

**2007-2008 Annual General Education Report
to the
University Academic Planning Council
September 30, 2008**

In its role as trustee of the campus-wide General Education requirements and as agreed at the University Academic Planning Council of December 18, 1997, the College of Letters and Science presents the annual report on the General Education requirements at UW-Madison. This report is submitted by the Chair of the University General Education Committee (UGEC); it summarizes committee activities undertaken in 2007-2008.

Information and Updates:

1. No policy items are presented for UAPC consideration at this time.

2. Updates on Activities Related to the Assessment of Student Learning.

For more information and past reports, see: <http://www.ls.wisc.edu/gened/Assessment/>

A. In 2007-2008, the UGEC maintained an active interest in the assessment of student learning in the General Education curriculum. The 2007-08 General Education Assessment Activity Report is attached (Appendix A). In 2008-2009, the committee will work to:

- continue to work on identifying student learning outcomes for breadth and for ethnic studies courses,
- continue to work on identifying student learning outcomes for the “Wisconsin Experience”,
- review the QRB course array and enforce recommendations regarding the “sequencing” of quantitative reasoning courses (that is, that “A” must precede “B”), and
- consider policy recommendations arising from studies recently completed.

We anticipate, too, that members may be asked to take part in activities in support of the ongoing work related to the university’s self-study for purposes of institutional reaccreditation.

B. As noted in the Assessment Activity Report, the committee revised the General Education Assessment Plan (Appendix B). The revised plan aligns the existing general education program with the “essential learning” goals that have been articulated as essential to liberal education and to the Wisconsin Experience.

C. The assessment of student learning in the general education curriculum is an important component for institutional accreditation by the Higher Learning

Commission (HLC) of the North Central Association of Colleges and Schools. The committee had several discussions related to the HLC requirements that institutions have general education programs and that student learning in them is assessed. Since the inception of the University General Education Requirements, UW-Madison has evaluated the effectiveness of administration and instruction the program, in order to ensure student access, use institutional resources wisely, match the intention of the requirements to the effects achieved, and to evaluate student learning. To assist our colleagues who are preparing materials to be submitted to the HLC as part of UW-Madison's decennial accreditation review, we prepared a comprehensive list of assessment activity undertaken since the last site visit (Appendix C).

- D. The committee received the report from the Director of the Library & Information Literacy Instruction program, which had administered the American Library Association's Standardized Assessment of Information Literacy Skills. This project sought to establish an early benchmark against which student attainment of information literacy could be compared after instruction in Communication A and B courses. The SAILS instrument also offers institutions the opportunity to compare student performance to national scores as well as to selected similar institutions. Unfortunately, sample sizes were insufficient to draw any conclusions other than that there seems to be no significant difference between the information literacy of incoming freshmen at UW-Madison and the national benchmark. Students at UW-Madison performed better than the institution-type benchmark at searching and retrieving sources and about the same at developing a research strategy, selecting finding tools, using finding tool features, evaluating sources, documenting sources, and understanding economic, legal, and social issues. We are reluctant to draw any further conclusions that these; however, we will continue to develop strategies for effectively assessing student learning in this essential area.
- E. Recent efforts to assess student learning in the Communication A course array (discussed below) led directors of these courses schedule regular meetings, the focus of which will be to discuss these courses, communication pedagogy, student learning, etc.
- F. Once again, a subcommittee of the University General Education Committee served as the review panel for student essays submitted in the third annual UW System Liberal Arts Essay contest. Vidhya Raju, a Biomedical Engineering student who offered "An Engineer's Advice: a Discussion about College and the Value of a Liberal Arts Education", was one of the three finalists, marking the third time a UW-Madison student has submitted a winning essay. (Please see <http://liberaleducation.uwsa.edu/scholarship/index.htm> for a description of the contest and links to winning essays.)
- G. Responding both to local feedback as well as to the national movement for increased accountability in higher education, members have worked to develop

better communication tools that promote the results of our assessment efforts. We have tried to summarize clearly what we know our students know, and we are working to make that information more accessible.

3. *Essential Learning for Our Newest Students.*

On March 12, 2008, the UGEC and several other offices and units hosted a discussion with forty members of the faculty and staff who teach or influence large courses that serve our newest students (first-time, first-year and new transfer students). The session focused on two questions that were intended to provoke discussion across and within disciplinary boundaries:

1. Beyond the specific disciplinary content of your course, what do you want students to learn that will stay with them into the future? That is, what are your students learning beyond the content you teach them?
2. In considering the more focused goals of "General Education," what do you try to teach students in your course's general "breadth" or Gen Ed area (communication, quantitative reasoning)? How do you make the ideas that are implicit in the requirements, explicit for students?

The synthesis of these discussions is attached as Appendix D.

2. *Assessment of Student Learning (Part II).*

In November 2007, Professor of Sociology and Associate Dean Charles Halaby, Research Director for General Education Assessment, completed "An Assessment Study of the Effectiveness of the General Education Communication "A" Requirement at the University of Wisconsin-Madison" (Appendix E). Policy implications are currently being discussed by the UGEC.

Respectfully submitted by:

Gary Sandefur, Dean, College of Letters and Science

Nancy Westphal-Johnson, Associate Dean for Undergraduate Education and Academic Administration, College of Letters and Science

Elaine M. Klein, Assistant Dean, Academic Planning, Program Review, and Assessment of Student Learning, College of Letters and Science

University General Education Committee, 2007-2008

Chair: Nancy Westphal-Johnson, Associate Dean, Letters and Science Administration

Term Members:

Larry Bank, Civil and Environmental
Engineering (Semester I)
John Curtin, Psychology
Jacqueline Hitchon, Life Sciences
Communication
Jim Johannes, School of Business
Susan Johnson, History, also, Ethnic Studies
Review Subcommittee
Mark Kenoyer, Anthropology, also Ethnic
Studies Review Subcommittee
Mary Ellen Murray, Nursing
Mary Rossa, Communication Arts
Jeff Russell, Civil and Environmental
Engineering (Semester II)
Nita Sahai, Geology
Judy Switzky, Social Work
Jolanda Vanderwal Taylor, German

Ex Officio:

Mo Noonan Bischof, Assistant to the
Provost
Aaron Brower, Vice Provost for Teaching
and Learning, Social Work
Richard Brualdi, Math Quantitative
Reasoning Liaison (Semester I)
Chuck Halaby, Research Director for
General Education Assessment,
Sociology, and Associate Dean for
Social Sciences, L&S
Brad Hughes, Writing Center and Writing
Across the Curriculum
Elaine Klein, L&S Administration
Sarah McDaniel, Library & Information
Literacy Instruction Program
Gloria Mari-Beffa, Math, Quantitative
Reasoning Liaison (Semester II)
Sherry Reames, English, Communication
Liaison

Greg Smith, L&S Student Academic Affairs
Wren Singer, Center for the First Year
Experience
Tim Walsh, Cross College Advising Service

Student Members appointed by ASM

Deborah Meiners
Hilary Minor

Ethnic Studies Subcommittee

Christina Greene, Afro-American Studies
Susan Johnson, History, Chair
Mark Kenoyer, Anthropology
Elaine M. Klein, L&S Administration
Michael Olneck, Educational Policy Studies
and Sociology
Tori Richardson, Assistant Dean, L&S
Student Academic Affairs

General Education Research Committee

Chuck Halaby, Research Director for
General Education Assessment
Committee, Sociology, and Associate
Dean for Social Sciences, L&S
Elaine M. Klein, L&S Administration
Nancy Westphal-Johnson, Chair, Associate
Dean for Academic Administration and
Undergraduate Education, College of
Letters and Science
Jim Wollack, Testing and Evaluation
Services

2007-08 General Education Assessment Activity Report

May, 2008

Revised, June 25, 2008

Long Range Assessment Planning

During the 2007-08 academic year, the University General Education Committee devoted much time to the consideration and development of a new long range assessment plan; Elaine Klein took the lead in this effort. This is the second formal, long-term plan for assessing the effectiveness of the UW-Madison General Education Requirements and the courses that meet them. The new plan builds upon previous efforts to maintain a program of continuing and meaningful assessment of student learning for purposes of effective program administration and improved student learning and sets forth a schedule of assessment priorities and activities for the next five-year period.

One of the most noteworthy changes in the new plan reflects our evolving understanding of how to effectively measure, improve, and communicate about student learning. The plan now includes a compilation of student learning outcomes based on the AAC&U LEAP Essential Learning Outcomes for each general education.

Assessment Projects, 2007-08

Comm A Assessment (SS IRB Protocol #SE2007-0025 and #SE2007-0261). This study, directed by Professor Charles Halaby, sought to answer the fundamental research question of whether Comm-A courses provide students with opportunities and experiences they need to enhance their communication skills. First-year students who had and had not satisfied the Comm-A requirement via a UW-Madison Comm-A course were surveyed at the beginning of the Fall 06-07 with respect to self-reported gains in communication skills targeted by these courses. A stratified random sample of students was selected (480 students in the Comm-A sample, 160 students in the control) and a "paper-and-pencil" survey was administered; response rates were high (78% and 88%, respectively). A variant of the study was conducted of students who experience the Comm-A course designed for non-native speakers of English. Professor Halaby's complete report and a PowerPoint presentation to the UGEC are available at <http://www.ls.wisc.edu/gened/Assessment/default.htm>.

Members of the General Education Research Group met over the course of the spring semester, 2006 and summer, 2007 with all of the Comm A course directors and with Abbie Loomis (now retired) and Sarah McDaniel of the Library and Information Literacy Instruction Program to plan this assessment project and to develop the survey instrument. The survey revealed the following:

- All students reported gains in communication skills; however, students in Comm-A courses were almost three times as likely to report that their communication

skills grew by "a fair amount" or "a lot". This was a significant and strong difference.

- When looking at fourteen specific skills addressed by these courses (e.g., the ability to use library databases, to deliver a speech, to cite sources appropriately to avoid plagiarism), students in Comm-A courses reported gains in each area at rates that were statistically significant.
- There were no differences in gains reported by male and female students, nor were there any differences in gains reported by students who took Comm-A for non-native speakers of English.

The University General Education Committee has reviewed the report and will be discussing possible recommendations and any action items.

Library and Information Literacy Instruction Program SAILS Study (SS IRB #SE-2006-0478): At the beginning of the fall semester, 2006-07, the campus Library & Information Literacy Instruction Program conducted a pre-test of a sample of incoming first-year students enrolled in Comm A courses to document the nature and extent of their information literacy skills. However, there were many complications associated with trying to contact and test incoming first-year students at the starting point of the semester. As a result, the participation rate was extremely low despite the enormous effort of many staff members. Another effort to obtain a good sample was made in summer 2007 when the SAILS test was administered at the SOAR orientation program. Because the test instrument was not available until the middle of July (toward the end of the SOAR period), only 71 students completed the test instead of the hoped-for 200; hence, the sample was very small and any conclusions drawn from it are limited.

The small number of volunteers led to a large standard error for each of the skill areas measured by SAILS and made it difficult to make meaningful comparisons between our students and the national benchmarks provided in the report; however, we can make some cautious interpretations of the results. In high school, almost all of our incoming freshmen had used library resources for a class assignment and 86% had a school librarian talk to them about how to do research. Taking into consideration the standard error issue, there seems to be no significant difference between the information literacy of incoming freshmen at UW-Madison and the national benchmark. Students at UW-Madison performed better than the institution-type benchmark at searching and retrieving sources and about the same at developing a research strategy, selecting finding tools, using finding tool features, evaluating sources, documenting sources, and understanding economic, legal, and social issues. Because of the standard error issue, it would not be appropriate to use the data to make broad conclusions about curriculum, but the results could inform some decision-making about the content of the library module of the Communication A Requirement.

We continue to consider how best to proceed in this area. While instruments such as SAILS provide a comparison of our students to a national benchmark for information literacy. This type of data, in this case insufficiently detailed to guide curriculum planning, complements the results of authentic assessments such as the 2002 Information Literacy Workbook Analysis. A forthcoming 2008 General Education Assessment Plan

will provide a framework for assessment activities and guide the design of our next information literacy study.

Articulation of Breadth and Related Essential Learning Outcomes: With other groups and units on campus, the UGEC served as a sponsor for a faculty/instructional academic staff workshop in March focused on courses taken by many first-year and transfer students and on departments offering such courses. Approximately 40 faculty and academic instructional staff from across the University participated. The event was intended to foster awareness and communication of the essential learning outcomes, with learning outcomes for breadth as a particular subset. The following questions were discussed:

- 1) Beyond the specific disciplinary content of your course, what do you want students to learn that will stay with them into the future? That is, what are students learning in your course beyond the content you teach them?

- 2) Narrowing the focus from this broad view of student learning, and moving to the more focused goals expressed in the general education requirements, what do you try to teach your students in your “breadth” area of in the general education area such as communication or quantitative reasoning?

Discussion facilitators and note-takers were assigned to each of the discussion groups and captured participant comments. Currently, the data are being organized and analyzed. A complete report will be issued within the next few months. The results of participant evaluations show a very good response; participants were quite enthusiastic about the opportunity to discuss such issues with their peers from other parts of the campus. A similar discussion was held at the March meeting of the University Academic Planning Council and UGEC members have participated in other fora centered on similar topics. The UGEC has held a preliminary discussion of the events and is planning next steps, including offering similar workshops in the future and continuing to make progress on articulating the essential learning outcomes and defining our goals in the breadth areas.

First-year Interest Group Assessment: The Director of the First-Year Interest Group (FIG) Program serves as an *ex officio* member of the the UGEC.¹ The program is connected to the General Education Program via its emphasis on providing opportunities for students to enroll in clusters of courses that meet the GERs, and for its particular emphasis on the Ethnic Studies Requirement. Results of efforts to assess the program are of interest to the committee, since the experiences of these students provide insight into how (and how well) students meet the General Education Requirements.

The FIGs program is assessed and evaluated in different ways for different purposes. “Formative assessment” measures are in place to obtain information that is

¹ A “FIG” consists of a group of 20 first-year students who live in the same residence hall or “residential neighborhood” and who also enroll in a cluster of three classes together. Each FIG cluster of courses has a central theme; the central or “synthesizing” course integrates content from the other two classes.

used as feedback to improve and fine-tune program processes and procedures. Information is gathered through faculty focus groups and meetings, student focus groups, student surveys at the beginning and end of the semester, surveys and focus groups of former FIGs students as they prepare to graduate four years later, and also through conversations and meetings with other constituencies, including staff from University Housing, the library, and the Office of the Registrar. Another level of program assessment is a “summative evaluation” that focuses on the profiles and progress of student cohorts. Specifically, this evaluation process collects, analyzes, and compares the following data for FIGs students and their non-FIG peers: ACT scores, high school class rank, cumulative grade point averages, performance in selected courses, retention, and graduation. The assessment strategy also seeks to determine the impact of the program on targeted minority students, comparing the academic performance of this sub-set of FIGs participants with their non-FIGs peers who have comparable attributes (e.g., low, mid-, and upper-level ACT scores upon entrance to the university).

