Academic Management Manual

Section L

Learning Outcomes Workbook

Academic Affairs
2009-10

Table of Contents

Introduction to Learning Outcomes
Learning Outcomes and Student Success – Dr. Sharon Sass L-1
Overview of the Learning Outcomes Workbook L-2

Learning Outcomes at PBCC
What are Learning Outcomes? L-2
The Three States of Curriculum L-3
Why do Learning Outcomes? L-4
How Learning Outcomes Support PBCC's Mission L-4
How Learning Outcomes Differ from Learning Objectives L-4
Levels of Learning Outcomes L-5
As a Faculty Member, What's In It For Me? L-6

PBCC's Plan for Implementing Learning Outcomes
Timelines L-7

Constructing Learning Outcomes
Steps to Writing Effective Learning Outcomes L-8
Examples L-8
Blooms' Taxonomy L-10
Suggested Verbs to Use in Bloom's Taxonomy L-12
Verb use in Learning Outcomes L-13
Program Level Learning Outcomes L-14
Course Level Learning Outcomes L-16
Worksheets for Developing Learning Outcomes L-18

Assessing Learning Outcomes
Introduction L-19
Assessment Flowchart L-20
General Education Learning Outcomes Assessment Process L-22
Program Learning Outcomes Assessment Process L-23
Program Learning Outcomes Assessment Schedule L-25
Assessment Forms L-26

Support for Learning Outcomes
Workshops L-28
Website L-28
Liaisons and Workgroups at Each Campus L-28
Program Review L-28

Summary and Conclusions L-28

References and Website Resources L-29

Appendix A
Learning Outcomes Model L-30

Appendix B
General Education Philosophy and Learning Outcomes L-31

Appendix C
Assessment Statement (Draft) L-32

Appendix D
Definition of Terms L-33

Introduction to Learning Outcomes

MEMORANDUM

To: **Faculty and Staff**

From: **Dr. Sharon A. Sass, Vice President of Academic Affairs**

Date: **July 2009**

As a community college, PBCC values its central role as a teaching and learning institution, and our mission statement emphasizes the importance of having a responsive curriculum**.** PBCC has instituted a change in its curriculum focus towards the concept of *learning outcomes*. Learning outcomes can be thought of as the knowledge, skills, and abilities students attain as a result of their involvement in an educational activity.

The learning outcomes approach reflects a conceptual shift towards making learning more meaningful and effective for both students and faculty. Making education more meaningful for students requires that they gain a view of education that education can enable them to enrich their lives by learning. This is in contrast to the viewpoint that education is a task primarily done to satisfy the demands of others, such as faculty or the institution.

By developing educational experiences based on what students should be able to do with their knowledge, the learning outcomes approach helps faculty, staff and students understand the point of the educational activity, be it a program or course.

This workbook is designed to be an introduction to learning outcomes and how we implemented them throughout the college's curriculum. This truly was a collaborative effort in which faculty played a central role in transforming PBCC's curriculum to be learning outcome based.

If you have any suggestions or ideas on our process, or insights on how you have implemented learning outcomes within your classroom, please email learningoutcomes@pbcc.edu.

Overview of the Learning Outcomes Workbook

This workbook will serve as your introduction to the concept of *learning outcomes*. It was designed to provide a broad introduction to learning outcomes and serve as a base for further study into the subject. The workbook includes:

- A definition of learning outcomes
- PBCC's plan for implementing learning outcomes
- Guidance on how to write learning outcomes
- Support for developing learning outcomes
- Assessment guidelines and procedures for general education and programs

Learning Outcomes at PBCC

What are Learning Outcomes?

What exactly is a "learning outcome"? Learning outcomes are statements that indicate what is expected that the student will be able to do upon completion of an activity, course, program, or degree. Although relatively new to colleges accredited under the Southern Association of Colleges and Schools (SACS), the learning outcomes approach has been an integral part of accreditation standards in western states such as California, and in nations such as the United Kingdom.

The movement toward learning outcomes changes the way we think about curriculum and teaching. Education has either focused on teaching small, discrete skills which can be "mastered" or teaching abstract concepts without connecting or integrating them with how students actually use or apply those concepts in daily life. (Please see Appendix C for a list of terms for learning outcomes).

