The Importance of Assessment

Assessment is an important element in the teaching and learning process. By assessing learning outcomes you can understand what and how much students are learning in your program. Through assessment, learning becomes visible to you so you can recognize the program changes that may need to be made. Without assessment you would only be guessing at your students’ knowledge and your program’s effectiveness.

Of course, assessing student learning is required by accrediting agencies and demonstrates accountability to the University System and other stakeholders. But the most important reason for assessing student learning is that:

“It is the right thing to do to help students.”

This faculty handbook addresses the assessment of student learning outcomes at the program level rather than the course level. While the focus is on program assessment, much of the basic information about assessment can help you develop good course assessment, too. But, we must raise our assessment efforts and results up to the program level. After all, what students and others really want to know is how effective your program is in ensuring that students learn what they need to know.”

“what students and others really want to know is how effective your program is in ensuring that students learn what they need to know.”
The Assessment Process

Simply put, assessment of student learning consists of three basic activities: determining what we want students to learn, measuring their performance against the criteria, and analyzing the assessment results. The results of assessment inform us about the effectiveness of the learning experience. The process is a cyclical one demonstrated more fully by the diagram below.

“we must measure what we say we care about. Measurement can help us to know if our outcomes are reasonable or stated appropriately.”

Thinking about goals and outcomes keeps us focused on what students are learning in our classes and programs. As a result, we must measure what we say we care about. Measurement can help us to know if our outcomes are reasonable or stated appropriately.
Good assessment transcends simple data collection. Data is not just something we gather and never use. The goal of assessment is action and the data that is collected should lead to discussions, serious thought, and improvement. Meaningful assessment data gives feedback about the strengths and weaknesses of our programs. By understanding how well students learn in our programs, we can readily recognize opportunities for improvement and capitalize on them.

**Technical Program Assessment**

An instructional program, whether it is a technical program, general education, or a major, is a focused course of study that usually leads to a certificate, diploma, or degree. Program assessment occurs at a level above course-level assessment. Program-level assessment is particularly important because program outcomes must align with the mission and goals of the college. To know how well BSC is meeting its mission, we must be sure that we know how well students are meeting program-level outcomes. Each program should have an assessment plan that contains the student learning outcomes for its students, at least one measurement for each outcome, and a criterion for defining the successful attainment of the outcome.

**So, how do you develop an assessment plan?**

_The most important thing is to start with good learning outcomes._
Steps in the Assessment Process

1. **Determining student learning outcomes** begins with a meeting of program faculty to discuss the skills and knowledge that their students must be able to demonstrate to complete the program. Your discussion should begin with this sentence, “What knowledge, skills, attitudes, and values do we want students to get from this program?”

   It may be very worthwhile to enlist the help and advice of industry leaders and advisory committee members as you develop the specific outcomes. In some cases, specialized accreditors have expectations for learning that must be met. And, it can be helpful to check out the learning outcomes from programs at other colleges.

   You should identify five to eight student learning outcomes for the program. This number of outcomes is typical for most programs. Too many outcomes can make assessment burdensome.

   Keep in mind that student learning outcomes (SLOs) are not an accumulation of course objectives. SLOs present a holistic picture of what is expected of students.

**Student learning outcomes should:**
- be aligned to the mission and goals of the college and the program
- describe the expected abilities, skills, knowledge, attitudes of the graduates
- be simply stated and understandable
- be specific to the program and applicable to state, regional or national standards
- be measurable and collectable
- focus on learning results
- identify areas of improvement.
From this discussion, develop five to eight student learning outcomes for the program.

Whether for a course or a program, student learning outcomes should be specific. They are stated as something students will know or be able to do. Students should be able to<action verb><something>, e.g., students will be able to analyze the causes of system failure, or students will be able to apply their knowledge and skills of Computer Aided Drafting to start and complete engineering drafting projects.

