

Bismarck State College

Learning Outcomes Assessment

Summary Report for 2000-2001

Assessment Committee

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Introduction

The summary of the Learning Outcomes Assessment Report for 2000-2001 is being written following the academic school year rather than in the following fall of the school year as stated in the Faculty Assessment Handbook. The BSC Assessment Committee felt the need to have a second completed report to send to NCA in preparation for the focus visit in October 2001.

Assessment Highlights for the Year

The completion of the Assessment Faculty Handbook for faculty orientation in the fall was the first step to a successful year in assessment. During faculty orientation, faculty group leaders distributed the Faculty Assessment Handbook to their respective teachers at special break out sessions. Each faculty group leader took the time to review the handbook and spend time in areas most relevant to their group. The time taken on orientation day set the tone for assessment for the year. Faculty should be commended for accepting the revised assessment process. Their overall cooperation was excellent. The Assessment Committee has spent many hours debating the issues in assessment and has been a working committee throughout the year. The Assessment Committee developed new matrices for assessment. They include the following:

1. Faculty Group and Program Assessment Plans
2. Faculty Group and Program Assessment Reports
3. Faculty Assessment Report
4. Multiple Measures Matrix
5. Curriculum Matrix

The first major issue was terminology used on campus. The Assessment Committee has developed some specific terms that need to be used campus wide. It becomes very confusing if different terminology is used in the college catalog and in the Faculty Assessment Handbook. A goal for the Assessment Committee was to use the same terminology throughout the institution. For example, the term “**Program**” is to be used as a prescribed curriculum that leads to an A.A.S. degree, diploma, or certificate. The term “vocational-technical” to describe these prescribed curricula should be eliminated on campus. This was implemented for the 2001-2002 catalogs. Another change in next year’s catalogs is general education objectives, which were approved by the General Education Committee, Faculty Senate, and President Donna Thigpen.

The completion in November 2000 of the first formalized assessment report was a milestone for the Assessment Committee. The committee felt strongly that a report of their work and efforts be recorded and available to administration, faculty, students, and the general public.

A comprehensive updated assessment plan was completed in January 2001. The Assessment Plan includes the following: BSC institutional profile, mission of BSC, philosophical foundation of BSC's assessment program, course embedded outcome assessment (formative), voluntary and mandated licensures, incoming assessment of students at BSC, general education surveys, program surveys, student outcomes assessment (summative), developmental education, and an assessment flow chart. The assessment plan can be found on the BSC website under Assessment.

Another major undertaking of the Assessment Committee was the development of a website on assessment that would be available to all. The assessment website can be found under Academic Information on the BSC website. The major components that will be available on the website are incoming assessment reports, assessment plan, annual assessment report, faculty assessment handbook, and faculty group reports.

The Academic Profile Standardized Test was administered to about 170 students in English composition classes in the fall of 1999. Forty-Four of those same students were given the same test in the spring of 2001. The assessment committee will make a complete analysis and interpretation of these results before the fall 2001 semester and will share them with all faculty during faculty orientation in August.

A Sophomore Student Self-Assessment survey was developed for the four areas in General Education-- Arts & Humanities; Social and Behavioral Sciences; Communications; and Math, Science and Technology. The survey was distributed to all classes that meet at a specific time of the week to avoid duplication. Dr. Jane Schulz tabulated the results of the survey and each faculty group leader was given a copy to share with their faculty next fall semester.

Five members of the Assessment Committee attended the NCA Meetings in Chicago in March 2001, and four Assessment Committee members attended a regional assessment meeting in Fargo, ND, sponsored by The Collaboration for the Advancement of College Teaching & Learning. Plans are for three Assessment Committee members to attend the Summer Assessment Academy in Flagstaff, Arizona in July 28-31, 2001, sponsored by the Council of North Central Two Year Colleges.

