

Outcomes Assessment Handbook



THE CENTER FOR INSTITUTIONAL EFFECTIVENESS



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PART I: INTRODUCTION

The Center for Institutional Effectiveness (CIE) promotes policies, practices, and activities which enhance institutional effectiveness. It fosters on campus a culture that values inquiry, evidence, and collaboration, and one that supports college-wide decision-making and planning initiatives by collecting, analyzing and reporting information about the College.

One way the College encourages student success is by assessing academic programs, commonly known as learning outcomes assessment. Assessing student learning outcomes provides evidence that students are acquiring the knowledge, skills, and competencies the College expects of them as they move through the courses in their programs. Learning outcomes assessment encourages faculty, staff and students to continuously and systematically ask questions, leading to new learning opportunities and informed decisions that affect student learning.

In addition to learning outcomes assessment, the College also considers the work of Administrative and Educational Support (AES) departments and programs. AES assessment allows the College to better prioritize its resources, identify challenges and opportunities, improve efficiency, and enhance student outcomes and stakeholder satisfaction.

The *Outcomes Assessment Handbook* provides an overview of the key tenets of assessment. It is not intended to be prescriptive; rather it was prepared for all members of the college community as an introduction to some of the more established assessment practices. We hope you find this handbook useful.

What is assessment of student learning?

*Assessment is the systematic collection and analysis of information to **improve student learning**.* It refers to any activity designed to collect information on whether students can demonstrate a set of knowledge and skills after completing a program/discipline. Student learning outcomes data informs curriculum and program enhancement. It is **not** an evaluation of faculty.

Why assess?

Faculty assess all the time in their classes and programs. In fact, faculty are constantly considering what worked well and what didn't, and are using those observations to make change. Formal assessment makes those informal activities more systematic and better understood by students.

There are three main reasons to assess:

1. To Prove:

What should students be learning and in what ways should they be growing?

2. To Inform:

What are students actually learning and in what ways are they actually growing?

3. To Improve:

Using the answers to 1 and 2, what should be done to facilitate student learning and growth?

Potential Benefits of Assessment

- ***Because assessment can provide information about the knowledge and skills students have as they enter a course,*** faculty members can design instruction to target the knowledge and skill levels students should have upon finishing a course and better determine the levels of thinking or reasoning appropriate for the course.
- ***Because assessment can make available richer data about the effects of the curriculum or teaching methods,*** faculty members can engage in more productive conversations about the status of student achievement and make better decisions about how it might be improved.
- ***Because assessment can yield more reliable data about instruction,*** faculty members can make reliable decisions about innovations or experimental projects in instruction and share successes more easily.
- ***Because assessment can provide evidence that faculty members make a difference in student learning,*** faculty members can enjoy greater satisfaction in their work as educators.
- ***Because assessment can offer a larger view of student needs and accomplishments,*** faculty members can identify directions for future instructional development.

American Association for Higher Education's Principles of Good Practice for Assessing Student Learning

- The assessment of student learning begins with educational values.
- Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.
- Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.
- Assessment requires attention to outcomes but, also, and equally to the experiences that lead to those outcomes.
- Assessment works best when it is ongoing, not episodic.
- Assessment fosters wider improvement when representatives from across the educational community are involved.
- Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.
- Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.
- Through assessment, educators meet responsibilities to students and to the public.

Part II: DEVELOPING A PROGRAM LEARNING OUTCOMES ASSESSMENT PLAN

Developing an effective assessment plan begins with being clear about what you are trying to accomplish. A clear statement of program learning outcomes serve as the foundation for the entire assessment plan. They shape the kinds of questions you will ask, the assessment methods you will employ, and determine how useful your assessment results will be for making programmatic changes.