Results of assessment efforts suggest that, not only do students and instructors value the overall FIGs experience, participation in the program has a markedly positive effect on student performance:

- FIGs students consistently outperform their peers semester after semester in terms of cumulative GPA.
- Retention rates for FIGs students are slightly higher than for non-FIGs students.
- Graduation rates have consistently been higher for students who began their freshman year by participating in FIGs.

For a full report, please see <http://www.lssaa.wisc.edu/figs/faculty/assessment.html> .

Dissemination of Information on Assessment Projects and Student Learning

One of our current goals in general education assessment is to provide information about assessment on a variety of levels: a) the scholarly level incorporating the research design and statistical or qualitative evidence; b) a level appropriate to the broader higher education and university community; and c) formatted to meet the needs of the broader public, including parents and other stakeholders. Adoption of the ELOs are helping us to achieve this by making discussion about what students learn more succinct and more accessible.

Specific presentations on general education assessment efforts include the following:

- Elaine Klein, Mo Noonan Bischof, and Nancy Westphal-Johnson gave a session entitled “Evaluating and Improving Foundations: General Education and Assessment” at the 2008 annual meeting of the Higher Learning Commission (April, 2008 in Chicago, IL). Chuck Halaby also worked on this paper but was unable to attend the meeting.

- Several members of the UGEC and individuals on the campus participated in various UW System and AAC&U sessions related to the Essential Learning Outcomes and assessment. These included an April meeting in Madison organized by the AAC&U and UW System attended by Aaron Brower, Jeanine Mount, Mo Noonan Bischof, and Nancy Westphal-Johnson.
- Jocelyn Milner and Mo Noonan Bischof will present a session, “Establishing Institution-wide Expectations for Student Learning at UW–Madison,” at the 2008 Teaching and Learning Symposium on May 21. During this session participants will develop an understanding of the process for setting learning expectations, and will learn about the Essential Learning Outcomes devised in the LEAP project. The session will outline a process for identifying expectations for student learning at UW–Madison based on the Essential Learning Outcomes, a product of American Association of Colleges and Universities (AAC&U) Liberal Education for America’s Promise (LEAP) project.

Impact of General Education Assessment Activities

Among other uses, results of program assessment are used to refine policy and procedures related to program administration. We cite two recent examples of changes that have had a positive impact on students:

1. When assessment projects conducted several years ago found that some courses in the Comm B and QR-B course arrays had suffered from “course drift”; in addition, some instructors teaching courses meeting the Ethnic Studies Requirement were unaware that their courses were so designated. The UGEC approved a policy to generate formal reminders to departments (to be shared with instructors) indicating that since these courses meet particular requirements, they are expected to meet specific criteria. Follow up research into instructor perceptions of the General Education Curriculum revealed that instructors in these programs reflect a much better sense of the role these courses play in students’ academic experience than do instructors in areas of the curriculum that do not receive these reminders.
2. The College of Agricultural and Life Sciences (CALs) has revised its baccalaureate degree requirements based on UGEC assessment findings. CALs had required its students to take an additional three credits of coursework in oral communication if the student did not satisfy Comm A and B in courses specified by CALs as meeting their expectations regarding communication. UGEC assessment efforts determined that Comm A and B courses do emphasize oral communication and students learn skills associated with oral communication. CALs faculty voted to eliminate the redundant CALs requirement.

Both of these changes reflect efforts to improve the student curricular experience. The first ensures that faculty teaching courses designated as meeting requirements are aware of course criteria and can therefore more clearly convey learning outcomes associated with those criteria. (The results of this exercise also bolster aspirations to develop more

clearly stated criteria and learning outcomes for other aspects of the General Education Curriculum, most notably, in “general breadth” courses.) The second helps to ensure that curricular requirements at the college level integrate with, complement, and do not unnecessarily duplicate the General Education Requirements, reducing redundancy, so students may proceed more efficiently toward completion of their degrees.

Submitted by the **University General Education Committee:**

Chair: Nancy Westphal-Johnson, Associate Dean, L&S Administration

Term Members:

Larry Bank, Civil and Environmental
Engineering (Semester I)

John Curtin, Psychology

Jacqueline Hitchon, Life Sciences
Communication

Jim Johannes, School of Business

Susan Johnson, History, also, Ethnic Studies
Review Subcommittee

Mark Kenoyer, Anthropology, also Ethnic
Studies Review Subcommittee

Mary Ellen Murray, Nursing

Mary Rossa, Communication Arts

Jeff Russell, Civil and Environmental
Engineering (Semester II)

Nita Sahai, Geology

Judy Switzky, Social Work

Jolanda Vanderwal Taylor, German

Greg Smith, L&S Student Academic Affairs
Wren Singer, Center for the First Year
Experience

Tim Walsh, Cross College Advising Service

Student Members appointed by ASM

Deborah Meiners

Hilary Minor

Ethnic Studies Subcommittee

Christina Greene, Afro-American Studies

Susan Johnson, History, Chair

Mark Kenoyer, Anthropology

Elaine M. Klein, L&S Administration

Michael Olneck, Educational Policy Studies
and Sociology

Tori Richardson, Assistant Dean, L&S
Student Academic Affairs

Ex Officio:

Mo Noonan Bischof, Assistant to the
Provost

Aaron Brower, Vice Provost for Teaching
and Learning, Social Work

Richard Brualdi, Math Quantitative
Reasoning Liaison (Semester I)

Chuck Halaby, Research Director for
General Education Assessment,
Sociology, and Associate Dean for
Social Sciences, L&S

Brad Hughes, Writing Center and Writing
Across the Curriculum

Elaine Klein, L&S Administration

Sarah McDaniel, Library & Information
Literacy Instruction Program

Gloria Mari-Beffa, Math, Quantitative
Reasoning Liaison (Semester II)

Sherry Reames, English, Communication
Liaison

General Education Research Committee

Chuck Halaby, Research Director for
General Education Assessment
Committee, Sociology, and Associate
Dean for Social Sciences, L&S

Elaine M. Klein, L&S Administration

Nancy Westphal-Johnson, Chair, Associate
Dean for Academic Administration and
Undergraduate Education, College of
Letters and Science

Jim Wollack, Testing and Evaluation
Services

**Assessment Plan for General Education
at the
University of Wisconsin-Madison**

Submitted to the UW-Madison Assessment Council

Approved May 8, 2008
University General Education Committee

Contents:

| | |
|--|----|
| A. Overview | 1 |
| B. History, Mission and Purpose of the General Education Requirements at UW-Madison | 2 |
| C. Assessment of Student Learning for General Education | 3 |
| D. Five Year General Timeline for Assessment: | 9 |
| E. Cycle for Assessment | 10 |
| F. Reporting Strategies | 11 |

A. Overview

This is the second formal, long-term plan for assessing the effectiveness of the UW-Madison General Education Requirements and the courses that meet them. Its predecessor, approved in May 2003, outlined an assessment strategy that was strategic, drawing opportunistically upon the interests of our faculty, staff, and other expertise available among our campus community. The schedule of projects outlined in that plan was designed to ensure that efforts to assess student learning did not fail due to limited personnel or strained financial resources, and its emphasis on developing a flexible and efficient assessment program consistent with campus culture was effective. Since that time, several projects have been completed, and their success suggests that these strategies should persist in the 2008 plan. This plan therefore builds upon those efforts to maintain a program of continuing and meaningful assessment of student learning for purposes of effective program administration and improved student learning.

The plan that follows does, however, contain a few noteworthy changes, which reflect our evolving understanding of how to effectively measure, improve, and communicate about student learning. In order to more thoroughly document the history and goals of general education at UW-Madison, and to provide a more complete and accessible record of the university's role in documenting and improving student learning, this plan contains a more extensive history of the program. It includes a compilation of student learning outcomes for each general education area,

and provides references to annual reports and other documents discussing prior and ongoing assessment efforts. The report includes the requirements' connection to a national initiative related to promoting liberal education. It concludes with an outline of priorities, a proposed series of projects, and a cycle for undertaking this important work.

B. History, Mission and Purpose of the General Education Requirements at UW-Madison

The purpose of the General Education requirements is to ensure that every graduate of the University of Wisconsin-Madison acquires the essential core of an undergraduate education that establishes the foundations for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in life-long learning in a continually changing world. For this reason, these core requirements provide for breadth across the humanities and arts, social studies, biological sciences and physical sciences; competence in communication, critical thinking and analytical skills appropriate for a university-educated person; and investigation of the issues raised by living in a culturally diverse society.

(UW-Madison Undergraduate Catalog, and

General Education Requirements website www.ls.wisc.edu/gened)

The UW-Madison General Education Requirements (GER) were approved in 1994, after campus-wide discussions determined that the campus needed a program of general education to lay a foundation for students' more advanced study and to ensure that all undergraduates met a uniform level of exposure to specific skills and types of knowledge essential to undergraduate education. Before this action, UW-Madison had no undergraduate requirements shared by all schools and colleges, with the exception of an Ethnic Studies requirement that had been adopted by each UW-Madison school and college that confers undergraduate degrees. Thus, students at the freshman and sophomore levels had not been consistently required to obtain communication (written and oral) or information literacy skills one might expect of a UW-Madison undergraduate. Indeed, prior to implementation of these requirements, fewer than 5% of UW-Madison students were required to complete a writing course. Similarly, a small number of students were able to avoid taking college-level courses in essential quantitative skills. Furthermore, adoption of campus-wide "Breadth" requirements signaled campus-wide support for the idea that all students should be exposed to the variety of means by which the world is systematically studied, understood, and described via the natural, social and behavioral sciences and in literature, the arts, and humanities.

The requirements, implemented for students who matriculated after May 20, 1996, consist of Communication (Comm A and B), Quantitative Reasoning (QRA and B), and "Breadth" requirements. Like the existing Ethnic Studies Requirement (ESR), they were adopted by all schools and colleges offering undergraduate degrees, with two provisos: each may identify additional requirements

University General Education Requirements

- Communication, 3 to 5/6 credits, Parts A & B
- Breadth
 - Humanities/Literature/Arts, 6 credits
 - Natural Science, 4-6 credits
 - Social Studies, 3 credits
- Ethnic Studies, 3 credits
- Quantitative Reasoning, 3 to 6 credits, Parts A & B

consistent with its distinctive mission and degrees conferred, and each may specify for its students particular courses that serve both the general and distinct requirements. The University Academic Planning Council (UAPC) was charged with oversight of the requirements, and that body subsequently appointed the College of Letters and Science (L&S) to serve as the GER administrative “trustee.” L&S now convenes the University General Education Committee (UGEC), which includes faculty and staff from schools and colleges across the university. Committee members present a range of perspectives, including those offered by a selection of services and programs that have an institution-wide mission to support student academic success at the undergraduate level (e.g., Cross-College Advising Service, Student Orientation, Advising and Registration, Writing Across the Curriculum).

Since the GER program was first implemented in 1996, the UGEC has submitted an annual report to the UAPC; these reports are available online at <http://www.ls.wisc.edu/gened/FacStaff/background.htm#CampusAdministration>. Each of these reports discusses efforts to assess the program, as well as changes made with the intention of improving program effectiveness. In 2005, assessment projects and reports were compiled on a website (<http://www.ls.wisc.edu/gened/Assessment/default.htm>) developed to make results of these studies more widely available.

C. Assessment of Student Learning for General Education

Administration and Governance. The UGEC is an advisory and policy body that focuses on campus-wide undergraduate general education. In that role, the committee oversees the assessment of student learning in the GER program. As noted above, administrative efforts, assessment projects and results, and recommendations for change are reported annually and *ad hoc* to the University Academic Planning Council (UAPC). The UAPC is a governance council convened under Chapter 6 of *Faculty Policies and Procedure*, and as the oversight committee for General Education, it is empowered to approve and enact recommendations for change on behalf of the faculty, which is granted statutory authority to oversee the curriculum.

In considering the assessment of student learning in the UW-Madison General Education program, it is important to bear in mind that the requirements form a very modest general education package in terms of scope and number of credits required in each area. The program also allows for great diversity of course choice and is far from a “core” curriculum model. Within that context, assessment of student learning is coordinated by the University General Education Committee, upon the advice of the General Education Assessment Committee and its faculty director.

General Education Learning Goals. In 2005-2006, UW-Madison was invited to join its sister institutions in the UW System as the pilot state for the Association of American Colleges and University’s ten-year project to promote an enhanced understanding of the role and value of higher education. Since then, discussions of the *Liberal Education and America’s Promise* project, or LEAP, have been held across campus. Many groups on campus have embraced this description of essential learning goals as an effective way to convey the aspirations of university-level education and what UW-Madison strives to impart to its students. The LEAP “Essential Learning Outcomes” provide a consistent framework for discussion of student learning,

particularly as adapted to the distinctive nature of UW-Madison, or the “UW-Madison Experience.” This perspective was supported by a campus-wide audit of expectations for student learning, which found that the existing UW-Madison GER program corresponds to the essential learning outcomes.¹ The GER program provides a broad foundation upon which further study is based, and which is enhanced by advanced studies in the major and in distinct degree programs offered by the various schools and colleges. Similarly, the essential learning outcomes describe a broad range of knowledge and skills that are expected to help students recognize, understand, evaluate, and respond to the challenges of the twenty-first century. Although realizing all the goals of liberal education requires programming that extends beyond “general education” and includes deep learning in the major and in co-curricular experiences, the descriptions of essential learning provide a consistent framework for explaining *why* particular GER elements matter to students. The alignment of the UW-Madison GERs with these outcomes provides an opportunity also to contextualize the contributions of the many ways our students acquire the knowledge and develop the range of skills they will need in the future.

THE ESSENTIAL LEARNING OUTCOMES

Beginning in school, and continuing at successively higher levels across their college studies, students should prepare for twenty-first-century challenges by gaining:

KNOWLEDGE OF HUMAN CULTURES AND THE PHYSICAL AND NATURAL WORLD

- Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts

Focused by engagement with big questions, both contemporary and enduring

INTELLECTUAL AND PRACTICAL SKILLS, INCLUDING

- Inquiry and analysis
- Critical and creative thinking
- Written and oral communication
- Quantitative literacy
- Information literacy
- Teamwork and problem solving

Practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance

PERSONAL AND SOCIAL RESPONSIBILITY, INCLUDING

- Civic knowledge and engagement—local and global
- Intercultural knowledge and competence
- Ethical reasoning and action
- Foundations and skills for lifelong learning

Anchored through active involvement with diverse communities and real-world challenges

INTEGRATIVE LEARNING, INCLUDING

- Synthesis and advanced accomplishment across general and specialized studies

Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems

The University Assessment Council has endorsed this framework as an effective way to describe the overall UW-Madison learning experience, of which General Education is one part. The table below makes clear the connections between the UW-Madison GER program and the Essential Learning Outcomes. It is important to note that the curricular and credit requirements of the GER program have not changed; however, this framework affords UW-Madison a means of more effectively describing what students are expected to learn by meeting those requirements. This evolution in our ability to articulate campus expectations may help all of us communicate more effectively about the role and purpose of general education, as well as to improve the UGEC’s ability to hone its efforts to assess student learning in the program. Finally,

¹ Milner, Jocelyn and Noonan Bischof, Mo. “UW-Madison University-wide Expectations for Undergraduate Student Learning: Audit of Language in Existing Documents and Recommendation,” July 2007. Available online at <http://www.ls.wisc.edu/gened/LEAP/UndergraduateStudentLearningOutcomes.pdf>.