Learning outcomes are statements that indicate what is expected that the student will be able to do upon completion of an activity, course, program, or degree.

This focuses what we do towards two very simple questions:

- What did the student learn? (Learning Outcome)
- How do we know it? (Assessment)

To be considered a learning outcome, the outcome must be able to be achieved by the learner and they must be observable and measurable. If the learning outcomes states:

- who is to do the action
- what action is to be done, and
- what result will come from that action

it is a good student learning outcome statement.

The Three States of Curriculum – How Learning Outcomes bring what we teach and what students learn together

It is said that any college actually has three curriculums:

- The **declared** curriculum – what we have in the catalog
- The **taught** curriculum - what is actually presented to students
- The **learned** curriculum – what students actually learn

Visually, it would look like this:

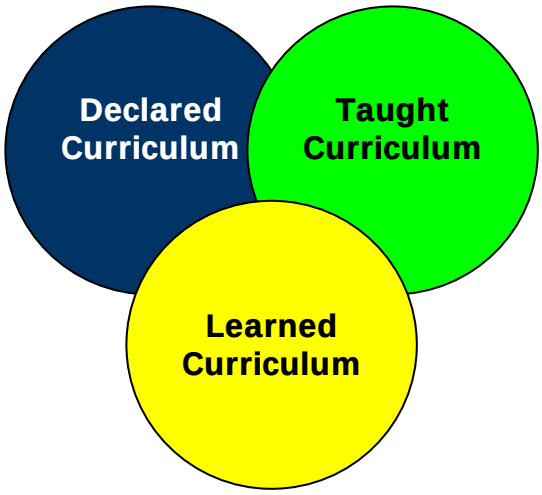


Figure 1 – Three Types of Curriculum

In an ideal curriculum situation, the three circles would have a much greater overlap, so that the declared, taught, and learned curriculum are essentially the same. Learning outcomes help us realize that ideal curriculum state through assurance that students actually learn the curriculum we declare, through faculty teaching.

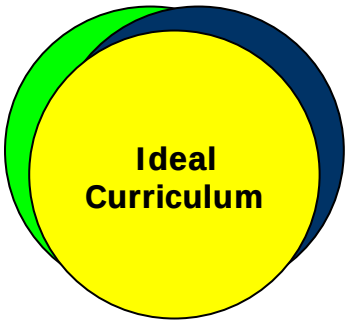


Figure 2 – The Ideal Curriculum

Why do Learning Outcomes?

As an institution dedicated to student learning, refocusing our curriculum towards learning outcomes allowed us to demonstrate that learning has occurred in our students in an objective, measurable way. Focusing on learning and student success also helps support the college mission through the strategic plan.

Focusing on learning and student success also helps support the college mission through the strategic plan.

SACS, our accrediting agency, has recently emphasized the importance of learning outcomes. Learning outcomes assessment has become an integral part of the revised principles of accreditation (http://www.sacscoc.org/pdf/PrinciplesOfAccreditation.PDF). Therefore, the development and assessment of learning outcomes is a major part of PBCC's next reaffirmation of accreditation in 2011.

How Learning Outcomes support PBCC's Mission

Palm Beach Community College's mission is to create and sustain a dynamic teaching and learning environment that provides a high-quality, accessible, affordable education, preparing students to contribute and compete ethically and successfully in a diverse global community.

To help fulfill this mission, learning outcomes were developed for all programs and courses at PBCC. During the spring 2006 academic term, General Education learning outcomes were developed. In the 2006-07 academic year, each credit and PSAV program developed learning outcomes. In the 2007-08 academic year, learning outcomes were developed for each credit and PSAV course and in 2008-09, assessment of learning outcomes was started. The model depicted in Appendix A illustrates the process.

How Learning Outcomes differ from Learning Objectives

Although at first glance the terms *learning objectives* and *learning outcomes* may seem interchangeable, they are different. Some consider the difference between the terms *learning objective* and *learning outcome* as what we hope our students will learn (objective) and what our students actually learn (outcome). Others consider objectives to be similar to short-term goal statements. In this definition, objectives signify steps that must be accomplished in order to achieve a goal.

Learning objectives and learning outcomes are different.