STEP 1: IDENTIFYING PROGRAM LEARNING OUTCOMES

Program learning outcomes *describe learning outcomes and concepts* — what you want students to learn. Developing agreed upon program learning outcomes is not always a quick and easy task. Departments vary in the extent to which the faculty share a common disciplinary framework. When faculty have various perspectives, identifying agreed upon outcomes may be more difficult than in departments where there is a unified approach to the discipline. Before actually writing or revising departmental outcomes, it is useful to have open discussions with department faculty on at least one or more of the following topics or similar topics:

- Describe the ideal student in your program at various phases in your program. What does this student care about and what is this student able to do? List and briefly describe the program experiences that contribute most to the development of the ideal student. Be concrete and focus on those strengths, skills, and values that you feel are the result of your program.
- List the achievements you implicitly expect of students who enroll in your program.
- Collect and review instructional materials that you think are important for program outcomes. You may want to look at:
 - Syllabi and course outlines
 - Course assignments and tests
 - Textbooks (especially the tables of contents, introductions, and summaries)
 - Documents that describe your department and its programs
 - Brochures and catalog descriptions
 - Accreditation reports
 - Curriculum committee reports
 - Mission statements

It is generally a good idea to identify between three and five outcomes for your program. These outcomes can be general as well as discipline-specific to the department or program itself.

See Appendix, page 22 for worksheet.

STEP 2: WRITING LEARNING OUTCOMES

Write learning outcomes as ***specific student performance and behaviors that demonstrate student learning and skill development of these outcomes***. Before drafting outcomes, it is helpful to consider the following three questions:

1. For each of your stated program outcomes, what are the specific student behaviors, skills, or abilities that would tell you this outcome is being achieved?
2. Ideally and briefly, what would a skeptic need (evidence, behavior, etc.), in order to see that your students are achieving the major outcomes you have set out for them?
3. In your experience, what evidence tells you when students have met these outcomes – how do you know when they’re “getting” it?

Keep In Mind:

When writing program learning outcomes, you should describe realistic and achievable outcomes in simple language. Even if a learning outcome that is important to you seems difficult to measure, try to word the outcome into language that focuses on student behavior. Effectively worded objectives use action verbs that describe definite, observable actions (See appendix for Bloom’s Taxonomy).

Program learning outcomes should be accepted and supported by members of the department. Developing appropriate and useful outcomes is an iterative process; it’s not unusual to go back a number of times to refine outcomes. In many cases, it is only when you try to develop assessment techniques for program learning outcomes that the need for refining those outcomes becomes apparent.

See Appendix, page 23 for worksheet.

STEP 3: DESIGNING THE ASSESSMENT PROJECT

A key part of deciding on what assessment methods to use is knowing what you want to assess. Before beginning an assessment project, it is helpful to ask:

- What should students be learning and in what ways should they be growing?
- What are students actually learning and in what ways are they actually growing?
- What should you be doing to facilitate student learning and growth?

The most effective assessment projects are those that are closely linked to the curriculum and that use available information and resources to the greatest degree possible.

Hint

1. Take an Inventory of Current Assessment Practices

Even though it may not be called “assessment,” instructors and departments already assess student learning through a variety of methods including assigning grades based on a rubric, competency exams, and capstone courses. Before designing an assessment, it is important to identify what assessment information you are already collecting and match these data sources to your program learning outcomes. Once you have done this, you can pinpoint central questions that are not being answered by your current assessment practices.

2. Refer to a Curriculum Map

Curriculum mapping makes it possible to identify where your student learning outcomes are addressed in the program. (See appendix for curriculum map template.)

STEP 4: SELECTING ASSESSMENT METHODS

Each department should select and develop assessment methods that are appropriate to departmental outcomes and that will provide useful and relevant information for the purposes that faculty in the department have identified. The following are points to consider:

a. Effective program assessment is generally:

- Faculty-designed and implemented, not imposed from the top down
- Systematic
- Ongoing and cumulative

b. If possible, use multiple methods to assess each learning outcome. Many outcomes will be difficult to assess using only one measure. The advantages to using more than one method are:

- being able to assess different components of a complex task
- not needing to design a complicated all-purpose method
- having greater accuracy and authority when several methods of assessment produce similar findings
- providing an opportunity to pursue further inquiry when methods contradict each other

c. Include both direct and indirect measures when possible. Direct methods ask students **to demonstrate** their learning while indirect methods ask them **to reflect** on their learning. Direct methods include measures such as objective tests, essays, presentations and classroom assignments. Indirect methods include surveys, interviews, and reflection papers.