The Assessment Committee has been enlarged to include one additional person in the Math, Science and Technology Faculty Group, one to represent the Allied Health Programs, one to represent Computer and Administrative Assistant Programs, one to represent developmental education and one more faculty to share other programs not specified.

Summary of General Education Assessment for 2000-2001

The Assessment Committee developed a composite multiple measures matrix in general education. The matrices for general education are included in this report to illustrate the diversity in multiple measures used by faculty (See Appendix A). The committee also developed a composite general education curriculum matrix (See Appendix B). Again the composite general education curriculum matrix is included in this report. Complete Faculty Group Reports are not included in the annual report, but rather a summary of activities in each area is included. Complete Faculty Group Reports will be available on the BSC website and they are also on file in the assessment coordinator's office.

Math, Science and Technology

The assessment process conducted during the Spring 2001 semester revealed a genuine desire by MS&T faculty members to produce successful students. Even though we are a diverse group, our assessment process has revealed common concerns and solutions. The disciplines that noted an issue are identified parenthetically. The following observations are noteworthy.

1. Fewer faculty members attached their assessment to their final exams.
2. Many faculty members commented on the need for more detailed instructions with the measurement tool. Providing the students with the PTA rubric was suggested. (Biology, Math, Science)
3. Coordination with the Sykes Student Success Center was mentioned to enhance student learning and make use of the tutoring services available at BSC. (Accounting, Chemistry)
4. We continued to be pleased with the success our students had with classroom technology. The incorporation of new technology was shown to enhance the students' skill level. Future application of new technologies is planned. (Accounting, Math)

5. Though many are satisfied with their measurement tools, comments were made encouraging thoughtful revision of the tools to more accurately assess the nature of the course or to more specifically target competencies. (Biology, Math & Science)
6. There should be more emphasis placed on real world applications and their connections to specific areas of course content. (Biology, Math)
7. Student success could be improved with better advising and placement, with more attention paid to incoming assessment scores. (Biology, Math)
8. Many faculty members noted a need to improve writing skills. This was specifically identified by those assessing language and in several assessments that used an essay as a measurement tool. (Biology, Math, Science and several anecdotal comments)
9. Students' understanding of terminology associated with many courses was inadequate. Vocabulary building exercises like crossword puzzles were suggested to improve the students' foundation in the course and promote learning. (Biology, Math)
10. Faculty members were able to identify the strengths of their methods and were able to identify subcomponents that could be improved.
11. All of the information in this section should be shared with faculty as early as possible so changes can be implemented for the next semester.

We were encouraged by the increase in the thoughtful responses of the faculty in their analysis of their classroom assessment. Several individuals felt their students were more successful this semester due to changes made in the coursework that stemmed from the assessment process.

Communications

During the 2000-2001 academic year, all full-time faculty members in the Communications Department actively participated in BSC's assessment process. Most instructors assessed two general education objectives: critical thinking and writing in the writing courses and speaking in the speech courses. One writing instructor assessed independent/interpretive/creative thinking instead of critical thinking. One instructor only assessed writing, and one only assessed critical thinking. We also expanded our assessment efforts to include all students in a section rather than just a select group, like the graduating sophomores who were assessed in the past. Based on the results of first semester, most instructors in both writing and speech courses independently discovered that students needed more guidance in how to break down a project into manageable steps. When this was begun second semester, several instructors found that student learning and

performance improved. Based on the results of second semester's assessment process, many instructors discovered that students need more practice assignments to improve learning and performance. This was true of critical thinking skills developed through analysis, synthesis, and discussion, as well as implementation skills needed for effective writing and speaking. Communications instructors are gaining confidence with the assessment process and some are ready to expand their efforts to include the assessment of more general education objectives.