When you write a student learning outcome, keep in mind how to define or measure whether or not the expectation has been met. That will help to avoid developing an outcome that is too vague or difficult to measure. Also, program-level student learning outcomes should be appropriate for students graduating from the program. Students should be able to demonstrate more advanced knowledge or skills.

Consider using Bloom’s taxonomy when determining the verbs to use for student learning outcomes dealing with cognitive skills. Bloom’s taxonomy is a classification of the levels of learning that identifies various abilities at each level. The Bloom’s Taxonomy table below describes the cognitive objective starting with the lowest level, remembering, and moving to the highest level, creating. Suggested verbs for each level are listed.

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>DESCRIPTION</th>
<th>SUGGESTED VERBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remembering (Knowledge)</td>
<td>recall of information, facts, terminology</td>
<td>define, duplicate, list, memorize, recall, repeat, reproduce, state</td>
</tr>
<tr>
<td>Understanding (Comprehension)</td>
<td>understanding information or being able to explain ideas or concepts</td>
<td>classify, describe, discuss, explain, identify, recognize, select</td>
</tr>
<tr>
<td>Applying (Application)</td>
<td>using information in a new way</td>
<td>demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write</td>
</tr>
<tr>
<td>Analyzing (Analysis)</td>
<td>distinguish facts from inferences or assumptions</td>
<td>appraise, compare, contrast, criticize, differentiate, distinguish, examine, question</td>
</tr>
<tr>
<td>Evaluating (Synthesis)</td>
<td>justify a stand or position</td>
<td>Appraise, argue, defend, judge, select, support, value, evaluate</td>
</tr>
<tr>
<td>Creating (Evaluation)</td>
<td>create a new product or point of view; solve problems by creative thinking</td>
<td>Assemble, construct, create, design, develop, formulate</td>
</tr>
</tbody>
</table>

“When you write a student learning outcome, keep in mind how to define or measure whether or not the expectation has been met. That will help to avoid developing an outcome that is too vague or difficult to measure.”
"If an outcome is not covered in any of the program courses, you will need to decide if the outcome is truly important, or you will have to add the information that is needed."

After outcomes are identified, it is helpful to map your outcomes to the courses in the program. This curriculum mapping exercise identifies the courses in which the students receive the knowledge or skills they need to meet the outcomes. If an outcome is not covered in any of the program courses, you will need to decide if the outcome is truly important, or you will have to add the information that is needed. Curriculum mapping is a valuable tool in analyzing a program. The curriculum map template is found in the appendix and will be placed on the assessment website and on SharePoint for you to download.

A curriculum map will look something like the simplified version below for a hypothetical Office Administration program.

<table>
<thead>
<tr>
<th>COURSES</th>
<th>STUDENT LEARNING OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compose and produce quality business documents using technology</td>
</tr>
<tr>
<td>OFC 125</td>
<td>I</td>
</tr>
<tr>
<td>OFC 202</td>
<td>R</td>
</tr>
<tr>
<td>OFC 235</td>
<td>R</td>
</tr>
<tr>
<td>OFC 260</td>
<td>M, A</td>
</tr>
</tbody>
</table>

**KEY:**
- I = Introduced
- R = Reinforced with opportunity to practice
- M = master at completion level
- A = assessment results collected

### 3. Identify the methods (measures) you will use to determine if students have met the learning outcomes.

Assessment methods should be selected or developed that are aligned with the student learning outcomes. Here are a few things to think about when selecting measurement tools:

- Choose tools that evaluate the intended outcomes. Don’t just choose what is easy, handy, or something that other programs use.
Choose tools that give you manageable information. You don’t need to be a slave to assessment. If time is limited, choose instruments that don’t take too much time to administer and are easy to score and evaluate. Do you have poor quantitative skills? Then use tools that don’t require in-depth statistical knowledge. Keeping data collection simple will make assessment a more useful activity.

Use or modify existing course assignments. You don’t have to develop a new assignment or project for assessment. Exams can be separated into learning outcome topics that will make it easier for the instructor to measure the results by learning outcome topic.

