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End-of-Program Assessment

Progress, Findings and Effects

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The Office of Educational Assessment is an agency of the University of Washington which provides a variety of services related to educational research and assessment. The following are programs within which these services are provided:

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- Student Outcomes Assessment
- Instructional Evaluation
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INTRODUCTION

Formal end-of-Program assessment at the University of Washington (UW) began
in 1989 as part of the mandate of the Higher Education Coordinating Board
Master Plan and is currently in its third phase of activity. The initial phase took
place during the 1989/90 school year when six academic departments offering
baccalaureate degrees participated in pilot projects. In the second phase, these
projects were used as models as the rest of the departments that provide
undergraduate degrees began to develop plans for their own end-of-program
assessment activities. In 1992/93, departments began entering into the third
phase, implementation of their plans, by collecting assessment data, and making
changes to their undergraduate programs as a result of their findings.

This report is intended to provide an overview of the many assessment activities
which the various departments at UW have undertaken thus far. It includes
sections on assessment plans, implementation of assessment activities,
departmental findings, and subsequent changes made. Although we have tried to
include a number of examples in each of these areas, there are clearly many
more equally noteworthy assessment activities taking place on campus which do
not receive specific mention.

PLANS

Virtually all departments at the University of Washington that offer baccalaureate
degrees to five or more students per year have developed end-of-program
assessment plans. These plans include a wide variety of assessment strategies
which reflect the efforts of individual departments to adopt assessment methods
that are relevant to their particular programs and educational goals. Many of the
departments based their plans on assessment activities which were already in
place. The new requirement for end-of-program assessment, however, has
provided them with an opportunity to formalize these activities and make
additions and adjustments as necessary. Other departments have addressed the
issue of end-of-program assessment by planning and implementing new
activities.

1

In a previous progress report on end-of-program assessment Gillmore[1] delineated the most common assessment methods proposed by the various departments. These include:

a. Surveys/Interviews
b. Examinations
c. Tests for incoming and graduating students
d. Capstone courses
e. Senior essay, project, or thesis
f. Evaluation of student performances/presentations/exhibits
g. Portfolios of student work
h. Group discussions between faculty and students
i. Feedback from employers
j. Feedback from internship programs
k. Curriculum and course review and restructuring
l. Professional accreditation

Most departments have incorporated a combination of several of these methods into their assessment plans in order to achieve a comprehensive evaluation of their undergraduate programs.

IMPLEMENTATION

The task of implementing assessment activities appears to have been a more difficult proposition for many departments than developing their initial plans because it involves moving from a theoretical to a practical level of involvement and often requires the department to address a number of unforeseen issues which emerge as this process takes place. Implementation can also require a greater commitment of personnel and financial resources and is, therefore, likely to occur on a more gradual basis than the planning stage.

The majority of the departments have already implemented at least some components of their assessment programs. The actual schedule for implementing assessment plans, however, varies greatly from one department to another. Whereas some departments such as Medical Technology have already fully implemented their assessment programs, collected data, and considered possible curricular changes as a result, other departments such as History are still preparing to put their plans into effect. The fact that some departments are taking longer than others to implement their assessment strategies does not necessarily reflect poorly on their assessment efforts, however. The History department, for example, has taken a very serious approach to assessment and

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[1]Gillmore, G. M., End-of Program Assessment: A Progress Report.Office of Educational Assessment Reports, 1993.

is carefully considering a wide variety of assessment measures to be implemented on an experimental basis beginning in 1992/1993. Before finalizing its long-term assessment program, the History department will analyze the results of its experimental methods in order to determine which are the most effective ways of gathering relevant assessment data.

Other departments have chosen to implement their assessment programs in a gradual fashion based on the complexity of their chosen methods or the limitations of available resources. The Jackson School of International Studies, for example, is in the process of developing new capstone courses so that these will be available in each of its regional programs. Germanics would like to implement a required language competency exam for its majors but is unsure of how it will finance the endeavor.