Social Science

The Fall 2000-Spring 2001 assessment process in the Social Science Faculty Group consisted of both direct measures (course-embedded outcomes assessment) and an indirect measure—a faculty on-line forum. After Faculty Group members completed, analyzed, summarized and submitted their data in the form of PTA's to the group leader, the information was tabulated by the institutional researcher and summarized in a Faculty Group Report. Results of Spring 2001 were similar to those seen in the Spring of 2000 with data showing the students scored quite well on our general education competencies. The data shows some variation with the results shown in the Fall of 2000 where the number of students scoring above our benchmark dropped several points (from Spring 2000) in each competency. The faculty has stressed that more time needs to pass for a true longitudinal study that compares scores from semester to semester or year to year to be considered valid or reliable. Factors such as student population variation and numbers of incoming freshman per semester need to be addressed, and these things will become more evident as the assessment process ages. However, through the Faculty Forum, the faculty has reviewed the data and changes will be made in individual courses to improve student learning. The use of PTA's as a learning tool for both the faculty and students is becoming evident in comments and changes made by instructors.

Arts & Humanities

During the Spring 2001 semester, all fifteen full-time faculty members teaching Arts and Humanities courses participated in course-embedded outcomes assessment, BSC's formative direct assessment program. Each member submitted separate PTA scales and PTA analysis forms for each of the three general education objectives commonly held by all Arts and Humanities disciplines—liberal knowledge, critical thinking/problem solving, and interpretive/

independent/creative thinking. (One member omitted the knowledge competency for reasons that were logical for his course.) Each PTA analysis form presents the faculty member's analysis of the aggregated results of the assessment and describes the course-level change actions he/she plans to make based on the assessment.

To give the course-embedded direct assessments meaning at the "program" level of general education, the PTA's from all faculty in the group were tabulated to determine an Arts and Humanities-wide aggregate score for each competency. Because these aggregates were based on individual faculty member's PTA scales, not a common scale used by all, the data was not used to prove results quantitatively, but rather as a qualitative tool—as a point of departure for discussion of assessment issues and as an aid in coming to program-level decisions for enhancing student outcomes.

The Arts and Humanities Faculty Group also used two indirect assessment measures to enrich the information they had concerning their students' achievement levels at the program level. These measures were the Sophomore Student Self-Assessment of Learning Survey (a summative measure) and the Arts and Humanities Faculty Forum on Assessment (a formative measure). The Arts and Humanities Faculty Group created the Sophomore Survey in Spring 1999 and used it again in Spring 2000. For Spring 2001, the other general education faculty groups adopted the measure and added pertinent questions to it. A section on values and diversity was also added. The participation of the other general education faculty groups resulted in a larger sampling of sophomores and it produced assessment information across all of general education.

Nine of the fifteen faculty group members participated in this Spring's Arts and Humanities Faculty Forum on Assessment. This indirect assessment tool allowed for in-depth sharing among faculty group members about what does and does not work well to achieve the desired student outcomes. Members learned a great deal from each other's experiences about how to enhance student achievement in the general education competency areas and how to do the assessments more effectively.

The discussion and sharing in the Arts and Humanities Spring 2001 Faculty Forum on Assessment, the results of the Sophomore Student Self-Assessment of Learning Survey, and the

aggregated PTA analysis, brought to light significant issues for action at the program level, and group members brought the following change recommendations for consideration or re-consideration by the institution's planning and budgeting groups:

- Bring in an expert in the field of critical thinking to conduct a workshop on techniques for teaching critical thinking, creative thinking, and interpretive thinking for all BSC faculty.
- Encourage some faculty to attend a regional or national critical thinking seminar and bring back ideas and materials for the whole group.
- Plan a session for group members to share their definitions of interpretive thinking and creative thinking and to work toward common PTA scales that could be used as a direct measure across several disciplines.
- Support the hiring of a designer/technical director for the theatre program.
- Build upon the limited collection in BSC's Library of children's literature to support the learning of students enrolled in the Children's Literature course.
- Create a program to ensure that our students are gaining the electronic library skills demanded in today's educational and professional environments.
- Add to the diversity-intensive courses offered in the General Education Curriculum.
- As a faculty group, along with the Social Sciences faculty group, take a greater share in the provision of diversity awareness activities on campus and make that leadership visible to students so that when they are asked about their diversity exposure at BSC, they will be clear on where and from whom they gained it.
- With other general education departments, sponsor a seminar on the role of faculty in the General Education Program of the College. Address the issue of faculty responsibility in insuring that the College's general education philosophy and objectives are realized through their courses. Also in the seminar, address ways faculty can educate students regarding the place of general education in their college studies and in their lives. Discuss ways faculty can incorporate values and diversity studies within the context of their courses and ways that faculty can help students to recognize how their courses are contributing to meeting these and other objectives of BSC's general education program.

