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Gerald M. Gillmore, Ph.D., Director  
Nana Lowell, Ph.D., Associate Director  
Thomas Taggart, M.Div., Assistant Director

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**End of Program Assessment at the University of Washington:  
Resulting Changes in Curriculum and Assessment Strategies**

Lauren Basson

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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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## INTRODUCTION

End-of-program assessment has been underway at the University of Washington for six years as a result of the 1989 mandate by the Higher Education Coordinating Board. Virtually all departments offering undergraduate majors have assessment programs in place and many have already made changes in their curricula based on their assessment findings.

Earlier reports have tended to focus on preliminary assessment strategies adopted by departments and the findings they produced<sup>1,2</sup>. This report will address end-of-program assessment more broadly as a continuous, cyclical process. Particular attention will be paid to two steps in this process: changes made in major programs as a result of assessment findings and adjustments made in assessment strategies to improve the assessment process.

Examples of each of these steps have been drawn from the annual progress reports concerning end-of-program assessment provided by departments in response to a request from Dean Frederick Campbell. It should be kept in mind, however, that the examples mentioned in this report are not all-inclusive. There are many additional assessment projects taking place that do not receive specific mention. The purpose of this report is to explain the assessment process and to summarize some of the major assessment activities that have taken place in particular departments this year.

## THE PROCESS OF END-OF-PROGRAM ASSESSMENT

End-of-program assessment is an on-going process that proceeds according to a series of steps that are generally repeated on a regular basis. Each of these steps requires frequent reflection and occasional revision in order to ensure that the assessment process is successfully accomplishing its goal of providing useful information that leads to improvements in undergraduate major programs.

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<sup>1</sup> Basson, Lauren, *End -of-Program Assessment Progress Report 1994: Findings and Changes*. OEA Reports, 94-5, Office of Educational Assessment, 1994.

<sup>2</sup> Basson, Lauren, *End -of-Program Assessment: Progress, Findings and Effects*. OEA Reports, 93-4, Office of Educational Assessment, 1993.

The first main step in the assessment process is to identify the specific goals that the major program is designed to meet. Some departments established clear goals long ago while others have found the need for extensive discussion before consensus on the objectives of the major can be reached.

Once the goals for the major have been specified, it is necessary to identify indications of whether these goals have been met. Such indicators might include student and alumni opinions about the effectiveness of the major program, employer perspectives on alumni readiness for the job market, and student acquisition of desired skills as demonstrated by their performance in capstone courses or on entry and exit exams.

The next step of the assessment process is to develop specific measures of these indicators. For example, student opinions might be measured through exit surveys or interviews. Questionnaires or forums that bring together faculty members and industry representatives could be used to gather employer input about the major program. Reviews of student portfolios or final projects or in-depth observations of capstone courses are some of the ways one might measure whether students have adequately achieved the goals of their major program.

After specific measures have been designed, the task is to begin collecting and analyzing the data. Hopefully, these data will produce useful information concerning strengths and weaknesses of the major program and will suggest areas where changes ought to be made. New assessment will then be necessary to measure the effectiveness of these changes. This second round of assessment may also suggest additional changes to be made in program goals, indicators of success or measurement procedures.

## **CURRICULAR CHANGES**

Many departments have initiated curricular and other changes in their major programs on the basis of the assessment results they have obtained. The following examples provide summaries of some of the most significant innovations departments have planned or implemented during 1994/95.

### **Astronomy**

Interviews with graduating seniors indicated that majors would like more hands-on courses and more practical courses in data analysis. In order to address these issues, the Astronomy department appointed a committee to develop specific learning goals for undergraduate majors, review 300 and 400 level courses to determine how closely they meet student needs, and propose a new sequence of courses for undergraduate majors if it was deemed necessary. The committee succeeded in defining the basic skills which seniors should acquire through the major. Their review of upper level courses indicated that these are satisfactory in most respects but should include more emphasis on hands-on experiences and writing. Committee members are working with the Physics department to revise the undergraduate course sequence for that department and once this is completed, they will consider a new astronomy course sequence that would compliment the Physics offerings.

