

## **Criterion Four: Acquisition, Discovery, and Application of Knowledge With an Integration of the Focus Group Reports: Diversity, Finance, General Education, Governance, Mission and the Common Good, and Technology and Learning**

**The organization promotes a life of learning for its faculty, administration, staff, and students by fostering and supporting inquiry, creativity, practice, and social responsibility in ways consistent with its mission.**

**Core Component - 4A. The organization demonstrates, through the actions of its board, administrators, students, faculty, and staff, that it values a life of learning.**

- **NDSU's governance structure values, practices, and protects freedom of inquiry for students, faculty, and staff.**

The North Dakota University System (NDUS) is governed by the State Board of Higher Education (SBHE), with the Chancellor serving as the Chief Executive Officer. As a member of the NDUS, North Dakota State University shares the over-all vision and goals of the system. The mission of the North Dakota University System is to “enhance the quality of life of all those we serve and the economic and social viability of North Dakota through discovery, sharing and application of knowledge.” The Core values of the NDUS include: Integrity, honesty, trustworthiness, accountability, valued partnerships, responsible stewardship, scholarship and the pursuit of excellence. The vision for the NDUS is “The vital link to a brighter future.”

A Roundtable on Higher Education was formed in 1999 to study higher education in North Dakota and to establish new expectations and recommendations for the University System. The Roundtable was comprised of a group of 61 state leaders from the public and private sectors. The task assigned to the Roundtable was future-oriented in order to address the expectations of the NDUS in meeting the state’s needs in the new century. A strategic plan was developed and adopted by the SBHE that involves long-term and short-term planning with accountability measures. The expectations became cornerstones and include the following: Economic Development Connection, Education Excellence, Flexible and Responsive System, Accessible System, Funding and Rewards, and Sustaining the Vision.

In 2001, the North Dakota Legislature passed SB2003, which took major steps toward implementing the Roundtable recommendations. The legislation granted the University System “flexibility with accountability.” In this legislation, the system was empowered to act more entrepreneurially, and at the same time, was provided with consensus concerning accountability for benchmarks. In October 2001, the State Board of Higher Education approved the addition of accountability measures it deemed necessary to provide guidance in establishing effective policy for the system’s 11 campuses. Campuses must report in accordance with these accountability measures each year.

- **NDSU's planning and pattern of financial allocation demonstrate that we value and promote a life of learning for its students, faculty, and staff.**
  - Financial Allocation for Institutional Infrastructure to Promote Learning

In \_\_\_\_\_ NDSU created the positions of Associate Vice Presidents for Administration and Associate Vice President for Academics to provide leadership and coordination in

The Offices of Accreditation and Assessment and Institutional Research and Analysis evolved from the previous Office of Assessment and Institutional Research in about 2001. Their respective Web sites are <http://www.ndsu.edu/ndsu/accreditation/index.shtml> and <http://www.ndsu.nodak.edu/oia/>. The OIRA provides the campus information on general education via survey results, transcript analyses, and focus groups. In addition, the Office of Assessment and Institutional Research (A&IR) and the University Assessment Committee (UAC) are available for technical assistance for department assessment activities.

The Director of Accreditation and Assessment was the principle investigator for the 1999-2003 Bush Grant To Improve Undergraduate Learning Through Faculty Development and Improvement of Teaching (see exhibit ### for final report to the Bush Foundation). One of the three main funded activities was University Assessment.

In the 1999 Bush Grant writing assessment project, an English Professor and graduate student conducted electronic surveys of faculty perceptions of student writing, analyzed and assessed student papers from a variety of disciplines, and interviewed 26 professors to determine what kind and amount of writing their students are required to do and how well they do it. They discovered that a great amount and variety of writing is expected of juniors and seniors at NDSU instructors consider writing skills to be essential in their fields even well-intentioned and creative instructors need guidance (a) in writing clear, complete assignments; (b) in creating guidelines and rubrics to show students what their assignments require; and (c) in responding effectively to student writing.

In the 1999 Bush Grant quantitative project, a mathematics professor and research assistants administered tests in 6-8 courses and 3-4 departments each semester to determine what quantitative skills students must have to succeed in selected courses. The project worked with instructors in courses across the campus to develop customized pretests to determine whether students entering those courses have the required mathematical skills and knowledge. Test results identified strengths and weaknesses of student quantitative backgrounds. Participating departments and the Mathematics Department reviewed results and are discussing their implications, working to make specific responses to address identified weaknesses.

Continuous and informed improvement of general education is directly provided by University Senate standing committees of Assessment and General Education, each of which has a faculty representative from each of the academic colleges. The Assessment and General Education Committees (by-law memberships and responsibilities in exhibit ##) meet monthly during the academic year. Members of the Assessment Committee analyze, and subsequently discuss in general, departmental yearly assessment of student learning reports required by the V.P. for Academic Affairs but submitted to the chair of the Assessment Committee, who is also Director of the Office of Accreditation and Assessment. Each academic department plus others, such as Office of Orientation and Student Success, submits a report each year following the Guidelines (exhibit ###) updated yearly by the Assessment Committee. The Director of Accreditation and

Assessment provides each department chair with a summary of the Committee's analysis of the content of their respective assessment report.

Other examples of financial support to promote a life of learning for its students, faculty, and staff include the Cooperative Sponsorship Committee which matches other funds to sponsor presentations by visiting scholars (exhibit ###), the creation of the position of Campus Programming Director in the Memorial Union (exhibit ###), the numerous co-curricular student programs (exhibit ###), and the extensive programming provided by Residence Life (exhibit ###).

- **Financial Allocation to Faculty and Staff to Promote Learning**

The most basic evidence of financial allocation to support a life of learning is seen in the funds directly available to faculty and staff. The appropriated salary fund for the seven different academic colleges has seen a small yet steady increase since the academic year 1997-98-to-date. The average increase over the 6-year period has been approximately 3.6% per year.