LEAP is a national initiative, and the AAC&U consulted with multiple groups across the nation to develop the Essential Learning Outcomes. As a result, the Association and its member institutions are confident that the outcomes express a set of expectations and goals that are commonly held across institutions, and which are valued by educators, business leaders, parents, and others who have a stake in the future.

The statements that appear in the table below paraphrase the “Essential Learning Outcomes” of the AAC&U initiative. The table is intended to illustrate the alignment with the existing UW-Madison GER program. Readers will find that several essential learning outcomes cannot be restricted to a single requirement, just as some traits of GER overlap with each other. For example, many of our courses not only convey divisional breadth, but also carry CommB, QRB, or Ethnic Studies credit. No GER is associated exclusively with any given outcome; rather, the table below suggests a “best fit” where learning in particular areas might best be found. Furthermore, locating those places in our curriculum where essential learning occurs is a key step that must be taken before measuring student learning in these areas. It should also be noted that these outcomes are intended to be introduced and reinforced in increasingly sophisticated ways in the overall curriculum. Their relationship to the GER program highlights only one component of the larger “UW-Madison Experience” that includes completion of a course of deep study (e.g., “major”), and a variety of activities that intersect with formal academic study. Academic advising and support, co-curricular activities, and enriched learning experiences (internships, service learning, research, etc.) can all contribute to students’ attainment of the essential learning outcomes.

| UW-Madison General Education Requirement | Essential Learning Outcomes |
|--|---|
| <p><i>Breadth</i> (13-19 credits, distributed)</p> | |
| <p>Humanities/Literature/Arts, 6 credits</p> <p>Natural Science, 4 to 6 credits (one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits.)</p> <p>Social Studies, 3 credits</p> <p>NOTE: Specific learning outcomes have not yet been articulated for courses that satisfy the breadth requirements. Consistent with the May 2003 GER Assessment Plan, studies are under way to elicit from faculty teaching these courses a succinct list of outcomes assumed to be common to all courses that meet these requirements. These statements of expected learning outcomes will be broadly stated, since they must encompass the range of topics covered in the hundreds of courses that satisfy</p> | <p><i>In addition to gaining intellectual and practical skills in inquiry and analysis, and critical and creative thinking, “Breadth” courses allow students to obtain knowledge of human cultures and the physical and natural world, through study in the sciences and mathematics, social sciences, humanities, histories, languages and the arts. These studies are focused by engagement with big questions, both contemporary and enduring. Students will prepare for twenty-first-century challenges by gaining personal and social responsibility, including civic knowledge and engagement (local and global), intercultural knowledge and competence, ethical reasoning and action, and foundations and skills for lifelong learning. These studies are anchored through active involvement with diverse communities and real-world challenges. Studies in “Breadth”</i></p> |

| | |
|--|--|
| <p>requirements in Arts, Humanities, and Literature, in the Social Sciences, and in the Natural Sciences.</p> <p>When available, this section of the 2008 General Education Assessment Plan will be amended to reflect these outcomes, and projects will be developed to understand and improve student learning in these areas.</p> | <p>support <i>integrative learning</i>, by providing opportunities to draw connections between divisional breadth areas and specialized studies in the major and promoting synthesis and advanced accomplishment across general and specialized areas. These skills are demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems.</p> |
| <p>Communication (3-6 credits)</p> | |
| <p>Communication A courses advance student learning in the four modes of literacy (writing, speaking, reading & listening, with special emphasis on writing), critical thinking, and information-seeking skills and strategies. Students in Comm A courses learn and practice four processes fundamental to attaining these goals: planning, drafting, revising, and information-seeking skills and strategies. Detailed outcomes have been developed for each of the four processes.</p> <p>The Communication B requirement builds upon this foundation, but strives to advance the four modes of literacy in the context of an academic subject. Course content learning objectives vary according to the academic subject taught; however, each course is expected to develop advanced skills in critical reading, logical thinking, and the use of evidence; the use of appropriate style and disciplinary conventions in writing and speaking; and the productive use of core library resources specific to the discipline.²</p> | <p>Students in Communication A and B courses gain <i>intellectual and practical skills</i>, including:</p> <ul style="list-style-type: none"> • <i>inquiry and analysis</i> • <i>critical and creative thinking</i> • <i>written and oral communication</i> • <i>information literacy</i> <p><i>These skills are practiced extensively across the curriculum, in the context of progressively more challenging problems, projects, and standards of performance.</i></p> |
| <p>Ethnic Studies (3 credits)</p> | |
| <p>Students who have taken a course designated as meeting the Ethnic Studies Requirement are expected to have increased</p> | <p>Students in courses that meet the Ethnic Studies Requirement gain <i>knowledge of human cultures</i>, focused by engagement</p> |

² As noted above, Communication B courses approach the four modes of literacy in the context of an academic subject; as a result, many other learning outcomes might also appear in Comm B courses.

| | |
|---|--|
| <p>the critical thinking skills and awareness necessary to live and work in a multiracial, multiethnic, and multicultural U.S. characterized by persistent inequities. Those skills and that awareness will enable students to act responsibly as members of a national community that is closely tied to other peoples, places, and nations around the world. Toward these ends, students who have taken a course that meets the ESR will:</p> <ul style="list-style-type: none"> • be able to explain and analyze the circumstances, conditions, and experiences of one or more persistently marginalized groups in the U.S. • be able to explain and analyze the means by which one or more persistently marginalized groups in the U.S. have negotiated the conditions of their exclusion or marginalization. <p><i>(Background: Faculty Document 1736)</i></p> | <p><i>with big questions, both contemporary and enduring. They will prepare for twenty-first-century challenges by <u>cultivating tools of analysis and understanding that facilitate development of personal and social responsibility</u>, including civic knowledge and engagement, intercultural knowledge and competence, ethical reasoning and action, foundations and skills for lifelong learning, which are anchored through active involvement with diverse communities and real-world challenges.*</i></p> <p><i>Students in Ethnic Studies courses also gain intellectual and practical skills, including:</i></p> <ul style="list-style-type: none"> • <i>inquiry and analysis; and</i> • <i>critical and creative thinking.</i> <p><i>Students synthesize and integrate what they learn in Ethnic Studies courses, bringing what they learn to bear upon other learning situations and experiences.</i></p> |
|---|--|

Quantitative Reasoning
(3-6 credits)

| | |
|---|--|
| <p>Students who take Quantitative Reasoning courses are expected to attain critical and quantitative thinking skills, including the ability to:</p> <ul style="list-style-type: none"> • Recognize logically sound arguments • Use quantitative information to evaluate an argument • Understand the difference between correlation and causation • Solve problems using arithmetic, algebra, or statistics • Understand randomness, uncertainty and risk • Use statistics to evaluate factual claims • Understand charts and graphs showing quantitative information • Express ideas using quantitative information | <p><i>Students in Quantitative Reasoning A and B courses gain intellectual and practical skills, including:</i></p> <ul style="list-style-type: none"> • <i>inquiry and analysis</i> • <i>critical and creative thinking</i> • <i>quantitative literacy</i> <p><i>These skills are practiced extensively across the curriculum, in the context of progressively more challenging problems, projects, and standards of performance.</i></p> |
|---|--|

| | |
|--|--|
| <ul style="list-style-type: none"> • Recognize when arguments use evidence well • Know when it is valid to infer that one thing causes another • Understand rates and percentages • Understand how data can be used to test a hypothesis • Use quantitative information to solve problems • Solve problems using formal logic <p>Quantitative Reasoning A courses emphasize mathematics, computer science, statistics or formal logic that are needed for dealing with quantitative abilities cited above. In demonstration of the fundamental nature of these skills, students are required to satisfy QRA within the first 60 credits earned at UW-Madison, and before taking a QRB course.</p> <p>Quantitative Reasoning B courses call upon students to exercise and expand upon their QR foundation in various ways, and emphasize the application of these concepts and skills within the context of a discipline.</p> | |
|--|--|

Assessment Strategies. Resources supporting assessment of undergraduate general education are provided by the Provost, via an annual funding request in which projects for the coming year are proposed in the context of activities completed or continuing. Documentation of prior assessment plans, projects, reports, and requests for funding are available online at <http://www.ls.wisc.edu/gened/Assessment/default.htm>.

As noted above, assessment efforts at UW-Madison emphasize strategies that are systematic and flexible, call upon the expertise found among the university’s faculty and staff, and take advantage of opportunities that may arise. This strategy relies upon multiple approaches, including quantitative social science research practices (e.g., database analysis, surveys, comparison of pre-/post-test) and qualitative approaches (e.g., focus groups, portfolio analysis). No single tool, test, or method will suit the array of learning goals identified above. GER Assessment projects are designed to balance these demands, as well as to obtain accurate and useful information efficiently. The plan below outlines efforts that are both on-going and episodic, with the goal of reviewing each broad GER area more or less in sequence, while also standing ready to take advantage of new opportunities that arise or to respond to urgent demands. This approach ensures continued monitoring of overall progress in areas where assessment results have already provoked changes to the curriculum (Communication, Ethnic Studies), while also providing resources to carry out a variety of specialized projects in different time periods and phases.

An essential feature of the GER assessment strategy is its emphasis on program-level learning goals. Assessment exercises are not conducted for purposes of evaluating individual students, instructors, or courses; however, participation in assessment activities is a condition for all courses carrying Communication, QR, and ESR designation.

D. Five-Year General Timeline for Assessment:

We anticipate that we will continue to pay attention to responsibilities associated with administering the General Education Requirements, to ensure student access to GER courses, to inform instructors about course criteria and student learning outcomes in the GER curriculum, and to maintain and improve procedures for review and approval of new courses in the GER course array. In addition, the following projects will be undertaken in the next five years:

- Program-wide: continued attention to the articulation, communication, and understanding of general education goals and requirements to UW-Madison faculty, staff, students (and prospective students), as well as to external audiences.
- Breadth: Continue efforts to articulate learning goals for “breadth” areas; when learning goals are defined, projects will be developed to measure student learning in those areas.
- Ethnic Studies:
 - **Study of student perceptions regarding attainment of ESR learning outcomes.** Committee members stressed the importance of conducting the survey pre/post ESR experience, with questions focused on ESR learning outcomes, and with opportunities for students to provide “open-ended” responses to “critical learning” questions that could be rated by a panel of judges.
 - **Review of final exams/projects/assignments used in ESR courses.** Members proposed this project as a means to gauge consistency between projects used to evaluate student performance and ESR learning outcomes; this work would also provide insight into opportunities for soliciting artifacts of student work to be used as an authentic assessment of student performance in ESR courses.
 - **Undertake a peer group analysis/benchmarking exercise.** Other institutions may have similar requirements; it would be useful to evaluate how they evaluate student performance in these areas.
- Information Literacy Assessment: Recent efforts to evaluate student attainment of information literacy skills have focused on standardized testing. These efforts have yielded results that suggest an acceptable level of performance, but do not provide adequate direction for continued improvement. A more authentic assessment of student learning will provide better information which can be used for program administration and improvement.

- Communication A: The number of students who meet this requirement by AP exemption may be rising, and may affect the university's capacity to teach more Comm A students. To determine whether or not this would have a positive impact on students, data acquired in the 2002 Comm B study could be reexamined, and an analysis of student course-taking patterns and performance in Comm B courses could be conducted.
- Communication B: It has been several years since the implementation of revisions to the criteria for Comm B courses; it will soon be time to conduct an evaluation of student learning, and particularly, of the impact of the revisions enacted after the last assessment.

E. Cycle for Assessment

The table below outlines a proposed schedule for pursuing the projects listed above; however, other projects will be added as situations arise.

| 2008-09 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 |
|--|---|---|---|---|
| <i>Implement</i> new assessment plan. <i>Implement</i> recommendations related to Comm A study. | <i>Implement</i> changes (as needed) | <i>Implement</i> changes (as needed) <i>Implement</i> recommendations related to ESR study | <i>Implement</i> changes (as needed) <i>Implement</i> recommendations related to ESR study | <i>Implement</i> changes (as needed) <i>Implement</i> recommendations related to Breadth, Information Literacy studies |
| Continue 07-08 project: Defining Breadth | Field Study: Administer Ethnic Studies Survey Instrument | Field Study: Breadth (tbd) Information literacy Comm A (tbd) | Field Study: Comm B ESR request for student learning assignments | Field Study: Repeat faculty survey regarding Gen Ed Breadth |
| Analysis of 07-08 project: (None; UGEC Assessment plan revisions were focus of 07-08 efforts) | Analysis of ESR benchmarking exercise; develop recommendations Analysis of Comm A course-taking patterns | Analysis of ESR Survey; develop recommendations | Analysis of Breadth, Information Literacy, Comm A Studies; develop recommendations. | Analysis of Comm B study and Breadth Study; develop recommendations |
| Plan: 1. Develop ESR Survey 2. ESR benchmarking exercise 3. Study Comm A exemptions | Plan: 1. Breadth (tbd) 2. Information literacy 3. Plan Comm A study (tbd) | Plan: 1. Design Comm B study 2. ESR request for student learning assignments | Plan: 1. Follow-up survey: breadth | Revisit Assessment plan, implement following year |

F. Reporting Strategies

The cycle of the assessment strategy calls for information about assessment results to be shared with interested groups on campus (course instructors, the General Education Committee, the University Academic Planning Council, Deans of appropriate schools and colleges, etc.) so that necessary changes can be considered in the context of overall campus needs and resources. The UGEC is also working to bring the results to other individuals and groups who have “stakeholder” interests in student learning, sharing them in public presentations, campus meetings, in publications, and by posting briefly stated summaries on the UGEC website (www.ls.wisc.edu/gened). When it is reasonable to do so, assessment efforts are also presented in national fora, in keeping with the university’s profile as a leading research institution committed to excellence in undergraduate education.