Through the Faculty Forum on the Arts and Humanities competencies, each group member gained some valuable insights and some good ideas for effective learning activities for their own courses. This program-level indirect assessment activity thus became an important part of closing the assessment loop—the ideas gained will filter down from the program level back into the Arts and Humanities classrooms, and the recommendations made will reach the institution-level decision making groups for their support and financial assistance. The result will be that in BSC's General Education Program, student learning will be enhanced.

Summary of Program Assessment for 2000-2001

The Assessment Committee developed a composite multiple measures matrix for each program. The committee also developed a composite program curriculum matrix. This information can be found on file with the assessment coordinator. Included in Appendix C to this report is a summary sheet of the different types of assessment done by the different programs. This summary indicates the different direct measures used in the classroom as well as many direct and indirect measures used through surveys and licensure tests. A short summary is included for each program.

1. **Administrative Assistant/Medical** – The program established their competencies and used direct measures in the classroom. 85% or more of the students assessed mastered the competencies. Plans for improving student performance on these competencies include using flash cards, more transcription tapes, and more graphic pictures and handouts on the skeleton. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

2. **Administrative Assistant/Legal** – The program established their competencies and used direct measures in the classroom. Over 90% of the students assessed mastered the competencies. The current assessment was too difficult to evaluate and didn't give the results needed for improvement. A revision of the competencies will be made. Employee Progress Reports were used as an indirect measure for evaluating interpersonal skills. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

3. **Administrative Assistant/General** - The program established their competencies and used direct measures in the classroom. In direct measures, 85% or more of the students attained a score of 70% or more on the assessment instrument. Changes planned in the assessment process are to do more pre-test timings and post-test timings and to pre-test

and post-test on punctuation and capitalization. An indirect measure used was an Employee Progress Report evaluating interpersonal skills. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

4. **Computer Support Specialist** - The program established their competencies and used direct measures in the classroom. In direct measures, 78% or more of the students attained a score of 70% or more on the assessment instrument. Changes planned are to improve review sessions before tests to clarify topics. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.
5. **CIS Information Processing Specialist** - The program established their competencies and used direct measures in the classroom. In direct measures, 50% of the students attained a predetermined score of 80% or more on the assessment instrument for technical knowledge and 31% of the students taking the industry test passed. Changes planned are to assess two core competencies in each course, to require all students to purchase exam-prep materials, and to review one week prior to the MOUS test. Four indirect measures are used to assess the program: Employer Surveys on knowledge and application skills, Student Follow-up Surveys on knowledge and applications skills. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.
6. **Welding** – The program used State Board for Vocational Education-approved profile pre-test and post-test exams for their direct measures. 100% of all completers had at least a 30% improvement of their score on the post-test. All completers had at least an 80% score on SBVE-approved exams. 100% of the completers received certification and completed state curriculum requirements. The American Welding Society National Certification Test, the Employer Survey, and Student Program Assessment Survey were used as indirect measures. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

7. **Agricultural - Sales and Service** – The program used pre-tests and post-tests for direct measures of competencies. 84% of all students received an Average or above in the required competencies. For indirect measures, the department used a Student Survey and an Employer Survey with 100% of respondents indicating a satisfaction level of Average or above. Plans for improvement are to continue to work with the advisory committee and agricultural groups to keep curriculum in pace with industry needs. 100% of students completed the internship program. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