Pilot Projects

Most of those departments which participated in the initial pilot projects conducted in 1989/90 have already implemented an impressive array of assessment strategies. Nursing, for example, has launched some of the most ambitious assessment activities taking place at the University of Washington and continues to serve as a model department based on the strength of its commitment to long-term, meaningful end-of-program assessment.

At the current time, however, the longevity of the assessment efforts undertaken by other departments that participated in the pilot projects appears to be in question. Rather than regarding assessment as an on-going process which should be maintained on a permanent basis, several of these departments seem to consider it a one-time activity that brought about meaningful change but is now near completion. Another possible result of the pilot projects may be an increase in expectations stemming from the distribution of funds to initiate their assessment efforts. There is a tendency for departments to severely curtail assessment efforts once the funding for the pilot project has run out, with an expressed unwillingness to commit any of their own resources to continuing assessment activities. On the other hand, many of the departments which did not participate in the pilot projects and, therefore, did not receive funding as an incentive to conduct assessment activities have proposed more modest assessment programs but, at the same time, seem more genuinely committed to developing practical assessment measures which they will be able to institute on a long-term basis.

Continuity

A final issue related to implementation concerns the long-term prospects of the different departmental assessment plans. While some plans seem designed to provide continuous assessment data, others appear to be short-term projects

which may take place only once. Thus, the fact that a given department has implemented its assessment program does not necessarily mean that it is participating in on-going assessment activities. Several departments have implemented assessment strategies and collected data but do not appear to have any plans to continue their assessment activities in the future. Other departments have not yet implemented their assessment programs but are planning to employ more long-term strategies when they do.

In the following pages, we will present a brief overview of the primary assessment methods identified in the previous section and describe how some departments have begun to implement them.

Surveys/Interviews

Surveys are probably the most favored method of collecting assessment data. Departments frequently choose to survey their majors as they graduate in order to record the students' impressions of the strengths and weaknesses of the undergraduate program. The Physics department, for example, has developed an exit questionnaire for its graduating majors which is intended to give students an opportunity to evaluate the undergraduate program and collect information about their plans for the future. The survey was administered for the first time during Spring quarter 1993 and the department received 29 out of 36 completed responses. An analysis of the surveys has already been conducted and the department is currently considering several modifications to its program based on the results.

Many departments also conduct their own alumni surveys as a means of gaining information about student employment and activities after graduation that allows them to assess how well the alumni have been served by their undergraduate education in their major programs. Although the UW administers a general survey to all of its graduates, specific departmental surveys allow faculty to acquire data from alumni that are particularly relevant to their programmatic goals. The Philosophy department is among those which have chosen to adopt this approach to assessment.

A few departments such as Romance Languages have opted to implement surveys for incoming majors in order to assess students' prior experience, interests and expectations from the major. These surveys also provide a means of documenting and comparing student attitudes as they change over time. Romance Languages hopes to use their entrance survey to gain information about the language competence of their prospective majors as well as to learn about their future goals in order to better advise the students as they develop their major program.

Finally, the Chemistry department surveyed 1300 students enrolled in Chemistry classes at all undergraduate levels. This survey was conducted as part of a multifaceted assessment of their current curriculum, including lower division service courses along with courses for their majors

A number of departments have chosen to supplement their written surveys with oral interviews as a means of obtaining further feedback from students regarding their undergraduate major experiences. The Psychology department, for example, recently completed its first hour-long exit interviews with 21 randomly selected seniors and has prepared a report analyzing the results.

Examinations

Professional certification or entrance exams are taken by a significant number of graduates in certain departments and have, therefore, been deemed a valuable source of information regarding the level of preparation received by departmental majors. For example, all 24 students in Occupational Therapy who took the National Certification Exam in 1992/93 passed the exam with scores above the national mean. 98.2% of the Pharmacy students who took the National Association of Boards of Pharmacy Licensing Examination in June 1992 passed successfully and their average score was also well above the national average.