The use of professional development grants for the purpose of traveling to and attending professional conferences in the faculty member's area of study has increased considerably over the past five years with an average increase rate of approximately 73% per year. The main source of this grant comes from the NDSU President's Office for a maximum support of \$1,000 per request. This money is in addition to any departmental funds that may be available for travel. Faculty members must formally apply for the funds, but no one who submits a timely application that meets the guidelines has been turned down. Many faculty and staff, who would otherwise be unable to travel due to depletion of departmental funds, or because they don't have a paper to present, have taken advantage of these funds to enhance their qualifications. The total grant use has increased from around \$74,000 in 1998 to over \$530,000 in 2002. The number of recipients has more than doubled over the same period. In 2002, 622 faculty and staff received the professional development grants. All indications are that this will continue in the future.

NDSU has also offered tuition waivers to its employees, and has expanded these benefits in recent years. Originally, any half-time or greater employee at NDSU could take on three-credit course per semester and have all tuition and fees waived. This benefit has now been expanded to three three-credit courses per year, and the employee may take those classes all in one semester, or spread them throughout the year. This change has assisted the University in recruitment and retention as it allows employees to schedule classes around peak work times and fit-in more hours per year. While data for the employee waivers are not reported individually for each institution, statewide it appears that more employees are taking advantage of the waivers in recent years, most likely due to the increased flexibility. In 2002, 505 employees took advantage of the waivers, which is higher than in any other year. In 199\_, which was the low point in participation over the past eight years, the number was 375.

In addition, spouses and dependents of NDSU employees have just recently (as of April 2002) become entitled to a 50% tuition waiver for all classes taken at NDSU. Based on data provided by the Human Resources Office, a significant number of employees have taken advantage of these waivers. In Fall, 2002, 176 discounts were processed, and 177 were processed in Spring, 2003.

The North Dakota Experimental Program to Stimulate Competitive Research (ND EPSCoR) Program supports a three-fold mission:

- To be a driving force in the building of a strong research infrastructure in North Dakota.
- To increase opportunities for students and faculty to develop their research capabilities.
- To develop strong linkages with business and industry in North Dakota.

ND EPSCoR is administered for the North Dakota University System (NDUS) by a steering committee composed of NDSU and UND faculty. NSF funded a major EPSCoR Cooperative Agreement grant in May of 2002. This grant, in the amount of \$6.0 million, provides support for research, human resource development, and technology transfer over a three-year period. The North Dakota Legislature has appropriated a total of \$7.45 million as matching dollars for the ND EPSCoR Program. Funds are distributed through a number of competitive processes that support New Faculty Startup Awards, Graduate Assistantships, Equipment and Seed Awards, Undergraduate Research Awards and Technology Transfer. ND EPSCoR also provides similar opportunities through its EPA, NASA and NIH programs. In fiscal year 2004 ND EPSCoR's Infrastructure Improvement Programs provided the following dollar awards: New Faculty Startup Awards (\$312,500), IIP SEED (\$75,500), Doctoral Dissertation Awards (\$128,691), Graduate Student Assistantship Awards (\$54,904) and Equipment Grants.

#### Faculty Laboratory and Research Experiences (FLARE)

Faculty from the comprehensive and liberal arts colleges in North Dakota are provided opportunities to conduct collaborative research with established principal investigators at NDSU and UND. During FY 2004, Dr. Stefan Balaz, NDSU Department of Pharmaceutical Sciences, was awarded \$10,931 by ND EPSCoR to support his collaborative research with Dr. Mikhail Bobylev, Minot State University during summer 2003.

#### Technology Transfer

Two programs are supported by ND EPSCoR Students in Technology Transfer and Research (STTAR) and Faculty In Technology Transfer (FITT)

#### STTAR

ND EPSCoR established STTAR in 1994 in response to recognized state and national needs for improving technology transfer. ND EPSCoR provides salary cost sharing with participating companies. Sixty North Dakota companies from across the state have participated since the program was initiated. In FY 2004, 33 students from the North Dakota University System and the following companies benefited from student expertise:

#### FITT

Faculty from North Dakota universities are matched with North Dakota firms to conduct research during the summer. During FY04, ND EPSCoR invested \$6,090 to support faculty research at Dakota Technologies, Inc. and Wishek Steel and Manufacturing.

#### NASA EPSCoR Grants

The National Aeronautics and Space Administration (NASA) encourages research relevant to the nation's space and advanced aeronautics goals. To accomplish this, NASA initiated an EPSCoR program based on NSF's successful program. (\$42,286)

#### EPA EPSCoR Grants

Similarly, the Environmental Protection Agency (EPA) EPSCoR program provides funding for science and engineering research (SEER) projects related to the EPA mission and infrastructure improvement. (\$40,710)

#### NIH Biomedical Research Infrastructure Network (BRIN) Grants

North Dakota BRIN's purpose is to build biomedical research capacity within the state.

Networking and human resource development are the watchwords for this collaborative effort between the two North Dakota research universities, four baccalaureate institutions in the North Dakota University System and five tribal community colleges. (\$147,665)

- **Financial Allocation to Students to Promote Learning**

The data available on graduate student stipends are hard to summarize and compare both from year-to-year and across departments. This is because of wide variations in how students are paid (monthly, bi-monthly, every two weeks, etc.), the length of the period for which they are paid (one semester, nine months, ten months or twelve months), the number of hours worked per week, whether the students are teaching assistants or research assistants, whether the students have complete responsibility for teaching classes, and whether they are receiving extra support from other centers or institutes on campus.

However, in their reports to the graduate school each year, a sample of the past eight years, including the 1996-97, 1999-2000 and 2002-2003 academic years shows that many departments have increased stipends. For example, stipends in the Agribusiness and Applied Economics department increased from \$800 per month in 1996-97, to \$900 in 1999-2000, and to \$1,100 in 2002-03. These numbers have been adjusted, as much as possible, to represent the monthly stipend for 20 hours of work, not including any monies from outside sources or other duties. In Communications the amounts for the same three years were \$667, \$733 and \$1,200. In Plant Sciences stipends ranged from \$756 to \$1,185 in 1996-97, while in 2002-03 the range had increased to \$1,150 to \$1,234. While the evidence is not overwhelming, it is clear that most departments have attempted to increase stipends over the years, and this occurred in a time of increasingly tight allocations for stipends. Some departments have cut down on the number of stipends they offer so as to offer amounts that are more competitive with other schools.