## **English**

As a result of multiple assessment efforts, the English department has made the following changes. Starting Autumn quarter 1995, T.A.s who teach at the 200 level will have faculty mentors who will meet with them throughout the quarter to offer them guidance and help them plan courses and assignments. Faculty teaching large lecture courses to majors will also be required to teach one of the small sections usually taught by T.A.s. Finally, the English advising office is preparing a series of brochures to help majors prepare for life after college. Topics will include preparing for graduate school, professional training, and employment options.

## **Dance**

In response to past assessment measures, the Dance Program implemented a new undergraduate curriculum in Autumn 1995. This curriculum includes two new team-taught courses that combine material covered in previous classes and that have produced new and lively interactions among faculty members. A Senior Seminar for dance majors has also been added. One of the purposes of this course is to familiarize students with employment opportunities in the dance field. As a result of her research for the course, one student was offered a job as a telemarketing assistant for Pacific Northwest Ballet.

## **Linguistics**

Student interviews with the Undergraduate Advisor have made it apparent that majors and prospective majors in Linguistics need more departmental advising time than is currently available. To address this problem, a graduate student has been hired to work as a part-time undergraduate advisor with a faculty member.

## **Atmospheric Sciences**

The Department of Atmospheric Sciences assesses its major program in a variety of ways including feedback from employers such as the National Weather Service and a review of student performance in the capstone course (ATMS 452). On the basis of these efforts, a number of changes have been made:

- Direct feedback from students as well as evaluation of student performance indicated that the use of electronic laboratory exercises on department workstations is very effective for teaching a wide range of topics from synoptic meteorology to atmospheric dynamics. In response, the department has secured funding for additional workstations and has put considerable effort into course-related software development. Faculty members have also submitted a proposal to NSF to provide further support for the construction of electronic case studies to be used in undergraduate classes.
- Nearly half of the courses in the undergraduate curriculum have been altered during the past five years to reduce course overlap and fill in gaps. A new course on climate and global change (ATMS 311) has also been added.
- Regular meetings between undergraduate majors and departmental faculty are held to introduce students to departmental activities and to review job and internship availability.

- Approximately one third of the students participate in internships and research positions both inside and outside the university (e.g. the National Weather Service, TV stations, etc.). Student feedback indicates that the internship experience greatly enhances student enthusiasm and employment potential.

The number of majors in Atmospheric Sciences has increased dramatically during the past five years and these students have been very successful in finding employment or continuing their education after graduation.

### **Psychology**

Student comments made on exit questionnaires have encouraged professors in some of the smaller psychology courses to begin to include more opportunities for students to develop oral presentation skills and computer skills.

### **Comparative Literature**

Individual interviews with graduating majors revealed that several students felt Comparative Literature 200 was too large to serve as an effective core course for the program. The department has subsequently dropped this course and revised the core requirements for the major.

### **Drama**

As a result of student comments on an exit survey, Drama 401 has been significantly revised to include sessions in "life skills" such as resume preparation, interviewing, internships, and the graduate school application process. Initial reaction to these new sessions has been very favorable.

### **Music**

The School of Music has devised an entirely new core curriculum based on previous assessment efforts. The new curriculum will be gradually implemented, beginning Autumn 1995. Its goals are to improve and expand training in "musicianship" which includes musical skills such as sight-singing and dictation and theoretically-oriented keyboard skills. The new curriculum also aims to reduce the number of quarters required to complete the core training in music theory and history so that individual programs and students can tailor the remaining credits to their particular needs.

Changes that have been made in Music Theory include:

- an entire rethinking and restructuring of the content and pedagogical sequence of the Music Theory curriculum.
- placement tests for entrance into the first Theory course, Music 201.
- implementation of a pre-core course, Music 119, to prepare those who do not place into Music 201.
- placement test for entrance into Music 119.

The core musicianship and Music History courses have also been entirely rethought and restructured. Musicianship courses have been integrated with parallel courses in Theory. A new series of upper-division electives in Music History has been designed and placement exams have been instituted for entrance into the core Music History courses.

