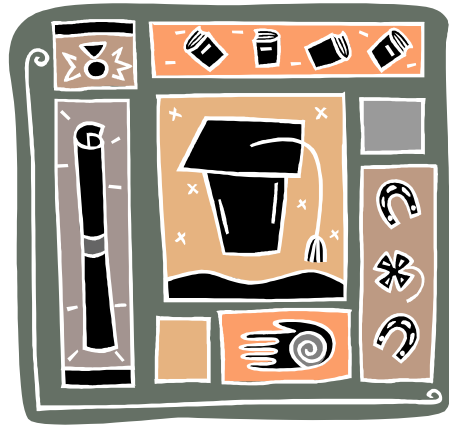


GUIDE FOR
LEARNING OUTCOMES ASSESSMENT
AND
CLASSROOM LEARNING ASSESSMENT



(Logo)

THE COMMUNITY COLLEGE OF BALTIMORE COUNTY
OCTOBER 2002

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ASSESSMENT OF STUDENT LEARNING DEMONSTRATES THAT THE INSTITUTION'S STUDENTS HAVE KNOWLEDGE, SKILLS, AND COMPETENCIES CONSISTENT WITH INSTITUTIONAL GOALS AND THAT STUDENTS AT GRADUATION HAVE ACHIEVED APPROPRIATE HIGHER EDUCATION GOALS.

STANDARD 14

The systematic assessment of student learning is essential to monitoring quality and providing the information that leads to improvement. Implemented effectively, the assessment of student learning will involve the shared commitment of students, administrators, and academic professionals. The assessment of student learning has the student as its primary focus of inquiry. It is related to the assessment of institutional effectiveness, which is important as a means to monitor and improve the environment provided for teaching and learning. Because the purpose for assessing student learning is to help students improve and to maintain academic quality, the assessment measures chosen should be those that provide the students, faculty, and others with information about student learning that is specific; address questions that faculty and the institution care about; and are useful for assessing and enhancing academic quality.

MIDDLE STATES COMMISSION ON HIGHER EDUCATION
CHARACTERISTICS OF EXCELLENCE IN HIGHER
EDUCATION: ELIGIBILITY REQUIREMENTS AND
STANDARDS FOR ACCREDITATION, 2002

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INTRODUCTION

The Community College of Baltimore County is a learning-centered public college that anticipates and responds to the educational needs of the communities of its three campuses. As part of the College's LearningFirst Strategic Plan, CCBC is committed to making learning its central focus, making students active partners in the learning process, and focusing on learning outcomes to assess the success of student learning. Evaluating the effectiveness of instruction is a faculty responsibility that is necessary for the improvement and verification of learning.

The College is dedicated to providing faculty with substantial assistance in the development of learning outcomes assessment, programs outcomes assessment, and classroom learning assessment processes and in the revision of instructional practices that may follow from outcomes assessment.

LEARNING OUTCOMES ASSESSMENT

Philosophy

Learning outcomes assessment is a natural and ongoing component of the instructional process. All members of the institution share responsibility for student learning during their tenure at the College. Continuous improvement of learning is a collective enterprise upon which the success of instructional units depends on the organized support and cooperation of others.

The process of assessing learning outcomes is a means to an end, that end being improved learning. As part of assuming the professional responsibility that goes with teaching, faculty identify, design, and implement specific learning outcomes assessments. The results, once analyzed, form the base for organized change that positively influences student learning.

Learning outcomes assessment is neither precise nor perfect, and its data are interpreted with that in mind. It is a way of thinking about quality that comes from our willingness to continually examine, question, and, as necessary, alter what we do as an educational institution.

In no instance are the results of learning outcomes assessment used in a punitive manner, neither in reference to students nor to personnel. The climate of cooperation and focused efforts to improve permeates the assessment process. Such an atmosphere relieves staff of fear and allows them to approach both instructional and program assessment with an open and creative mind.

Learning outcomes assessment provides feedback to faculty that allows them to strengthen and improve the educational process, which results in more appropriate, more extensive, and/or higher level learning.

Learning Outcomes Assessment Projects

History

The Community College of Baltimore County implemented its Learning Outcomes Assessment Program for course-level assessment in 1999. To date, over 30 individual faculty projects and 10 institution-identified, high-impact (high enrollment, multi-campus, multi-section) projects have been initiated and/or completed across the three campuses.

Projects have been implemented to assess learning outcomes in a wide variety of courses and disciplines, including Developmental Math, English, and Reading; Chemistry; Biology; Astronomy; Calculus; College Algebra; Mortuary Science; Environmental Science; Accounting; Sociology; Psychology; Occupational Therapy; Lifetime Fitness and Wellness; Health; Nursing; Physician Assistant; Computer-Aided Design; Data Communications; Computer Information Systems; English as a Second Language; Music; Speech Communication; and English Composition. Over time, the College has moved gradually from supporting only individual faculty course projects to including a number of high-impact projects driven by faculty teams.

Faculty members who participate in outcomes assessment projects that are formally reviewed and approved receive compensation and material support.

Project Requirements

A Learning Outcomes Assessment Project, as a plan for improving student learning at the course level, begins with measurable statements of what students are expected to know or be able to do upon completion of a course. At a minimum, a project is three semesters in length. One progress report and a final report are submitted as part of the project requirements.

The College supports both individual and high-impact courses as defined in the previous section. As the term suggests, high-impact projects have the potential to impact student learning for a very large number of students. High-impact course projects include all sections of a course and therefore require participation of a large number of both full- and part-time faculty. Because of the broad scope and complexity of these projects, implementation and completion requires a great deal of planning and collaboration. Communication among project leaders during all phases of the project is essential. The Associate for Learning Outcomes Assessment can assist in facilitating the timely completion of project requirements.

Each project consists of five stages, which include a design component, an implementation component, data collection and analysis, development of course improvements, and reassessment.

