provide ongoing training at the college level for faculty and department chairs in order to introduce them to good assessment practices as well as to provide them with already existing assessment tools. The process of gathering and analyzing data for the assessment places additional demands on faculty and administrators already dealing with heavy teaching and scholarly responsibilities. Over the summer of 2006 many programs are still in the process of developing aspects of the process and assessment rubrics. Support is needed for continuing faculty participation during the summer.

While the above issues concern the immediate assessment process, the second issue concerns the future of the process. It is important for the Institute to sustain assessment once the pressure of the Middle States visitation is over. The issue of assessment of outcomes will

continue to be a focus of regional and professional accreditation bodies for the foreseeable future. However, to what degree and how effectively will this occur? The College of Business notes that the current approach of the individual colleges bearing the burden of implementing assessment using their own resources “fails to recognize the cultural change required to make Outcomes Assessment a way of life at the Institute and to enable the colleges to engage in the new activities required to support Outcomes Assessments.” Other Colleges echo this sentiment and suggest that Institutional leadership in the form of an office or a person responsible for facilitating and overseeing the assessment process is essential.

Assessment requires faculty, staff, and technical resources. Systematic repositories need to be developed for storage and retrieval of ongoing documents and reports. Assessment is an ongoing process that requires regular monitoring and evaluation both at the Institute level and the program level. Administrative mechanisms are needed to insure ongoing college-level and Institute-level assessment reports on an annual basis.

General Education

General education at RIT is the primary responsibility of two colleges – the College of Liberal Arts and the College of Science. Each college has responded with information about general education coursework and assessment.

College of Science response - General Education Curriculum

Overview

Historically the College of Science has provided general education for RIT students in science and mathematics through two types of courses, namely, foundation

courses required by other degree programs, for example, introductory calculus, physics, chemistry and biology, and a variety of general education courses for other programs. All of these constitute general education as defined by the New York State Department of Education. In the early 1990's the general education curriculum in science and mathematics was formalized with a statement of educational goals and a set of course requirements for every BS program. These are detailed in the appendix to this document.

Last year a change to the general education curriculum was mandated by the Provost, and the minimum number of credits of mathematics and science was lowered slightly to 20. The more significant change for the college was the increase in the number of free electives and general education electives available to all students. This has opened the possibility of more general education courses in science and mathematics and more minors in the college.

Assessment of the Curricula

Because every program effectively has a different set of science and mathematics courses either required as foundation for further study or as general education electives to meet the RIT policy, assessment of general education poses a special challenge. Indeed, not only does the curriculum vary from program to program, but even from student to student because of the many electives possible within the requirements. Nevertheless, in the last five years the college has responded to the need for assessment and reform in its general education curriculum. As examples of the process and results, consider two major initiatives based on assessing student success with respect to desired learning outcomes and curricular change that led to marked improvement.

First, we undertook a project to improve the success of students in calculus. This was prompted by observation of the proportion of D, W and F grades, particularly in the first course in the sequence. The numbers were deemed unacceptable, and other careful studies of student retention and persistence in their chosen fields showed a strong correlation with success or failure in a first-year course like calculus. Lack of success has two detrimental effects, namely, loss of confidence and poor preparation for succeeding courses. For nearly a year a team of faculty researched best practices in pedagogy at other universities that had been addressing this common problem and designed a new course delivery method appropriate to RIT. The basic change included more time on task via workshops with students solving practical problems in small groups. The success rate increased dramatically, the faculty were re-energized, and the satisfaction of students and the faculty of the colleges served by these courses improved greatly. Longitudinal studies continue to assess the downstream effects of improved success in foundation courses.

Second, a similar situation existed in the introductory physics courses, with comparable levels of D, W, and F grades. Again, a small group of faculty studied best practices and devised a plan for redesigning the physics pedagogy. Considerable resources were invested by the university in remodeling classrooms and purchasing new teaching equipment. The courses are now taught in an integrated format combining lecture, small group exercises, and laboratory experiences in each class meeting. As with the calculus initiative, because of well-researched design, dedication of the faculty to learning and implementing a new way of teaching, and adequate resources, the new delivery method has been highly successful.

Finally, faculty in chemistry and biology are looking at their modes of instruction in light of these successes, and are planning and beginning implementation of new ways of delivering their introductory courses.

Challenges

As alluded to in the overview, students now have the opportunity to take more courses in science and mathematics. The challenge to the college is to provide appropriate opportunities with courses carefully designed for this purpose. Indeed, many foundation courses developed specifically to meet the needs of programs outside the college have historically been the courses also used for general education electives. Because of the nature of these courses, they have not been attractive electives. Recently the college has begun to offer more courses accessible to a wider variety of student backgrounds and interests. Still more needs to be done in this area.