The amount of financial aid received by NDSU students has increased by approximately 41% in the last five years, while the number of enrolled students receiving some form of financial assistance has increased by approximately 20%. As a percentage of the total student body, the number of students receiving assistance has increased from approximately 76% to approximately 81%. Over the same five year period, there have also been changes in the source of student aid. Gift aid—i.e., Pell Grants, graduate tuition waivers, scholarships, etc.—have increased approximately 32%. This increase, however, masks a 33% decrease in state grants. Aid from federal loan programs has increased 31% during this period. In this area, the ratio of subsidized to unsubsidized loans has sharply declined so that, in 2001 – 2002, the two are almost equal. Average student loan debt, by grade level, has increased the following amounts over the last four years:

Freshman:	3%
Sophomore:	18%
Junior:	12%
Senior:	12%
Grad-Masters:	4%
Grad-Doctorate:	4% decline after two years of increases of approximately 9% and 7%.

#### ND EPSCoR Science Outreach and Recruitment

Three Science Outreach and Recruitment programs, Advanced Undergraduate Research Awards (AURA), Science Bound, and Faculty Laboratory and Research Experience (FLARE), were supported in Fiscal Year 2004.

#### Aura Program Awards

Ten AURA awards, totaling \$35,800, were made to undergraduates to conduct research for an eight to ten week period during the summer of 2003.

#### Science Bound Program Participants

Entering freshmen with strong interests in science, engineering, and mathematics can qualify for the ND EPSCoR Science Bound Program, which provides support for academic year and summer research activities. Students who maintain a 3.0 GPA and demonstrate progress in their research are eligible for a second-year award. The participants and their faculty mentors are listed below, for awards totaling \$64,837.

- **NDSU supports professional development opportunities and makes them available to all of its administrators, faculty, and staff.**

The University has been repeatedly successful in obtaining three-year Bush Foundation grants targeted toward faculty development to enhance teaching and learning. The 1999-2002 Bush Grant, entitled "To Improve Undergraduate Learning Through Faculty Development and Improvement of Teaching," had three components: Non-Traditional Learning, University Assessment, and a University-wide Honors Program. The first of these included problem-based learning, cooperative learning, studio-based learning. Related to that was a "Next Generation Interactive Classrooms" component, which addressed the incorporation of new classroom technology and which led to the establishment of a Faculty Institute for Excellence in Learning (FIEL) to facilitate the development of faculty with problem-based learning and incorporation of new classroom technology. Interested faculty could volunteer to become FIEL Fellows, who would receive special training in the above forms of learning and incorporation of classroom technology. Periodic workshops and pedagogical luncheons also introduced a wider number of faculty to these alternative forms of learning.

Provision of services of support for improved pedagogies has included a varied set of activities. At the beginning of each academic year, prior to the beginning of classes, a series of faculty workshops are offered and concern topics such as incorporation of classroom technology, suitable writing projects, non-traditional forms of learning. Periodic workshops and luncheon meetings devoted to problem-based learning and assessment have been held as part of the 1999-2002 Bush Foundation Grant. The Peer Review of Teaching, recently instituted, is actually a return to a similar measure used for a time almost 20 years earlier.

Further examples of professional development opportunities include annual programs such as Administrative Assistants Workshop (exhibit ###), the Faculty Development Workshops for new and returning held each August (exhibit ###), and regular programs such as the Pedagogical Lunches sponsored by the Associate Vice President for Academics (exhibit ###). In addition the Provost has sponsored faculty delegation to the annual AHEE, Roles and Rewards Conference (exhibit ###), and has funded consultants for the Honors Program (exhibit ###), and for Problem Based Learning (Karl Smith, University of Minnesota) (exhibit ###).

- **NDSU publicly acknowledges the achievements of students and faculty in acquiring, discovering, and applying knowledge.**

University Faculty Awards:

There are six university-wide awards that recognize research: Faculty Lectureship, Waldon Award, Fargo Chamber of Commerce Distinguished Professorship, Jordan A. Engberg Presidential Professorship, Dale Hogoboom Presidential Professorship, and Walter F. and Verna Gehrts Presidential Professorship.

College Faculty Awards:

Agriculture, Food Systems, and Natural Resources: the Larson/Yaggie Excellence in Research Award and the Eugene R. Dahl Excellence in Research Award

Arts, Humanities, and Social Sciences: Outstanding Research and Creative Activity Award.

Business Administration: Excellence in Research

Engineering and Architecture: Researcher of the Year

Human Development and Education: outstanding faculty member in Scholarship/Research and the James Lebedeff Endowed Professorship

Pharmacy: Researcher of the Year

Science and Mathematics: College Research Award and the James Meier Professorship.

College Student Awards: (Note: Many College awards are for academic achievement, I am not sure that is “acquiring, discovering, and applying knowledge” which to me equals research.)

Agriculture, Food Systems, and Natural Resources:

Science and Mathematics: Graduate Research Award, Fred A. Bristol Jr. Scholarship, McCarthy

Science Teacher Education Scholarship, William T. McMahon Memorial Scholarship, Ralph L.

Pitman Memorial Award, and Steinhaus-Rhinehart Scholarship

Department Faculty Awards:

Health, Nutrition and Exercise Sciences: Researcher of the Year

Department Student Awards: (Note: Many College awards are for academic achievement, I am not sure that is “acquiring, discovering, and applying knowledge” which to me equals research.)

Biological Sciences: Outstanding Research Student Award (undergraduate), Cassel Award (undergraduate)

Chemistry: Milde Award (graduate)

English: Graduate Student Paper Award

Geosciences: Brophy Award (undergraduate),

Health, Nutrition and Exercise Sciences: Graduate Student of the Year

- **The faculty and students, in keeping with NDSU’s mission, produce scholarship and create knowledge through basic and applied research.**

Twenty-five departments organize regular “brown-bag” seminars in which faculty, visiting scholars, or graduate students present their research. Nineteen departments sponsor domestic or international study trips for students. Ten departments sponsor or co-sponsor research conferences that focus on undergraduate and graduate research. Twenty-six departments provide funding for graduate and undergraduate students to attend conferences to present their research. Twenty-eight departments regularly have graduate and undergraduate students who attend conferences to present their research.