## **History**

Based on the results of an exit survey of its majors, the History department is considering a number of changes. These include increasing the number of full-time faculty members to provide smaller upper-division courses and instruction in fields such as African, Early Modern European and Islamic history; increasing the number of teaching assistant positions to provide sections in lecture courses with over 50 students; and procuring funds for additional, introductory seminar courses. The department is also considering several procedural changes including holding one or two informal receptions each year in order to introduce newly-declared majors to the faculty and staff; establishing an electronic mail network for all majors and a History Department "home page"; and setting up a faculty-student mentoring program to provide history majors with counseling and career guidance.

## **Forest Resources**

*Forest Management.* On the basis of employer suggestions, the newly revised Forest Management curriculum emphasizes basic human and organizational management skills and the integration of these management skills with technical forestry skills. The new curriculum requires majors to take 15 credits of management or business-related courses. Faculty members are negotiating with members of the School of Business to secure access for Forestry majors to management courses now restricted to Business majors.

Other curricular changes include revision of a capstone senior case study course (FM 496) to involve the student in preparing and defending a forest land management plan. General introductory overview courses such as CFR 101 have been developed to attract new majors. Enrollment in CFR 101 has increased from 34 in Winter 1994 to 158 in Winter 1995.

*Forest Engineering.* Information gathered from employers in both the public and private sectors has led to the incorporation of additional courses in traditional engineering concepts into the overall course requirements. The College of Forest Resources is negotiating with the College of Engineering to guarantee Forestry students equal access to engineering courses. A field seminar course has been introduced in response to employers' requests that students acquire more "real world" experience prior to graduation.

*Pulp and Paper Science.* Input by representatives from the pulp and paper industry has led to the introduction of a course focusing on recycled fiber. Faculty are also working to develop more formal assessment mechanisms such as a standardized process of oral interviews between each graduating senior, the faculty, and the Washington Pulp and Paper Foundation and a more formal survey approach to obtaining information from employers and alumni.

*Urban Forestry.* Based on the recommendation of the Academic Advisory Committee, this program has implemented new introductory courses in urban forestry and advanced courses in plant materials. A new course in ecological restoration has also been implemented in response to a desire for more direct training in restoration biology.

*Conservation of Wildland Resources.* Based on the advice of an outside advisory committee, a minor in Conservation of Wildland Resources was offered for the first time in Autumn 1994. Faculty members are also investigating the possibility of including a required course in Geographic Information Systems as requested by the committee.

Written requirements for the senior project course have been sent to each student as the result of a meeting on this subject between students, faculty and the division chair. A course has also been added to the College's offerings to assist students in selecting research topics, performing the research, analyzing the research and producing a written and oral report of their findings.

Based on findings by the division chair, faculty members are working to eliminate a redundancy of material covered in four separate courses. Finally, the program is attempting to contact employers to provide internship opportunities to majors prior to graduation.

*Wildlife Science.* Faculty recommendations have led to an increase in the amount of credit awarded for the required "mini-thesis" from 5 to 8 credits to reflect the amount of work involved. Student input has indicated that the number of full-time faculty members in the program is too small to accommodate student needs. The division chair is responding by investigating the possibility of a "team teaching" approach of Wildlife science classes by faculty in related academic disciplines within the College. An interdisciplinary approach involving faculty from the School of Fisheries is also under consideration. A minor in Wildlife Science was offered for the first time in Autumn 1994.

## **Mathematics**

Previous assessment efforts have led the Department of Mathematics to make a series of curricular changes in their undergraduate program.

- A new 300-level course entitled "Introductory Real Analysis" has been developed to ease the transition from applications-oriented 100-level courses to more theoretical 400-level courses. If approved by the Arts and Sciences Curriculum Committee, the course will be offered in Winter 1996.
- A computer lab has been developed to accompany Math 307 (Differential Equations) and experimental sections will run in Winter 1996. Faculty members are meeting with representatives of the Departments of Mechanical and Civil Engineering to review the Math 307-308-309 sequence.
- A permanent course in the important area of chaotic dynamical systems has been approved and will be offered in 1996.