Another major challenge is in assessing the effectiveness of these courses in meeting the goals of general education in science and mathematics. We must attempt to support the desired learning outcomes of the overall curriculum through the carefully designed learning outcomes of individual courses. In particular, we should ensure that all students, regardless of which particular selection of science and mathematics courses they take to meet their program requirements, are given the opportunity to meet the goals.

Future Direction

On the heels of the newly revised and more flexible curricula of all programs, the Provost has initiated an institute-level review of general education. A team of faculty from the College of Liberal Arts, the College of Science, and NTID has begun meeting and will make recommendations in October 2006. These colleges were chosen because

they deliver almost all of the general education courses in the Institute. This is the first time in RIT history that a formal process for developing a single set of general education goals, learning outcomes, and assessment methods has been undertaken. The intent is to provide the faculty with a framework in which to review, modify, and continue to assess the general education curricula of the institute.

College of Liberal Arts response - General Education Curriculum

Description

New general education requirements were implemented on September 1, 2005. Under these requirements, most RIT undergraduates must complete ninety hours in general education. The requirements in the humanities and social sciences, the areas offered by the College of Liberal Arts, have been reduced from fifty-four credit hours to thirty-six credit hours for all students: five course in the core (Writing Seminar, two courses in the humanities and two in the social sciences), an “Arts of Expression” course, and a three course upper division concentration. In addition to the humanities and social science courses, the general education requirement included twenty hours (five courses) in mathematics and the natural sciences, and thirty-four credit hours designated by the Institute as general education. By using two four-hour courses from the thirty-four hours of general education, students can complete a five course minor in the humanities or social sciences.

Humanities and Social Sciences

The following departments offer courses in the area of general education at both the core and concentration/minor levels: Language and Literature; Foreign Language, History; Fine Arts; Philosophy; Science, Technology and Society/Public Policy; Psychology, Sociology/Anthropology; Economics; and Political Science. Criminal Justice and Communication departments offer courses at the concentration/minor level.

The Language and Literature Department has provided objectives for their writing, literature, and literature and cultural studies courses. These objectives coordinate with the College's goals. The assessment process includes class related assignments, review of portfolios, and placement examinations.

The Fine Arts Department has submitted a report indicating its objectives and the College of Liberal Arts goals supported by their courses. It has outlined the course specific and extra-course methods of assessing attainment of these objectives.

The Philosophy Department indicates that students who have taken their courses should be able to engage in a systematic analysis of statements and arguments, understand the varieties of evaluative claims and their importance in human experience. Assessment is largely based on in class assignments and tests. Regular peer review of individual courses occurs. Additional assessment includes alumni surveys.

The faculty of the Science, Technology, and Society area of the STS/Public Policy Department have developed a detailed set of goals for both the core and their upper division courses. These include the evaluation of the students' ability to define and explain the nature and scope of science and technology and to clarify value issues inherent in contemporary practice of science and technology. Other abilities evaluated

include the ability to identify the human and environmental dimensions involved in the practice of science and technology, the ability to assess the response of various societies to this practice, and the ability to form and articulate personal response to the human dimension of science technology, and the environment. Assessment is largely on the basis of course related assignments, with bi-annual assessment by the department faculty.

In the area of general education, the Psychology Department has set as goals for students the following: awareness of relationships between individuals and environment, ability to think critically as scientists about behavior, ability to understand different aspects of psychological development of human beings, and the development of effective communication skills. Assessment of outcomes is based on in-class exams and surveys of students.

In addition to some of the goals already mentioned in connection with other departments, the Sociology/Anthropology Department has included among its goals the ability of the student to understand and appreciate diverse social and cultural perspectives, and an understanding of the nature and implications of work and career. The faculty have provided a narrative explaining each goal and the method of assessment. Again assessment of outcomes is largely based on course related activities.

The Political Science Department lists three outcomes that the students should have as a result of taking their courses: 1. Understanding of local, national, international, and global forms of citizenship and community; 2. Knowledge and critical understanding of the responsibilities and rights of living in a participatory democracy; 3. Ability to reason about political and ethical issues that affect both domestic and international politics. Assessment is on the basis of course related activities.

Reports have not been received from the History and the Foreign Language departments.

Summary and Recommendations

As RIT moves from the start-up phase of outcomes assessment, we continue to ask the question 'Are students learning?'. Several themes and challenges emerged from the college reports

Institute level themes and challenges:

- Continuing to embed assessment into institutional systems and processes and decisionmaking
- Facilitating and supporting collaboration to find common solutions
- Addressing resource issues

College/program level themes and challenges

- Collecting, analyzing, managing, and maintaining data
- Understanding and balancing the workloads of those doing assessment
- Refining assessment plans and techniques as we learn more about assessment
- Training faculty in assessment methodologies at the beginning and more advanced levels
- Coordinating assessment requirements across multiple accrediting bodies

'RIT and the individual colleges need to address these issues in the next phase to continue the strong start that has been made.