Submitted by the UW-Madison University General Education Committee

Chair: Nancy Westphal-Johnson, Chair, Associate Dean for Academic Administration and Undergraduate Education, College of Letters and Science

Term Members:

Larry Bank, Civil and Environmental Engineering (Semester I)

John Curtin, Psychology

Jacqueline Hitchon, Life Sciences Communication

Jim Johannes, School of Business

Susan Johnson, History, Chair, Ethnic Studies Subcommittee

Mark Kenoyer, Anthropology

Mary Ellen Murray, Nursing

Mary Rossa, Communication Arts

Jeff Russell, Civil and Environmental Engineering (Semester II)

Nita Sahai, Geology

Judy Switzky, Social Work

Jolanda Vanderwal Taylor, German

Ex Officio:

Mo Noonan Bischof, Assistant to the Provost

Aaron Brower, Vice Provost for Teaching and Learning, Social Work

Richard Brualdi, Math Quantitative Reasoning Liaison (Semester I)

Chuck Halaby, Research Director for General Education Assessment Committee, Sociology, and Associate Dean for Social Sciences, L&S

Brad Hughes, Writing Center and Writing Across the Curriculum

Elaine M. Klein, L&S Administration 

Sarah McDaniel, Library & Information Literacy Instruction Program

Gloria Mari-Beffa, Math, Quantitative Reasoning Liaison (Semester II)

Sherry Reames, English, Communication Liaison

Greg Smith, L&S Student Academic Affairs

Wren Singer, Center for the First Year Experience

Tim Walsh, Cross College Advising Service

 Principle author of the 2008 *Assessment Plan for General Education*, prepared in close consultation with the committee.

Student Members appointed by ASM

Deborah Meiners

Hilary Minor

Ethnic Studies Subcommittee

Christina Greene, Afro-American Studies

Susan Johnson, History, Chair

Mark Kenoyer, Anthropology

Elaine M. Klein, L&S Administration

Michael Olneck, Educational Policy Studies and Sociology

Tori Richardson, Assistant Dean, L&S Student Academic Affairs

General Education Research Committee

Chuck Halaby, Research Director for General Education Assessment Committee, Sociology, and
Associate Dean for Social Sciences, L&S

Elaine M. Klein, L&S Administration

Nancy Westphal-Johnson, Chair, Associate Dean for Academic Administration and
Undergraduate Education, College of Letters and Science

Jim Wollack, Testing and Evaluation Services

Assessment and General Education Requirements

<http://www.ls.wisc.edu/gened/Assessment/default.htm>

Since 2003, the University General Education Committee (UGEC) has used a long-range plan to guide campus-level efforts to understand and improve student learning related to the General Education Requirements. The *2008 General Education Assessment Plan* provides an overview of the history of these requirements at UW-Madison; it also outlines connections between the credit requirements and the campus-wide "Essential Learning Outcomes" that comprise "The Wisconsin Experience." Assessment projects identified for 2008-2013 address those connections, including the task of articulating learning outcomes for "general breadth."

The assessment plan is reviewed each year when the UGEC submits its funding request to the Provost. This process requires submission of an activity report describing the committee's most recent efforts to understand and improve student learning. A report on assessment efforts is also made to the University Academic Planning Council, the governance body that oversees the committee's work. The UAPC considers actions arising from assessment activities, such as requests to modify the requirements or their governing policies.

Assessment activities are led by the General Education Research Council, which is chaired by a faculty director. Membership includes the chair of the UGEC, *ex officio* consultants from key support units (e.g., L&S Administration, Testing and Evaluation Services). Other members are recruited as needed, depending on projects undertaken. The guiding principle of UW-Madison's general education assessment strategy is that projects must address important questions, and that results should lead to action. Projects are scheduled to take place in stages, and they are designed to leverage expertise available among the faculty and staff who serve on the UGEC. Resource constraints demand that these efforts be opportunistic and flexible; community values require that these projects produce credible results in which we can have confidence.

Annual activity reports and a detailed list of General Education Assessment projects undertaken since the 1999 HLC site visit are available online. A selection of those projects, the rationale for pursuing them, and changes resulting from them, is provided below.

| Year | Study | Area |
|------|---|------------------------------|
| 2008 | <p>"Standardized Assessment of Information Literacy Skills." Goal: To obtain baseline data on information literacy skills among incoming first year students. Results: Although results obtained reveal high level of preparation for students admitted to UW-Madison, sample size problems suggest need to reevaluate use of this instrument.</p> | Comm - Info. Literacy |
| 2007 | <p>"An Assessment Study of the Effectiveness of the General Education Communication 'A' Requirement." Goal: To determine whether students in Comm-A courses report gains in specific communication skills targeted by Comm-A courses. Results: Students reported significant gains; students in ESL versions of Comm A report competencies equal to those reported by native speakers</p> | Comm-A |

| | | |
|------|--|-----------------------|
| | of English. Study also provided opportunity to improve administrative processes for calibration among Comm-A courses. | |
| 2007 | "UW-Madison General Education Requirements Survey." Goal: Obtain baseline data on instructor awareness/value for the GERs Results: Instructors teaching in areas of the curriculum that are regularly assessed report greater understanding of and value for those requirements. Revealed disconnect between divisional areas, and need to engage in instructors in dialogue about liberal education and breadth. | Breadth |
| 2006 | "Student Perceptions of Learning in Quantitative Reasoning B Courses." Goal: To understand student perceptions of quantitative learning in non-math/statistical/computational QR-B courses. Results: Confirmed strong learning in mathematical skill areas; however, there is a need to address "quantitative critical thinking." | QR-B |
| 2005 | "Two Assessment Studies of the General Education Quantitative Reasoning 'A' Requirement" (I) How the QR-A Requirement Affects Mathematical Proficiency; and (II) How the QR-A Requirement Affects Student Self-Assessments of Quantitative Reasoning Skills and Preparation for Future Courses." Goal: To measure student learning in light of learning goals identified for QR-A, using survey of student perception of skills and pre/post test. Results: Strong gains in demonstrated in post-test; also, there is a strong correlation between student perception of skills gained and their demonstration of skills gained, which leads to greater confidence in use of this survey as a strategy for assessing student learning. | QR-A |
| 2005 | Administrative Analysis: Comm B Course Credit Transfer. Goal: to ensure appropriate transfer credit into UW-Madison. Result: New courses have been developed to award transfer credit for content without also granting credit for distinctive Comm-B pedagogy. | Comm-B |
| 2005 | "Review of Ethnic Studies Course Array" (May 2005) Goal: to implement revisions to ES course criteria. Result: articulate descriptive guidelines and student learning outcomes for courses meeting this requirement; review of course syllabi to calibrate course array to learning outcomes; improved oversight/administration. | Ethnic Studies |
| 2004 | Administrative Analysis: Student Comm-B Course-taking patterns. Goal: to identify "redundant" Comm-B credit. Results: Reduced curricular redundancy in Comm B course array; identified transfer-credit issues | Comm-B |
| 2001 | "Communication-B Study: Outcomes Associated with the General Education Communication-B Requirement." * Goal: to evaluate student learning in Comm-B courses. * Result: recommendations to adjust course criteria, provide more resources to support oral communication instruction, and expand requirement to take Comm-A. Several recommendations were enacted. | Comm-B |
| 2002 | "Review of the Ethnic Studies Requirement" (March 2000 - May 2002). Goal: to review this decade-old requirement and evaluate student understanding of learning goals, identify administrative issues. | Ethnic Studies |

| | | |
|--|--|--|
| | <p>Results: Twenty-three recommendations were approved, including recommendations to revise the requirement and course criteria, define and assess student learning outcomes; and to convene an implementation committee to enact the changes.</p> | |
|--|--|--|

Learning Outcomes at UW-Madison: Faculty and Instructional Academic Staff Discussions

In March, 2008, the UW-Madison Vice Provost for Teaching and Learning invited about 40 faculty and instructional academic staff who teach or influence the 15-20 courses most frequently taken by first-time/first-year and new transfer students to meet and talk about student learning in these courses. The participants in this discussion were invited from the many schools/colleges that teach undergraduates on the UW-Madison campus..

After reviewing the Essential Learning Outcomes which are a component of the Wisconsin Experience, and were developed after much consultation by the Association of American Colleges and Universities* , participants were asked to consider what their courses, in particular, convey to students. Facilitators familiar with the AAC&U LEAP (Liberal Education and America's Project) served as discussion facilitators and note-takers. The discussion questions were as follows:

1. Beyond the specific disciplinary content of your course, what do you want students to learn that will stay with them into the future? That is, what are the your student learning beyond the content you teach them?
2. In considering the more focused goals of "General Education," what do you try to teach students in your course's general "breadth" or Gen Ed area (communication, quantitative reasoning)? How do you make the ideas that are implicit in the requirements, explicit for students?

Detailed notes were taken during all part of the discussion. These notes were then categorized into broad theme areas. The following represents a synthesis of the common themes.

*For more information, please see the following:

- <http://www.learning.wisc.edu/>
- <http://www.ls.wisc.edu/gened/LEAP/default.htm>
- <http://www.aacu.org/leap/index.cfm>

March 12 Instructor Discussion about Essential Learning Outcomes and Breadth: Themes

Themes for Question 1: Beyond the specific disciplinary content of your course, what do you want students to learn that will stay with them into the future? That is, what are students learning in your course beyond the content you teach them?

Question 1, Theme I: Transition to University

First-year college students must first successfully make the transition to being college level learners; instructors have a high awareness of this and are very interested in helping students achieve this. Instructors have a variety of goals in mind that help students make this transition and a variety of teaching/learning strategies that they find helpful. These transitions and techniques appear to be quite common across the various disciplines. The transition is viewed as necessary for students to begin to grapple with the essential learning outcomes.

Instructors have found that in some ways students need to build upon their learning in high school, but in other ways they need to “unlearn” high school in order to be successful college-level learners. Students need to take charge of their own learning instead of gearing toward “the test.” They also need learn what they don’t know they need to learn how to take responsibility for addressing that by themselves. There was mixed opinion on the value of AP courses for high school students in this regard. AP courses in Political Science were highly regarded but there was some thought that AP courses in other areas don’t really provide the learning experience of a college course and might provide misperceptions of the discipline studied.

First-year students also need to develop particular skills sets. They need to learn how to study in college, sometimes in the context of a class that contains freshmen through seniors (mentoring opportunities?). They need to become self-motivated and active learners, moving from a “performance” mindset to one that is centered on learning. They need to become confident about communicating with their instructors. Difference between knowledge and skills-- they need skills like study skills, organization, ability to synthesize information, reflective skills, note-taking, etc. They also need to tackle bigger

learning changes: becoming a life-long learner, critical thinking, engaging in the big questions, finding a passion and path.

Helping shape the learning attitudes that first-year students develop is also important. Students need to become engaged learners who are active partners in the learning process (being disengaged from class—cell-phone texting, web surfing-- is not cool). Socialization to university level learning requires curiosity and developing a scholarly identity with a love of learning and an appreciation of the intellectual—ideas are important and must be taken seriously but talking and working with ideas can also be fun. Students need to learn that the process of learning is what’s important; the main point is not always the right” answer, but how you get there. Students need to develop self-confidence in their learning and instructors need to give them guidance in how to “fly alone.” Recognizing the power of language and word use in argument, discourse, and decision-making is important for intellectual growth as is engaging critically with content. Students also need to start thinking about being a part of the university community and ethical responsibilities related to that.

Question 1, Theme II: How to Teach: Approaching Essential Learning with New College Students

Instructors are very intentional in their pedagogical approaches to first-year students and employ a variety of teaching approaches. Instructors are hoping to attain various outcomes through these techniques from “shaking students out of a comfort zone” to opening their eyes to broader viewpoints to providing incentives for learning. Modeling excellence and advocating excellence in teaching and learning is important to instructors. They also realize that they need to help students learn how to take notes (“write a letter to yourself”), to read as a form of active engagement, and to analyze material that is read (stop after every four paragraphs and ask “what did I learn?”) Instructors are trying to help students realize that coursework is not about hoop-jumping but about **learning how to learn**. Students need to come to a realization that a teacher won’t always be there to help. Some instructors find story-telling to be an effective strategy, others ask students directly what is memorable to them, still others adapt to student discourse. Writing is important as is the ability to communicate with diverse audience and making connections between various courses and experiences.

The course syllabus can be part of the pedagogical approach. Course goals, including broader learning goals should be included in the syllabus and the instructor should discuss this with students. The course should be asking interesting questions and fostering creative thinking. Big learning goals for individual courses become the framework and provide a context for the more fine-grained learning goals. The syllabus content is key for students in understanding expectations and provides students with a learning framework that they take with them to other courses. Students should be encouraged to ask questions about the course. Instructors can model the use of persuasive language in the syllabus. Students should be encouraged to read a variety of texts.

Large courses can be effective learning environments. Indeed, some instructors believe that there is a *positive* “shock value” in offering big lecture courses in the fall term to new students. Active learning techniques such as clickers, three by five cards can help with assessment of learning, attendance, and making students responsible for their learning. Instructors can personalize the learning experience by setting aside course time for interaction and by working carefully with course teaching assistants. Training teaching assistants and coordinating their work is very important in the large course; this includes making sure that the TAs have a campus-wide context in which to place the course to which they are assigned.

Class assignments are definitely a part of the learning process. Instructors try to encourage students to ask questions beyond the specific paper or projects and reach for issues and answers regarding ethics, history, politics, etc. It is also helpful to be explicit about assignments and to make them relevant to students’ aspirations (for example, “this” will be a needed as a skill when you are working as “career choice here”).

Instructors feel a strong obligation to provide exemplary modeling for students. Many types of modeling behaviors are key for instructors to inspire student learning. First is modeling enthusiasm for the learning process and the course content. Showing students an appreciation for all that we don’t know and the humility with which scholars need to approach their work is important. Pedagogical techniques need to mirror the intended learning outcomes. For example, if critical learning is important, the instructor needs to be able to critically discuss documents and provide critical analysis. These skills should be explicitly pointed out to students in lecture and discussion. Students need to see the tools and the process in order to start framing their own questions. It may help to think of the “ideal” course an instructor would aspire to teach. What would students learn? How would the instructor approach the material?

Focusing on the individual learner helps to bring the whole class along. Students need a safe environment to learn most effectively. They need to feel that they can build on past learning. Empathy on the part of the instructor is important—should instructors be thinking more about where students are coming from? A learner focus is particularly important if a student is studying a subject in which they haven’t experienced a great deal of success in the past. Students need to be able to challenge and question the course material; they need to feel a responsibility to be an active participant in the class.

Connecting learning to students’ futures is a powerful way to reach them. Directly connecting coursework to work students might undertake in the future helps dispel the notion that “I learned more in my job in three months (than in school)”. Students need to realize the foundational skills that allow them to learn quickly in a new job. Talking with students about their future goals is helpful for them and for the course. The third most prevalent major for Fortune 500 CEOs is English—help students realize the connections.

Question 1, Theme III: The Essential Learning Outcomes Instructors Strive to Teach

Civil Discourse: Students need to learn the “art of civil discourse.” They need to be able to understand different points of view and be able to discuss controversial and difficult topics in a civil manner. Learning to disagree is an important skill and student need to know how to construct a safe environment for discussion both within and beyond the classroom. Students also need to understand the power of language and word use in argument, discourse, decision-making as well as the power of language to manipulate.