There should be a ton of this in the annual reports. How do we report it in a meaningful way? Is there some total figure for each department, college, and the campus as a whole? If it is easily available, we could note trends.

Possible integration from the Mission and the Common Good Statement:

The current draft of the Mission statement is:

"With energy and momentum, North Dakota State University addresses the needs and aspirations of people in a changing world by building on our land-grant foundation."

The Centers of Excellence initiative was proposed by Gov. Hoeven to combine education and economic development to create higher paying jobs and new business opportunities for North Dakota citizens. When leveraged with federal and private funding, as much as \$150 million could be made available for research and commercialization of new products and services. Over the next few months, educators, business leaders and policy makers will gather on campuses across the state to map out the Centers of Excellence initiative. Forums will be held at each of the 11 campuses of the North Dakota State University System.

<http://governor.state.nd.us/2004-excellence.html>

In relation to this initiative, Chancellor Potts sent an RFP to the NDUS Presidents requesting "Centers of Excellence" proposals. I've attached the criteria from the Chancellor's Office to this e-mail. NDSU responded to this request through Dr. Boudjouk's Office. We forwarded 19 one-page proposals to the Chancellor. The proposals were submitted in early September and we have not received additional information on the initiative (so no proposals have been funded from this RFP). I do not believe we will be receiving any information on this initiative until the coming state legislative session.

Some of the proposals we received from NDSU groups were consolidated due to similarities. The departments represented include:

Sociology & Anthropology  
 Architecture  
 Computer Science  
 Center for Nanoscale Science & Engineering  
 Upper Great Plains Transportation Institute  
 Center for High Performance Computing  
 Polymers & Coatings  
 Agribusiness & Applied Economics  
 Research Extension Centers  
 Agricultural Experiment Station (Director's Office)  
 Animal & Range Sciences  
 Soil Science  
 Plant Pathology  
 Pharmaceutical Sciences  
 Facilities Management (HDE)

- **NDSU and its units use scholarship and research to stimulate organizational and educational improvements.**

NDSU entered the twenty-first century with a strong sense of university-wide momentum, driven by President Joseph A. Chapman's challenge for each campus academic and service unit to define and reach its own "next level" of excellence.

Nontraditional delivery methods of instruction at NDSU support a life of learning. The majority of electronically offered programs are budgeted at the departmental and/or college levels. Examples include the College of Human Development and Education, which houses three such

programs--Family Financial Planning, a consortial master's degree in the Department of Child Development and Family Science delivered online; Educational Leadership, also a consortial master's degree in the School of Education delivered via interactive video; and Counselor Education, a master's degree in the School of Education also delivered via interactive video—and the College of Arts Humanities and Social Sciences, which houses master's and PhD programs in Communication in development for online delivery. Students are assured their program will be sustained long enough for cohorts to complete it. A program is offered for a specific duration and locations are chosen to accommodate student requests. Students can plan ahead to meet the parameters and requirements of the program. Additional programs are in various stages of adaptation for electronic deliveries. In terms of infrastructure support, NDSU administration appropriates funds for salaries, operating, and equipment. The Provost annually commits funds for the online course management system currently in use (Blackboard).

Special needs students have access to the life of learning at NDSU. NDSU has a Counseling and Disabilities Office (<http://www.ndsu.nodak.edu/counseling/disability/index.shtml>) that assists both students with disabilities, and faculty and staff who are working with these students. Disability Services staff members can:

- Explain how to access services.
- Provide individual consultation regarding the possible presence of learning, emotional, or physical disabilities that hinder academic performance.
- Consult with students, faculty and staff to determine and provide appropriate accommodations.
- Assist in arranging for accommodations.

Services for those with disabilities are identified by the Library (<http://www.lib.ndsu.nodak.edu/services/Disabled.php>) and by ITS Web Development ([http://www.ndsu.edu/wwwdev/web\\_team/resources/site.shtml](http://www.ndsu.edu/wwwdev/web_team/resources/site.shtml)). Every effort is made to bring electronic content into Bobby standards for those with disabilities (<http://bobby.watchfire.com/bobby/html/en/index.jsp>)

## **Core Component - 4B. The organization demonstrates that acquisition of a breadth of knowledge and skills and the exercise of intellectual inquiry are integral to its educational programs.**

Examples of Evidence:

- **NDSU integrates general education into all of its undergraduate degree programs through curricular and experiential offerings intentionally created to develop the attitudes and skills requisite for a life of learning in a diverse society.**

The Alumni Outcomes Survey assesses “alumni’s perceptions regarding the college’s impact on their personal and professional growth and development and to provide a detailed employment and educational history.” The survey gathers background information, employment history and experiences, educational outcomes, educational experiences, activities and organizations, mailing addresses, additional questions, and comments and suggestions. This allows

NDSU regularly to assess the effectiveness of teaching and learning resources.

NDSU's General Education requires that all GE courses must at least have at least two General Education Learning Outcomes and that all students complete a course for Cultural Diversity. In addition, many courses meet General Education Learning Outcome "6 Integrate knowledge and ideas in a coherent and meaningful manner."

- **NDSU regularly reviews the relationship between its mission and values and the effectiveness of its general education.**

Assessing student learning in general education has proved difficult. In 2002 the University Assessment Committee requested that all departments with general education courses provide information on the student learning in those courses as part of the unit's annual assessment report. The results have been mixed (exhibit ###). The shortcomings of assessment of student learning in general education has been a concern of outside consultants such as Dr. William Wresch in April 2000 (exhibit ###) and Dr. Susan Hatfield, Winona State University, in Sept.-Oct. 2002 (exhibit ###) and discussions documented in the minutes of both the University Assessment Committee (exhibit ###) and the General Education Committee (exhibit ###).

All courses approved for general education are reviewed every five years to evaluate if they are still meeting the General Education Learning Outcomes for which they were approved (<http://www.ndsu.nodak.edu/ndsu/deott/gened/geforms.shtml>) (exhibit ###).