In general, a *learning objective* focuses more on a discrete learning event within a course. Contrastingly, the term *learning outcome* focuses more on learning that occurs after a student has completed the activity, and through a process of reflection assimilates the knowledge at a higher level. These are subtle, but important, differences.

The chart below indicates some of the significant differences between learning objectives and learning outcomes.

Objectives	Student Learning Outcomes
Represent valuable skills, tools, or content (nuts and bolts) that enable a student to engage a particular subject.	Represent overarching products of the course.
Focus on content and skills important within the classroom or program; what the staff and faculty will do. Often termed the input in the course.	Express higher level thinking skills that integrate the content and activities and can be observed as a behavior, skill, or discrete useable knowledge upon completing the class.
Can often be numerous, specific, and detailed. Assessing and reporting on each objective for each student may be impossible.	An end product that can be displayed, observed, and evaluated against criteria.
*Excerpt from: Section 3, "Objectives and SLOs" in *Assessing Student Learning in Community Colleges, Janet Fulks.*	

Levels of Learning Outcomes

As you come to understand the concept of a learning outcome, it becomes evident that learning outcomes can be developed at many different levels of the curriculum. In PBCC's model for developing learning outcomes, we have identified three levels:

- General Education Learning Outcomes
- Program Learning Outcomes
- Course Learning Outcomes

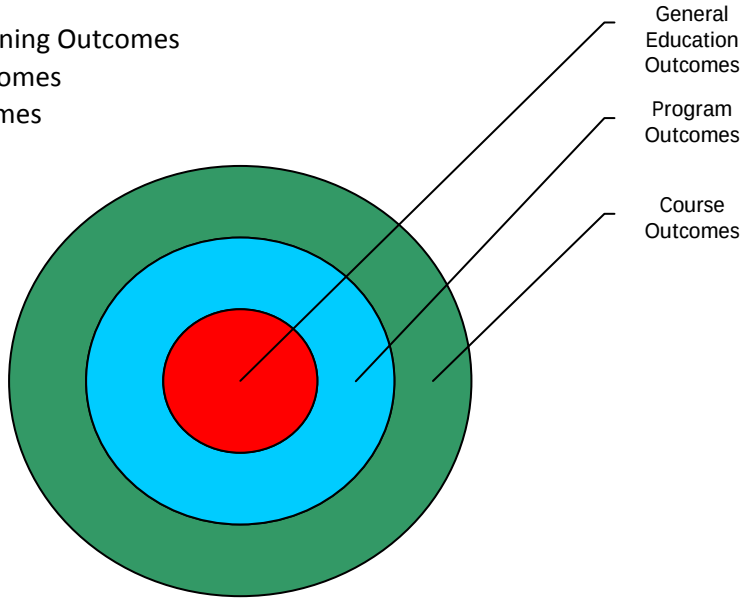


Figure 3 – Levels of Learning Outcomes

General Education Learning Outcomes

General education at PBCC represents the core of the Associate in Arts degree and is an integral part of each Associate in Science/Applied Science degree. During the spring 2006 term, a committee was convened to review the college's current general education philosophy and

objectives. Through the committee's work and input of faculty clusters, PBCC's revised its general education philosophy and general education learning outcomes were developed (see page B- L-29).The general education learning outcomes are also available online at http://www.pbcc.edu/x10270.xml. These learning outcomes are for completion of the general education package as a totality.

Program Learning Outcomes

One of the opportunities that a learning outcomes approach brings to PBCC is to develop learning outcomes at the program level – what do we expect students to be able to do as the result of completing a particular program? Developing learning outcomes at the program level (AAS, AS, ATD, CCC, ATC, PSAV) was a major focus in the 2006-07 academic year. Program learning outcomes are available at http://www.pbcc.edu/x10271.xml.

Course Learning Outcomes

In the refocus on learning outcomes, course objectives were transformed into learning outcomes, allowing assessment and improvement to happen in measurable and meaningful ways. All course outlines have been transferred from the Word and PDF files to a database where all the course learning outcomes are also stored. The data base and course learning outcomes are available at http://www.pbcc.edu/courseoutlines.xml.

As a faculty member, what's in it for me?

This is an opportunity for faculty to evaluate course and program offerings in terms of student learning outcomes. It is a time where faculty can choose to make a difference in the learning experiences of PBCC's students, build collaboration among faculty, and bring recognition to many for the work that they have done. The implementation of learning outcomes can truly be a transformative experience of how we examine students and learning.