If possible, use tools that assess more than one outcome at a time. If you use a specialized accreditation task list, standardized test, or licensure exam you will be able to use the individual items to assess student performance in more than one area.

Use multiple measures (direct and indirect) and quantitative and qualitative tools. You will get richer assessment data if you use a mixture of measurements.

“Keeping data collection simple will make assessment a more useful activity.”

<table>
<thead>
<tr>
<th>EXAMPLES OF DIRECT ASSESSMENT METHODS</th>
<th>EXAMPLES OF INDIRECT ASSESSMENT METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>◆ Comprehensive exams</td>
<td>◆ Comparison with peer institutions</td>
</tr>
<tr>
<td>◆ Certification or licensure exams</td>
<td>◆ Job placement</td>
</tr>
<tr>
<td>◆ Pre- and post-tests</td>
<td>◆ Employer surveys</td>
</tr>
<tr>
<td>◆ Performance-based tasks</td>
<td>◆ Exit interviews</td>
</tr>
<tr>
<td>◆ Capstone projects</td>
<td>◆ Focus group discussions</td>
</tr>
<tr>
<td>◆ Portfolios</td>
<td>◆ Alumni surveys</td>
</tr>
<tr>
<td>◆ Standardized exams</td>
<td>◆ Student graduation/retention rates</td>
</tr>
<tr>
<td>◆ Internship evaluations</td>
<td></td>
</tr>
<tr>
<td>◆ Rubrics for assessing</td>
<td></td>
</tr>
</tbody>
</table>
“If students are performing less well than the criteria you set, either your expectations are unrealistic or there is some change that must be made in the program.”

4 Determine the criteria that will indicate successful attainment of the student learning outcomes.

For each learning outcome there should be a criterion that tells you if the program is producing students with the desired level of skills and knowledge.

Setting the criteria for success is a subjective activity. If you set a goal at 70% you may find, that after several years of assessment, students are performing higher than that and you may want to raise the goal to 80%. If students are performing less well than the criteria you set, either your expectations are unrealistic or there is some change that must be made in the program.

“Assess the outcome on a regular basis.

Technical programs at BSC are to assess outcomes every two years. It is preferable that critical skills are measured annually. The data collected from the assessment should be entered into TracDat by the program faculty or the program assessment leader. Assessment data should be used to identify ways in which the program can be improved over time. It is important to observe the trends in the data so you know that the program is going in the right direction.

“The plan helps you to identify key assessment information and keeps you on track.”

5 Complete the assessment plan form and submit it to your program assessment leader (pal).

The assessment plan form is much like the one that you have used in the past. The plan helps you to identify key assessment information and keeps you on track. You can find a sample in the appendix of this handbook. There is a template on the assessment website and in SharePoint which you can use to develop your program’s assessment plan.
Assess!
Now it is time to put your assessment plan into action. Complete the assessment activities that you have planned for the year. Your assessment activities may be a series of specific assessments that you will do over time and compile to form the assessment results for your broader program outcomes. Or, you may devise one or more capstone assignments/projects that will reveal how well your students have met the outcomes.

Your assessment information should be entered into TracDat so you can easily access it to get a good picture of your assessment activities and results. The TracDat data will also help you in the next phase of the assessment cycle — reporting.

Report your results.
At the end of your assessment period (every year or every other year) you will provide a summary report of your assessment findings to your assessment faculty group leader. This report should be completed and submitted by June 1. A copy of the summary assessment report form is located in the appendix and can be found on the assessment website and in SharePoint. All program summary reports will be shared with the academic assessment committee members who will read and provide feedback on your assessment results. Your summary report will then be submitted to the AVP for Institutional Effectiveness and Strategic Planning who will prepare the annual assessment report for the college and place it on the assessment website.

Take action (close the loop).
Remember, the purpose of assessment is to help you improve your programs. As you review the assessment results you will note that students do very well in some areas. You will also find out if there are areas in which students are struggling. Remember, the result of assessment should be ACTION. You will have to decide what needs to be done to adjust your program so student learning is improved. Assessment informs you about what changes should be made or where the curriculum needs strengthening. You will want to take action and make adjustments before your next assessment cycle. Then you will be able to compare the results and see if the changes you made have been successful.