Stage 1: Designing and Proposing a Learning Outcomes Assessment Project

- A. Faculty teams or individual faculty, working closely with the Associate for Learning Outcomes Assessment, design an outcomes assessment project to assess learning related to course objectives that are of major importance to the course.
- B. Faculty present the project to other faculty in the discipline and elicit feedback.
- C. Faculty team project participants meet to prepare the Learning Outcomes Assessment Request for Proposal and submit the proposal to the appropriate Academic Division Dean(s) for approval. (See Appendix A, LOA Request for Proposal.) Projects must include the following:

1. *Objectives.* The objectives to be measured by the project must be operationalized; i.e., the objectives must include a set of behaviors and activities to be performed that can be measured empirically. In most cases, these behaviors coincide with the common course objectives; but in some cases, a major portion of a course or program may be selected. For instance, if scientific reasoning is a significant expectation of the course, the project might focus on this behavior. The number of objectives to be measured by the project should not be so large that the project results have no explanatory value.
2. *Method.* An appropriate method is selected for collecting data that measure the identified learning outcomes.
3. *External Validation.* External validation is included in the project plan, both when selecting the instrument and analyzing the results. Faculty can measure where students are in reference to stated competencies and can also determine whether the levels attained are comparable to other groups of similar students. This comparability may be determined by different techniques, but having an external reference provides a measure of validity for learning outcomes.

Benchmarking of some type should be included to the degree possible. This may be determined by comparing the performance of CCBC students to other college students on normed tests, comparing CCBC students to criterion-referenced measures, analyzing CCBC student performance using inside or outside experts, or

other appropriate methods determined by the faculty member or faculty team. Other CCBC campuses cannot be used for external validation.

4. *Controls.* During the implementation of the project, important variables must be held constant so that outcomes will be reliable. For example, all sections and instructors participating in the project must implement it in the same manner. Sufficient sample size needs to be considered. In the case of high-impact course projects, the goal is to assess all sections of the course.
5. *Data Analysis.* The data gathered are analyzed to determine areas in need of improvement.
6. *Course Improvement.* Based on the data analysis, course revisions are designed and subsequently implemented.
7. *Reassessment.* Following one or two semesters of implementation of recommended improvements, a reassessment is conducted to determine the impact of the revisions.
8. *Replication.* If the results are not satisfactory, the improvement/assessment cycle is repeated immediately. If the results are satisfactory, the cycle can be repeated in three years.
9. *Dissemination.* The results of the Learning Outcomes Assessment Project will be shared with colleagues in the department and across the College. All research data and written materials associated with formally approved outcomes assessment projects are archived in the College library and made available for public use.

- D. The Associate for Learning Outcomes Assessment forwards the proposal to the Vice Chancellor for Learning and Student Development and to the appropriate President(s) for signatures.

Stage 2: Implementing the Design and Collecting and Analyzing the Data

The project is implemented, the approved assessment instrument is administered, and related data are collected and analyzed. Faculty collect a variety of demographic data to include (among other areas, depending on the nature of the project) data on race, gender, and age. Faculty will make every attempt to include data analysis that addresses minority performance versus non-minority performance, particularly in high-impact projects.

Stage 3: Redesigning the Course to Improve Student Learning

- A. Based on the data analysis, the faculty member or team designs course improvements and develops new course materials as necessary.
- B. The faculty member or team presents a one- to-three-page summary report of the data, results, and recommendations for course improvements, along with samples of any new materials, to the Associate for Learning Outcomes Assessment.

Stage 4: Implementing Course Revisions and Reassessing Student Learning

- A. The faculty member(s) implements course improvements.
- B. The faculty member(s) readministers the assessment instrument.

- C. Related data are collected again and analyzed.
- D. Course changes and reassessments are implemented multiple times until results yield improvement.

Stage 5: Final Analysis/Reporting Results

- A. Faculty, in collaboration with the Associate for Learning Outcomes Assessment, submit a summary report of the results to the appropriate Academic Division Dean(s).
- B. The Outcomes Associate submits the report to the Vice Chancellor for Learning and Student Development and the campus President(s) for review.
- C. The final report is distributed to the college community.

Project Design

There are currently two types of Learning Outcomes Assessment Projects: 1) individual course projects and 2) high-impact course projects. Both types of projects are expected to include all campuses where the course is taught, all faculty, and all sections. In the case of high-impact projects, all course sections, or an adequate sample, are included.

To initiate a project, a team of instructors (or an individual instructor) presents the idea to the appropriate Academic Division Dean(s) and receives preliminary approval to move forward. Then, the team, working closely with the Associate for Learning Outcomes Assessment, formulates a project design, presents it in a proposal to the appropriate Academic Division Dean(s), and informs other faculty members in the discipline of the project plan as early as possible.

Faculty have the benefit of expert advisors during the design process. The Associate for Learning Outcomes Assessment works with the faculty member or faculty team to develop the research design and to ensure that external validity and reliability are prioritized in choosing or developing the data collection tool. Additionally, the Planning, Research, and Evaluation Office provides support for data analysis, especially for statistical procedures with which faculty may not be familiar.

Different instruments and designs are appropriate for different projects. External validity of both instruments and results is an important consideration when designing the Learning Outcomes Assessment Project. The following is a sampling of the variety of design methods and instruments that may be used to measure student learning outcomes and examples of CCBC projects:

Portfolio assessment is a method of determining exit behaviors by compiling a collection of student work. Portfolios usually span a set time frame and focus on any type of behavior that is demonstrable by virtue of a student product. Hence, such things as writing samples, art work, laboratory reports, student-authored computer programs, and employer evaluations may constitute a portfolio. Important elements of portfolio assessment include 1) evidence of learning acquired, 2) a set of criteria by which to judge the product, 3) a reasonable time frame over which to measure change, and 4) comparable skill levels of the evaluators.

Example: A Computer-Aided Design (CADD) professor at CCBC utilized portfolio assessment to measure his students' learning outcomes. The professor presented a subset of the National Occupational Skills Standards for CADD (standards developed by business leaders, educators, and labor leaders) to local industry professionals and a sample set of portfolios to be normed. The student

products/outcomes received good reviews, and industry professionals offered some suggestions for learning improvement that are currently being implemented for next semester. The professor plans to replicate the study with other industry experts.