Faculty will be key players in developing learning outcomes.

Our focus is completely on what students learn and how we can improve student learning through assessment.

In focusing on student learning outcomes, faculty:

- Recommend learning outcomes for the programs and courses.
- Know exactly what students are expected to learn in each course.
- Provide focus for developing appropriate learning experiences for students so that they have the knowledge, skills, and abilities to be successful in their personal and professional lives.
- Empower students to become more involved with their learning experiences.
- Assess students' learning and use results as a tool for improvement.
- Grow professionally as they step away from traditional teaching formats and try innovative pedagogies to get students more involved in the learning process.

In focusing on student learning outcomes, students:

- Know exactly what is expected of them.
- Become more involved in their learning experiences.
- Apply knowledge, skills, and abilities from one class to the next or to the workplace.

The key is that a partnership in learning develops – students know what they will be able to do as the result of the learning and faculty will have the tools to ensure that students are learning the stated outcomes.

Another important part of understanding learning outcomes is to have a common language when we speak of learning outcomes. To help facilitate this common understanding, Appendix C contains our working definitions for terms used throughout this workbook in relation to learning outcomes.

PBCC's Progress in Implementing Learning Outcomes

The transition to a learning outcomes approach was phased in over a three-year period. Each of these steps represented a major project where faculty input and collaboration were invaluable to ensure success.

Activity	Timeline
General Education Learning Outcomes	Completed in 2005-06
Program Learning Outcomes	Completed in 2006-07
Course Learning Outcomes	Completed in 2007-08
Assessment of Program Learning Outcomes	Continuous
Assessment of General Education Outcomes	Continuous

*Dates indicate initial completion. Due to curriculum development the process is continuous.

As always, the curriculum committee will be the recommending body to administration on the program revisions and revised course outlines as they are developed through this process.

Constructing Learning Outcomes

Steps to Writing Effective Learning Outcomes

As mentioned earlier, learning outcomes were developed at three different levels: General education, program and course. Although all learning outcomes share certain characteristics, learning outcomes at the general education and program level tend to be more global and broad in nature. Those developed at the course level are more specific in nature in relation to the course subject. There are numerous approaches to take in developing learning outcomes. These examples illustrate some of the approaches many institutions have adopted.

From a very broad perspective, a learning objective should be:

- learner-centered
- specific
- measurable/observable

To further distill these concepts, many institutions have adopted the A-B-C-D formula (Carlson School of Management, University of Minnesota, Office of Learning Excellence http://www.csom.umn.edu/Page3073.aspx).

This formula uses four elements to construct a learning outcome:

A	Audience
B	Behavior
C	Condition
D	Degree

Examples

Here is an example of an outcome written using this formula:

the student	**Audience**
will apply appropriate techniques for addressing a policy decision problem	**Behavior**
when given one,	**Condition**
90% of the time.	**Degree**

As implied above, not all outcomes will need to state a degree. In fact, it is more likely they will not.

Note also that the order of the A-B-C and sometimes D parts is not important. We could have written the objective this way:

Given a policy decision problem,	**Condition**
the student	**Audience**
will apply appropriate techniques for addressing it	**Behavior**
90% of the time.	**Degree**

Here are other examples of learning outcomes:

1. For a given decision, students can predict industry-wide costs (effects on other parts of the industry).

2. Given information about successful business ventures, students will identify the organizational factors that contributed to their success.

3. Given pricing information about spot and forward markets, students will be able to identify buying opportunities to maximize profits.

Activity:
Given the three learning outcomes listed above, identify each part of the outcome using the A-B-C-D Method:

Notice that the learning outcome examples are all easily measurable; as you read them, you can easily imagine test questions, projects or problems that would reveal whether, and the degree to which, the learning outcomes have been met.

Bloom's Taxonomy

Another helpful example many cite for developing learning outcomes is the use of Bloom's Taxonomy (1956). Bloom's taxonomy can help faculty develop a precise language for expressing the learning outcomes of programs and courses. Each of the six categories of Bloom's Taxonomy allows the faculty member to assess a different type of skill/behavior in the course, starting from the lowest level of learning, the knowledge level, to the highest level, that of evaluation.