CONGRATULATIONS!
You have completed the assessment cycle!
Below is a more detailed outline of the assessment steps.
GLOSSARY OF ASSESSMENT TERMS

**Assessment:** The systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning.

**Assessment Plan:** A summary of assessments, including outcomes, measures, and criteria for success that will be implemented.

**Benchmark:** A description or example of performance that serves as a standard of comparison for evaluation or judging quality.

**Capstone:** A course, project, or experience that gives students the opportunity to organize and synthesize the knowledge and skills developed through the academic program. Students can demonstrate their ability to apply their learning in meaningful ways. Capstones occur toward the end of a program.

**Closing the Loop:** This is the process by which assessment results are used in program and campus decisions to impact student learning.

**Criteria:** Guidelines, rules, characteristics, or dimensions that are used to judge the quality of student performance.

**Curriculum Mapping:** An examination of a course sequence to determine where student learning outcomes are taught in the curriculum.

**Direct Measure of Learning:** A direct measure is based on a sample of actual student work, including reports, exams, demonstrations, performances, and completed works.

**Formative Assessment:** Assessment that provides feedback to the teacher for the purpose of improving instruction.

**Indirect Measure of Learning:** An indirect measure is based upon a report of perceived student learning, such as a student interview, exit survey, alumni survey.

**Learning Outcomes:** Observable behaviors or actions on the part of students that describe the learning mastered. A demonstration of what the student can do. Outcomes are achieved results or consequences of what was learned.

**Measurement:** Design of strategies, techniques, and instruments for collecting data that shows the extent to which students demonstrate the desired behaviors.

**Objectives for Learning:** Objectives express intended results or consequences of instruction, curricula, or activities.
**Performance Assessment:** The process of using student activities or products, as opposed to tests or surveys, to evaluate students’ knowledge, skills, and development.

**Portfolio Assessment:** A portfolio is a collection of students’ classroom work. The portfolio can be assessed when the assessment purpose is defined, criteria are clear for what is included in the portfolio, and criteria for assessing the portfolio or individual pieces of work are identified and used to make judgments.

**Quantitative Assessment Methods:** Methods that rely on numerical scores or ratings, such as surveys, inventories, exams.

**Qualitative Assessment Methods:** Methods that rely on descriptions rather than numbers, such as field studies, logs, journals, observation, interviews.

**Reliability:** Refers to how accurately a score will be reproduced if an individual is measured again. Reliable measures produce consistent results over time.

**Rubric:** A specific set of criteria that clearly define for both the student and teacher the range of acceptable and unacceptable performance.

**SharePoint:** A collaboration platform that makes it easier for people to share information and work together.

**Summative Assessment:** A culminating assessment that gives information on students’ mastery of content, knowledge, and skills.

**TracDat:** A software package that assists with the management of assessment data.

**Validity:** The extent to which an assessment measures what it is supposed to measure.
APPENDIX
### Curriculum Map

<table>
<thead>
<tr>
<th>Program/Discipline</th>
<th>Student Learning Outcomes</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
</tbody>
</table>

- **I** - Introduced
- **R** - Reinforced and opportunity to practice
- **M** - Mastery at exit level
- **A** - Assessment evidence collected

The curriculum program prepares students to achieve the expected learning outcomes identified by the program or discipline. The following table demonstrates how learning activities in specific courses map to these learning outcomes.

---

Bismarck State College
**Assessment Plan**

- **Program/Unit Name:** ____________________________________
- **Academic Year:** ______________
- **Submission Purpose:** ____ Initial Assessment Plan    ____ Revised Assessment Plan              ____ Updating Results/Actions

**Program/unit Goals:**

- __________________________________________________________________________
- __________________________________________________________________________

**TracDat Update Columns**

<table>
<thead>
<tr>
<th>Assessment Planning Columns</th>
<th>Implementation Plan</th>
<th>Assessment Results</th>
<th>Action Plans / Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Assessment Planning Columns**

- **Student Learning Outcomes**
  - What should students be able to do at program completion?