Standardized tests can be selected for an outcomes assessment project. A standardized test is one that has been developed by an outside group, usually a testing service or a professional group. The test has been reviewed for validity and reliability by experts in the field, has been field tested and piloted, and has established norms of performance. Elements that faculty consider in selecting a standardized test include 1) content validity in relationship to course outcomes; 2) credibility of the test developers; 3) a technical report that indicates test development processes, characteristics of the pilot group, and norms; and 4) the scoring process. It is desirable to select a test which has included community college students in its norming or reference group.

Example: Two CCBC psychology professors administered both the Introduction to Psychology CLEP test and their departmentally developed final exam as the final course evaluation instrument. Findings showed that the departmental final exam grades were highly correlated with the standardized CLEP grades. The project revealed no differences in student achievement by demographic variables or by course section. This project gave the department confirmation that their instructional strategies are producing student learning at par with nationally normed standards.

External graders may be used as the primary project design validity check. In this process, actual measurement of the outcomes is performed by experts in the field who have no vested interest in the results of the project. External graders are most

typically used when the product is of a more subjective nature, such as a creative work. Graders who are selected must meet the following criteria: 1) they are not directly involved with the students whose performance is being graded; 2) they have a common grading rubric from which to derive a grade; 3) they have been involved in a norming session with sample papers; 4) they are considered to possess an expert level of knowledge or skill in the area being assessed.

Example: Several CCBC faculty members have utilized external graders to assess student learning outcomes. One faculty member invited a professor at another college to evaluate speeches in Speech Communication classes throughout the College. Also, two English professors used outside consultants to assess student essays by providing a grading rubric to the consultant.

Pre-test, post-test is a popular design possibility. A test is administered early in the course, before the instructional process has begun. A parallel test is given at the close of the learning experience. This design may be appropriate if previous knowledge about the content is likely—for example, if a prerequisite exists for the course or a similar course that would have been taken in high school.

When using this design, factors to consider include the following: 1) content reliability and validity are assured, 2) the pre-test is administered before learning starts, 3) the post-test is a parallel form to the pre-test, 4) the post-test is administered at the end of the course or at a pre-determined time, and 5) the same procedures are used with both the pre-test and post-test.

Example: The faculty leader for a Health and Wellness (HLTH 101) high-impact course project used a pre-

test/post-test design. She created a comprehensive pre-test which correlated with the common course objectives and utilized an external expert to validate the exam. The exam was given to all sections of HLTH 101 on all three campuses to discern what students know about health-related topics covered in the course. Students were also given the exam as a comprehensive final in order to measure their gain in knowledge and performance in the identified areas.

Cooperating with other community colleges in designing and administering an assessment is another design possibility. This design may be appropriate to use when other norming data are not available. In such instances, several other colleges are asked to participate in the project with their students so that comparisons can be made using an external reference group.

When using this design, factors to consider include 1) selecting one or more colleges that would provide a student body to be compared; 2) determining that the cooperating school(s) has comparable objectives for its courses and that there is agreement on these expected outcomes; 3) contacting college personnel who will serve as a point person for the project; and 4) working out the logistical tasks of the project, such as time of administration, conditions of testing, process for transmission of materials and data, and standards for sharing results.

It is clear that there is no one way to conduct an outcomes assessment project. In fact, various designs may be consolidated to achieve the best results. The most important aspects are that the method matches the objectives to be measured and the steps of the procedure are followed closely, taking every precaution to keep the data valid. Faculty, in consultation with the Associate for Learning Outcomes Assessment, determine which design best meets the goals of the project. Each project is unique, and

variations are made based on the factors that are important in particular situations.

Project Assistance

The College is committed to the Learning Outcomes Assessment Program and provides assistance in all phases of designing, implementing, and evaluating a project. Some of the support is offered at the System level. Other assistance is available locally at each campus.

The Associate for Learning Outcomes Assessment is the primary source of assistance for faculty members engaged in a Learning Outcomes Assessment Project. The Outcomes Associate assists faculty with all phases of the project, from initial design to final reporting. The Outcomes Associate is responsible for facilitating access to CCBC resources needed by faculty members. Following is a list of resources that are available to assist faculty in planning, implementing, and evaluating projects:

- Office of the Vice Chancellor for Learning and Student Development
- Associate for Learning Outcomes Assessment
- Planning, Research, and Evaluation office
- Testing Centers on each campus
- Learning and Teaching Excellence Centers
- faculty peer mentors

The College also provides faculty with the facilities and services needed to effectively assess learning outcomes and to implement assessment-based instructional innovations. Some of the facilities and services provided include:

- computer resources to facilitate the collection, management, and analysis of assessment data
- prerequisite screening to ensure that students in a course meet all entry requirements
- accessibility to timely student learning and academic profiles

- well-maintained classroom facilities and up-to-date equipment to ensure an optimal environment for learning and efficient use of class time

The following is a partial listing of the areas in which additional assistance is available:

- project design
- technical assistance for data collection, design, and analysis
- information about external validation tools
- project management
- readers and graders for essays and portfolios
- access to student records
- access to external resources and existing data about the project
- access to external agencies that provide support and validation of existing tools and tests
- access to consultants or experts from other colleges
- access to any CCBC or campus-based offices that may be able to provide assistance for the project

Approval Process

Each Learning Outcomes Assessment Project must be approved for funding by the appropriate Academic Division Dean. The project must be approved by all Academic Division Deans whose faculty will be involved in the project. Campus-based projects involving a single course or set of courses within a single discipline will usually require approval from one Academic Division Dean. If a multi-disciplinary project is proposed, all Academic Division Deans of affected disciplines must give approval. The Vice Chancellor for Learning and Student Development as well as appropriate campus Presidents must also sign off on the project proposal.

Faculty Compensation

Faculty are compensated for engaging in the process of designing and implementing outcome measures and improving courses. Compensation may be in the form of stipends, release time, travel funds, equipment or supplies, or personnel to assist the faculty member.