Difference: Appreciating difference requires that students know how to listen and become more aware of other people and ways of thinking. They need to recognize both diversity and commonality. This requires cultural knowledge and an appreciation of cultural difference and empathy for the human condition over people and time. Empathy is key in understanding different points of view. Literature can be a powerful tool for teaching empathy. Students can sometimes approach interactions and global experiences through their individual experience—“Why how have I changed? What’s going on around me?”

Lifelong Learning: There are many facets to lifelong learning. A joy of learning is key and knowing how information is organized and conveyed. Instructors composed a list of what they would like their students to be able to do in ten years:

- No fear of reading science information (e.g., knowing how to read complex articles in the New York Times)
- A habit of analysis (what is good data, bad data?)
- An appreciation of the limits of a discipline (the data do not make policy)
- Knowing how to be good consumers of information
- Knowing how to be/get engaged (politically, etc)
- Take their educational destiny “by the horns”—their effort is key, they need to know how to seek opportunities
- Overcome cynicism
- Teaching students project management (knowing how to break things down in smaller pieces), can model with assignments broken into stages
- Understanding the nuances of language—what is it conveying beyond the words?

Problem Solving: For students to be effective problem solvers, they need to develop an array of skills. First, they must realize that simple solutions often have unintended consequences and that problems are often more complex than they seem to be at first glance. Students need to learn to look more deeply and ask questions. They need to learn that there are many ways to approach a problem: break it down and put it back together, identify patterns, estimating, etc. They need to develop a sense of precision vs. process and broader issues. What is the gravity of error in a particular situation; how much of an error is ok? Can you make a mistake and then make revisions? Learning is a process but we are results matter and that is sometimes what we are judged on.

Ambiguity: Students sometimes like to think of the world as “settled” when it is not. There is always ambiguity and uncertainty. Students need to realize that there is often more than one valid viewpoint and that awareness of complexity is the counterpoint to simplicity in public discourse. It’s ok to experience ambiguity and to be uncertain about something or to change your mind after you understand an issue more fully.

Critical Thinking: Critical thinking skills are comprised of a variety of different skills sets and approaches. Instructors need to help students realize that the formation of these skills are some of the most important things they are learning in college and will enable them to approach problems and situations later in life. Faculty need to communicate that there isn’t always a “right” answer—students need to know that so they begin to think critically. They need to know less about the “right” answer and more about the process of getting to the answer. Among the various skill sets that students need to establish are knowing the difference between law, theory, hypothesis, speculation, belief/opinion and evidence/fact. They need to be able to evaluate data and the reliability of information sources and to use evidence to support their position or conclusion. They have to be able to work with both high and low confidence intervals, to build models based on evidence, and to analyze the role of the audience and situation. They need to listen for what is missing as well as what is presented. Last, they need to understand that paradigms can change over time; contemporary understanding of an issue or problem is not tied to a particular time in the past.

Research: Instructors identified the understanding of how knowledge is created as an important learning outcome for students. How do we know what we know? Being able to discern the limits of our own knowledge is an important first step. Original research experiences of any type of useful for students. Knowing how to think about the components of a research project and how to question/answer/analyze data How to use knowledge ethically is also an important question.

Communication: Students need to become adept in all areas of communication. This includes reading and comprehending both structure and meaning. Students need to develop a full range of communication skills and need to be aware of the audience with whom they seek to communicate. They need to practice research and writing. It’s important to get students to think critically about what it means to be a good writer—this includes understanding the process of writing, reflection, and revision. It also involves awareness of the goal—argumentation, persuasion, exploration, etc. Students need to become comfortable with making oral presentations. They come to realize that practice in writing and speaking leads to behavior change. Finally, need to keep in mind that some of students are doing this in their second or third language.

Other Skill Areas

- QR skills/basic math skills
- Numeracy and literacy

- Think like a scientist
- Interpret scientific data
- Civic engagement
- Honesty, integrity (natural)
- Consequences to breaking community rules
- How to work in and lead small groups
- Approaches—projects to work in teams , socialize as working engineers, problem-solvers

Themes for Question 2: “Narrowing the focus from this broad view of student learning, and moving to the more focused goals expressed in the general education requirements, what do you try to teach students in your ‘breadth’ area or in the general education area such as communication or quantitative reasoning?”

Question 2, Theme I: Social Sciences

Common elements: All of the social sciences utilize a discovery method that relies to some extent on the scientific method: posing a question, gathering data, questioning the results, sometimes using models to illustrate problems. Quantitative reasoning skills can be key to working with some issues and problems in the social sciences. To some extent, the social sciences share a conception that knowledge can be perspectival (involving both an observer and a standpoint), partial, and unsettled. Knowledge of cultural relativity is often important and requires empathy for a situation to be fully understood and addressed. Critical thinking is very important: Social science answers questions but also question answers.

Essential Learning Outcomes for Students: Students need to understand the imperfection of knowledge and how human understanding is limited by perspective and partial information. Critical thinking and problem solving skills are key to work in the social sciences; quantitative skills are also very important in many areas. To understand the social sciences, students need to learn how to model questions and to understand scientific methods of discovery. They learn how to break things down into a series of progressions. They often need to be able to use quantitative reasoning skills. They need to be critical thinkers who ask, “Am I convinced? What would the next study be?” They need to know that the world is unsettled and answers are not always firm (and may be affected by new knowledge and discovery). Instructors need to help them make connections between learning in the social sciences and broad concepts and how to connect their learning to what they will encounter when they leave the university.

Challenges: Individual courses only treat a subset of a particular discipline and it is difficult to help students to see not only the connections between the particular sub-area

of a discipline covered by a course, but also connections to the larger concepts of social science. The differences between the disciplines collectively known as “the social sciences” can also make it challenging to draw connections since there are sometimes large differences to approaches between broad areas such as Economics, Anthropology, and Psychology, not to mention that each of these subject areas have many sub-areas that utilize very different approaches.

Question 2, Theme 2: Natural and Quantitative Sciences

Common elements: The various disciplines that make up the natural and quantitative sciences all utilize scientific methods of discovery. Being able to replicate results of a given study are important.

Essential Learning Outcomes for Students: Students learn how to analyze a scholarly research paper (can be peer review), and need to feel confident in the ability to engage in scholarly work. Students come to understand the connections between the physical world and humans such as the connections between biological principles and human behavior or the connection between where food comes from and its cultural context. They learn mathematical skills and how and when to use a particular skill set. Students in the sciences learn to work in and lead small groups and they learn to solve problems within a set of constraints including human error. There are often many ethical issues that must be discussed and resolved; to do this, students need to learn the skills of civil discourse.

Question 2, Theme III: Humanities

Common elements: The humanities offer the opportunity to ask human questions and to reflect on the human condition. They study how we know/interpret/question the world in communication with ourselves and each other. Ethical issues often come to the fore.

Essential Learning Outcomes for students: Students develop a wide range of communication skills and are able to engage in critical analyses of society, literature, and art. They come to understand the power of language and how that power can be manipulated. They develop the ability to draw connections and make inferences and how to grapple with ethical issues. The humanities “complicate” the nature of the world and study of the humanities provide students with many skills that they will need later in their work and personal lives (note: the Fortune 500 CEOs third major is English).

Question II, Theme IV, Communication

Common Elements: Communication courses have shared learning outcomes (Comm A and Comm B courses) that are expressed within the context of various disciplines.

Essential Learning Outcomes for Students: Students learn a rhetorical awareness and an intellectual framework that they can take with them to other courses and beyond. Beyond critical thinking skills, we need to help students connect to questions beyond the course assignment—reaching for answers regarding, ethics, history, politics, etc. It helps to articulate to students how the skills learned will be important to them later; talking with students about their goals can empower them. The course syllabus helps students to understand the larger aims of the course; it should encourage students to read a variety of texts, to ask questions, show the use of persuasive language, and think creatively.

AN ASSESSMENT STUDY OF THE EFFECTIVENESS OF THE GENERAL EDUCATION
COMMUNICATION "A" REQUIREMENT AT THE UNIVERSITY OF WISCONSIN-MADISON

A Report Submitted to the University General Education Committee

Charles N. Halaby
Research Director
Associate Dean, College of Letters and Science

UNIVERSITY GENERAL EDUCATION RESEARCH GROUP

Nancy Westphal-Johnson
Chair, University General Education Committee
Associate Dean, College of Letters and Science

Jim Wollack
Director, Testing and Evaluation
Wisconsin Educational Research Center

Elaine Klein
Assistant Dean, College of Letters and Science

July, 2007

Executive Summary

The study reported here assessed the extent to which courses that are certified as satisfying the UW-Madison Communication–A requirement yield student outcomes that fulfill fundamental general education objectives with respect to writing, communication, and information literacy skills. The results forcefully testify to the effectiveness of the Comm–A requirement as an instrument for achieving general education objectives: Freshmen who took a Comm–A certified course during fall semester 2006-07 report greater improvement in their communication skills as a result of their educational experiences than do comparable freshmen who did not satisfy the requirement. This finding is unusually robust and general: it holds for virtually all of the salient dimensions of communication skill targeted by the Comm–A requirement, and holds in roughly equal measure for all five Comm-A courses, including ESL Comm–A, and for male and female students alike. The growth in communication skills that students experience as a result of taking Comm–A courses is appreciable. The expectation underlying general education objectives is that students who satisfy the Comm–A requirement by taking one of the certified courses would benefit from a richer communications experience than they might otherwise, and richer than the experience of students who do not take a Comm–A course. This study has shown that this expectation is empirically valid. The findings leave no doubt that the decentralized mode of implementing the Comm–A requirement at UW-Madison is a highly effective means of achieving general education proficiency objectives with respect to writing, speaking, and information-seeking skills.

AN ASSESSMENT STUDY OF THE EFFECTIVENESS OF THE GENERAL EDUCATION
COMMUNICATION “A” REQUIREMENT AT THE UNIVERSITY OF WISCONSIN-MADISON

1.0 INTRODUCTION

The UW-Madison General Education Requirements that were adopted by the Faculty Senate in 1994 and implemented in 1996 included central provisions aimed at insuring that students acquired key skills in the areas of writing, communication, and information literacy. These provisions are known as the *Communication A and B* (hereafter, “Comm–A” and “Comm–B”) requirements. Although the plan for implementing the General Education Requirements included as a core feature the systematic assessment of student outcomes, to date there has not been the kind of comparative analysis needed to rigorously assess the effectiveness of the communication requirements in achieving their stated objectives.¹ This report takes a first step in that direction by describing the results of a comparative assessment study of student outcomes achieved under the Comm–A requirement during fall semester 2006-07. The primary goal of this research is to use measures other than grades to assess the extent to which courses that are certified as satisfying the Comm–A requirement yield student outcomes that fulfill fundamental general education objectives with respect to writing, communication, and information literacy skills.

The logic behind the Comm–A requirement is that basic communication skills may be enhanced by exposing students to courses that have been designed to, according to founding documents, “develop student abilities in writing and public speaking, for both exposition and argumentation.”² Courses that fulfill the Comm–A requirement are spread across the Colleges of Letters and Science, Engineer-

¹To be sure, in 1999 there was a wide-ranging and deep study of student outcomes associated with the Communication B requirement, but by design that project was limited to students who had taken courses certified as satisfying the requirement. Because it was not comparative, that study could not address the “effect” of satisfying, versus not satisfying, the Comm–B requirement on student experiences and skills. The project is described in a 2001 report by Solomon and Knobloch entitled “Spring 1999 Communication-B Study: Outcomes Associated with the General Education Communication-B Requirement”, which may be found at <http://www.ls.wisc.edu/Gened/Assessment/CommBStudy.pdf>.

²See <http://www.ls.wisc.edu/gened/FacStaff/comma.htm>.

ing, and Agriculture and Life Science, but all are expected to satisfy a common set of criteria. In particular, courses that satisfy the requirement are expected to advance student skills in the following areas:³

- Planning (selecting, narrowing, and focusing topics; identifying and analyzing audience information needs; generating and organizing ideas; comprehending and analyzing texts)
- Drafting (learning structures of exposition and argument, and the use of evidence; organizing and developing paragraphs, papers, and speeches; adapting writing and speaking for intended audiences; learning conventions of academic writing; mastering elements of grammar, usage, and style; preparing speeches for oral delivery; citing sources, avoiding plagiarism, and compiling accurate bibliographies)
- Revising (developing critical skills for reading and listening – in review of peer writing/speaking revising and editing essays and speeches – for spelling, punctuation, grammar, style, organization, and logic critiquing assigned readings and speeches delivered outside class)
- Information-Seeking Skills and Strategies (identifying and retrieving source materials needed to evaluate, organize, and select information from print and electronic sources; acquiring basic critical, technical, and mechanical skills needed to find relevant information)

These criteria constitute a core set of communication skills with respect to which both courses and students may be assessed. The fundamental objective of the research reported here was to determine the extent to which courses that satisfy the Comm–A requirement, and hence putatively fit these criteria, provide students with the experience and opportunity needed to improve writing, speaking, and information-seeking skills. In other words, the goal was to fashion one study that could serve as an assessment of both Comm–A courses and their student outcomes.

³See <http://www.ls.wisc.edu/gened/FacStaff/comma.htm>.

The approach taken here follows upon a method that has been used previously to successfully assess the General Education Quantitative Reasoning requirements. To anticipate, our method amounted to asking a sample of students *how much* the courses and educational experiences they had had during the semester just completed had taught them the skills that the Comm-A requirement views as fundamental. The heart of the analysis involves rigorously comparing students who had and had not taken a Comm-A course in terms of their self-reported gains in communication proficiency along the various skill dimensions itemized above. The results of such a comparison may be viewed from two vantage points. First, such comparisons reflect directly on the differences in the content, as experienced by students, of curricula that do and do not satisfy the Comm-A requirement. The general education objectives anticipate that students who satisfy the Comm-A requirement by taking courses that have been certified as delivering the appropriate content would have a richer communications experience than they might otherwise, and richer than the experience of students who do not take a Comm-A course. This study will assess the extent to which that belief is empirically valid. If this belief is shown to be valid, so that Comm-A courses in fact do convey more of the skill content identified by the criteria above, then it would follow that grades in Comm-A courses are themselves a valid measure for assessing actual student learning.

Second, to the extent student self-reports of gains in communications proficiency may be viewed as valid, if indirect, indicators of actual student learning outcomes, the comparisons we construct can yield estimates of the effect of the Comm-A requirement. The 2004-05 study of the QR-A requirement provided strong evidence of a close connection between estimates of gains in quantitative reasoning proficiency yielded by student self-reports and estimates yielded by laboratory tests of actual student learning. A comparison of students who did and did not satisfy the QR-A requirement in terms of their self-assessed gains in quantitative reasoning yielded results that were closely corroborated by rigorously estimated differences in quantitative reasoning ability as measured by laboratory tests.

These earlier results buttress the argument for the validity of student self assessment as a tool for the comparative analysis of learning outcomes. Hence, we believe there is ample ground for interpreting the analysis reported below not only in terms of differences in the content of curricula that do and do not include Comm–A courses, but also in terms of differences in student learning outcomes.