By specifying outcomes that display different levels of learning, Bloom's taxonomy offers more depth and detail than behavioral objectives. Learning outcomes expressed at various levels of Bloom's taxonomy become the foundation for the selection and design of assignments (including examinations), teaching strategies, readings, and instructional materials such as technology.

Bloom's Taxonomy

Category	Definition	Related Behaviors
Knowledge	**recalling or remembering something without necessarily understanding, using, or changing it**	**define, describe, identify, label, list, match, memorize, point to, recall, select, state**
Comprehension	**understanding something that has been communicated without necessarily relating it to anything else**	**alter, account for, annotate, calculate, change, convert, group, explain, generalize, give examples, infer, interpret, paraphrase, predict, review, summarize, translate**
Application	**using a general concept to solve problems in a particular situation; using learned material in new and concrete situations**	**apply, adopt, collect, construct, demonstrate, discover, illustrate, interview, make use of, manipulate, relate, show, solve, use**
Analysis	**breaking something down into its parts; may focus on identification of parts or analysis of relationships between parts, or recognition of organizational principles**	**analyze, compare, contrast, diagram, differentiate, dissect, distinguish, identify, illustrate, infer, outline, point out, select, separate, sort, subdivide**
Synthesis	**relating something new by putting parts of different ideas together to make a whole.**	**blend, build, change, combine, compile, compose, conceive, create, design, formulate, generate, hypothesize, plan, predict, produce, reorder, revise, tell, write**

Category	Definition	Related Behaviors
Evaluation	**judging the value of material or methods as they might be applied in a particular situation; judging with the use of definite criteria**	**accept, appraise, assess, arbitrate, award, choose, conclude, criticize, defend, evaluate, grade, judge, prioritize, recommend, referee, reject, select, support**

In another visual way at looking at Bloom's Taxonomy, it can be thought of a pyramid, where the most basic methods of cognition occur at the lowest levels. And, in some cases, we might also relate this to educational levels.