Other departments have implemented standardized tests which they have either developed themselves or have received from professional organizations or major testing companies as a means of evaluating student outcomes. The department of Slavic Languages and Literature, for example, is in the process of creating a Russian language examination which is designed to test departmental objectives rather than simply student objectives. The exam is scheduled to be administered next year. The Economics department has taken a slightly different approach by evaluating sample answers provided by some of their best majors to exam questions designed to test the students' understanding of major concepts covered in 400-level courses.

Tests for Incoming and Graduating Students

A few departments have elected to use a comparative method of assessment in which a single means of evaluation is used to measure student abilities when people enter the major program and when they complete it. These results are then compared in order to determine how student outcomes have changed as a result of the major. The School of Business has implemented this approach, testing all applicants and graduates with a nationally standardized test. The Skills Inventory developed and introduced during the 1992/93 school year by the School of Social Work is another example of this approach. Students are asked to complete the Inventory during their junior year and again at the end of their senior year. By comparing the results of these Inventories, it is hoped that both faculty

members and students will learn about which areas of knowledge and skill need improvement in order for majors to become effective social work practitioners. The School of Social Work also intends to compare the results of videotaped role-plays performed by majors in their junior and senior years to see how their approach to practical social work situations changes during their course of study. The School of Nursing has already implemented a similar technique.

The primary assessment method proposed by the English department consists of requiring students to submit graded English papers when they apply to become majors and again when they graduate. Selected samples of these papers will be reviewed to evaluate progress in student writing and critical skills. Finally, the assessment program for the Oceanography department involves evaluating student performance in two mandatory fieldwork courses, one taken during the sophomore year and the other during the senior year. By comparing student work from these two courses, the department hopes to measure the extent to which their majors have progressed in developing a number of skills related to oceanography.

Capstone Courses

Capstone courses are a popular basis for assessment in many departments. Most capstone courses consist of senior seminars in which students synthesize skills and knowledge gained throughout their major program of study and produce a significant project. Evaluation of these projects in conjunction with departmental curricular goals is one way in which assessment is being incorporated into the capstone courses. While some departments already have capstone courses in place which they have revised for assessment purposes, others are introducing these courses for the first time.

The Dance Program, for example, has instituted a new 2-credit senior seminar in order to provide its majors with an opportunity to participate in a culminating, capstone experience. This senior seminar has proven very successful and might be increased to a 5-credit course next year in order to emphasize its importance and provide both students and faculty with more time to devote to the development of capstone experiences.

Computer science majors participate in two capstone courses during their senior year, one in the design of digital systems and the other in operating systems. The design course requires students to complete individual projects whereas the operating systems course revolves around group projects. The student work from these pre-existing courses provides valuable data for end-of-program assessment and has been incorporated into the department's overall assessment strategy.

Senior Essay, Project or Thesis

Senior projects such as those produced by computer science majors offer a useful means for many departments to assess their programs as well as their individual students. By evaluating a number of such projects, departments are able to discern general patterns of student performance that might lend insight into the strengths and weaknesses of the program as a whole.

Majors in the Scandinavian Department, for example, are required to write senior research essays in English. These essays are graded by individual instructors and then submitted to an Assessment Committee for further evaluation. The Assessment Committee uses the essays to measure how well their program teaches students research and writing skills.

A slightly different approach is taken by the Industrial Engineering department whose majors are required to perform projects for area companies. These companies evaluate the results of the projects based on student presentations. The recommendations of industry representatives also provide valuable feedback for the department that is used to assess the major program.

Evaluation of Student Performances/Presentations/Exhibits

Student performances serve much like student projects as a basis for end-of-program assessment in some departments. Although the performances are graded individually for the purpose of individual student evaluation, collective evaluation of the performances can be a useful tool for program assessment.

The School of Drama, for example, conducts auditions for students when they enter the acting program in their sophomore year and again when they have neared completion of the program in their senior year. By comparing the two sets of auditions, the faculty jury is able to assess the skills and knowledge which their program is providing to majors.