A description of the award categories for approved projects is as follows:

- A. After the formal project proposal is approved by the Academic Division Dean(s), the first half of the total stipend will be awarded to the faculty member(s) for implementation of the project.
- B. If course revisions are required based on weaknesses identified through the baseline data collection and analysis, the faculty member or team is expected to implement changes and reassess. The second half of the stipend will be awarded upon reassessment and reporting.

Compensation schedules are altered for each fiscal year, depending on budget allocation.

Program Outcomes Assessment Projects

History

The previous section of this guide focuses on outcomes assessment as it relates to what students know or can do upon completion of a course. Since courses are building blocks to certificates or degrees, there is a need to verify that students can successfully retain, integrate, and apply outcomes derived from individual courses into a final set of comprehensive competencies that we would expect of program graduates. These broad outcomes are known as *program outcomes*, and they define what students know or will be able to do at the end of a program. With input from a variety of sources such as advisory committees, employer surveys, DACUM activities, four-year institutions, national or local skill standards, and focus groups, program coordinators are responsible for identifying a complete set of workplace-relevant program outcomes that must be clearly stated, specific in nature, and, most of all, measurable.

CCBC is involved in assessing a variety of different types of programs—the General Education Program, the Developmental Education Program, and Career and Transfer Programs. This section focuses on Career and Transfer Programs and the program review process that is utilized to conduct an in-depth, multi-dimensional study of these programs every five years. Program-level outcomes are emphasized as a tool to guide program changes and to improve and expand student learning. Typically, three to five major outcomes are appropriate for a program. Program outcomes must be approved by the Vice Chancellor for Learning and Student Development, and a copy of the approved outcomes will be kept on file in that office.

In addition, the program review process includes an outcomes assessment project. The data generated from the assessment project guide recommendations for programmatic change. If the data suggest significant

changes, a supplemental program review report must be submitted. The College provides staff development to assist program coordinators in writing measurable program outcomes and in developing a Program Outcomes Assessment Project.

Project Requirements

Specific program reviews are scheduled on a five-year revolving basis, giving program coordinators ample opportunity to revise program outcomes and to develop and implement a Program Outcomes Assessment Project. Course-level projects require a minimum of three semesters to collect data, analyze data and recommend changes, and reassess. Since program-level projects involve a similar assessment cycle, it may be necessary to begin collecting data prior to the actual program review. If this is not possible, a supplemental program review outcomes assessment report must be submitted within one year of the completion of the program review.

Each project consists of five major stages: a design component, an implementation component, data collection and analysis, development of program improvements, and reassessment.

Stage 1: Designing and Proposing a Program Outcomes Assessment Project

- A. Program coordinators formulate and draft a project plan to assess learning related to approved major program outcomes.
- B. Program coordinators present the project plan to faculty in the program and elicit timely feedback.
- C. Project participants meet to prepare the Program Outcomes Assessment Request for Proposal and then submit the proposal to the appropriate Academic Division Dean(s) for approval. (See

Appendix B, POA Request for Proposal.) Projects must include the following:

1. *Objectives.* The outcomes to be measured by the project must be operationalized; i.e., the outcomes must include a set of behaviors and activities to be performed which can be measured empirically. In most cases, these behaviors coincide with higher level objectives from the common course outlines of upper level courses in the program.
2. *Method.* An appropriate method is selected for collecting data that assess the identified program outcomes.
3. *External Validation.* External validation is included in the project plan, both when selecting the instrument and analyzing the results. Faculty can measure where student learning is in reference to stated competencies and can also determine whether the levels attained are comparable to other groups of similar students. This comparability may be determined by different techniques, but having an external reference provides a measure of validity for program outcomes.

Benchmarking of some type should be included to the degree possible. This may be determined by comparing the performance of CCBC students to other college students on normed tests, comparing CCBC students to criterion-referenced measures, analyzing CCBC student performance using inside or outside experts, and other appropriate methods determined by the project leader. Other CCBC campuses cannot be used for external validation.

4. *Controls.* During the implementation of the project, important variables must be held constant so that outcomes will be reliable.
5. *Data Analysis.* The data gathered are analyzed to determine areas in need of improvement.
6. *Program Improvement.* Based on the data analysis, program revisions are designed and subsequently implemented.
7. *Reassessment.* Following one to two semesters of implementation of recommended revisions, a reassessment is conducted to determine the impact of the revisions.
8. *Replication.* If the results are not satisfactory, the improvement/assessment cycle must be repeated immediately. If the results are satisfactory, the cycle can be repeated in three years.
9. *Dissemination.* The results of the Program Outcomes Assessment Project are shared with colleagues in the department and across the College. All research data and written materials associated with formally approved outcomes assessment projects are archived in the College library and made available for public use.

Support is provided by the Office of the Vice Chancellor for Learning and Student Development and the Office of Planning, Research, and Evaluation.

- D. The Academic Division Dean(s) forwards the proposal to the Vice Chancellor for Learning and Student Development and to the appropriate President(s) for signatures.

Stage 2: Implementing the Design and Collecting and Analyzing the Data

The project is implemented, the approved assessment instrument is administered, and related data are collected and analyzed. The project leader collects a variety of demographic data to include (among other areas, depending on the nature of the project) data on race, gender, and age. Every attempt will be made to include data analysis that addresses minority performance versus non-minority performance.

Stage 3: Redesigning the Program to Improve Student Learning

- A. Based on the data analysis, the project leader, working with program faculty, identifies where in the program the improvements must occur and designs revisions to be implemented.
- B. The project leader presents a one- to three-page summary report of the data, results, and recommendations for course and/or program improvements, along with samples of any new materials, to the Office of the Vice Chancellor for Learning and Student Development.

Stage 4: Implementing Program Revisions and Reassessing Student Learning

- A. The project leader meets with those program faculty members who will implement program improvements in identified courses.
- B. The project leader readministers the assessment instrument. Related data are collected again and analyzed.

- C. Program changes and reassessments will be implemented multiple times until results yield the desired improvement.