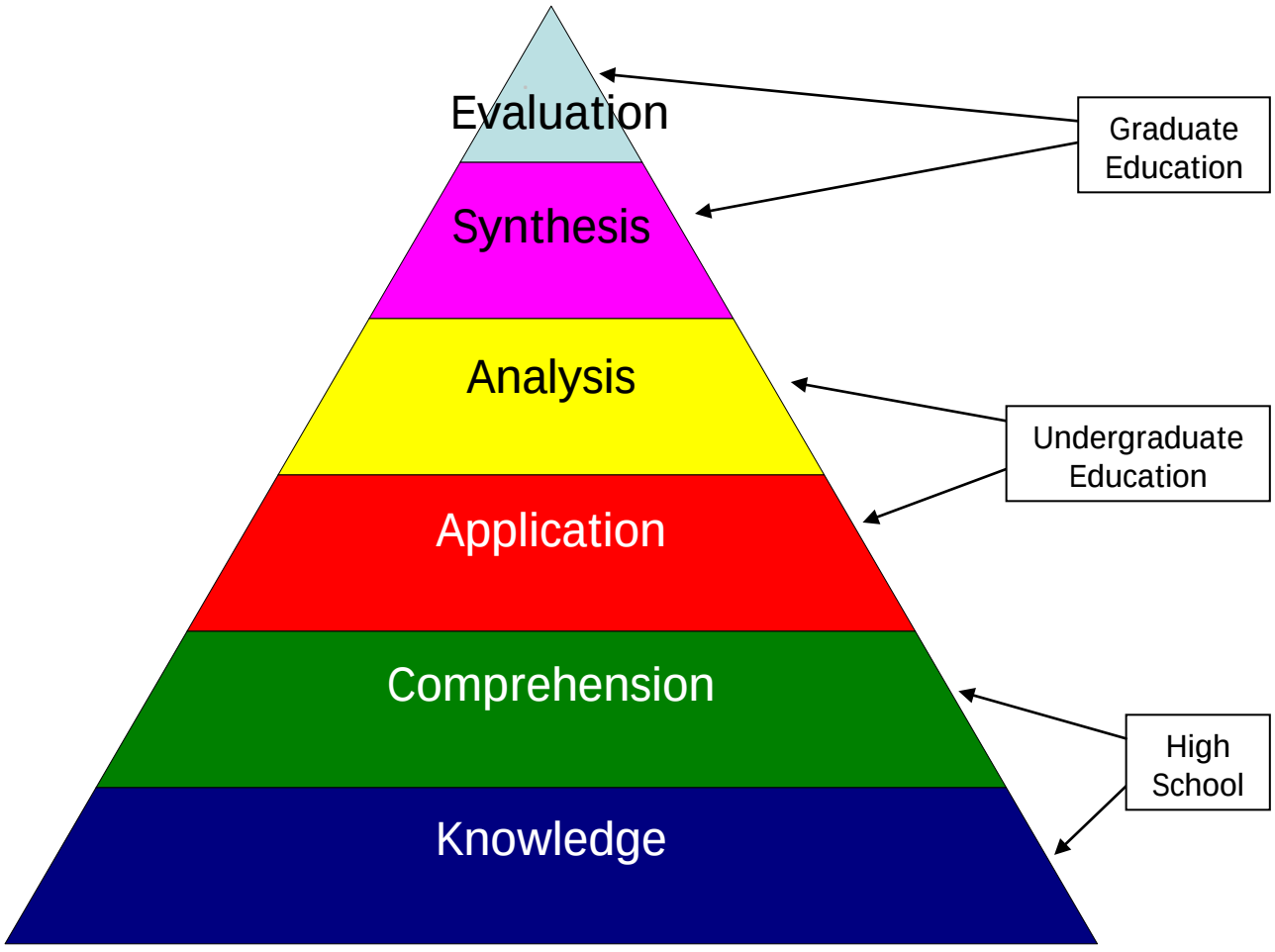


Figure 4 – Bloom's Taxonomy

Suggested Verbs to Use in Each Level of Bloom's Taxonomy

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Define	Choose	Apply	Analyze	Arrange	Appraise
Identify	Cite examples of	Demonstrate	Appraise	Assemble	Assess
List	Demonstrate use of	Dramatize	Calculate	Collect	Choose
Name	Describe	Employ	Categorize	Compose	Compare
Recall	Determine	Generalize	Compare	Construct	Critique
Recognize	Differentiate between	Illustrate	Conclude	Create	Estimate
Record	Discriminate	Interpret	Contrast	Design	Evaluate
Relate	Discuss	Operate	Correlate	Develop	Judge
Repeat	Explain	Practice	Criticize	Formulate	Measure
Underline	Express	Relate	Deduce	Manage	Rate
	Give in own words	Schedule	Debate	Modify	Revise
	Identify	Shop	Detect	Organize	Score
	Interpret	Use	Determine	Plan	Select
	Locate	Utilize	Develop	Prepare	Validate
	Pick	Initiate	Diagram	Produce	Value
	Report		Differentiate	Propose	Test
	Restate		Distinguish	Predict	
	Review		Draw conclusions	Reconstruct	
	Recognize		Estimate	Set-up	
	Select		Evaluate	Synthesize	
	Tell		Examine	Systematize	
	Translate		Experiment	Devise	
	Respond		Identify		
	Practice		Infer		
	Simulates		Inspect		
			Inventory		
			Predict		
			Question		
			Relate		
			Solve		
			Test		
			Diagnose		

Verb Use in Constructing Learning Outcomes

Learning outcomes should be expressed through the use of active verbs that state what students will be able to do as the result of the learning. In order to be clear, verbs and expressions such as 'to know', 'to understand', 'to appreciate', 'to be acquainted with', should be avoided, since they are often too vague to convey the exact nature of the learning outcome being sought.

More active and explicit verbs such as 'state', 'show', 'explain', 'define', 'describe', 'predict', 'recognize' and 'criticize' should be used where possible.

A number of lists of suitable vocabulary for expressing learning outcomes have been developed in other higher education institutions. The lists which follow have been compiled from numerous sources from the Internet. These are a guide only - they have to be applied to subject knowledge, understanding and skills.

Cognitive Skills

- **Activities which give evidence of knowing -** Define, describe, identify, label, list, name, outline, reproduce, recall, select, state, present, extract, organize, recount, write, measure, relate, match, record.