- Notes for Math 124-125 (first quarter calculus) have been revised to better compliment Physics 121-122-123 (the beginning physics sequence for science and engineering students) and will be used starting Autumn 1995.

## **Rehabilitation Medicine**

*Physical Therapy.* Reductions in the clinical education provided by affiliated physical therapy services have meant that students need more extensive preparation in clinical problem solving in the classroom. In order to address this need, the faculty are incorporating additional clinically-oriented patient problems in classroom instructional activities and are placing more emphasis on patient problem-solving during the practical examinations. Students are also being encouraged to enroll in an elective independent study course during Summer Quarter in which they gain increased experience in clinical documentation using videotaped vignettes.

Based on changes in funding for therapy, shifts have occurred in practice patterns such as a reduction in the use of electrical modalities as an integral component of therapy in the clinical setting. To address this change, course faculty are reorganizing instruction to streamline content and better integrate lecture and laboratory instruction in the modalities.

*Occupational Therapy.* Responding to the desire for greater fieldwork experience expressed by graduates in an alumni survey, the faculty have replaced the traditional three hours of fieldwork per week with a single week of intensive fieldwork. The "Student Professional Behavior" form has been revised to give students more relevant feedback concerning the skills they will need in their clinical practice that go beyond academic knowledge.

*Prosthetics-Orthotics.* Input from students and employers has led the Prosthetics-Orthotics program to make the following curricular changes:

- In order to broaden student exposure to pediatric orthotics, clinical instructors, alumni and practitioners from the regional Northwest Academy of Orthotists and Prosthetists are being contacted to provide guest lectures in this area.
- The Spinal Orthotics course has been modified to broaden the area of orthotic intervention instruction and further reorganization will include expansion of classroom hours.
- The Orthopedic Section of the Medical Science course has been reorganized to include lectures on Spinal Fractures and Upper and Lower Extremity Amputations in order to augment the students' background in the general medical approach in these areas.
- Guest lectures by community practitioners have been included in the Lower extremity prosthetic courses in order to expose students to an increased variety of componentry and newer casting techniques. Individual student projects also allow students to gain experience with varied componentry.
- Students attend weekly Limb Viability Grand Rounds at Harborview Medical Center accompanied by an instructor to gain experience in the actual clinical setting with physicians, nurses and other prosthetic practitioners in the area.



- In all courses, increased emphasis is being placed on the documentation process including the initial evaluation, progress and delivery notes. Students are instructed on the documentation procedures and chart notes are reviewed and returned to students with suggestions and feedback.

## **Geography**

As a result of prior assessment findings, the Geography department has designed a new undergraduate major program which will go into effect in Autumn 1995. The new program focuses on promoting greater achievement among majors in three principal areas:

- 1) Information management skills such as data capture, data management and data manipulation
- 2) Qualitative and quantitative analysis skills such as regional econometric modeling, resource and land use analysis, input-output modeling, and descriptive and inferential statistical analysis
- 3) Linking data management and access skills with the framing of researchable questions and research design

In order to accomplish these goals, the new major program includes the following changes:

- 1) A new "Tutorial for Majors" course, to be taken within two quarters of entering the major, is designed to familiarize students with traditional and current methods and topics in the field, possible career paths, and curricular paths within the major. Students will have the opportunity to sharpen their academic focus by meeting with faculty and writing an "intellectual and curricular roadmap" for their major program.
- 2) The department has developed a "curricular compass" to help students navigate through the geography curriculum by identifying and cross-indexing course approaches, topics, skills and methods taught, and by graphically mapping course sequences. This "compass" will also be available electronically on a new departmental Home Page on the World Wide Web.
- 3) A new set of prerequisites and required courses has been designed to provide students with more uniform instruction in the statistical and mapping/analytical skills necessary for them to excel in upper-division courses.
- 4) A shift has been made from static, generic concentrations such as "urban geography" or "Latin America" to more specific, dynamic areas of expertise such as changing urban forms or environmental dynamics and sets of skills such as regional econometric analysis or demographic analysis.