Stage 5: Final Analysis/Reporting Results

- A. The project leader submits a summary report of the results to the appropriate Academic Division Dean(s).
- B. The Academic Division Dean(s) submits the report to the Vice Chancellor for Learning and Student Development and distributes the report to the Presidents, campus libraries, and faculty throughout the College.

Project Design

There are many techniques that can be used to assess program outcomes and a variety of appropriate points when assessment can occur. Assessment may be embedded in course assignments or activities or occur in a capstone course near the end of a program of study. Assessment can also take place in well-defined practicums, internships, or field experiences. In addition, some of the course-level outcomes assessment methods discussed in the previous section, such as portfolio assessment and standardized tests, can be modified and used at the program level. External validity of both instruments and results is an important consideration when designing the Program Outcomes Assessment Project.

Many CCBC programs employ a variety of methods for assessing program-level outcomes. For example, Nursing, Paralegal Studies, Chemical Dependency Counseling, Occupational Therapy Assistant, and Mortuary Science have certification exams, which may be used to document student attainment of program outcomes; Health and Fitness Studies uses a capstone course; and many career programs require a cooperative education or internship experience. The

project leader will determine the method(s) and timing for the data collection. The following examples further clarify how particular design methods and instruments might be employed for assessment:

Capstone courses are courses at the program completion level where course outcomes, in part or entirely, are the comprehensive major program outcomes. In such courses, instructors reinforce and integrate a combination of previously learned course outcomes or competencies and ask students to apply them in work-related tasks. Capstone courses are designed to enable students to review, evaluate, integrate, and synthesize information and skills gained from other courses in the program or major.

Skill development over multiple courses is a method that would be used when an assessment project is focused on skills that are progressive in nature. This method may be spread over several semesters or over the length of an academic program. This method is often appropriate when assessing skills in courses that have prerequisites or when assessing program-level skills that may take several semesters to master.

Internships, field, and clinical experiences are ideal for assessing program outcomes because students in these settings are being evaluated by external experts who can provide real-world feedback based on real-world standards. A field experience must be designed with the employer to include increasingly complex objectives that link directly to the program outcomes.

Authentic assessment presents students with a real-life situation that engages them in a simulation of a problem that they must solve using knowledge and skills gained in earlier courses in the program. A single project can be structured to assess both mastery of course content and attainment of program goals. In this situation, an external consultant or an

internal panel of experts would be used to judge students' work.

Portfolio assessment is an accumulation of work that students have produced in a program. Portfolios can assess the growth of skill development by comparing early work to work completed later in the program and then comparing the end product to established standards. An external consultant or an internal panel of experts would be used to judge students' portfolios.

Critiques are projects that students or teams of students present to a panel of experts who are asked to critique the work. The criteria for the critique must be based on the specific goals formulated for the project and must link to the program outcomes.

Certification exams are used in programs that link successful completion of a program to passing an external exam from a local or national certifying agency.

Project Assistance

The College is committed to Program Outcomes Assessment and provides assistance in all phases of designing, implementing, and evaluating a project. Following is a list of resources that are available to assist faculty in planning, implementing, and evaluating projects:

- Office of the Vice Chancellor for Learning and Student Development
- Planning, Research, and Evaluation office
- Testing Centers on each campus
- Learning and Teaching Excellence Centers
- staff development
- faculty peer mentors

The following is a partial listing of the areas in which additional assistance is available:

- project design
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- access to student records
- access to external resources and existing data about the project
- access to external agencies that provide support and validation of existing tools and tests
- access to consultants or experts from other colleges
- access to any CCBC or campus-based offices that may be able to provide assistance for the project

Approval Process

Each Program Outcomes Assessment Project must be approved by the appropriate Academic Division Dean(s). The Vice Chancellor for Learning and Student Development, as well as appropriate campus Presidents, must also sign off on the project proposal.

Developmental Education Assessment

One hallmark of an exemplary developmental education program is an ongoing formative/summative evaluation process. As referenced in the certification process of the National Association of Developmental Education, this process should begin with a qualitative self-evaluation of every aspect of the program. Data gathering should include three levels of information—primary, secondary, and tertiary. The primary level includes the numbers of students assessed, placed, and enrolled in developmental courses as well as the numbers of students who take advantage of certain services. The secondary level includes course pass rates and pre-test/post-test score gains. The tertiary level includes examination of global indicators, including success in the next sequential course, retention, and GPA.

Assessing the progress of developmental students presents unique challenges. First, many students in the developmental courses, especially Reading, have learning disabilities, both identified and undiagnosed. Thus, often they suffer from test anxiety and are not good test-takers. Timed testing presents even more anxiety. Second, the developmental student is often an adult who has been out of school for many years and is not used to the format of today's tests. Because of these challenges, outcomes assessment should not be done using only traditional standardized tests. Untimed testing is preferable, or at least timing should be such that most students will finish the test. Finally, assessment should not be based on one test score alone. Instructors might need to use a variety of creative means to assess students' progress.

Outcomes assessment of developmental students should be both quantitative and qualitative. Tests alone are not sufficient to evaluate successful completion of course outcomes. In "Improving Developmental Education through Formative Evaluation," a presentation at the National Association for Developmental Education (NADE) 2000 conference in Biloxi, Mississippi, Boylan, Bonham, and Bliss

recommended the following student academic performance criteria for research on course evaluation:

- a. gain scores from pre-test to post-test,
- b. grades in remedial/developmental courses,
- c. student completion rates for remedial/developmental courses,
- d. number of attempts required for students to pass remedial/developmental courses,
- e. grades in follow-up courses,
- f. cumulative grade point averages,
- g. number of terms participating students are retained, and
- h. overall student retention rates at the end of 3 years for community colleges.

Also, student satisfaction with courses and attitudes toward learning are important measures of success or failure in meeting course objectives. Attitudes can be measured with surveys or questionnaires or through student focus groups where students freely express their opinions.

Boylan, Bliss, and Bonham recommend systematic, ongoing evaluation as a means to change and improve the developmental program. Faculty should not wait for the “call from above” to evaluate the success of their courses but should engage in ongoing collection of demographic data, academic scores, and attitudes toward the program.