See Appendix, page 25 for worksheet.

- d. Include qualitative as well as quantitative measures.** A combination of qualitative and quantitative methods offers the most effective way to assess outcomes.
- **Qualitative** measures “rely on descriptions rather than numbers.” Examples include exit interviews, formal recitals, participant observations, writing samples, and open-ended questions on surveys.
 - **Quantitative** measures assess teaching and learning by collecting and analyzing numeric data using statistical techniques such as GPA, grades, exam scores, and standardized teaching evaluations.
- e. Choose assessment methods that allow you to assess the strengths and weaknesses of the program.** Effective methods of assessment provide both positive and negative feedback. Finding out what is working well is only one goal of program assessment.
- f. Be selective about what you choose to observe or measure.** Assessment methods should be selected carefully. Remember:
- Comprehensive does not mean assessing everything
 - Choosing assessable indicators of effectiveness is key
 - Complex methods are not necessarily the best choice
- g. Use established accreditation criteria to design your assessment program.** Established criteria will help you:
- respond more effectively to accreditation requirements
 - build on the techniques and measures that you use as part of the accreditation process

Assessment should:

- Answer questions that are important to you and your program.
- Be manageable, given available resources (including time and money).

There is a lot of help out there.

Keep in mind that you are not alone. If you have assessment questions or need help, you can:

- Speak with your department head, dean, or assessment liaison.
- Enlist the assistance of The Center for Institutional Effectiveness when you plan to create, adapt, or revise assessment instruments. CIE can help you:
 - identify appropriate assessment measurements for specific goals and tasks
 - ensure validity and reliability of test instruments
 - ensure validity and reliability of qualitative methods
 - analyze and interpret quantitative and qualitative data collected

STEP 5: ANALYZING AND REPORTING RESULTS

It is important to make the most out of the information you collect through appropriate analysis and interpretation. Assessment points out the strengths and weaknesses of your program and provides evidence for change.

Analyzing:

After you have completed your assessment and have tabulated the results, it is important to ask yourself a number of questions including:

- What are you trying to accomplish from the assessment project?
- What does the data say about your students' mastery of the subject matter? What does the data say about your students' preparation for taking the next step in their academic careers?
- Are there areas where your students are outstanding? Are they consistently weak in some respects?
- Are graduates of your program getting good jobs, transferring to reputable schools, or reporting satisfaction with their education?
- Do you see indications in student performance that point to weakness in any particular skills, such as writing, or critical thinking?
- Do you see areas where performance is okay, but not outstanding, and where you would like to see a higher level of performance?
- What was the most valuable thing you learned?
- What are the three most important things you would like to share with others about your results?
 - 1.
 - 2.
 - 3.

The answers to these questions will help your department decide what steps to take next. How will your department incorporate the results of the assessment project into curriculum or pedagogical changes, program requirements, faculty development or additional resources?

Reporting:

A department often has more than one purpose for engaging in assessment. The audience for your assessment results plays an important role in defining the purpose of the report(s) you generate. For example, if the primary purpose of your report is to help faculty members in the department identify ways to improve the program, you would focus on how the results inform curricular change and improvement. Your report might include a detailed analysis of how students scored on a specific exam, project or lab. For a report to an external audience, your purpose is more likely to make a case for the quality of the educational experience students receive in your program, and highlight the program's particular strengths in fostering student learning, while also documenting the improvements made as a consequence of results.

Assessment results are often included in:

- accreditation reports
- general education reviews
- curriculum review
- recruitment material
- alumni newsletters
- publications
- career services
- securing grants
- program review

Remember:
Good news is always worth sharing.

Sharing encouraging results is one way to begin paving the way for a culture shift toward continuous self-assessment and quality improvement.