## **Fisheries**

Based on input from employers, the School of Fisheries substantially revised its undergraduate major curriculum two years ago with the aim of recruiting and retaining more majors. There are currently 100 Fisheries majors whereas there were

only 34 majors at the beginning of 1991-92. The department has also implemented additional changes to enhance undergraduate fisheries education. These include:

- Creating an Undergraduate Advising Board
- Assigning mentors to each undergraduate
- Instituting minor degree programs in Fisheries and Food/Seafood Science
- Hiring professional counselors for the Student Services Office
- Initiating an annual undergraduate banquet
- Participating in the New Student and Transfer Student Orientation programs

As a result of 1994/95 assessment findings, the department intends to review approaches used in courses to enhance speaking and cooperative skills and examine the issue of undergraduates feeling intimidated by the presence of graduate students in 400-level courses.

### **Oceanography**

Comparison of student performance in field research courses which majors take as sophomores and seniors has yielded valuable insights into the strengths and possible weaknesses of the Oceanography major program. These findings have led the department to institute several changes.

Two years ago, only 30% of the sophomores used computer graphics in their reports while 80% of the seniors included computer graphics. This year, the department introduced computer use into the sophomore course and the use of computer graphics in the two courses is now equal. Next year, the department intends to devote a significant portion of the Spring Break Retreat to teaching sophomores computer techniques for data reduction and analysis.

In order to improve instruction in critical reasoning skills, the Winter quarter course that serves as preparation for the Spring research will be revised. Students will be required to read and critically review scientific papers that are related to their research topics.

Students will also be given greater responsibility in planning the research for spring quarter including coordinating the use of the ships and ground transportation, arranging for the use of laboratory equipment, and ordering supplies. These responsibilities are designed to give them a broader understanding of the real-world context in which scientific research is conducted.

Coverage of student research on the World Wide Web will be expanded in order to better prepare majors to interact with people outside of their field. Finally, the presentation of the written report is being changed so that students will be required to prepare the reports for desk-top publishing and submit them on computer disk.

## **Asian Languages and Literature**

In response to the results of a student survey, several innovations have been made in the undergraduate program.

- Minors in Chinese, Japanese and South Asian languages were introduced during 1994-95. The department might also consider introducing minors in Korean and Southeast Asian languages.
- The Department is exploring the possibility of introducing interdisciplinary majors in Korean and Southeast Asian area studies with the Jackson School.
- A new sequence of 200-level courses on Chinese, Japanese, and Indian/South Asian literature in English translation was introduced in Winter 1995. One course in the sequence will be taught each quarter and ancient and modern literature will be covered in alternate years. The courses are designed to appeal to a wide audience and to fulfill the undergraduate writing requirement.
- Business Japanese will be offered on a regular basis beginning Autumn 1995.
- A voluntary student-faculty mentoring system will begin in 1995/96.
- The department is working to expand opportunities for overseas language study in Japan and the People's Republic of China in collaboration with the University of Oregon.
- The first annual reception for graduating majors was held in 1994. The reception will be held each Spring and will include award presentations.

## **Economics**

On the basis of responses to an exit survey, the Department of Economics has implemented several changes. Requests for more applied courses have been met with the creation of four new courses. Two of these, Economics of the Environment and Cost Benefit Analysis, were offered for the first time as regular courses in 1994/95. The other two, Economics of Gender and Applied Econometric Modeling, were offered as seminar courses. These courses have given students opportunities to engage in research projects and improve their computer skills.

Efforts have been made to improve undergraduate writing experiences in a variety of courses and students have responded enthusiastically. More papers than ever were submitted for the Outstanding Paper Award competition and were of very high quality.

The department has responded to student desire for more help in choosing a career by developing a brochure entitled Careers for Economics Graduates; compiling anonymous responses to an alumni survey in a binder available for browsing; and offering Career Seminars at which recent graduates are invited to share their work experiences with undergraduates. The Undergraduate Board is also considering initiating a mentor program that would match undergraduate majors with alumni.