CCBC has begun the cycle of learning outcomes assessment for its entire Developmental Education Program. Faculty and staff from the Program have participated in the NADE self-evaluation process. Primary and secondary levels of evidence of participation and achievement of developmental students are available in the developmental education annual reports. To further address the secondary

level, Learning Outcomes Assessment Projects have been conducted for ENGL 052, RDNG 052, and MATH 083. To address the tertiary level of assessment, global outcomes such as progress in the next course and retention have been determined.

General Education Assessment

A new General Education Program became effective in the Fall 2001 semester. The General Education Program goals are listed below:

- Introduce students to the fundamental principles, concepts, vocabulary, and methods essential for the acquisition of knowledge and skills basic to the field of study;
- Prepare students to communicate effectively using written and oral or signed communication skills;
- Provide a variety of learning experiences that encourage students, independently and in collaboration with others, to use those fundamental principles and methods to acquire, analyze, and use information for purposes of inquiry, critical thinking, problem solving, and creative expression in a diverse environment;
- Prepare students to adapt to change, including the increasing integration of information technology in all fields of knowledge and expression;
- Provide students with the knowledge and skills to understand themselves and others from various cultural, social, aesthetic, political, and environmental perspectives; and
- Provide the experiences that will allow students to become independent learners, the skills to analyze their strengths and weaknesses as learners, and the knowledge to accomplish the tasks involved in learning.
- Use appropriate assessment tool(s) to demonstrate the degree to which students have achieved the objectives of the course.

In order to document student learning in the General Education Program and to gather evidence related to the overall effectiveness of this new program, the General Education Review Board has designed a comprehensive assessment plan that includes a variety of both internal and external measures.

Internal Measures

Common Graded Assignments (CGAs) are criterion-referenced assessments designed by teams of faculty representing each General Education discipline. The discipline teams have become known as **GREATs**, which stands for **GeneRal Education Assessment Teams**. The GREATs developed a preliminary faculty-approved list of Common Graded Assignments and 6-point scoring rubrics for each discipline area. (See Appendix B.) These assignments (and others that will be developed as the project continues) will be incorporated into designated sections of designated courses each semester. At the end of each fall and spring semester, a random sample of these assignments will be collected and scored by trained faculty. The feedback from these assignments will provide valuable information about the degree to which students are achieving the General Education Program goals.

The GREAT project was piloted in the Spring 2002 semester and will be piloted again in the Fall 2002 and Spring 2003 semesters. The pilot projects invite faculty from General Education disciplines to volunteer to participate. The goal, however, is to design an assessment schedule that will include every approved General Education course on a rotating basis. The Spring 2002 cohort of courses included SPCM 101, SOCL 141, HLTH 101, CINS 101, PSYC 101, and RECR 242.

The Learning Outcomes Assessment Advisory Board designed and delivered a training workshop for faculty who volunteered to participate in the first pilot. This workshop focused on developing Common Graded Assignments and scoring rubrics. Faculty who volunteered for the scoring phase in the first pilot participated in a scoring and norming workshop developed by LOAAB and delivered with the assistance of an outside learning outcomes assessment consultant. These workshops will be offered in the future to train faculty new to the Common Graded Assignment assessment process.

Work on the GREAT project and the development of CGAs continues as we strive to increase the number of assignments for each discipline category and to refine assignments and rubrics.

The SIR II evaluation instrument is administered to students to obtain feedback on items such as instructor effectiveness, course delivery preferences, and relevance of assignments to course requirements. The General Education Review Board designed four questions to be included in the SIR II to elicit student feedback regarding the General Education Program goals. These questions invite student feedback on the following:

How much did this course increase your ability to:

1. Take responsibility for your own learning?
2. Function with people whose backgrounds are different from your own?
3. Apply problem-solving skills?
4. Apply the methods and resources of information technology?

External Measures

The Academic Profile is a standardized assessment instrument created by the College Board and the Educational Testing Service. This norm-referenced instrument assesses college-level reading, writing, critical thinking, and use of mathematical data in the Humanities, Social Sciences, and Natural Sciences. While the Academic Profile does not provide feedback on all of the General Education criteria, it does provide some feedback that can be used to create baseline data regarding how CCBC students perform. This assessment was administered for the first time during the Fall 2001 semester and will be conducted every two or three years.

External measures to assess the General Education Program also include such items as the Graduate Follow-up Survey, surveys of students who do not graduate, the Employer Feedback Survey, and a variety of transfer measures obtained from public four-year institutions where many CCBC students transfer. These tools will provide feedback regarding student satisfaction with the General Education program.

Classroom Learning Assessment

Philosophy

Outcomes assessment typically involves a formal research project that is large scale, collaborative, and public. Classroom assessment, by contrast, involves informal techniques that allow an individual instructor to generate periodic feedback from students while a course is ongoing. The purpose of classroom assessment is to facilitate a dialog between teacher and students that enables both to contribute to the improvement of learning. Mutual feedback enables the instructor to identify learning problems and enables students to develop awareness of the instructor's objectives as well as their own learning styles. Informed by the indications of classroom assessment, the instructor can make immediate adjustments to improve learning.

The instructor has sole authority over the interpretation and dissemination of classroom assessment results. The purpose of classroom assessment is to improve learning and not to evaluate instructors.

Project Requirements

Classroom learning assessment seeks to improve the learning process by helping faculty find out what students are learning and how well they are learning it. Classroom assessment is a process that requires systematic inquiry and provides intellectual challenge—two powerful resources of motivation, growth, and renewal for faculty.

While classroom learning assessment is a deliberate process, projects are less formal in design than Learning Outcomes Assessment Projects. Faculty members decide what to assess, how to assess, and how to respond to the

information gained through the assessment within their classrooms.

Project Design

The Classroom Assessment Cycle has three parts: planning, implementing, and responding. Planning takes the form of choosing a class in which to try a classroom assessment project, determining the learning objective to be assessed, and choosing an appropriate technique to assess that objective. Implementation involves teaching to the chosen objective, collecting feedback using the chosen technique, and analyzing that feedback. Responding requires interpreting the results, communicating with the students, and responding with adjustments to improve learning.