The remainder of this report is organized as follows. The next section describes the sampling procedure, sources of sample selection bias, and the measurement of communications proficiency. Sections 3 and 4 present the analysis and conclusions, respectively.

2. DATA AND MEASUREMENT

2.1 *Target Population and Sampling*

The assessment issues driving this research were examined by surveying a sample of freshmen students who were enrolled fall semester 2006-07. The population of interest consisted of all freshmen whose score on the UW English Placement Test meant they were required to fulfill the Comm–A requirement by taking a certified course.⁴ Since the main goal was to compare the learning experiences of nonexempt students who did and did not take a Comm–A course in a given semester, a stratified sampling design was appropriate and efficient.⁵ To that end, the entire fall semester population of approximately 3000 students was stratified into the two comparison groups. In addition, the subpopulation of students who had satisfied the Comm–A requirement during fall semester was stratified by Comm–A course: Communication Arts 100, English 100, Life Science 100, and Engineering Professional Development 155 (hereafter, EPD 155).⁶ The first three of these are 3-credit courses that meet three times per week for 50 minutes; EPD 155 is a two-credit course that meets twice weekly for 50

⁴Scores on the UW English Placement Test range from 150 to 850, with students scoring 610 or above automatically exempted from the Comm–A requirement.

⁵By “efficient” I mean this design would be expected to yield smaller sampling error in the estimates of the effect of Comm–A than would a simple random sample of the same size.

⁶We omitted from the population those who were satisfying Comm–A by taking a course for students for whom English is a second language. This group is the focus of a separate study as reported later.

minutes. This difference in credit hours introduces a measure of noncomparability—EPD students would be expected to report lower gains in communication skills because they experience 33% less class time devoted to Comm–A subjects. As long as this rather large difference in exposure to the substance of the Comm–A requirement is kept in mind when considering the findings, there is no reason not to include all Comm–A courses in this study. Hence, random samples were drawn from each of these four strata and the stratum of nonexempt students who had not enrolled in a Comm–A course.

Table 1 gives the five population strata and sample sizes, as well as the number of respondents from each stratum who actually participated in the study by returning a completed questionnaire. The last row indicates that the overall response rate was about 80%, which is extremely high as mail surveys go.⁷ A contrast between the two major subpopulations shows that students who did not take a Comm–A course responded to the survey at a rate that is 10 percentage points higher than their counterparts who chose to satisfy the requirement in their first semester. This difference is statistically significant ($\chi^2 = 7.96$; p-value= .005), but it would be premature to attribute this to a sharp and general distinction among the two subpopulations. An examination of the response rates for the four Comm–A courses indicates that the 10 percentage point difference between the two subpopulations is largely a reflection of the low rates of response by students from Communication Arts 100 and Life Science 100. Indeed, the response rates of students in English 100 and EPD 155 are statistically indistinguishable from the response rate for non-Comm–A students ($F = 1.05$; p-value= .35), but significantly different from those of students in Comm Arts 100 and Life Science 100 ($F = 15.29$; p-value= .0001). Hence, variation in response rates appears to reflect course-specific processes of selection into the sample, rather than simple selection on the basis of Comm–A status.

An important consideration is whether the variation in response rates across strata is system-

⁷The survey was carried out by the UW Survey Center during spring semester 2006-07. Thanks to Bob Cradock for overseeing the project and for heroic efforts to improve response rate.

atically related to measurable student characteristics. In particular, a potentially serious source of sample selection bias would occur if the propensity to respond was a function of student characteristics that varied across strata (i.e., courses) and that might be related the dependent variable of this study, communication skill proficiency. Two such sources that suggest themselves and are of some interest interest in their own right are gender and academic aptitude or performance. To see if the observed stratum-level variation could be explained by such differences, response rates were adjusted for variation across courses in the gender and academic quality of students. The results shown in Table 2 were generated by adjusting response rates for differences in gender, UW English Placement Test scores, and fall semester grade point average. A comparison of the two columns shows that correcting for gender and academic ability does not explain the variation across courses: the adjusted rates look very similar to the observed rates.

Although we were unable to account for differences in response rates across courses, we did find that the propensity to respond to the survey depended on academic performance, with stronger students responding at a higher rate than their academically weaker counterparts. Hence students whose fall grade point average exceeded the median of 3.17 responded at a rate of 86%, while the response rate was only 75% among students whose overall first semester GPA fell below the median. This eleven percentage point difference is statistically significant ($t = 3.52$; $p\text{-value} = .0005$). The dependence of response rate on academic performance is not problematic for assessing the effect of the Comm-A requirement on communication skills as long this relationship holds equally for students who did and did not satisfy the requirement. The risk, however, is that this relationship does not hold equally across Comm-A status groups, so that comparisons in terms of communications skills would be across academically nonequivalent groups of students.⁸

⁸The 2005 QR-A study found that QR-A course performance was positively associated with survey response, which meant that the sample of QR-A students represented not the average QR-A student, but rather those who had received high grades in their QR-A course.

To pursue this possibility, we first ascertained whether the effect of academic performance on response rates was the same for both Comm-A and non-Comm-A students. Academic performance (i.e., fall semester grade point average) had no effect on the propensity of non-Comm-A students to respond to the survey ($t = 0.46$; p-value = .64), but a powerful effect on the survey response of Comm-A students: each one unit increase in fall semester grade point average increased the rate of response by 14 percentage points ($t = 4.84$; p-value = 4.84). As it turns out, the bulk of this effect is due to performance in the Comm-A course itself. As Table 3 shows, there is a regular increase in response rate with increases in Comm-A grade ($F = 6.13$; p-value < .0001). This means our sample of Comm-A students represents not the average student, as in the non-Comm-A sample, but rather those who had received higher grades in their Comm-A course. Unless accounted for, this selection bias would be expected to yield overstatements of the effect of the Comm-A requirement on the acquisition of communication skills if our measure of the latter is related to Comm-A course grade. In particular, estimates of the communication skills acquired by Comm-A students would be slanted toward the better students rather than representing the average student, which in turn would yield biased comparisons to non-Comm-A students. We will explore this source of bias further after detailing the measurement of self-reported gains in communication proficiency.

2.2 Measurement of Communication Course Content and Student Proficiency

The outcome variable for this assessment was measured by a scale constructed from a set of Likert-type items that tapped students' self-reported gains in writing, communication, and information literacy skills achieved during fall semester 2006. The items, which were developed by Comm-A course directors, are intended to capture the core skills that the Comm-A requirement is supposed to advance.

In order to encourage all students to reflect broadly upon their learning experiences during fall

semester 2006, the preamble to the main question read as follows:

Please think about the courses that you took here at UW during the fall semester. This includes the lectures, readings, and assignments, as well as studying with other students and any other experiences you had as part of these courses.

This preamble was followed by the question:

How much did any of these courses teach you to do each of the following:

where the items used to measure the communication content of courses and the skills students putatively gained from them during fall semester were listed as follows:

- Deliver a speech or oral presentation?
- Retrieve and analyze information from library databases?
- Select and focus topics for a paper or speech/presentation?
- Recognize logically sound arguments?
- Use language clearly and appropriately?
- Support ideas in a paper or speech?
- Produce papers or speeches/presentation for a specific audience?
- Judge the credibility and soundness of evidence?
- Organize ideas for a paper or speech/presentation?
- Improve your grammar, punctuation, and style?
- Cite sources and avoid plagiarism?
- Use library databases to locate research materials specific to the topic of a paper or speech/presentation?
- Write and revise drafts of a paper or speech/presentation?
- Critique speeches/presentations or papers?

with response categories ranging from “not at all”, scored 1, to “a lot”, scored 4. Averaging over these fourteen items for each respondent yielded a scale (hereafter, the “general” Comm–A scale) with Cronbach’s α -reliability equal to .91, which is excellent.⁹ The initial analysis reported below assumes

⁹It is important to note that these fourteen items are meant to represent the objectives of the Comm–A requirement; they do not exhaust the aims of the individual Comm–A courses.

that this scale is unidimensional in the sense that the constituent items represent a single underlying concept, i.e., “communication proficiency”. Later the scale will be disaggregated into subscales to gauge the extent to which satisfying the Comm–A requirement may have differential implications for constituent dimensions of communication proficiency.

3. ANALYSIS AND FINDINGS

3.1 How the Communication “A” Requirement Affects Self-Reported Gains in Communication Proficiency

This section compares non-exempt students who did and did not take a Comm–A course with respect to the communication skills content of their educational experiences during fall 2006-07. Table 4 gives an initial set of results generated by comparing the mean scale scores of the two Comm-A groups both without and with adjustment for salient control variables. The first column gives the unadjusted mean scale scores, the difference, and the t-ratio for the test of the difference in means. The result indicates that the mean scale score for Comm–A students (3.08) exceeded the mean scale score for other students (2.40) by .68, an amount that is highly statistically significant. The magnitude of the t-ratio means that the difference of .68 is ten times what would be expected by chance if the two Comm–A status populations were actually identical in their mean scale scores. The second column gives the same statistics after adjusting for differences in gender and academic ability as measured by UW English Placement Test Scores and fall semester GPA. As is plainly evident, the adjusted means and the difference are virtually identical to the unadjusted figures. This result reflects the fact that neither gender nor academic performance are associated with the scores students achieve on the general communication scale. Furthermore, the difference in means between those who did and did not satisfy the Comm-A requirement is virtually identical for males and females (not shown).¹⁰

¹⁰Findings that use the whole population of Comm–A students without taking account of course are adjusted for

The findings displayed in Table 4 emphatically indicate that, by comparison to their peers who do not satisfy the Comm-A requirement, students who do complete a Comm-A course experience far greater exposure to the kind of course content one would plausibly expect to yield gains in writing, speaking, and information-seeking skills. In other words, satisfying the Comm-A requirement can be expected to yield gains in communication skills that students would not otherwise achieve. If the requirement is, in this sense, effective in achieving its purpose, does its effectiveness depend on a student's academic performance in the Comm-A course? We saw earlier (Table 3) that the rate of response to the survey by Comm-A students was positively associated with their Comm-A grade. If Comm-A students with better grades also report higher scores on the general communications scale, then the estimate of the effect of Comm-A as given in Table 4 (i.e., .68) would be too big, since it would be biased in the direction of the *above average* Comm-A student.

A first step in addressing this issue is to compare the communication scale scores of students who achieved different grades in Comm-A. The relevant figures are displayed in Table 5, which gives the mean communication scale scores by Comm-A grade. The finding of this table is rather unexpected: the gain in communication skills as self-reported by Comm-A students is not associated with performance in their Comm-A course. Regardless of grade, the communication scale means are roughly the same. Hence, our estimate of the effect of the Comm-A requirement is not biased by the over-representation of better Comm-A students in our sample.

The absence of a correlation between the communication scale and grades in Comm-A invites explanation. Two explanations are plausible. First, the communication scale itself is problematic: it can pick up gross skill differences between Comm-A and non-Comm-A students, but is not sensitive enough to detect fine differences among Comm-A students at the different levels of achievement indi-

the disproportionate stratified sampling scheme that was used. Relative to their representation in the total population of students who took Comm-A in the fall, Life science 100 and EPD 155 were oversampled and Comm Arts 100 and English 100 were undersampled.

cated by grades. Second, the communication scale and grades may be measuring different quantities. Grades putatively measure *levels* of communication skills achieved by the end of the semester, while the communication scale implicitly taps *growth* in skills by asking students to gauge “how much” they learned from the start to the end of the semester.

This latter interpretation is supported by evidence on the relationship of scores on the UW English Placement Test to both subsequent Comm-A grades and communication scale scores. UW English Placement Test scores before fall semester and Comm-A grades at the end of fall semester are both measures of levels of achieved communication skills, and hence should be positively correlated. We would expect that students who were strong and weak relative to each other at the start of fall semester would still evince the same relative ordering at the end of the semester. But if the communication scale is tapping “how much” students learned in Comm-A, there’s no compelling reason to expect that, on balance, students with high scores on the UW Placement Test would gain more from Comm-A than students with low scores.¹¹ These expectations are supported by the data. UW English Placement Test scores are moderately correlated 0.39 ($t = 4.84$; $p\text{-value} < .000$) with *grades* in Comm-A courses, but virtually uncorrelated ($r = -.05$; $p\text{-value} = .51$) with communication scale scores.

To this point students from different Comm-A courses have been pooled into a single category, so the analysis addresses the aggregate effectiveness of the Comm-A requirement; it does not speak to the effectiveness of each of the individual Comm-A courses. The aggregate result does not mean that all the courses that are certified as satisfying the requirement are effective in producing gains in communication skills, let alone that they are all *equally* effective. The first question concerns pairwise comparisons of students from each course with our sample of non-Comm-A students; the second question concerns comparisons among the Comm-A courses themselves.

Table 6 displays the results pertaining to the effectiveness of each individual Comm-A course in

¹¹The effect of satisfying the Comm-A requirement as measured by the difference in communication scale means between Comm-A and non-Comm-A students does not depend on UW English Placement Test scores.

turn. The second column of figures gives the estimate of the “effect” of the course, i.e., the amount by which the communication scale score mean for a course exceeds the sample mean for students who did not satisfy the requirement; the third column speaks to the statistical strength of the effect. For all four courses the communication scale means exceed the mean for non-Comm-A students by an amount that, statistically speaking, is very large. The figures in the last column indicate that these differences in means are 9-11 times larger than would be expected by chance if there were truly no difference between Comm-A and non-Comm-A students. In each case we can conclude that students who complete the specified Comm-A course experience far greater exposure than their non-Comm-A peers to the kind of substantive content that would be expected to yield gains in writing, speaking, and information-seeking skills.

Do some courses register a more powerful effect than others? The figures in the second column vary from a high of .82 to a low of .61. A formal test of the hypothesis that all four *differences* in means are equal yields $F=3.37$ with a $p\text{-value}=.02$, which is evidence against the conclusion that all four courses are equally effective in producing gains in communication skills that would not otherwise be achieved.¹² In particular, the differences generated by Life Science 100 (.82) and Comm Arts 100 (.77) are significantly larger ($t = 2.99$; $p\text{-value} = .002$) than those associated with English 100 (.61) and EPD 155.¹³ Similarly, there is evidence against the hypothesis that all four Comm-A courses yield the same mean on the general communication scale ($F = 4.45$; $p\text{-value} = .004$).¹⁴ Still, the major pattern in the data of Table 6 is plain: the differences between students in Comm-A courses and their non-Comm-A counterparts is huge by comparison to the variation among students from

¹²Earlier we noted the aggregate result that grade on Comm-A did not appear to be associated with communication scale scores. This aggregate result also holds for individual Comm-A courses. In no instance were the grades students earned in their Comm-A course correlated with the communication scale scores they reported.

¹³As mentioned earlier, EPD 155 is only a 2-credit course, whereas the others are 3 credits.