In late 1992, following NDSU's conversion from the quarter system to the semester system, the University Senate approved a General Education plan and established a standing General Education Committee to establish criteria for general education courses and periodically review approved courses. The General Education Committee (by-law memberships and responsibilities in exhibit ##) meets monthly during the academic year. The General Education Committee has broad responsibilities for general education (exhibit ###), e.g., general education course approval recommendation and assessment of students' attainment of the General Education Intended Student Outcomes (exhibit ###) instituted by the University Senate starting fall semester 1994. Beginning after the Spring 2003 semester, the General Education Committee required that "All general education course syllabi and course web sites must identify the course as having been approved for meeting General Education requirements and include the general education outcomes for which each course is approved [and] "explain how students meet the general education outcomes by the activities in the course." (<http://www.ndsu.nodak.edu/ndsu/deott/gened/syllabi.shtml>).

The Office of Institutional Research and Analysis regularly studies the general education program. See exhibit ### for the most recent summary of the pattern and depth of exposure to the General Education Learning Outcomes and associated General Education Categories as revealed by a transcript analysis. See exhibit ## for a summary of information obtained from focus groups of students asked for feedback on NDSU's General Education requirements.

The Long Form of the Academic Profile as well as the Academic Profile Content-Related Essay was administered to stratified random samples of freshmen as well as to the students in learning communities and their non-learning community pairs. See exhibit ### for a summarization of the scores in the 12 areas of the three samples of 100 freshmen. In addition the General Education Committee arranged to have a stratified random sample of 50 seniors take these exams in 2004 and 2005 (exhibit ###).

- **NDSU assesses how effectively its graduate programs establish a knowledge base on which students develop depth of expertise.**

The expected learning outcomes for graduate and postbaccalaureate programs are identified in the assessment plan for each unit with graduate or postbaccalaureate programs and its annual assessment reports (exhibit ###). The learning outcomes for some graduate and postbaccalaureate programs are identified in accreditation documents for individual programs (exhibit ###), and in graduate manuals published by departments (exhibit ###).

- NDSU demonstrates the linkages between curricular and co-curricular activities that support inquiry, practice, creativity, and social responsibility.

NDSU provides institutional support for Black History Month, Civil Education Month, Coming Out Week, Cultural Awareness Month, Human Rights Day, International Week, and Women's Week (exhibit ###). These nationally recognized days, weeks or months are also recognized at NDSU every year with students, faculty and staff organizing special programming and events are the various themes to create awareness and increase acceptance. The Tri-College Pow-Wow is an annual event celebrating the American Indian culture and heritage in the state and region (exhibit ###). In addition, the campus participates in the national Safe Zone Program to educate faculty and staff to the basic needs of respect, privacy and safety of those who are gay, lesbian, transgender and bisexual. It recognizes those individuals who embrace diversity and are willing and able to assist such students in their educational pursuits without the fear of intimidation or labeling (exhibit ###).

NDSU also provides support for Training Our Campuses Against Racism (TOCAR), a collaborative effort among Minnesota State University–Moorhead, Concordia College, North Dakota State University and Northwest Technical College. The mission and goals of TOCAR relate to examining the institutional racism on each individual campus and working in teams to strategically create multicultural/anti-racist organizations. TOCAR involves and educates students, faculty, staff and administration. (source: [www.mnstate.edu/mhdrights/TOCAR1](http://www.mnstate.edu/mhdrights/TOCAR1), Laura Oster-Aaland, TOCAR anti-racism team member).

The Tapestry of Diverse Talents began in 1994 and “recognizes students, faculty, staff and alumni for the diversity and contributions they bring to North Dakota State University.” The Tapestry is located in the Memorial Union and contains pictures of the individuals inducted each year. The program serves as a community celebration of diversity.

Through a unique learning community, academic and student affairs has come together to teach undergraduates leadership skills and social responsibility. Cohorts of 25 students share the same four introductory courses (University 189, English 110 and 111, and Communication 110) and learn leadership skills through their course work and service learning projects. Outside the classroom, students meet on a regular basis for recreational activities and short seminars on various topics that may be of concern to them. The linkages between curricular and co-curricular activities become evident when academics and student affairs professionals meet jointly to discuss the activities of the learning community participants. Please see the learning community website at: <http://www.ndsu.nodak.edu/cclp/index.php>

There are over 200 organizations and clubs at NDSU, ranging from the Academy of Students of Pharmacy, to Women in Science, Mathematics, Engineering and Technology. Most departments sponsor such clubs to develop and provide opportunities for students to fine tune

communication and reasoning skills. "The Great Moonbuggy Race," in which students design and build a moonbuggy, is an example. This develops team-working skills and problem-solving skills and applications of academic knowledge. Judging team students in animal science are provided with opportunities to travel and meet livestock producers and leaders in the industry. In all of these events, students can develop networking skills and become involved with industry personnel in their particular discipline and build a positive attitude about study and work. These clubs and organizations foster leadership development and personal growth that cannot be learned in the classroom. Furthermore, the advisors and instructors have more of an opportunity to work with these students and to guide them. Dedication by the students and instructors instill a love of life-long learning.

Evidence listed without elaboration in (GENED)

Architecture student exhibits

Campus Programming Director

Cooperative Sponsorship

Co-curricular Student Programs

Co-curricular transcripts

Engineering fairs

Festival arts series

Gerontology minor?

Incentives or requirements from classes to attend programs

Madrigal Dinners

President's gallery in Old Main

Public displays of student art

Regional state science fairs

Residence Life Programming

Science Olympiad

Service Learning

Service Learning Reporting requirements

Sororities, Fraternities, Newman Center, etc.

Student art on display in offices

Student art shows

Student clubs that are connected with majors (check with Mary McDonald)

Student organizations (Amnesty International, Habitat for Humanity, etc)

Student organizations volunteer requirement

Wildlife Rehabilitation Center

- **NDSU's learning outcomes demonstrate that graduates have achieved breadth of knowledge and skills and the capacity to exercise intellectual inquiry.**

All seven of NDSU's General Education Learning Outcomes contribute to providing our graduates with the "breadth of knowledge and skills and the capacity to exercise intellectual inquiry. The seven outcomes are:

1. Communicate effectively in a variety of contexts and formats.
2. Locate and use information for making appropriate personal and professional decisions.
3. Comprehend the concepts and perspectives needed to function in national and international societies.
4. Comprehend intrapersonal and interpersonal dynamics.