STEP 6: EVALUATING THE PROCESS

At the end of an assessment cycle, it is important for the faculty involved in the assessment project to reflect on the process and to share their thoughts with all departmental faculty so that everyone in the department stays informed and engaged.

Some questions to reflect upon are:

- Did you have a positive or negative experience implementing your assessment methods?
- What were students' reactions to the assessment process?
- What did you find especially effective in the assessment process?
- What did you particularly dislike about the process?
- What would you change about the process? Why?
- What will you do again? Why?
- What do the results suggest for assessment at BCC?

The information gathered from these discussions should help inform the next assessment cycle.

Challenges to Assessment Design

As your department works to identify and design assessment methods to measure student learning, you may be faced with a number of challenges. The following are some suggestions on how to overcome difficulties.

1. Allow time for mistakes and for ongoing faculty input and discussion.

Pilot projects are excellent ways to try out new techniques to see how well they assess the outcome you are trying to measure. Encourage and set time aside at faculty meetings to discuss assessment techniques and methods so that faculty both invest in the process and see how assessment is connected to the learning that goes on in their classrooms.

2. Tie the assessment methodology and instruments to the purpose of the assessment. Avoid the common error of designing or identifying an assessment technique, then fitting a purpose or goal to it.

3. Address the issues of participant attrition/retention, the actual amount of time involved, and cost and/or resources.

Longitudinal studies are particularly vulnerable to these challenges. Any effective assessment plan will acknowledge these challenges and incorporate ways to address them within the development and implementation of the plan itself.

4. Think about the ways in which you can use one source of information for a variety of course and program-level purposes.

This method will improve the chances that the assessment activity will become embedded into the structure of your program, requiring less start up work down the road.

PART III: DEVELOPING AN ADMINISTRATIVE AND EDUCATIONAL (AES) ASSESSMENT PLAN

The assessment of institutional effectiveness is a systematic process that examines college processes and services. This process ultimately establishes direction for improving institutional quality and building a solid reputation.

Effective administrative unit assessment should answer these questions:

1. What are you trying to do?
2. How well are you doing it?

The answers to the first two questions lead to the following questions:

1. How can you improve what you are doing?
2. What and how does an administrative unit contribute to the development and growth of students?
3. How can the student learning experience be improved?

STEP 1: IDENTIFYING DEPARTMENTAL/UNIT OUTCOMES

Developing agreed upon departmental/unit outcomes is not always a quick and easy task. Departments/Units vary in the extent to which staff share a common operational framework. Before actually writing or revising departmental/unit outcomes, it is useful to have open discussions with department/unit staff on at least one or more of the following topics or similar topics:

- How does your department/unit support Bergen's mission, vision, and values statements?
- Why does your department/unit do what it does?
- What does the department/unit wish to accomplish?
- What are the strengths and weaknesses of your department/unit?
- What would be good indicators of quality for your department/unit?

It is generally a good idea to identify between three and five outcomes for your department/unit. These outcomes can be general as well as specific to the department/unit itself.

Department/Unit Outcomes should:

- Be challenging but attainable.
- Be useful to the department/unit, as well as to the College.

STEP 2: WRITING DEPARTMENT/UNIT OUTCOMES

Department/Unit Outcomes should respond to the following questions:

- How will the department/unit accomplish this goal?
- What service or program is being provided?
- What value is being added to students and Bergen because of the service or program?

Avoid establishing outcomes which might be easily assessed, but which are of little value in improving the quality of programs and services.

STEP 3: DESIGNING THE ASSESSMENT PROJECT

A successful assessment project will answer two questions:

- Is your department/unit accomplishing what it wishes to accomplish?
- How do you know?

Assessment should NOT:

- Be viewed as an evaluation or accountability process.
- Be accepted as being optional.
- Be used to compare units.
- Be used to evaluate staff.