- **Activities giving evidence of comprehension -** Interpret, translate, estimate, justify, clarify, defend, distinguish, explain, generalize, exemplify, infer, predict, rewrite, summaries, discuss, perform, report, present, indicate, find, represent, formulate, contrast, classify, express, compare, recognize, account.

- **Activities giving evidence of application of knowledge/understanding -** Apply, solve, demonstrate, change, compute, manipulate, use, employ, modify, operate, predict, produce, relate, show, select, choose, assess, operate, illustrate, verify.

- **Activities giving evidence of analysis -** Recognize, distinguish between, evaluate, analyze, break down, differentiate, identify, illustrate how, infer, outline, point out, relate, select, separate, divide, compare, contrast, justify, resolve, examine, conclude, criticize, question, diagnose, categories, elucidate.

- **Activities giving evidence of synthesis -** Arrange, assemble, organize, plan, prepare, design, formulate, construct, propose, present, explain, modify, reconstruct, relate, re-organize, revise, write, summaries, account for, report, alter, argue, order, select, manage, generalize, derive, synthesize, enlarge, suggest.

- **Activities giving evidence of creativity -** Originate, image, begin, design, invent, initiate, state, create, pattern, elaborate, develop, devise, generate, engender

- **Activities giving evidence of evaluation -** judge, evaluate, assess, discriminate, appraise, conclude, compare, contrast, criticize, justify, defend, rate, determine, choose, value, question, measure.

Transferable Skills

- **Psycho-motor skills** - Perform, execute, operate, manipulate
- **Self Appraisal and Reflection on Practice** - Reflect, identify, recognize, evaluate, criticize, judge
- **Planning and Management of Learning** - Plan, priorities, access, use, select, explore, identify, decide
- **Problem-solving** - Identify, choose, select, recognize, implement, define, apply, assess, resolve, propose, formulate, plan

Communication/Presentation Skills

1. Communicate, express, articulate, question, examine, argue, debate, explain, formalize, respond, rebut, justify, defend, listen, illustrate, demonstrate, organize, pace, model, summaries

Interactive and Group skills

2. Accommodate, interact, collaborate, participate, cooperate, coordinate, structure, arbitrate, initiate, lead, direct, guide, support, decide, set goals, motivate, reflect, evaluate, recognize, enable

Program-Level Learning Outcomes

Program learning outcomes are developed to answer questions such as "What do you want your program graduates to be able to do?" Program -level learning outcomes are a holistic picture of what is expected of students completing a defined program or course of study. The emphasis is on the result of the learning experience, rather than the process ("complete assignments"), or what is covered in lectures or textbooks. Program learning outcomes indicate that the students have developed knowledge, skills and values as a result of being a student in a given program at PBCC.

Each program at PBCC developed five to fifteen learning outcomes that captured broad aspects of each program and produced a *program map* that indicated the relevant General Education Learning Outcome (Appendix B) associated with each program learning outcome. The key was to develop broad statements of the desired learning outcome rather than the specific skills which are captured at the course level.

Once the program learning outcomes were developed, the program faculty prepared "program maps" that demonstrate that all the program learning outcomes are covered among the core curriculum courses, and at what level. The map also indicates the most relevant general education learning outcome supported by the program learning outcome (if any, there is no requirement that every program learning outcome need be linked to a general education outcome)

Consider this example of a Program Map:

Course	Program Learning Outcome #1	Program Learning Outcome #2	Program Learning Outcome #3	Program Learning Outcome #4	Program Learning Outcome #5
CJB1203	I		I		I
CJB1301	R	I		I	
CJB1400	EC		R	R	
CJB2100		EC		EC	
CJB2300	R	R			R
Gen Ed	Communication		Technology	Crit. Think	Ethics

I=Introduced R=Reinforced EC=Extended Coverage

This program map serves as a guide to know that all the program learning outcomes are covered within the curriculum and at various levels of depth. The exact number of program learning outcomes vary by program. The detail of specific skills attainment is saved for learning outcomes at the course level. A blank program map template can be downloaded from: http://www.pbcc.edu/documents/academic_services/plo_form.doc. The following resources can be helpful in developing program level learning outcomes:

- State Curriculum Frameworks: http://www.firn.edu/doe/dwdframe/
- PBCC Course Outlines: http://www.pbcc.edu/x17364.xml
- Program Accreditation Standards (if applicable to your program)
- State Course Numbering System Website: http://scns.fldoe.org/
- Completed Program Learning Outcomes at PBCC: http://www.pbcc.edu/x10271.xml