Portfolios of Student Work

Using portfolios as an assessment method takes advantage of the work students are already doing in class. A sample of students agree to include all of their work in individual portfolios which are then reviewed by a panel of faculty members to determine the strengths and weaknesses of the curriculum for majors. Although this is a particularly time-consuming and labor-intensive procedure, the portfolio method yields significant insights into the major experience.

The School of Nursing has begun to implement the portfolio approach in order to evaluate the writing and critical thinking skills taught to their majors. They are currently conducting a pilot test in which five students have compiled portfolios of

the written work they completed during the first two quarters of the nursing program. Faculty members are using these portfolios to evaluate the level of complexity in the assignments and the progression of complexity over time. The portfolio project is also designed to teach faculty to use comparable criteria for evaluating writing.

Group Discussions Between Faculty and Students

Several departments have begun to hold discussions between faculty members and students as a means of obtaining student evaluations of the major curriculum in an informal setting. The Sociology department, for example, has chosen to conduct an annual open forum with its majors. Students who attended the first of these sessions in April 1993 completed a preliminary survey concerning their experiences as sociology majors and then participated in a discussion about their perceptions of the current sociology curriculum and their reactions to proposed curricular changes.

Feedback from Employers

A number of departments use feedback from employers to evaluate how well their programs are preparing students for careers in their major fields. The Mechanical Engineering department has strong, informal contacts with a number of its graduates' employers and receives information from them regarding their satisfaction with the preparation students receive in their major program. In the future, the department plans to collect and analyze this information more systematically, perhaps by instituting a survey of employers. The College of Forest Resources has developed a "Forestry Group" consisting of representatives from private industry and state and federal agencies which meets on a quarterly basis to discuss professional education in conjunction with the College's curricular offerings.

Feedback from Internship Programs

Like employers, internship programs can provide valuable, external perspectives on the quality of major programs. The Technical Communication department conducts informal surveys with internship supervisors in order to gain information about how well its majors are prepared for practical work in their field.

Curriculum and Course Review and Restructuring

Curriculum review can complement the assessment process. Many departments have conducted extensive curriculum reviews and some are implementing substantial changes, including new assessment strategies, as a result of their findings. The Dance Program, for example, is considering a proposal to entirely restructure the curriculum for its Performance Track Major based on assessment

results. The new curriculum would synthesize many of the courses now required for majors into a more integrated whole. The Physics department is conducting a review of its undergraduate programs partially based on student comments gathered through its exit survey. It is already in the process of revising its non-calculus freshman series and intends to address upper division courses this year.

Professional Accreditation

A number of departments undergo periodic accreditation reviews and use these as a source of assessment data. For instance, the Medical Technology Program participated in a self-study and site visit program conducted by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) in May 1992. As a result of the NAACLS's suggestion that more time be devoted to Immunohematology, the department has decided to shorten the clinical Chemistry component of its curriculum by one week and use this time for instruction in Immunohematology instead.

FINDINGS AND CHANGES

Once the departments implement their assessment programs, they must begin to collect and analyze the data which will allow them to evaluate their major programs. A critical feature of any assessment plan is that it include the means for the relevant data to be collected, interpreted and used to make appropriate adjustments or improvements to the program in question. This process does not happen automatically and assessment programs often must be fine-tuned after they are implemented in order to yield the most productive results.

As they begin to gather their data, the various departments have encountered a number of different issues which suggest not only how their major programs might be improved but also how the assessment plans themselves might be improved. For example, the Economics department initially implemented its exit survey by mailing it to all graduating seniors. They soon discovered, however, that only a small number of the students completed and returned the forms. Consequently, the department redesigned the survey with the help of a commit-tee of undergraduates and readministered it to senior economics majors enrolled in 400-level economics courses. The number of responses received the second time was much larger and more representative of the graduating class as a whole.

Overall, departments that have implemented assessment plans find that majors are generally satisfied with their undergraduate education and feel that it has served them well. Nevertheless, many of the departments have also discovered areas which could benefit from some modification or improvement. Although it is certainly not all-inclusive, the following summary represents an effort to categorize some of the major findings of the assessment programs and provide examples of how a few departments have chosen to address these results.