STEP 4: SELECTING ASSESSMENT METHODS

Assessment tools can be qualitative or quantitative. However, they need to directly relate to specific outcomes. AES assessment artifacts may include:

- Specific tallies of performance. (quantitative)
- Student and constituent satisfaction surveys conducted through questionnaires or focus groups. (qualitative)
- Data collected in the college's routine data collection efforts. (quantitative)
- Information collected in the process of writing annual reports or other required documentation procedures. (quantitative)

STEP 5: ANALYZING AND REPORTING RESULTS

The value of an effective assessment program lies in its contribution to the improvement of the quality of programs and services. Effective assessment should inform decisions leading to department/unit changes. In addition, for assessment to take hold, it must be integrated into day to day operations.

See Appendix, pages 24 and 25 for worksheets.

Analyzing:

After you have completed your assessment and have tabulated the results, it is important to ask yourself:

- What are you trying to accomplish from the assessment project?
- What does the data say about your department/unit's work?
- Are there areas where your department/unit is outstanding? Is it consistently weak in some respects?
- Do you see areas where performance is okay, but not outstanding, and where you would like to see a higher level of performance?
- What is the most valuable thing you learned?
- What are the three most important things you would like to share with others about your results?
 - 1.
 - 2.
 - 3.

The answers to these questions will help your department/unit decide what steps to take next. How will your department/unit incorporate the results of the assessment project into changes in service, productivity, staff development or additional resources?

Reporting:

The audience for your assessment results plays an important role in defining the purpose of the report(s) you generate.

Assessment results are often included in:

- accreditation reports
- recruitment material
- alumni newsletters
- publications
- career services
- grant applications
- resource allocation

STEP 6: EVALUATING THE PROCESS

At the end of an assessment cycle, it is important for the staff involved in the assessment project to reflect on the process and to share their thoughts with other members of the department/unit so that everyone in the department/unit stays informed and engaged.

Some questions to reflect upon are:

- Did you have a positive or negative experience implementing your assessment methods?
- What were your colleagues' reactions to the assessment process?
- What did you find especially effective in the assessment process?
- What did you particularly dislike about the process?
- What would you change about the process? Why?
- What will you do again? Why?
- What do the results suggest for assessment at BCC?

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ASSESSMENT REPORT FORM FOR ACADEMIC PROGRAM

Assessment Period:

Department/Program:

Department Chair:

Department Assessment Liaison:

Date Submitted:

❖ Program Description or mission/outcome statement of the Department/Program:

❖ Program Learning Outcomes:

SEMESTER 1: CREATING PROGRAM-LEVEL ASSESSMENT PLAN

1. Program Learning Outcome(s) to be assessed (from the above section):

2. Means of Assessment:

▪ Feedback from Dean:

SEMESTER 2: DEVELOPING ASSESSMENT TOOL (s) and TIMELINE

3A. Describe or attach assessment tool (s), including sources of data, timeline for data collection and how data will be analyzed.

3B. Desired results faculty would like to see.

- Feedback from CIE:

SEMESTER 3: COLLECTING AND ANALYZING DATA

4. Summary of Results (attach aggregated data table, survey tool, etc., to support the summary)

5. Recommendations for Improvement:

- Feedback from Dean:

SEMESTER 4: CLOSING THE LOOP AND SHARING KNOWLEDGE

6. Use of Results:

- Feedback from CIE:

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ASSESSMENT REPORT FORM ADMINISTRATIVE AND EDUCATIONAL SUPPORT

Assessment Period:

AES Department/Unit:

Department/Unit Head:

Department/Unit Assessment Liaison:

Date Submitted:

❖ **Mission/outcome statement or description of the Department:**

❖ **Department's Core Outcomes:**

SEMESTER 1: CREATING A PROGRAM/UNIT LEVEL ASSESSMENT PLAN

1. Department/Unit's Outcome(s) to be assessed (from the above section):

2. Means of Assessment:

▪ **Feedback from Vice President:**

SEMESTER 2: DEVELOPING ASSESSMENT TOOL (s) and TIMELINE

3A. Describe or attach assessment tool (s), including sources of data, timeline for data collection and how data will be analyzed.