## **Medical Technology**

In order to improve introductory education in a number of courses, the Department of Laboratory Medicine has developed several interactive personal computer programs called tutor programs. These programs are currently being used as initial teaching tools in immunology, microbiology, chemistry, clinical microscopy, hematology didactic and practicum courses. Pre and post-tests suggest that the tutor programs are effective learning tools, leading the department to consider the production of more tutor programs.

## **Mechanical Engineering**

Based on a variety of assessment measures, the department has undertaken the most extensive revision of its undergraduate curriculum in 30 years. The new curriculum is designed to provide students with more direct application of principles, more practical experience, improved training in communication skills and more experience in areas considered important by employers.

## **Botany**

In response to student comments made on two questionnaires, the Botany department has initiated a number of changes. Due to problems with access to introductory biology courses, Botany will now accept either the 100 or the 200 series for all degree tracks. New options in core offerings have also been introduced and a winter quarter course that conflicted with other core courses has been deleted in order to improve access to Botany core courses and electives. The department also entertains petitions from students who wish to substitute courses for the core requirements.

Undergraduate seminars on special topics have been introduced in the past year. These allow students to participate in smaller classes and have more contact with professors. Due to an increase in the number of majors, the Botany program has had to restrict some courses to Botany majors only.

The department makes an effort to provide undergraduates with the opportunity to assist in research laboratories. Undergraduates also serve as teaching assistants in some of the laboratory courses such as Plant Identification and Classification.

## **Aeronautics and Astronautics**

A review conducted by the Center for Instructional Development and Research has provided valuable feedback from junior and senior majors. Recommendations for more computer classes and more applications in lectures have already been approved. The faculty has also authorized an e-mail response to every senior on a dozen issues of concern to majors.

## **Technical Communication**

A student survey conducted in summer 1994 revealed the need for improved computing equipment and instruction in multimedia. As a result, the department has added two PCs, two high-powered Macintoshes, a video monitor, an LCD panel for classroom instruction, a color printer, a color scanner, and a laptop computer to the student lab. Several software packages including Director, Authorware, and Adobe Photoshop have also been purchased and have significantly enhanced the quality of

the department's undergraduate education. To meet the need for training in multimedia, the department has developed a course in multimedia communication that will be offered for the first time in spring 1996.

### **Germanics**

On the basis of previous assessment efforts, the Germanics department has decided to expand its English-language course offerings to accommodate general student interest in German culture. The department also intends to make German 401 a 5 credit course in order to better prepare students for the "Certificate in German". In addition, the German 404/405 series has been rearranged in a more efficient manner. Finally, Germanics will continue to incorporate more cultural and area studies into its curriculum to supplement the traditional focus on literature.

## **REVISING ASSESSMENT STRATEGIES**

Although making changes in order to improve the major is one of the primary goals of end-of-program assessment, it is by no means the end of the process. Assessment measures must be redeployed in order to assess the major program once changes have been made and determine whether further adjustments are needed. Each element of end-of program assessment requires consistent attention in order for the process to be effective as the goals of the major programs and the curricula designed to meet them continue to evolve and change. For example, after engaging in several years of end-of program assessment, a number of departments have begun to revise their original assessment plans as they learn what measures best capture the information they need and work well given the particular dynamics of their major programs.

Some departments that began by using a single method have found that they are now ready to expand their assessment programs to include new components. Other departments that began by using a variety of measures have found that they obtain better results if they concentrate their attention on one or two. Many departments are making revisions to the assessment measures they already have in place: rewriting questionnaires to gain more focused results, scheduling their assessment activities at more appropriate times, etc.

The following review presents examples of some of the assessment adjustments made by departments this year, loosely grouped according to different types of assessment measures.

### **Surveys**

The School of Pharmacy has traditionally conducted exit surveys of its graduating seniors. Although these have been useful, emphasizing curriculum content and student self-assessment of competency, the percentage returned has been generally low and the students often lack the professional maturity necessary to determine whether they are really prepared for practice. To address these weaknesses, the School of Pharmacy obtained a grant from the Office of Educational Assessment to conduct three additional surveys during 1994. Graduates from 1992 and 1989 were surveyed as were all practitioners appointed to the School's practice-based clinical faculty. These surveys yielded valuable and consistent results that have contributed to curricular revisions.