8. **Agricultural - Farm and Ranch Management** – The program used pre-tests and post-tests for direct measures of competencies. 84% of all students received an Average or above in the required competencies. For indirect measures, the department used a Student Survey and an Employer Survey with 100% of respondents indicating a satisfaction level of Average or above. Plans for improvement are to continue to work with the advisory committee and agricultural groups to keep curriculum in pace with industry needs. 100% of students completed the internship program. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

9. **Air Conditioning, Heating and Refrigeration** – A direct measure of a pre-test and a post-test developed by NCCER was used for all competencies. The range of improvement was from 77.9% to 97%. The pre/post test is rewritten every three years. The next revision is scheduled for 2002. The Advisory Committee validated task list was used as an indirect method of assessing, with 81% obtaining a #3 rating and 100% received a #2 or better rating. Employer and Graduate Surveys were also completed. A new survey will be implemented in the fall of 2001. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

10. **Auto Collision Technology** – A direct measure was used within the class, and 88% or more scored above 75% on all competencies. An Employer Survey on competencies was conducted, and as a result of that survey, more emphasis will be placed on the areas of structural damage and mechanical and electrical components. In the Graduate Survey, 95% of students were satisfied with the program preparing them for employment, while in the Employer Survey, 80% of employers said the program prepared students adequately for employment. Students are meeting the standards for NATEF. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.
11. **Automotive Technology** – Direct measures used in the program were a pre-test/post-test and the Automotive Service Excellence End of Program Test (ASE). BSC students were in the 83rd percentile or above in all systems except in Brakes, where they scored in the 56th percentile. In the pre-test and post-test measure, students' gain ranged from 27% to 57.7% in the different systems. Employer and Graduate Surveys were conducted with 62% to 88% of employers indicating that the program adequately prepared the students in the different systems. Data for Graduate surveys are not valid since only one graduate returned the survey. Outcomes of the assessment were that instructors need to spend more time in lab on electrical and brake systems. The program also needs to send the Graduate Survey out earlier and do follow-up on the graduates who did not return a survey. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.
12. **Residential Carpentry** – The program used the National Center for Construction Education and Research National Registry (NCCER) written test as a direct measure. The percentage of the students who passed all areas on the NCCER written test range from 96% to 100%. The indirect measure of Employer Survey indicated an 80% satisfaction in Interior Finish and Cabinetry and a 100% satisfaction in all other areas. 100% of students completing the Graduate Survey indicated they felt adequately prepared for the job market. The assessment plan, multiple measures matrix, composite

curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

13. **Commercial Art** – The program used a Juried Portfolio Review for their direct measure. The Advisory Committee, student peers, and faculty were used for the review. 82.97% of the reviews resulted in a favorable rating. Plans are to continue with the advisory committee to review, to improve the judging criteria and the assessment vehicle, and to keep the curriculum current with industry. Plans are to improve direct measures of specific classes. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

14. **Electronics Technology** – The program used a pre-test and a post-test for the total program. The pre-test was given in the fall of 1999, with an average score of 27.8%. The post-test will be given spring 2001. An Employer Survey was conducted, with 100% of employers indicating the program adequately prepared students for employment. In a Graduate Survey, 83% of the students responding indicated the instruction received was above average. Plans are to improve direct measures of specific classes. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

15. **Adult Farm Management** - The direct measure used was completing a calendar year farm record and getting it analyzed using FINPACK year-end Farm Business Analysis. All students completed the analysis adequately. The program used a Student Survey for its indirect measure with 98.4% indicating an above average satisfaction with the program. The assessment plan and Faculty Group Report were completed and are on file with the assessment coordinator.