3B. Desired results department and Vice President would like to see.

- Feedback from CIE:

SEMESTER 3: COLLECTING AND ANALYZING DATA

4. Summary of Results (attach aggregated data table, survey tool, etc., to support the summary)

5. Recommendations for Improvement:

- Feedback from Vice President:

SEMESTER 4: CLOSING THE LOOP AND SHARING KNOWLEDGE

6. Use of Results:

- Feedback from CIE:

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Developing Program Learning Outcomes

Each faculty member in the department should complete a copy of this worksheet. Arrange a time for all of you to sit down together to compare notes and discuss results. The final product of this exercise should be a list of three to five broad outcomes that describe what department faculty believe should be characteristic of graduates in the major.

1. List any department outcomes that you know. This information can most likely be found in the course catalog, program brochure, or program description.
2. Describe your ideal student in terms of strengths, skills, knowledge and values, and identify which of these characteristics are the result of the program experience. Keeping this ideal student in mind, ask what the student:
 - a. knows
 - b. can do
 - c. cares about
3. What program experiences can you identify as making the greatest contributions to producing and supporting the ideal student?
4. What should every graduate of your program know?
5. What career achievements of your alumni are you most proud of?

Determining Program Learning Outcomes

Once you have identified your program outcomes, have all faculty members complete the following table. Meet as a group to discuss your response and try to reach consensus on what behaviors you want students to be able to demonstrate.

Program Learning Outcomes	Demonstrable Behaviors or Activities
1.	a. b. c.
2.	a. b. c.
3.	a. b. c.
4.	a. b. c.
5.	a. b. c.

AES Unit Assessment Planning Checklist

1. What objective are you seeking to assess?
 - Department/unit productivity/output
 - Level of satisfaction
 - Department/unit efficiency

2. Why are you conducting the assessment?
 - To enhance management effectiveness/performance
 - To improve quality e.g., reduce error rates
 - To track progress over time

3. From whom will the data be collected?
 - Incoming students
 - Current students
 - Students who stopped attending or dropped out
 - Graduating students/recent graduates
 - Alumni
 - Employers
 - Faculty
 - Staff
 - Administrators
 - Parents
 - Professional associations/organizations

4. From what sources will the data be gathered?
 - In-house surveys
 - National surveys
 - Internal unit data (documents, memos, reports, etc.)
 - Focus groups
 - Other _____

5. How will the data be used?
 - To improve programs or services
 - To develop a proposal
 - To improve student learning outcomes

6. Data collection
 - Regular/recurring
 - One-time (special purpose)

Assessment Method Selection Criteria Matrix

The Method Selection Criteria Matrix can help you determine which methods of assessment might be most appropriate for your departmental culture and your assessment questions. This matrix allows you to evaluate the appropriateness of the methods you are considering based on criteria of importance to the department. Completing this matrix will help you link learning outcomes to specific measures that can be used to assess these outcomes.

Key: ✓ = Adequate tool
 + = Valuable tool
 - = Not an effective tool for criterion

Criteria of Value to Department Measures (examples)					
	Standardized tests	Portfolios	Performances	Surveys	Classroom Assignments
Curriculum match					
Low data Gathering Costs					
Reasonable Planning Time					
Reasonable Analysis Time/Cost					
Value to Student Learning					

Direct and Indirect Methods of Assessment

Direct methods of assessment provide evidence that *actual learning* has occurred. Examples of direct measures include examinations, capstone projects, licensure exams, and work assessed with a rubric.

Indirect methods of assessment *imply* that learning has occurred but does not *demonstrate* the actual learning. Indirect methods of assessment include surveys, course evaluations, and reflections pieces.

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Curriculum Map: *insert your program name here*

Completion Date: *insert date here*

Identify in which courses the program learning outcomes are being taught and whether the program learning outcomes are introduced, reinforced or mastered.