Curriculum

The major curriculum is the area in which departments have found the greatest need for change as a result of their assessment efforts. The majority of these findings are based on student responses to surveys and interviews but several departments have also made curricular changes based on the recommendations of outside sources such as accreditation agencies and industry professionals. Listed below are some of the specific curricular issues that different departments are confronting.

Course Content. Several departments have revised the content of particular courses based on their assessment results. Mathematics, for example, is in the process of revising its math-for-teachers courses in response to complaints from majors who chose this path of study. One instructor has received an NSF grant to study the teaching of geometry in high schools and universities and is currently revising the geometry for teachers class. Another professor has created a new course for middle school teachers that introduces them to innovative strategies for teaching mathematics in the classroom and requires them to participate in these activities at a Seattle public middle school as part of the course work.

Interactive Teaching Methods. It is not only what is taught but how it is taught that can make the difference between a mediocre and a stimulating, worthwhile educational experience. As a direct result of student responses to their exit survey, faculty members in the Geography department have implemented a variety of new, innovative teaching methods in the courses for their majors. These methods encourage more active student participation rather than relying simply on instructor explanations or demonstrations. For example, instead of just showing students government statistics, one instructor developed a series of exercises in which students had to discover for themselves the many sources of census data and economic statistics available in the library system. Another course replaced a lecture on features of the Seattle urban landscape with a field trip in which different groups of students were responsible for narrating each stop on the tour. These presentations were later critiqued by the class as a whole.

Addition of new courses. Some departments have discovered a need to add new courses to their current offerings in order to fill certain gaps in their curriculum. In many cases such as that of the Jackson School of International Studies, this involves the development of capstone courses or senior seminars designed to provide majors with an opportunity to synthesize and apply the critical concepts in their field. The Asian Languages and Literature department has discovered a need for slightly different courses based on a survey of their majors. They are in the process of instituting two three-quarter series of courses on Asian literature in translation for undergraduates. One series will focus on classical Asian literature while the other will address the modern period. Although the courses will be open to all undergraduates, special sections for majors may be offered.

Other departments such as Zoology recognize the need for additional courses but are unable to provide them due to a shortage of staff and lack of sufficient funds.

Revision of requirements for major. The requirements for a major is another area in which departments have made changes as a result of feedback from their assessment strategies. For example, the Chemical Engineering department has eliminated the Specialty Area requirement for their bachelor's degree based on responses to their alumni survey.

Reconsideration of prerequisites. The Sociology department among others has revised the prerequisite policy for many of its upper division courses based on assessment results. In order to strengthen its major program, Sociology is now requiring students to complete Sociology 110 before registering for 300 and 400 level courses. In addition, students must complete a methodology course before enrolling in any 400-level sociology courses.

Revision of honors program. Several departments including Sociology and Political Science have made changes to their undergraduate honors program or introduced components of these programs to other students as a result of assessment efforts. Political Science, for instance, has expanded its senior thesis option to non-honors students in response to student requests for greater challenges within the major program. Six non-honors students have completed theses thus far, nearly doubling the total number of political science majors to participate in writing theses.

Change in departmental focus. Romance Languages is changing the entire focus of its department in response to the assessment process. Whereas major programs in Romance Languages have traditionally been narrowly focused on national literature, the department is now expanding its emphasis to include broader cultural studies. The purpose of this shift is to provide majors with a fuller understanding of Romance culture and to offer more interdisciplinarity in courses and major requirements, partly in order to accommodate students who major in more than one discipline.

Development of Specific Skills

In addition to revising aspects of the general curriculum for their majors, several departments have discovered a need to strengthen their instruction of certain, basic skills which they expect their majors to possess upon graduation. The skills that most often require greater attention include communication, critical thinking and clinical or laboratory experience.