16. **Lineworker** – A pre-test and post-test direct measure was used, with 96% or more of the student showing adequate improvement in the post-test. A Student Post Semester Survey showed that 96% of the students reported that adequate knowledge was attained. An Employer and a Graduate Survey were conducted with results not available at the time of

this report. The multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

17. **Management** – The indirect measures used were employer assessment, intern evaluation, and student follow-up. All students maintained a minimum of Average on the employer assessment. 75% obtained a “very good” rating. The Student Follow-up Survey indicated 85% obtained a “very good” or above rating in all areas measured. The program did not use any direct measures. Pre-test and Post-test direct measures were added to the assessment process this past year. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

18. **Power Plant Technology** – The department and Advisory Board designed a pre-test and a post-test. Over 80% of the students passed the post-test, with the increases in scores from the pre-test ranging from 14% to 65% in the different areas assessed. The program conducted an Employer Survey, with over 70% of employers indicating that students were adequately prepared for the workforce. The Graduate Survey conducted showed that over 80% of the graduates felt they were adequately prepared. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

19. **Process Plant Technology** - The department and Advisory Board designed a pre-test and a post-test. Over 80% of the students passed the post-test with the increases in scores from the pre-test ranging from 14% to 65% in the different areas assessed. The program conducted an Employer Survey, with over 70% of employers indicating that students were adequately prepared for the workforce. The Graduate Survey conducted showed that over 80% of the graduates felt they were adequately prepared. The assessment plan, multiple measures matrix, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

20. **Surgical Technology** - The assessment plan, multiple measures matrix, and composite curriculum matrix were completed and are on file with the assessment coordinator. The Surgical Technology Program has not completed a full cycle of the program, therefore there is no Faculty Group Report with results to report at this time. Graduates of this program will be taking the LCC-St Board of Registry Examination.
21. **Phlebotomy** – The Phlebotomy Technician ASCP Board of Registry Examination was taken with BSC students scoring a program mean of 519 compared with the national mean of 519. Passing of the board examination is a score of 400. BSC students scored above national means in anatomy & physiology, specimen collection, and laboratory operations. The students did score lower than the national mean in specimen handling. The program is reviewing all parts of the curriculum to insure quality instruction. The assessment plan, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.
22. **Clinical Laboratory Technician** – The MLT/CLT ASCP Board of Registry Examination was taken with BSC students scoring a overall program mean of 578 compared with the nation mean of 443. Passing of the board examination is a score of 400. The program mean scores were consistently over the national mean with one exception, infectious diseases. All areas of the program are being reevaluated with changes being made where needed. The assessment plan, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.
23. **Hotel-Restaurant Management** – Program tests were administered throughout the semester. A certification-testing program through the Educational Institute of the American Hotel and Lodging Association was administered to 32 students at BSC. Thirty of the students successfully completed the certification process for a 94% success rate. Twenty-four Employer Surveys were returned with 22 overall ratings of very good to excellent. The remaining deemed to be fair. The assessment plan, composite curriculum matrix and Faculty Group Report were completed and are on file with the assessment coordinator.

New and restructured programs not assessed in the 2000-2001 school year were Engineering Technician, EMT – Paramedic, Practical Nursing, and Electrical Transmission Systems Technology. These programs will be assessed in 2001-2002.

Goals of the Assessment Committee for 2001-2002

- Assess every course under general education for an A.A., A.S. or A.A.S. degree
- Assess every program as listed in the college catalog
- Provide in-service on assessment on Faculty Orientation Day on August 27, 2001
- Get full accreditation from NCA following focus visit on October 1-2.
- Conduct Faculty Focus Groups
- Implement the change to put the Assessment Committee under the umbrella of the Learning Support Team.
- Send Assessment Committee members to regional and national workshops or seminars to stay abreast with assessment.

Faculty members' understanding of and appreciation for assessment continues to increase each semester as they see the positive impact assessment has on teaching, learning, and curriculum development. Anytime a new idea is introduced that affects an entire campus, particularly one requiring significant additional work for faculty, it takes time to bring that idea to fruition.