5. Comprehend concepts and methods of inquiry in science and technology and their applications for society.
6. Integrate knowledge and ideas in a coherent and meaningful manner.
7. Comprehend the need for lifelong learning.

Evidence listed without elaboration in  
GEC Capstone

- **NDSU's learning outcomes demonstrate effective preparation for continued learning.**

Material previously noted: The Alumni Outcomes Survey

The 2002-2005 Bush Foundation grant, "Building a Caring Community of Leaders and Problem-Solvers(CCLP): A National Model for Reconsidering the Role of Higher Education in Society," (see lines 244-250) is designed to create cohesive, collaborative student groups, whose members will feel an elevated sense of community within a large university and who will develop problem-based learning skills. The program's success will be evaluated by assessments of general education, leadership behavior, and emotional intelligence. (See exhibit ### for final report to Bush Foundation.)

Evidence listed without elaboration in  
GELO 7: Comprehend the need for lifelong learning.  
GEC Capstone  
PBL  
Continuing Education courses

- Other

#### Criterion Four: Acquisition, Discovery, and Application of Knowledge

*The organization promotes a life of learning for its faculty, administration, staff, and students by fostering and supporting inquiry, creativity, practice, and social responsibility in ways consistent with its mission.*

**Core Component - 4C. The organization assesses the usefulness of its curricula to students who will live and work in a global, diverse, and technological society.**

While there are a number of elected and appointed committees that have the responsibility for the review of curricula and programs across the institutions, the prime responsibility for programmatic review lies with the University Senate's Program Review Committee.

#### **Program Review**

The Program Review Committee is composed of one tenured faculty member from each college on campus (except University Studies), the Presiding Officer of the

University Senate, the Dean of the Graduate School, and the designated representative of the Provost and Vice President for Academic Affairs.

Under the aegis of the University Senate, and in accordance with its Constitution and Bylaws, the Program Review Committee has the responsibility for

- a. Developing criteria and procedures for review of academic programs.**
- b. Performing a continuing review of the University's academic graduate and undergraduate programs with regard to such factors as mission, need, quality, cost, and contribution to other programs.**
- c. Addressing concerns regarding duplication of programs and courses.**
- d. Recommending policies for levels of University support to the various programs**

The Program Review Committee is responsible for developing criteria and procedures for the review of academic programs, performing a continuing review of NDSU's academic graduate and undergraduate programs, addressing concerns regarding duplication of programs and courses, and recommending policies for levels of University support to programs. Each department is subject to Program Review on a rotating basis. These reviews include a description of the program, including the mission statement, an overview, a brief history, goals, strengths and weaknesses, and changes implemented; comments on data bases including students served, cost of program, student evaluations, and external funding; graduate programs including overview and success of graduates; and the quality of the program, followed by variety of appendices.

The Committee Chair meets with the Provost and Vice President for Academic Affairs and the Chairs of programs that have been reviewed to discuss the Committee's recommendations for levels of institutional support. Recommendations to discontinue a program may be reviewed by the University Senate. For example, the Department of Economics was discontinued in 1999(?), in response both to a non-positive review from the Program Review committee and a mandated budget reduction from the Governor. (See [http://www.ndsu.nodak.edu/ndsu/deott/univ\\_senate/constitutionmay2001.pdf](http://www.ndsu.nodak.edu/ndsu/deott/univ_senate/constitutionmay2001.pdf)) Since the last self-study, North Dakota State University has made many strides in expanding and developing its curricula in existing academic programs, and creating new disciplinary and interdisciplinary programs in keeping with its progress toward Research Extensive status (according to Carnegie classification). In the process, the institution employs this well-established and rigorous process to review of academic programs for their currency and relevance to the mission of the institution. In keeping with its mission, thus, learning goals and outcomes include skills and professional competence essential to a diverse workforce. Consequently, North Dakota State University has established a strong general education component as a requirement to its various degree programs.

### **General Education**

NDSU's general education program contains both Cultural Diversity and Global Perspectives requirements.

### Cultural Diversity

Courses approved under this rubric focus on the social, personal, and interpersonal effects of variety and differences among cultures, whereby students learn to comprehend how the behaviors, perspectives, and values of the cultures of various groups differ. Examples of cultural comparisons may therefore include, but are not limited to, those based on ethical systems, ethnicity, gender, languages, nationality, race, religion, sexual orientation, spirituality, and worldview. The essential considerations are that the focus of the course should be on the comparison between two or more groups.

Cultural Diversity requirement may be met by taking 3-credits as part of the 6-credits required in the humanities and fine arts or as part of the 6-credits required in the social and behavioral sciences in a course approved for cultural diversity. Students may also submit a written petition to substitute study abroad experiences to meet this requirement. Such experiences must be equivalent to the same time commitment as a 3-credit NDSU course and include an academic component. Global Perspectives: This requirement may be met by taking 3 approved global perspective credits in any department as part of the 36-37 credits required for general education approved for global perspectives. Students may also submit a written petition to substitute study abroad experiences to meet this requirement. Such experiences must be equivalent to the same time commitment as a 3-credit NDSU course and include an academic component.

### Global Perspectives

In addition to Cultural Diversity, and as part of general education requirements, students are expected to take courses that focus on analysis of worldwide issues illustrating the interdependence of the world and its people, thus providing them with some global perspectives.

As of February 2000, there were 43 courses related to diversity and global perspectives approved for General Education requirements and listed in the 2004-2006 Bulletin Appendix.

((See <http://www.ndsu.nodak.edu/ndsu/deott/gened/geworkingdef.pdf> for "Working Definitions and Essential Considerations for General Education Courses" which provides the following information on each requirement; <http://www.ndsu.edu/registrar/geneds.stm> for the latest list of courses approved for General Education.)

### Sponsored Programs and Activities on Diversity

In addition, NDSU offers various study and research programs that impact on diversity issues. Among these are the **Women's Studies Minor**, **International Studies Major**, **McNair Scholars Program**, and the **Model United Nations**, sponsored by the Criminal Justice and Political Science Department. The College of Engineering and Architecture at NDSU is also involved in **The Extensión en Español (EEE)** clearinghouse for Spanish-language educational materials.