Classroom assessment projects assess a variety of teaching and learning goals. Projects can vary in scope and complexity, depending upon the classroom situation being evaluated and the assessment technique chosen to initiate the evaluation. Cross and Angelo in their 1988 book *Classroom Assessment Techniques: A Handbook for Faculty* define the following three areas for classroom assessment: 1) course-related knowledge and skills; 2) learner attitudes, values, and self-awareness; and 3) learner reactions to instruction.

The following examples of classroom assessment projects are gleaned from Cross and Angelo's handbook. Each project adopts a different design technique and illustrates a different assessment category as cited above.

Course-Related Knowledge and Skills

An anthropology professor suspected that many students in his class lacked an awareness of and familiarity with 20th Century history sufficient to understand and learn from his lectures and the required readings. To find out just how familiar his students were with critical people, places, and dates, he had to determine which knowledge was most important to his course. He compiled a list of essential background information. Then, he designed a Background

Knowledge Probe, a simple questionnaire to measure students' familiarity with 50 historical, cultural, and geographic items. The probe directed students to indicate their degree of familiarity by selecting one of four possible responses to each item: a) Have never heard of this; b) Have heard of it but don't really know what it means; c) Have some idea what this means, but not too clear; d) Have a clear idea what this means and can explain it.

The instructor tabulated each response and calculated mean ratings. The individual responses proved dismal. Most of the students had "some idea" or a "clear idea" about only a few items. Only a handful of students claimed to be able to explain each item.

In response to these results, the instructor planned a structured group activity using a technique referred to as "jigsaw learning." He divided the class of 30 students into five groups of six, and he assigned each group 10 of the 50 items to define or explain. He made sure each group's list began with at least two familiar items in order to start them off with some success. He gave the groups 30 minutes to identify the items on their lists. After 30 minutes, each group member was expected to be prepared to explain any or all of the items. This meant, in effect, that the members of the group had to explain the items to one another.

At the end of the group session, the professor called the class back together and asked each group to explain two items—one "easy" and one "hard." The groups performed better than most of the individuals would have in explaining the items.

At the end of the class, the instructor handed out the answer key with the relevant references. He asked the class to look for the important items in their readings, to listen for them during lectures and discussions, and to let the whole class know whenever they noticed a reference to any of the 50 key items. He explained that recognizing and remembering these events would facilitate a deeper knowledge of cultural anthropology.

Learner Attitudes, Values, and Self-Awareness

A life fitness instructor noticed that attendance in her aerobics classes always dropped off sharply after the first few weeks of the semester and was interested in improving the retention rate in these classes. The instructor believed that students dropped the course because their initial high level of interest was being negatively affected by something going on in the class and that perhaps student expectations were somehow not being met. She

decided to conduct a classroom assessment that would ask students to assess their goals and expectations. She wanted to learn how closely students' goals matched her teaching goals.

During the second week of the semester, the instructor distributed a Goal Ranking and Matching assessment to her students that asked them to list their five most important goals for the class and to rank the five goals. While the students were completing their task, the instructor proceeded to list her teaching goals. She expected students to list goals such as improving cardiovascular fitness, improving muscle tone, losing weight, shaping up, and having fun. However, most of the students were interested in improving self-image and reducing stress.

The instructor, after assessing her students' goals, realized that she had been teaching the class in a way that students may have found to be stressful and threatening and that their goals were in conflict with hers. She presented the results to the class and elicited suggestions. As a result of the assessment, the instructor decided to incorporate readings on the relationship between body concept and self-concept into the course syllabus and integrated other materials which responded to the students' goals and interests.

Learner Reactions to Instruction

An accounting professor was interested in determining how well his students were mastering the concepts and principles of accounting with new teaching and learning approaches. He wanted to find a simple yet effective way to assess student reactions to his cooperative learning approach. To implement cooperative learning, the instructor organized the students into small structured working groups. These groups were given the task of reviewing the homework problems. The students in each group had to agree on the correct answers to the homework problems and sign off before their papers could be turned in. The structured group work replaced the instructor's traditional practice of reviewing the problems at the chalkboard. If his new teaching approaches did not improve student learning, he needed to find out immediately to allow him to make adjustments in a timely fashion. It was his hope that assigning the homework review to the cooperative learning groups would lead to more active student involvement and result in better learning.

The accounting instructor used the Classroom Assessment Quality Circle, a classroom assessment technique adapted from business and industry. Each section of 36 students elected two representatives to the Quality Circle. The Quality Circle members

served as information gatherers and as liaisons and met regularly with the professor outside of class. They were awarded a small amount of extra credit for their participation.

Early on, Quality Circle representatives let the instructor know that the new cooperative learning process contained “bugs” that threatened student learning and satisfaction. Although most students in the class valued this new method of reviewing homework problems, many were concerned that the solutions they reached by group consensus might not be correct. Most students did not feel comfortable waiting a week or more until they received their papers back to find out whether their group answers were right. To respond to these concerns, the instructor began providing the correct answers immediately after homework was handed in, and he put a solutions manual on reserve in the library.

The instructor learned from the Quality Circle members that some students were photocopying solutions from the manual and bringing them to their cooperative learning groups. He asked the Quality Circles for their suggestions, and they voted that this unfair practice be banned. Although some students undoubtedly still consulted the solutions manual, they had to explain the “borrowed” solutions to the other members of the group rather than just showing their peers a photocopy. Therefore, students had to understand the solutions, an outcome that demonstrated at least some learning.

The Quality Circle helped the instructor ensure both that students were learning successfully and that they were satisfied with his teaching. He reported that this technique helped him improve learning quality by focusing students’ attention on their own learning processes.