¹⁴Although it may not seem like it, the hypothesis of equality of course means (column 1, Table 6) is not the same as the hypothesis of equality of differences between each course sample and the non-Comm-A sample of students (column 2 of Table 6).

the four Comm–A courses.

3.2 How the Comm–A Requirement Affects Self-Reported Gains on Specific Dimensions of Communication Skill

To this point the analysis has been carried out exclusively in terms of a single summative scale consisting of fourteen items that target self-reported improvements in writing, communication and information literacy skills during first semester 2006-07. We have assumed implicitly that general communication skill is a unidimensional construct: factors that cause one aspect of the underlying phenomenon tapped by the construct not only have the same direction of effect, but the same magnitude of effect, on *all* aspects of the underlying phenomenon. In this section we relax this assumption in order to entertain the possibility that the Comm–A requirement, not to mention the Comm–A courses themselves, may have disparate effects on the different aspects of communication skill tapped by the general scale. To this end, the analysis that follows disaggregates the general communication scale into its fourteen constituent items.¹⁵

The third column of figures in Table 7 gives, for each aspect of communication proficiency, estimates of the mean difference between students who did and did not satisfy the Comm–A requirement. The table is arranged in descending order of these differences, with items evincing strong “effects” of Comm–A listed in higher rows.¹⁶ In every instance, the Comm–A mean exceeds the mean for students who did not satisfy the requirement, usually by a comfortable margin; in all but two instances the “advantage” of Comm–A students is statistically significant, usually by a wide margin.¹⁷ The only items for which there is no statistically detectable effect of Comm–A are “use language clearly and

¹⁵We initially explored the idea of grouping items into a few subscales, but in the end decided in favor of more rather than less detail.

¹⁶By “strong” I mean the magnitude of the difference in the third column of figures; this will be highly correlated with statistical strength as indicated by the t-ratio.

¹⁷Introducing controls for UW English Placement Test Scores and fall semester grade point average leave the estimates in Table 7 virtually unchanged.

appropriately” and “recognize logically sound arguments”.

These results reveal unambiguously that the effect of fulfilling the Comm–A requirement on the dimensions of communication proficiency privileged by general education course criteria is broad and deep. Compared to their counterparts who did not to take a Comm–A course their first semester, students who satisfied the requirement report significantly greater gains in learning with respect the great majority of skill dimensions that go into certifying Comm–A courses. These results definitely indicate that the Comm–A requirement is effective in advancing communication skills beyond what would otherwise be achieved if students did not take Comm–A courses.

The findings of Table 7 are buttressed by the course-specific analysis displayed in Table 8. Table 8 is similar to Table 7, but now gives estimates of Comm–A “effects” for each of the four courses on each of the fourteen dimensions. This table is arranged like Table 7, in descending order from very strong to weak effects. Each item/course cell of the table gives the difference between the item mean for Comm–A students compared to non-Comm–A students. The findings are rather startling: again, excluding the items in the last two rows, in every instance the Comm–A mean exceeds the non-Comm–A mean by a statistically significant margin. This is powerful evidence that all Comm–A courses are aligned with faculty-mandated criteria and are effectively advancing the communication skills privileged by general education objectives.

The last column of Table 8 gives the test statistics and p-values for tests of the hypothesis that all four Comm–A courses have an equal effect on a specified dimension of communication skill. The seven shaded cells are instances in which this hypothesis is rejected. Of these seven, five yield differences among courses that are large enough to be substantively interesting. These are as follows:

- *Deliver a speech or oral presentation*: The effect of CA 100 is much larger, and that of English 100 much smaller, than the effects of the other courses.

- *Write and revise drafts of a paper or speech/presentation:* The effect of English 100 is much larger than that of the other three courses.
- *Produce papers or speeches/presentation for a specific audience:* The effects of Life Science 100 and Comm Arts 100 are significantly larger than those of EPD 155 and English 100, and the effect of EPD 155 is significantly larger than that for English 100.
- *Judge the credibility and soundness of evidence:* The effect of English 100 is significantly smaller than the effects of the other three courses.
- *Use language clearly and appropriately:* Comm Arts 100 is the only course to have a statistically significant effect on this dimension.

Viewed from the perspective of all the results taken together, these differences in effects reflect rather minor and somewhat idiosyncratic variation among courses. The more telling conclusion, the one that best summarizes the bulk of the evidence, is that these four courses are extraordinarily homogeneous in terms of their contributions to advancing core communication skills as set down by general education criteria. Indeed, the homogeneity is all the more remarkable when we understand that each of these courses had their own unique approaches that took them beyond the core objectives of the Comm–A requirement alone.

3.3 *The ESL Comm–A Experience*

As part of the university’s Program in English as a Second Language, English 118 is the course that fulfills the Comm–A requirement for most non-native English speakers who have been admitted to an undergraduate degree program at UW-Madison. A key aspect of the current study involved assessing the extent to which students who completed English 118 also achieve outcomes that fulfill fundamental general education objectives with respect to writing, communication, and information literacy skills.

To this end, a questionnaire that included all fourteen communication scale items described earlier was administered in class in English 118 at the end of spring semester. Two comparisons are naturally of interest, one to students who did not fulfill the Comm–A requirement fall semester 2006-07, and a second to other students who fulfilled the requirement by completing one of the four Comm–A courses (hereafter, “regular” Comm–A courses) studied above.¹⁸

Table 9 gives the means and tests of differences among means on the general communication skills scale for the three groups. The difference between ESL and regular Comm–A students is stunning by its total absence. The mean scores for both groups are virtually identical.¹⁹ It follows that the difference between ESL students and students who did not take Comm–A is not only large and statistically significant, but identical to the difference observed for regular Comm–A students. In other words, the effect of ESL Comm–A on communication skills is the same as the effect of regular Comm–A. Just like their regular Comm–A counterparts, ESL Comm–A students experience far greater exposure to the kind of course content one would plausibly expect to yield gains in writing, speaking, and information-seeking skills.

Table 10 disaggregates the general scale in order to compare ESL Comm–A students to students who did not satisfy the requirement on each of the fourteen individual dimensions of communication proficiency. The table is arranged in descending order of these differences (see column “Diff”), with items evincing strong “effects” of ESL Comm–A listed in higher rows.²⁰ Looking down the “Diff” column shows that in every instance, the ESL Comm–A mean exceeds the mean for students who did

¹⁸Given the nature of the data collection, sample selection bias was not an issue—virtually all eligible students responded to the in-class questionnaire, yielding a sample of 131 respondents. Checks for associations among the number of previous ESL courses a student had completed, grade in English 118, and scores on the general communication scale failed to turn up any statistically significant relationships. Number of previous ESL courses was not associated with either grade in English 118 ($t = 1.02$; $p\text{-value}=.310$) or communication scale scores ($t = 0.85$; $p\text{-value}=.399$). Similarly, grade in English 118 was only weakly linearly related to communication scale scores ($t = 1.50$; $p\text{-value}=.13$). In light of these findings, we ignored students’ previous ESL courses and English 118 grade in the analysis that follows.

¹⁹The .01 difference in the table is due to rounding. The actual difference is -.0008.

²⁰By “strong” I mean the magnitude of the difference in the third column of figures; this will be highly correlated with statistical strength as indicated by the t-ratio.

not satisfy the requirement, usually by a comfortable margin; for all but two items the “advantage” of Comm-A students is statistically significant, again by a wide margin. The only items for which there is no statistically detectable effect of ESL Comm-A are “use language clearly and appropriately” and “recognize logically sound arguments”. Recall that these are the same two items that failed to register a statistically significant advantage for regular Comm-A students.

Are the benefits of satisfying the requirement the same for ESL and regular Comm-A students? This issue is addressed by the differences in means displayed in Table 11. As before, the table is arranged in descending order of these differences (see column “Diff”), with items evincing larger disparities between the two groups listed in higher rows. Of the fourteen dimensions of communication proficiency, only the four differences listed at the top of the table are statistically significant, with two other “small differences” worth noting. Even the differences that are statistically significant are only moderate in magnitude by comparison to the differences between these groups and students who did not satisfy the requirement. In addition, note that the differences cut both ways, showing an advantage for regular Comm-A students on two items and an advantage for ESL students on two others. ESL students report greater gains on “retrieve and analyze information from library databases” and “improve your grammar, punctuation, and style”; regular Comm-A students reports an advantage with respect to “deliver a speech or oral presentation” and “produce papers or speeches/presentation for a specific audience”. The rest of the table shows mostly little or no difference between the two Comm-A groups on these dimensions of communication proficiency. Overall, the findings underscore the conclusion that ESL and regular Comm-A course are equivalent ways to satisfy the requirement and yield equivalent improvements in communications skills.

3.4 DISCUSSION AND CONCLUSIONS

The uniformity of the findings render them easily summarized: freshmen who took a Comm-A course

during fall semester 2006-07 report greater improvement in their communication skills as a result of their educational experiences than comparable freshmen who did not satisfy the requirement. This finding is unusually robust and general: it holds for virtually all of the dimensions of communication skill measured by our survey, and holds for all Comm-A courses, including ESL Comm-A.

The results forcefully testify to the effectiveness of the Comm-A requirement as an instrument for achieving general education objectives. They show emphatically that the growth in communication skills that students experience as a result of satisfying the Comm-A requirement is appreciable and occurs in roughly equal measure for males and females, and for all five certified courses. As observed at the outset, the expectation underlying general education objectives is that students who satisfy the Comm-A requirement by taking one of the certified courses would benefit from a richer communications experience than they might otherwise, and richer than the experience of students who do not take a Comm-A course. This study has shown that this expectation is empirically valid.

There is another respect in which the findings are important: they validate the way the communication component of general education objectives has been implemented at UW-Madison. UW-Madison is institutionally decentralized; so too is its implementation of the Comm-A requirement. Rather than having one course that is intended to address writing, speaking, and information literacy objectives for all students, there are five different Comm-A courses spread across three schools and colleges. Although all five courses satisfy a common set of criteria by advancing communication skills across a wide range of dimensions, each course has its own unique emphasis and approach. The findings reported here leave no doubt that the decentralized mode of implementation established at UW-Madison more than a decade ago is a highly effective means of achieving general education proficiency objectives with respect to writing, speaking, and information-seeking skills.²¹

²¹The consistency of findings across Comm-A courses that embrace common general education objectives but otherwise have their own unique educational goals is quite remarkable. Annual meetings of the individual directors of the Comm-A courses would be one mechanism for insuring that such consistency is maintained over time.

Table 1 Populations, Samples, and Respondents, by Stratum, for Study II of the Effect of QR A on Self-reported Quantitative Reasoning Skills and Preparedness for Future Courses, Spring 2004-05

| | <i>Population Size</i> | <i>Selected Sample Size</i> | <i>Respondent Sample Size</i> | <i>Response Rate</i> |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|----------------------|
| <i>Comm A stratum</i> | 1541 | 480 | 374 | 78% |
| <i>English 100</i> | 694 | 140 | 115 | 82% |
| <i>Comm Art 100</i> | 541 | 140 | 102 | 73% |
| <i>Life Science 100</i> | 104 | 100 | 69 | 69% |
| <i>EPD 155</i> | 202 | 100 | 88 | 88% |
| <i>Non-Comm A stratum</i> | 1447 | 160 | 141 | 88% |
| <i>Total</i> | 2988 | 640 | 515 | 80% |

Table 2 Observed and Adjusted Rates of Response to Survey, by Stratum, 2006-07.

| | <i>Observed Response Rate</i> | <i>Adjusted Response Rate*</i> |
|---------------------------|-----------------------------------|------------------------------------|
| <i>Comm A stratum</i> | 78% | 78% |
| <i>English 100</i> | 82% | 81% |
| <i>Comm Arts 100</i> | 73% | 73% |
| <i>Life Science 100</i> | 69% | 69% |
| <i>EPD 155</i> | 88% | 89% |
| <i>Non-Comm A stratum</i> | 88% | 89% |

Table 3 Observed Rates of Survey Response, by Comm-A Course Grade, 2006-07.

| <i>Comm-A Grade</i> | <i>Observed Response Rate</i> |
|-------------------------|-----------------------------------|
| <i>A</i> | 87.6% (169) |
| <i>AB</i> | 78.0% (182) |
| <i>B</i> | 73.4% (94) |
| <i>BC</i> | 63.6% (22) |
| <i>C-F</i> | 33.3% (18) |

Table 4 Observed and Adjusted Means on General Communication Skills Scale, by Comm-A Status, Fall 2006-07.

| <i>Comm-A Status</i> | <i>Observed means</i> | <i>Adjusted Means*</i> |
|--|-----------------------|------------------------|
| <i>(1) Satisfied Requirement</i> | 3.08 | 3.08 |
| <i>(2) Did Not Satisfy Requirement</i> | 2.40 | 2.41 |
| <i>Difference (1) - (2)</i> | 0.68 | .68 |
| <i>t-ratio (p-value)</i> | 11.59 (.000) | 11.46 (.000) |

Note: The statistics reported in this table take account of the disproportionate stratified random sampling scheme that was applied to the Comm-A subpopulation..

**These means adjust for differences in gender, UW English Placement Test scores, and fall semester grade point average.*

Table 5 Mean Communication Scale Scores by Grade in Comm-A Course, Fall 2006-07.

| <i>Comm-A Grade</i> | <i>Communication Scale Mean</i> |
|---------------------|---------------------------------|
| <i>A</i> | 3.12 (147) |
| <i>AB</i> | 3.12 (140) |
| <i>B</i> | 3.06 (67) |
| <i>BC</i> | 2.95 (14) |
| <i>C-F</i> | 3.07 (6) |

Note: Test for difference among means yields $F=.72$ (p-value =.58).