Communication Skills - Writing and Speaking. Many departments recognize the importance of strong written and oral communication skills for their majors and are seeking ways to provide their students with more structured opportunities to develop these skills in their courses. For example, the College of Forest Resources has added writing and public speaking segments to several of its courses in direct response to comments from industry professionals who stressed the need for improvement of these skills among graduates entering the forestry field.

Critical Thinking. Proficiency in critical thinking is another goal which many departments wish their majors to achieve. The Romance Languages department, for instance, is employing a number of strategies designed to improve the instruction of critical thinking skills by placing greater emphasis on student involvement in learning. These strategies include drafts of written assignments which students revise based on instructor comments; oral research presentations; peer critique sessions, and mandatory conferences with professors to discuss student projects.

Clinical and Lab Experience. Some departments have found that their majors feel the need for more extensive clinical and lab experience in order to be adequately prepared to enter their fields. The Occupational Therapy division of the Department of Rehabilitation Medicine has learned through its assessment process that its students want more fieldwork and hands-on laboratory experience. In response, the faculty is exploring alternative fieldwork opportunities in the community beyond the current hospital placements, such as working in homeless shelters and early intervention centers. Instructors are also developing more written clinical case studies for class problem-solving, videocassettes of cases for in-class problem-solving, and in-class patient demonstrations.

Faculty-Student Contact

In addition to curricular issues, a number of departments have discovered other areas through their assessment programs which could benefit from improvement. For example, several departments have recognized the need for greater faculty-student contact. The Mathematics department intends to address this need by requiring its majors to meet regularly with faculty members in order to discuss their academic progress and future plans. They have also instituted an annual awards tea and a brunch for graduating seniors.

Job Search/Career Opportunities

Assistance in learning about and pursuing career opportunities is another area for improvement cited by majors in some departments. The Geography department has responded to this concern by conducting four career workshops, attended by approximately 140 students, which were led by alumni who have geography-related careers in the community. The department also hired a new staff member whose duties include developing a more thorough internship program. The Physics department plans to conduct an annual "open house" to address complaints about the lack of information available to prospective majors regarding both the department and career opportunities in the field, On this occasion, faculty members will give short presentations describing their own work, conduct question and answer sessions, and conduct tours of the research facilities in the department.

Departmental Facilities

A final issue which several departments are addressing based on their assessment efforts is improving the existing departmental facilities for majors. The Department of Technical Communication has responded to concerns raised in a student survey by remodeling the student computer lab in order to improve its functionality and efficiency. The Psychology department will make office space available for its T.A.s next year so that student conferences no longer need to be held in coffee shops.

CONCLUSIONS

Most departments at the University of Washington now appear to recognize end-of-program assessment as an important aspect of maintaining and improving the quality of education in undergraduate major programs. The assessment efforts vary considerably in their scope and development based on the different needs and operating styles of individual departments. In general, however, they reflect a serious effort by the departments to evaluate the programs for their undergraduate majors in light of the academic goals which they expect these programs to fulfill. The fact that so many departments have not only implemented assessment strategies and analyzed the resulting data but have also already used this information to make needed changes to their major programs attests to their commitment to curricular assessment and improvement. In addition, the assessment efforts have been very valuable in inspiring discussion among faculty members about their expectations for the major programs and how these might be better achieved.

While the mandate for end-of-program assessment has generally yielded very positive results, there is still room for improvement. Although most departments have implemented their assessment plans and are in the process of gathering data and interpreting the results, a few departments have yet to engage in any substantive assessment efforts. A small number of other departments have conducted an effective short-term assessment of their major programs but do not have the mechanisms in place to continue this assessment in the future. Budgetary and time constraints are the primary reasons cited for lack of greater involvement in assessment activities. Small competitive grants will be made available to selected departments during the 1993/95 biennium to assist them in pursuing their assessment efforts. These grants should facilitate continuation of the end-of-program assessment already begun as well as implementation of those aspects of their assessment plans which have been put on hold due to a lack of resources. By working together, we look forward to continuing and expanding the successful assessment activities that are currently taking place.