The Department of Atmospheric Sciences will implement an exit survey for graduating seniors next year to supplement other assessment measures that include review of student performance in a capstone course and feedback from employers such as the National Weather Service..

The Pulp and Paper Curriculum in the School of Forestry is considering designing a formal survey questionnaire to obtain input from employers and alumni regarding the strengths and weaknesses of the educational preparation received by employees who graduated from the program.

The Department of Economics has found that their detailed senior exit survey has produced valuable results and has contributed to positive changes in the major curriculum. On the other hand, assessment based on a system of mini-exams and on a capstone course has been less successful so these measures will receive less emphasis in the future.

### **Interviews**

The Mathematics department conducted half-hour exit interviews with a small number of graduating seniors for the first time this year. The interviews were successful in producing helpful information about positive aspects of the Mathematics program such as the Math Study Center and about areas where improvements might be made such as opening an undergraduate lounge. The Department intends to increase the number of interviews conducted next year.

Members of the Pulp and Paper Science Curriculum in the School of Forestry have recognized that a standardized process of oral interviews between graduating seniors, the faculty and the Washington Pulp and Paper Foundation is necessary in order to focus on the students' experiences in the program. This process would involve a set of standardized questions and written interview objectives designed to maintain consistency across interviews.

The Division of Occupational Therapy in the Department of Rehabilitation Medicine is considering conducting exit and post-graduate interviews with randomly selected students and graduates as a means of expanding the ways in which qualitative data on their major program are collected.

### **Reviewing Papers**

The School of Nursing has begun reviewing student papers written by seniors for evidence that students have achieved critical thinking, nursing therapeutics and communication skills. As a result of this exercise, it was determined that Nursing students write well and that their written assignments provide a rich source of information about the curriculum. The review of student papers also demonstrated the importance of giving clear assignments with precisely stated objectives.

The Psychology department has supplemented its exit questionnaires with an assessment of writing in the psychology major program. This assessment is designed to identify the kinds of writing taking place in psychology classes and to find ways to improve writing instruction and assignments.

## **Exams**

The School of Music has improved the standard forms for the undergraduate entrance auditions required of all prospective music majors and for the juries held at the end of each quarter and the end of each year. Entrance placement exams have also been instituted for Music 201, Music 119, and core Music History courses in order to monitor students as they enter the new core curriculum.

For three years, the Scandinavian Department has assessed its major program through reviews of senior essays. Given that 50 - 75% of the major requirements involve instruction in one of the Scandinavian languages, the Department is now considering adding an assessment of oral and written skills in majors' target languages prior to graduation.

## **Other**

The English department significantly expanded its assessment procedures this year. In addition to exit surveys, assessment measures now include regular meetings between the Director of Undergraduate Programs and departmental advisors to hear about student complaints and problems, quarterly visits by the Director of Undergraduate Programs to at least three Senior Seminars for hour-long discussions with majors enrolled in them, and intensive talks between the Director and selected majors about their experience in the department. These new measures have generated considerable feedback and have led to several curricular changes.

The Mathematics department is participating in a long term project sponsored by the Mathematicians and Educational reform network that involves compiling data on careers of undergraduate mathematics majors.

The Division of Occupational Therapy in the Department of Rehabilitation Medicine is considering the establishment of a Program Advisory Council that would provide more consistent feedback about the entire program than previous Advisory Boards devoted to specific content areas.

## **CONCLUSIONS**

Assessment is an on-going process. Nearly all departments that offer undergraduate majors at the University of Washington now have assessment plans in place and have begun to collect and analyze data. Over half of these departments have made substantive changes in their major programs on the basis of information obtained through their assessment measures. In addition, many people are beginning to realize the importance of revising their assessment plans to better reflect the goals and structure of their major programs and to improve the quality of the data they are able to collect. This process of revision reflects the fact that assessment has become well integrated into departmental activities and constitutes an important and permanent component of the undergraduate major experience at the University of Washington.