Table 6 Communication Scale Means, by Course, Fall 2006-07.

| <i>Courses</i> | <i>Communication Scale Mean</i> | <i>Difference (1) -(2)</i> | <i>t-ratio¹ (p-value)</i> |
|------------------------------------|-------------------------------------|----------------------------|--|
| <i>(1) Comm A Course</i> | | | |
| <i>Life Science 100</i> | 3.22 | .82 | 11.21 (.000) |
| <i>Comm Arts 100</i> | 3.17 | .77 | 11.90 (.000) |
| <i>English 100</i> | 3.01 | .61 | 9.76 (.000) |
| <i>EPD 155</i> | 3.07 | .67 | 9.85 (.000) |
| <i>(2) Non-Comm A Students</i> | 2.40 | | |
| <i>Total</i> | | | F=53.97 (.000) |

Table 7. Estimates of the Effect of Comm–A Requirement on Individual Items Tapping Selected Dimensions of Communication Skill, Fall 2006-07.

| <i>Items</i> | <i>Means</i> | | | <i>t-ratio</i> | <i>p-value</i> |
|--|------------------------|---------------------------|-------------------------|----------------|----------------|
| | <i>Comm--A (1)</i> | <i>Not Comm–A (2)</i> | <i>Diff (1)-(2)</i> | | |
| <i>Very Strong</i> | | | | | |
| <i>Use library databases to locate research materials specific to the topic of a paper or speech/presentation?</i> | 3.22 | 1.87 | 1.35 | 14.99 | .000 |
| <i>Retrieve and analyze information from library databases?</i> | 3.05 | 1.92 | 1.13 | 13.40 | .000 |
| <i>Deliver a speech or oral presentation?</i> | 2.87 | 1.77 | 1.10 | 14.97 | .000 |
| <i>Strong</i> | | | | | |
| <i>Cite sources and avoid plagiarism?</i> | 3.34 | 2.35 | 0.99 | 10.01 | .000 |
| <i>Produce papers or speeches/presentation for a specific audience?</i> | 3.13 | 2.27 | 0.86 | 8.49 | .000 |
| <i>Write and revise drafts of a paper or speech/presentation?</i> | 3.35 | 2.50 | 0.85 | 8.68 | .000 |
| <i>Critique speeches/presentations or papers?</i> | 2.91 | 2.11 | 0.80 | 9.24 | .000 |

Table 7. Estimates of the Effect of Comm–A Requirement on Individual Items Tapping Selected Dimensions of Communication Skill, Fall 2006-07. (Continued)

| <i>Items</i> | <i>Comm--A (1)</i> | <i>Not Comm–A (2)</i> | <i>Diff (1)-(2)</i> | <i>t-ratio</i> | <i>p-value</i> |
|--|------------------------|---------------------------|-------------------------|----------------|----------------|
| <i>Moderate</i> | | | | | |
| <i>Organize ideas for a paper or speech/presentation?</i> | 3.28 | 2.66 | 0.62 | 6.68 | .000 |
| <i>Select and focus topics for a paper or speech/presentation?</i> | 3.24 | 2.66 | 0.58 | 6.55 | .000 |
| <i>Support ideas in a paper or speech?</i> | 3.33 | 2.91 | 0.42 | 4.51 | .000 |
| <i>Judge the credibility and soundness of evidence?</i> | 2.88 | 2.49 | 0.39 | 4.52 | .000 |
| <i>Improve your grammar, punctuation, and style?</i> | 2.53 | 2.22 | 0.31 | 3.24 | .001 |
| <i>Weak</i> | | | | | |
| <i>Use language clearly and appropriately?</i> | 3.10 | 2.97 | 0.13 | 1.50 | .134 |
| <i>Recognize logically sound arguments?</i> | 2.93 | 2.85 | 0.08 | 0.88 | .381 |

Table 8. Estimates of the Effect of Comm–A Requirement on Selected Dimensions of Communication Skill, by Comm--A Course, Fall 2006-07.

| <i>Communication Dimensions</i> | <i>Difference in Means [Comm–A minus non-Comm–A]*</i> | | | | <i>Test of equality F** (p-value)</i> |
|--|---|--------------------------|--------------------|------------------------|---|
| | <i>Life Science 100</i> | <i>Comm Arts 100</i> | <i>EPD 155</i> | <i>English 100</i> | |
| <i>Very Strong</i> | | | | | |
| <i>Use library databases to locate research materials specific to the topic of a paper or speech/presentation?</i> | 1.44 (12.24) | 1.21 (11.64) | 1.35 (12.40) | 1.43 (14.32) | 1.77 (.151) |
| <i>Retrieve and analyze information from library databases?</i> | 1.37 (12.07) | 1.02 (10.16) | 1.10 (10.50) | 1.19 (12.29) | 3.03 (.029) |
| <i>Deliver a speech or oral presentation?</i> | 1.42 (14.23) | 1.88 (21.40) | 1.19 (12.97) | .50 (5.84) | 78.37 (.000) |
| <i>Strong</i> | | | | | |
| <i>Cite sources and avoid plagiarism?</i> | 1.15 (9.28) | 1.03 (9.37) | 1.08 (9.40) | 0.91 (8.63) | 1.34 (.261) |
| <i>Write and revise drafts of a paper or speech/presentation?</i> | .69 (5.67) | .66 (6.11) | .70 (6.17) | 1.05 (10.08) | 5.31 (.001) |
| <i>Produce papers or speeches/presentation for a specific audience?</i> | 1.24 (9.87) | 1.18 (10.65) | .88 (7.57) | .58 (5.43) | 12.38 (.000) |
| <i>Critique speeches/presentations or papers?</i> | .86 (7.16) | .94 (8.85) | .60 (5.38) | .75 (7.34) | 2.98 (.031) |

Table 8. Estimates of the Effect of Comm–A Requirement on Selected Dimensions of Communication Skill, by Comm--A Course, Fall 2006-07. (Continued)

| <i>Items</i> | <i>Difference in Means (Comm–A minus non-Comm–A)*</i> | | | | <i>Test of Equality F** (p-value)</i> |
|--|---|--------------------------|--------------------|------------------------|---|
| | <i>Life Science 100</i> | <i>Comm Arts 100</i> | <i>EPD 155</i> | <i>English 100</i> | |
| <i>Moderate</i> | | | | | |
| <i>Organize ideas for a paper or speech/presentation?</i> | .63 (4.12) | .74 (5.40) | .59 (4.11) | .71 (5.41) | 0.41 (.747) |
| <i>Select and focus topics for a paper or speech/presentation?</i> | .63 (5.52) | .51 (5.02) | .53 (5.06) | .64 (6.52) | 0.70 (.554) |
| <i>Support ideas in a paper or speech?</i> | .58 (5.04) | .49 (4.81) | .38 (3.50) | .37 (3.73) | 1.42 (.237) |
| <i>Judge the credibility and soundness of evidence?</i> | .52 (4.49) | .52 (5.03) | .50 (4.60) | .25 (2.49) | 3.03 (.029) |
| <i>Improve your grammar, punctuation, and style?</i> | .67 (4.19) | .38 (2.67) | .45 (3.08) | .32 (2.36) | 1.60 (.189) |
| <i>Weak</i> | | | | | |
| <i>Use language clearly and appropriately?</i> | .06 (0.51) | .30 (2.94) | -.05 (0.49) | .08 (0.83) | 3.39 (.018) |
| <i>Recognize logically sound arguments?</i> | .31 (2.49) | .10 (0.91) | .14 (1.20) | .03 (0.26) | 1.65 (.178) |

*Absolute values of t-ratios appear in parentheses below the differences in means. T-ratios less than 1.96 are not statistically significant; those above 2.50 are significant at less than the .01 level.

**The F-statistic in last column tests the hypothesis that effect of all Comm–A courses is equal; i.e., each course mean exceeds the mean for non-Comm–A students by an equal amount.

**Table 9 Tests of Differences in Means on General Communication Skills Scale,
by Comm-A Status, Fall 2006-07.**

| <i>Comm-A Status</i> | <i>Means</i> | <i>t-ratio (p-value)</i> |
|-----------------------------|--------------|--------------------------|
| <i>(1) ESL Comm-A</i> | 3.10 | |
| <i>(2) Regular Comm-A</i> | 3.11 | |
| <i>(3) No Comm-A</i> | 2.40 | |
| <i>Difference (1) - (2)</i> | -0.01 | 0.02 (.99) |
| <i>Difference (1) - (3)</i> | .71 | 10.31 (.000) |

Table 10. Estimates of the Effect of Comm–A Requirement on Scores of ESL Students on Selected Dimensions of Communication Skill, Fall 2006-07.

| <i>Items</i> | <i>Means</i> | | | <i>t-ratio</i> | <i>p-value</i> |
|--|--------------------------------|----------------------------|-------------------------|----------------|----------------|
| | <i>ESL Comm--A (1)</i> | <i>Not Comm--A (2)</i> | <i>Diff (1)-(2)</i> | | |
| <i>Very Strong</i> | | | | | |
| <i>Retrieve and analyze information from library databases?</i> | 3.37 | 1.92 | 1.44 | 15.53 | .000 |
| <i>Use library databases to locate research materials specific to the topic of a paper or speech/presentation?</i> | 3.30 | 1.87 | 1.43 | 14.11 | .000 |
| <i>Cite sources and avoid plagiarism?</i> | 3.50 | 2.35 | 1.16 | 11.06 | .000 |
| <i>Strong</i> | | | | | |
| <i>Deliver a speech or oral presentation?</i> | 2.65 | 1.77 | 0.88 | 10.00 | .000 |
| <i>Write and revise drafts of a paper or speech/presentation?</i> | 3.28 | 2.50 | 0.78 | 7.28 | .000 |
| <i>Critique speeches/presentations or papers?</i> | 2.84 | 2.11 | 0.73 | 7.32 | .000 |
| <i>Improve your grammar, punctuation, and style?</i> | 2.90 | 2.22 | 0.68 | 6.28 | .000 |
| <i>Organize ideas for a paper or speech/presentation?</i> | 3.33 | 2.66 | 0.67 | 6.47 | .000 |

Table 10. Estimates of the Effect of Comm–A Requirement on Scores of ESL Students on Selected Dimensions of Communication Skill, Fall 2006-07. (Continued)

| <i>Items</i> | <i>ESL Comm--A (1)</i> | <i>Not Comm--A (2)</i> | <i>Diff (1)-(2)</i> | <i>t-ratio</i> | <i>p-value</i> |
|---|--------------------------------|----------------------------|-------------------------|----------------|----------------|
| <i>Moderate</i> | | | | | |
| <i>Produce papers or speeches/presentation for a specific audience?</i> | 2.89 | 2.31 | 0.59 | 5.43 | .000 |
| <i>Select and focus topics for a paper or speech/presentation?</i> | 3.18 | 2.66 | 0.52 | 5.17 | .000 |
| <i>Judge the credibility and soundness of evidence?</i> | 2.95 | 2.49 | 0.45 | 4.70 | .000 |
| <i>Support ideas in a paper or speech?</i> | 3.24 | 2.91 | 0.34 | 3.22 | .001 |
| <i>Weak</i> | | | | | |
| <i>Recognize logically sound arguments?</i> | 3.02 | 2.89 | 0.13 | 1.35 | 0.18 |
| <i>Use language clearly and appropriately?</i> | 3.01 | 2.97 | 0.04 | 0.36 | 0.64 |

Table 11. Comparison of ESL and Other Comm–A Students on Individual Selected Dimensions of Communication Skill, Fall 2006-07.

| <i>Items</i> | <i>Means</i> | | | <i>t-ratio</i> | <i>p-value</i> |
|--|------------------------|-------------------------------|-------------------------|----------------|----------------|
| | <i>Comm--A (1)</i> | <i>ESL Comm–A (2)</i> | <i>Diff (1)-(2)</i> | | |
| <i>Moderate difference</i> | | | | | |
| <i>Deliver a speech or oral presentation?</i> | 2.98 | 2.65 | .33 | 4.13 | .000 |
| <i>Retrieve and analyze information from library databases?</i> | 3.08 | 3.37 | -.29 | 4.06 | .000 |
| <i>Produce papers or speeches/presentation for a specific audience?</i> | 3.21 | 2.89 | .31 | 3.86 | .000 |
| <i>Improve your grammar, punctuation, and style?</i> | 2.61 | 2.90 | -.30 | 3.43 | .001 |
| <i>Small difference</i> | | | | | |
| <i>Cite sources and avoid plagiarism?</i> | 3.38 | 3.50 | -.13 | 1.74 | .082 |
| <i>Support ideas in a paper or speech?</i> | 3.35 | 3.24 | .11 | 1.57 | .120 |
| <i>No difference</i> | | | | | |
| <i>Use library databases to locate research materials specific to the topic of a paper or speech/presentation?</i> | 3.22 | 3.30 | -.08 | 1.03 | .300 |
| <i>Use language clearly and appropriately?</i> | 3.08 | 3.01 | .07 | 0.91 | .360 |

Table 11. Comparison of ESL and Other Comm–A Students on Individual Selected Dimensions of Communication Skill, Fall 2006–07.

(Continued)

| <i>Items</i> | <i>Means</i> | | | <i>t-ratio</i> | <i>p-value</i> |
|--|-----------------------|-------------------------------|-------------------------|----------------|----------------|
| | <i>Comm–A (1)</i> | <i>ESL Comm–A (2)</i> | <i>Diff (1)-(2)</i> | | |
| <i>Select and focus topics for a paper or speech/presentation?</i> | 3.24 | 3.18 | .06 | 0.84 | .403 |
| <i>Critique speeches/presentations or papers?</i> | 2.90 | 2.84 | .06 | 0.72 | .472 |
| <i>Recognize logically sound arguments?</i> | 2.98 | 3.02 | -.05 | 0.61 | .544 |
| <i>Organize ideas for a paper or speech/presentation?</i> | 3.28 | 3.33 | -.05 | 0.67 | .672 |
| <i>Judge the credibility and soundness of evidence?</i> | 2.92 | 2.95 | -.03 | 0.33 | .744 |
| <i>Write and revise drafts of a paper or speech/presentation?</i> | 3.29 | 3.28 | .01 | 0.16 | .867 |



General Education Assessment

Please think about the courses that you took at UW during the fall semester. This includes the lectures, readings, discussion sections, and assignments, as well as any other experiences you had as part of these courses.

How much did any of these courses teach you to do each of the following:

(Please circle one answer for each item)

| | Not at all | A little | A fair amount | A lot |
|--|------------|----------|---------------|-------|
| 1. Deliver a speech or oral presentation? | 1 | 2 | 3 | 4 |
| 2. Retrieve and analyze information from library databases? | 1 | 2 | 3 | 4 |
| 3. Select and focus topics for a paper or speech/presentation? | 1 | 2 | 3 | 4 |
| 4. Recognize logically sound arguments? | 1 | 2 | 3 | 4 |
| 5. Use language clearly and appropriately? | 1 | 2 | 3 | 4 |
| 6. Support ideas in a paper or speech/presentation? | 1 | 2 | 3 | 4 |
| 7. Produce papers or speeches/presentations for a specific audience? | 1 | 2 | 3 | 4 |

(Please continue on the next page)

How much did any of these courses teach you to do each of the following:

(Please circle one answer for each item)

| | Not at all | A little | A fair amount | A lot |
|---|------------|----------|---------------|-------|
| 8. Judge the credibility and soundness of evidence? | 1 | 2 | 3 | 4 |
| 9. Organize ideas for a paper or speech/presentation? | 1 | 2 | 3 | 4 |
| 10. Improve your grammar, punctuation, and style? | 1 | 2 | 3 | 4 |
| 11. Cite sources and avoid plagiarism? | 1 | 2 | 3 | 4 |
| 12. Use library databases to locate research materials specific to the topic of a paper or speech/presentation? | 1 | 2 | 3 | 4 |
| 13. Write and revise drafts of a paper or speech/presentation? | 1 | 2 | 3 | 4 |
| 14. Critique speeches/presentations or papers? | 1 | 2 | 3 | 4 |

Thank you for your help!

Please return this completed questionnaire in the postage paid envelope provided,
or send it to:

UW Survey Center, 630 W Mifflin St. Room 174, Madison, WI 53703-2636.