NDSU is also a partner, along with four Tribal Colleges and three other 1862 universities (South Dakota State University, Iowa State University, and the University of

Nebraska-Lincoln) in a federal grant, "**A Land Grant Network to Enhance Tribal College Community Natural Resources Education Program**," now in its ---year.

**The Couples and Family Therapy (CFT)** specialization in the Child Development and Family Science department is accredited by the Commission on Accreditation for Marriage and Family Therapy Education. A central component to the Commission's standards in all areas of the program envisions integrating diversity (race, class, gender, sexual orientation, disability, age, etc) in curriculum, faculty, and student make-up, etc., and CFT program meets and exceeds these requirements by integrating diversity into the curriculum, teaching, clinical work, and recruitment of students.

#### **Office of International Programs**

Since 1995 NDSU has increased its **Study Abroad Program** options for students and refined the entire study abroad process. In 1995 there were only 22 students that studied abroad; this past year (2003) there were 104. The number of exchange programs (bilateral agreements that allow students to pay tuition and fees to their home institution) available to students has also increased. Three exchange programs in 1995 grew to ten programs in 2002. In addition, the Office of International Programs has promoted study abroad at new student orientation, in classes, and in information sessions. The result has not only been more students studying abroad through exchanges, but also more students studying abroad through program providers.

The **Study Tour** option has also contributed to the rise in numbers. Study Tours are faculty led, short-term programs. NDSU offers these programs in architecture and agricultural economics. Other professors in areas such as hotel, motel, and restaurant management and apparels and textiles have offered them throughout the years but not on a continuous basis.

**International Education Week** is yet another opportunity to celebrate the benefits of international education and exchange worldwide, thus contributing to diversity across the institution. A joint initiative of the U.S. Department of State and the U.S. Department of Education to promote programs that prepare Americans for a global environment and attract future leaders from abroad to study, learn and exchange experiences in the U.S., the International Education Week was established at NDSU in 2000 (?) and is celebrated in the fall through information sessions on study abroad, faculty opportunities overseas, and presentations by exchange students about their country and their cultural and educational experiences in the U.S.

North Dakota State University also hosts a number of **Exchange Visitors** and **International Research Scholars** from various countries every year. Exchange Visitors and Scholars are sponsored by and accommodated in various departments and extended every amenity to conduct research on a subject specific to the department or specific to the researcher. In 1995, the university hosted 37 researchers, and in the past year, 60 researchers came to NDSU. This is yet another indication of the growing links between NDSU and institutions world-wide; the heightened research activity on campus partly explains the increase in International visitors and scholars as NDSU moves toward its classification as a Carnegie Research Extensive Institution.

NDSU thus continues to expand its programs related to multiculturalism, international programs and diversity. As more overseas opportunities are created for students, more students are taking advantage of and participating in overseas programs; correspondingly, departments, too, have increased research efforts and hired researchers from outside the U.S. to work in these areas.

As part of its community outreach efforts, the Office of International Programs has also been exploring expanding its programming activities beyond Fargo and into some of the smaller, rural communities. As more faculty develop short-term programs overseas, the number of students studying abroad will increase. Increasing opportunities for faculty to go overseas also contributes to the development of new linkages with foreign institutions in the areas of research and student exchange.

### **Maastricht**

(to be included)

NDSU has partnered with the **Ansal Institute of Technology (AIT)**, Gurgaon (near New Delhi), India, in offering a "Twinning" program of study from fall 2004. This program allows students to study at AIT for a period of one to three years in selected disciplines and let them transfer to NDSU, such that they can complete the NDSU degree requirements. At present, the selected disciplines are BS in Computer & Electrical Engineering, BS in Computer Science, BS in Business Administration, BS in Biotechnology, and MBA.

NDSU also plans to open an off-campus site and offer degree programs in India from fall 2006. An advisory board has been set-up for this phase of the project, and senior officials from Microsoft, GM, and John Deere have already agreed to serve on the board. The educational programs at the off-campus site will be unique and innovative and will be based on the latest research on education and NDSU's experience with the learning community program in Fargo, ND, USA. The learning community program was selected for publication and presentation at the American Association for Higher Education Conference in April 2004. ([See www.ndsu.edu/ait.](http://www.ndsu.edu/ait))

***Learning outcomes document that graduates have gained the skills and knowledge they need to function in diverse local, national, and global societies.***

Curricular evaluation involves alumni, employers, and other external constituents who understand the relationships among the courses of study, the currency of the curriculum, and the utility of the knowledge and skills gained.

Indirect evidence to assess student learning at the program level is also available for some programs from a variety of sources. Some colleges and departments conduct regular surveys of their alumni and their employers. Some departments receive feedback from the NDSU survey of supervisors of cooperative education internships. According to the "Statement of Principles" designed to guide the activities of the NDSU University Assessment Committee, "Assessment plans, where possible and

appropriate, make use of existing databases and evaluation programs already in place, e.g., information of admissions, retention, and completion, results from surveys of students, alumni, and employers, findings of accreditation agencies, institutional program reviews, etc." In addition, the "Procedures for Assessment" from the University Assessment Committee specify: "Measures of alumni or student satisfaction will be reviewed by the University Assessment Committee or its designee, such as student services."

(See [http://www.ndsu.edu/ndsu/accreditation/assessment/statement\\_principles\\_uac.htm](http://www.ndsu.edu/ndsu/accreditation/assessment/statement_principles_uac.htm) and [http://www.ndsu.edu/ndsu/accreditation/assessment/statement\\_procedures\\_uac.htm](http://www.ndsu.edu/ndsu/accreditation/assessment/statement_procedures_uac.htm))

***The organization supports creation and use of scholarship by students in keeping with its mission.***

Faculty expects students to master the knowledge and skills necessary for independent learning in programs of applied practice. NDSU provides curricular and co-curricular opportunities that promote social responsibility. North Dakota is one of eight states in a consortium dedicated to supporting greater cultural diversity in the Land Grant system by bringing the needed technical skills and training to each of the member states. CASD was initiated by Cooperative Extension, and is a catalytic step in beginning the transformation of the Land Grant system. Through this collaborative approach, the consortium will develop successful models and strategies that can be applied throughout the system.