**Program Competencies**

- Describe the acceptable achievement criteria and/or benchmarks that would satisfy this learning outcome.

**Program Courses / Assignments Assessed**

- Relevant coursework to ensure that the students have the opportunity to learn this outcome?

**Assessment Methods**

- How will you assess how well your students are learning this outcome? Include direct and indirect methods.

**Implementation Plan**

- When and how often will you collect this assessment information?

**Assessment Results**

- How well did the students do in the assessment?

**Action Plans / Follow-Up**

- What do you plan to do as a result of what you learned from the assessment activities?

---

**Example**

I. Students should have the technical knowledge for an entry level position in the _______ field.

EX.

A. Electrical Systems

EX. Electronics

EX. Electrical Auto 161

Starting & Charging systems AUTO 163

EX. Pre and post tests

EX. Pre-test given the first day of class. Post-test given at course completion.

EX. William Cossette

EX. Adjust criteria to better match the assessment method and stated learning outcome(s)

This template/form is presented only as an example. You may use any format or style, however, please use the column headings as provided since they are similar to the headings and data windows in our TracDat system. Also, please include the same information questions as shown in the top section of the template.

**Instructions:**

- Use this template/form to guide you in developing your assessment plan.
- When you've completed your program assessment plan you may submit your plan to your program assessment leader.
- If you have already submitted an assessment plan previously and expect no changes to any of the assessment planning columns, you will then only need to submit your most recent assessment results and action/follow-up plans to your program assessment leader.

This template is presented only as an example. You may use any format or style, however, please use the column headings as provided since they are similar to the headings and data windows in our TracDat system. Also, please include the same information questions as shown in the top section of the template.

---

**Program Assessment Plan**

**Program/unit Name: ____________________________**

**Initial Purpose:** ____________________________

**Academic Year:** ____________________________

**Revised Assessment Plan:** ____________________________

**Most Recent Assessment Results:** ____________________________

**Action Plans / Follow-Up:** ____________________________

---

**Bismarck State College**

Faculty Assessment Handbook
The above format is only an example of what assessment data to include in a summary version of your program. If you choose to use a customized format, please use the same column headings since they are similar to the headings and data windows used in our TracDat system.

Instructions:

- You may use this example to guide you in developing a summary version of your program. If your assessment plan does not change after your initial submission, your summary assessment report in subsequent periods will only need to include assessment data.

- If your assessment plan does not change after your initial submission, your summary assessment report in subsequent periods will only need to include assessment data.

- You may use the example to guide you in developing a summary version of all your unit / program / assessment results. Action plan and follow-up, please submit your documentation to your program assessment leader.

### Example

<table>
<thead>
<tr>
<th>Program/Unit Name</th>
<th>TracDat Update Columns</th>
<th>Program/Unit Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Academic Year</td>
<td>Program/Unit Name</td>
</tr>
</tbody>
</table>

(This data will be entered into TracDat)
If your assessment plan does not change after your initial submission, your summary assessment report in subsequent periods will only need to include:

- a program/department update.
- program name.
- results, action plans, and follow-up information for the most recent period.
- If your assessment plan does not change after your initial report, your assessment report in subsequent periods will only need to include:

  • assessment leader.

When you've completed a summary of your unit/program assessment results and follow-up, please submit your documentation to your program coordinator.

You may use this example to guide you in developing a summary version of your unit/program assessment results.

### Example

#### Program/Unit/Goal

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Program/Unit Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program/Unit Goal</td>
<td>Example</td>
</tr>
</tbody>
</table>

#### Tools

- Program Learning Outcomes

#### Objectives

- Follow-up/Action Plans/Program Outcomes and/or Outcomes

#### Program Update Columns

- Example Bismarck State College Program/Unit Assessment Summary Report

- Example