Project Assistance

Faculty who wish to participate in classroom learning assessment are invited to attend a one-hour introduction session. Those who choose to proceed attend four instructional strategies and techniques seminars designed to provide a thorough introduction to classroom learning assessment as well as a short introduction to learning outcomes assessment. In these seminars, faculty review assessment materials, learn to use classroom assessment tools, experiment with these tools in their classrooms, and

learn how to design Learning Outcomes Assessment Projects. These seminars are held on each campus and are facilitated by a faculty member familiar with the classroom research process and with learning outcomes research design.

This experience is collaborative in nature, with colleagues forming ongoing affinity groups that continue to meet and share experiences.

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APPENDICES

APPENDIX A
*LEARNING OUTCOMES ASSESSMENT PROJECTS
REQUEST FOR PROPOSAL*

APPENDIX B
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APPENDIX C
*INSTRUCTIONAL RUBRIC FOR ASSESSING GENERAL EDUCATION
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APPENDIX A

LEARNING OUTCOMES ASSESSMENT PROJECTS
(AY – 20xx COHORT)

REQUEST FOR PROPOSAL

The Learning Outcomes Assessment Advisory Board invites faculty to submit a Learning Outcomes Assessment Project proposal directed toward improving student learning. Faculty may seek the assistance of the Associate for Learning Outcomes Assessment (ALOA) and consult the CCBC *Guide for Learning Outcomes Assessment and Classroom Learning Assessment* for more detailed instructions on developing, implementing, and evaluating an outcomes assessment project.

As a first step, the faculty member (or faculty team) discusses the basic project with the appropriate Academic Division Dean(s) (ADD) and gains preliminary approval of the project. Once preliminary approval is given, the faculty member develops the full proposal in conjunction with the ALOA using the format listed below. Proposals are restricted to no more than three pages and must be submitted for final approval to the ALOA and all Academic Division Deans of disciplines involved in the project. **Completed proposals should be submitted to no later than May 15, 20xx for best consideration.**

Project Description:

Indicate which course(s) will be involved in the study and if this is a high-impact course. Briefly describe the project and explain how it will improve student learning.

Project Objectives:

List and describe the specific learning outcomes to be measured as part of the project.

Methodology:

Describe the design method and instrument(s) that will be used to collect data to measure the learning outcomes identified.

External Validation:

Describe the efforts that will be implemented to ensure external validation.

Timeline:

State the timeline for each of the stages in the project: (1) Designing and Proposing a Learning Outcomes Assessment Project, (2) Implementing the Design and Collecting and Analyzing the Data (Progress Report to ALOA), (3) Redesigning the Course to Improve Student Learning, (4) Implementing Course Revisions and Reassessing Student Learning, and (5) Final Analysis and Reporting Results. The maximum time for completion of all stages in the project is 2 ½ years.

<u>Stage</u>	<u>Timeline (mo/yr – mo/yr)</u>
1	
2	
3	
4	
5	

Project Needs:

List and justify all the resources necessary to conduct the project. Identify the faculty who will participate in the project and the scope of their roles and responsibilities. Categories of needs include staff assistance, consumables, etc.

Faculty Participants/Roles:

Consultant Fees:

Test Fees:

Other Costs (explain):

Signatures:

Associate for Learning Outcomes: _____ Date: _____
 Assessment
 Academic Dean – Catonsville: _____ Date: _____
 Academic Dean – Dundalk: _____ Date: _____
 Academic Dean – Essex: _____ Date: _____
 President – Catonsville: _____ Date: _____
 President – Dundalk: _____ Date: _____
 President – Essex: _____ Date: _____
 Vice Chancellor for Learning
 and Student Development: _____ Date: _____

APPENDIX B

PROGRAM OUTCOMES ASSESSMENT PROJECTS
(AY – 20xx COHORT)

REQUEST FOR PROPOSAL

The Learning Outcomes Assessment Advisory Board invites program coordinators to submit a Program Outcomes Assessment Project proposal. The data generated from the assessment project will guide recommendations for programmatic change to improve and expand student learning. Faculty should consult the CCBC *Guide for Learning Outcomes Assessment and Classroom Learning Assessment* for more detailed instructions on developing, implementing, and evaluating outcomes assessment projects.

As a first step, the program coordinator formulates and drafts a project plan to assess learning related to the approved major program outcomes. The coordinator then presents the project plan to faculty in the program and elicits feedback. Project participants meet to complete the Request for Proposal and submit the Proposal to the appropriate Academic Division Dean(s) (ADD) for preliminary approval of the project. Proposals are restricted to no more than three pages and must be submitted to the Presidents and the Vice Chancellor for Learning and Student Development for final approval. **Completed proposals should be submitted no later than May 15, 20xx for best consideration.**

Project Description:

Indicate which program will be involved in the study. Briefly describe the project and explain how it will improve student learning.

Project Objectives:

List and describe the specific program outcome(s) to be measured as part of the project.

Methodology:

Describe the design method and instrument(s) that will be used to collect data to measure the program outcomes identified.

External Validation:

Describe the efforts that will be implemented to ensure external validation.

Timeline:

State the timeline for each of the stages in the project: (1) Designing and Proposing a Program Outcomes Assessment Project, (2) Implementing the Design and Collecting and Analyzing Data,(3) Developing Program Improvements, (4) Implementing Program Revisions and Reassessing Student Learning, and (5) Reporting Results. The maximum time for completion of all stages in the project is 2 ½ years.

<u>Stage</u>	<u>Timeline (mo/yr – mo/yr)</u>
1	
2	
3	
4	

Project Needs:

List and justify all the resources necessary to conduct the project. Identify the faculty who will participate in the project and the scope of their roles and responsibilities. Categories of needs include staff assistance, consumables, etc.

Faculty Participants/Roles:

Consultant Fees:

Test Fees:

Other Costs (explain):

Signatures:

Academic Dean – Catonsville:	_____	Date: _____
Academic Dean – Dundalk:	_____	Date: _____
Academic Dean – Essex:	_____	Date: _____
President – Catonsville:	_____	Date: _____
President – Dundalk:	_____	Date: _____
President – Essex:	_____	Date: _____
Vice Chancellor for Learning and Student Development:	_____	Date: _____

APPENDIX C

Information Technology
Instructional Rubric for Assessing General Education