Each of the eight states has a catalyst team to coordinate and provide leadership for the efforts in that state to fulfill the purpose of this project. The states work cooperatively through the consortium to exchange ideas and best practices and develop tools for change.

**Other?**

**Core Component - 4D. The organization provides support to ensure that faculty, students, and staff acquire, discover, and apply knowledge responsibly.**

***The organization's academic and student support programs contribute to the development of student skills and attitudes fundamental to responsible use of knowledge.***

NDSU's General Education requirements include "Comprehension of Personal and Professional Ethics Integrated into Majors." In 1997 and 2004 the General Education Committee requested information from all majors on how they were implementing this requirement (exhibit ###). (LP)

***The organization encourages curricular and co-curricular activities that relate responsible use of knowledge to practicing social responsibility.***

The Division of Student Affairs at NDSU has had the primary responsibility for coordinating and overseeing the various Advisory Boards, in order both to encourage curricular and co-curricular activities and responsible and ethical student behavior and activities, and to develop a close relationship with students. One of the more significant ways in which the Division of Student Affairs continues to accomplish this goal has been to establish student advisory boards for the Division including, Dining Service, Memorial

Union, Wellness Center, Career Center, Varsity Mart Bookstore, Bison ID Card, Residence Life, Residence Hall Association, and the Advisory Board for Student Affairs. The purpose of such boards has been to create an environment with students and the Division's staff that is less formal and less structured to enable convivial discussion of issues of importance to students and staff. The result of such boards has been the development of trust, respect and better communication with student leaders. Student leaders who attend national student government conferences attest both to the value they place on their relationship with the staff of the Division and ways in which these relationships meet or exceed those of their peers across the U.S.

***The organization provides effective oversight and support services to ensure the integrity of research and practice conducted by its faculty and students.***

***The organization follows explicit policies and procedures ensure ethical conduct in its research and instructional activities.***

**Other ?**

***The organization creates, disseminates, and enforces policies on practices involving intellectual property rights.***

#### **NDSU Research Foundation**

The NDSU Research Foundation was incorporated in May, 1989 as a scientific and educational organization with 501(c)(3) status with the goal of assisting North Dakota State University in its teaching, research, and service missions by managing the intellectual property produced by the university faculty, staff, and students. Governed by a 15-member Board of Directors led by the President of NDSU, the Research Foundation is directed to develop linkages between NDSU and private sector entities, to facilitate involvement of NDSU faculty and staff in corporate research and development activities, to enter into partnerships and joint ventures with other university-related foundations, and to promote economic development and rural revitalization in North Dakota.

This independent, nonprofit organization assists in NDSU's ability to work with private businesses and manages the intellectual properties of the University. The foundation is a vehicle for transferring scientific discoveries, technology, products, and processes developed through NDSU research through licensing to the marketplace. It handles the patents, trademarks, and other intellectual property protection as well as licensing agreements for the University; and it enables faculty to become involved in research, product, and business endeavors.

Major changes in the Research Foundation's activities and mandate since 1995 include (1) the growth of the foundation endowment fund from \$600,000 to over \$2.3 million; (2) establishment of two dedicated endowments for wheat and durum breeding totaling nearly \$1.9 million; (3) establishment of a Research Development Support Program (RDSP) small grant program in FY-98, which has awarded nearly \$323,000 in research grants to NDSU over the last 7 years; (4) equity ownership in another start-up business; (5) Fifty-eight Plant variety Protection (PVP) certificates issued for agricultural varieties and eight pending applications; (6) forty issued patents and twenty-one

pending applications; (7) sixteen registered trademarks and four pending applications for registration; and (8) total annual income has grown to over \$2.2 million.

Since 1995, the NDSU Research Foundation has distributed over \$2.3 million in royalties to various departments and colleges at NDSU. The NDSU Research Foundation manages over \$5.3 million dollars in assets, including its endowment, dedicated department endowments and managed funds. The RDSP program has provided early stage grant funds of \$323,000 to NDSU researchers. These grants have been instrumental in enabling those researchers to be successful in receiving competitive proposals totaling over \$6.3 million in the last 6 years.

The NDSU Research Foundation will be playing a key and expanding role in commercializing NDSU developed technology. The NDSU Research Foundation is the entity that licenses technologies to startup or existing businesses. The NDSU Research Foundation will be instrumental in continuing to develop the relationship with the NDSU Research and Technology Park. It is anticipated that certain NDSU technologies will be licensed to faculty start-ups as well as other start-ups or existing businesses that will locate in the NDSU Research and Technology Park enabling local or regional economic growth.

#### ***NDSU Technology Transfer Office***

The NDSU Technology Transfer Office (TTO) is administered at NDSU under the Assistant Vice President for Sponsored Programs Administration, who reports to the Vice President for Research, Creative Activities, and Technology Transfer.

The TTO handles all NDSU intellectual property (IP) related matters at NDSU. This includes interpreting and implementing the IP policy, facilitating confidentiality agreements, material transfer agreements, inter-institutional agreements, and IP language in sponsored research and other agreements involving IP.

The North Dakota University System (NDUS) was granted more authority to implement a system wide IP policy by the ND legislature. The NDUS has implemented a system-wide policy. NDSU is in the process of modifying and updating its IP policy in order to adapt it to the new NDUS IP policy. The TTO facilitates numerous agreements each year on behalf of NDSU through Sponsored Programs Administration. The office played a key role in major agreements with high technology companies to enhance NDSU's expanded research capabilities.

NDSU research expenditures have more than doubled over the last 5 years to approximately \$100 million. The expansion in NDSU's research capabilities and research expenditures is leading to significantly more invention disclosures for the TTO and NDSU Research Foundation. The number of invention disclosures is expected to continue to increase.

The TTO and NDSU Research Foundation have added two new licensing associates and an additional support staff person and are recruiting for a technology transfer position. These people have split appointments with both offices.

**“Acquisition, Discovery, and Application of Knowledge” members**

James Deal	James Council
R.S. Krishnan	Marty Marchello
Deb Pankow	Larry Peterson
Dale Zetocha	Kathy Enger

Link to the Criterion Groups:

<http://www.ndsu.edu/ndsu/accreditation/criteria.shtml>

Notes