KEY:

I – Introduced **R** – Reinforced / Practiced **M** – Mastery at exit level *[indicate how assessment evidence is collected]*

Program Specific Required Courses (Do not include General Education courses or unrestricted electives.)	Program Learning Outcomes		

Adapted from Community College of Philadelphia's Curriculum Map template

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**CURRICULUM MAP
CHECKLIST**

The following questions can help guide your discipline discussions as you review and revise your program curriculum maps.

CRITERIA	YES	NO	COMMENTS
1. Does a review of the program learning outcomes demonstrate purpose?			
2. Does the curriculum map show sufficient content? Is there a relationship among the courses? Do the courses explore the same material/ideas/concepts from different perspectives?			
3. Does the curriculum map show sufficient rigor? Do the courses build an understanding of the subject matter?			
4. Does the curriculum map show sufficient depth? Do the courses build upon one another? Do the courses that are required work toward meeting the program outcomes?			
5. Does the curriculum map clearly demonstrate where reinforcement and mastery take place?			

Keep in Mind:

- Not every program outcome is met in every course.
- A course should demonstrate **only** introductory, reinforced or mastery knowledge.
- Think of **mastery** in terms of mastery of *foundational knowledge* or mastery within the context of a two year curriculum.

BLOOM'S TAXONOMY of EDUCATIONAL OBJECTIVES

Bloom's Taxonomy is a classification of learning objectives. Six levels, which move from the lowest order processes (Level 1) to the highest (Level 6), are often used to describe the cognitive behaviors of student learning.

Below are descriptions of each level and examples of typical action verbs that can be used when writing student learning outcomes.

Level 1

Knowledge: Requires students to remember or recall information without necessarily understanding the required material. The behavior includes describing, identifying or labeling.

define	memorize	select
identify	name	underline
indicate	recall	tell
know	record	translate
label	relate	use
list	repeat	

Level 2

Comprehension: Is concerned with understanding and comprehending learned material or information. Students' behavior demonstrates the ability to explain, discuss and or interpret materials or a condition.

classify	paraphrase	schedule
describe	recognize	shop
discuss	report	question
explain	restate	relate
express	review	solve
identify	suggest	
locate	summarize	

Level 3

Application: Involves students' ability to put ideas, concepts and actions into play to solve problems. Students demonstrate, show, and make use of information.

apply	give examples	practice
compute	illustrate	predict
construct	interpret	inspect
demonstrate	investigate	inventory
dramatize	operate	
employ	organize	

Level 4

Analysis: Involves students' ability to use critical thinking and emphasizes analysis and evaluation. This requires breaking down information into components and seeing relationships and ideas. The related behavior includes comparing, categorizing, or differentiating.

analyze	criticize	examine
appraise	debate	experiment
calculate	determine	propose
categorize	diagram	set-up
compare	differentiate	
contrast	distinguish	

Level 5

Synthesis: Involves students' ability to put parts together to form something original. This requires the learner to use creativity to design, compose, and create new designs or creations.

arrange	design	prepare
assemble	formulate	produce
collect	manage	select
compose	organize	value
construct	perform	
create	plan	

Level 6

Evaluation: Involves making judgment based on evidence or defined criteria. Students' related behavior includes criticizing, prioritizing and recommending.

appraise	decide	measure
assess	estimate	rate
choose	evaluate	revise
compare	grade	score
contrast	judge	

What About Grades?

When the issue of assessment is raised, faculty members often say, “I already do assessment. I grade student assignments.” While grades are one measure of student achievement, there are significant drawbacks to using grades to meet assessment’s primary goal – to improve teaching and learning. Traditional grading which offers one “score” to represent the sum total of a student’s performance across a host of outcomes does not necessarily provide the detailed and specific information necessary for linking student performance to program outcomes and, ultimately, to improvement. Because grades don’t always tell you about student performance on individual learning outcomes or program outcomes, they do not provide sufficient information on the overall success of the program in helping students attain specific and distinct learning outcomes.

ACKNOWLEDGMENTS

This handbook draws heavily from the following sources:

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