Sample program learning outcomes

Paralegal program (Palm Beach Community College)

1. Identify substantive and procedural theories and concepts as they apply to a wide variety of legal tasks completed in legal settings, such as private law firms, corporate and public legal offices and nonprofit legal services entities.
2. Effectively communicate in writing and orally with persons who seek legal services as well as other parties who are an integral part of the legal process, such as court personnel, other paralegals in offices of opposing counsels, clients and witnesses.
3. Use various technology modes, including pleading programs, billing programs and research programs typically found in legal settings.
4. Identify and solve questions related to the ethical practice of law under the direction of a licensed attorney.
5. Recognize and understand how court personnel, attorneys and all other persons employed in the delivery of legal services relate to each other.

Law Enforcement Officer (Palm Beach Community College)

1. Describe the major components of the criminal justice system.
2. Demonstrate appropriate skills for interviewing witnesses, suspects, victims, complainants or informants at the scene of a crime or incident.
3. Recognize safety hazards to an officer.
4. Define "problem solving" as used in community-oriented policing.
5. Define the criteria for justification of the use of deadly force.
6. Demonstrate an appropriate knowledge of the Florida Criminal Procedures and determine the basis for probable cause to complete an arrest.

Course-Level Learning Outcomes

Our existing course outlines have been be revised so that the objectives are rewritten as learning outcomes using the guidelines of this document. As part of this development process, all existing course outlines were converted to a database system. Please see the web page at http://www.pbcc.edu/x17364.xml for course learning outcomes.

Course learning outcomes (CLOs) describe what the student is expected to be able to do upon competing the course. CLOs are more specific than program learning outcomes and may also be more numerous.

CLOs must be measurable. Program learning outcomes (PLO) assessments may be based on CLOs assessments, so it is important to keep assessment in mind when writing course learning outcomes.

CLOs begin with the implicit parenthetical, "(The student will . . .)." The actual CLO begins with an active verb that describes what the student will be able to do.

Submitting Course Learning Outcomes

CLOs are submitted via the curriculum committee process. After approval of a new or revised course, Academic Services will maintain the course learning outcomes in the online database.

Sample course learning outcomes

PSY 2012 - Introduction to Psychology

1. Recognize, employ, and apply basic vocabulary in the main content areas of psychology.

2. Recall and explain contemporary, basic knowledge and research findings in the field of psychology.

3. Compare and critique the main theoretical frameworks in the field of psychology.

4. Identify sound and flawed methodology in samples of psychological research.

5. Use psychological knowledge to analyze and evaluate psychological issues.

LIT2110 - World Literature before the Renaissance

1. Identify the masterpieces of world literature through the Renaissance.

2. Identify the most significant ideas contributed to the world by international authors.

3. Recognize the literature in the historical background and intellectual climate of the period in which it was written.

4. Recognize major characteristics of world literature, including genre, tone, and purpose.

5. Write critical MLA-style essays relative to the literature read during the course interpreting, critiquing and critically thinking during close reading of the text assigned.

6. Analyze the rhetorical characteristics, purposes, and motivations for non-fiction prose, political speeches, fiction, poetry, and autobiography.

Worksheet for Developing Learning Outcomes – Course Level

Activity:
Think of a course with which you are familiar and write 5 objectives for the course. Now rewrite the objectives as learning outcomes.

Assessing Learning Outcomes

The fourth phase of learning outcomes is assessment - how well are students attaining the learning outcomes of our programs and courses?

There are many approaches to assessing learning outcomes. In the design of PBCC's approach to assessment, we incorporated several key concepts:

- The assessment process should not put an undue burden on faculty and students;
- The assessment process should be based on authentic assessment and multiple measures that uses rubrics and other tools to assess learning outcomes;
- The assessment process should produce measureable objectives;
- The assessment process should result in continuous improvement in student learning.

During the spring 2009 semester, a committee comprised of faculty and administrators developed an assessment statement, found in Appendix C. This statement expands on the above four concepts, and clearly articulates what assessment means at PBCC.

From research, we developed a model that incorporates nine "steps" along the assessment pathway.

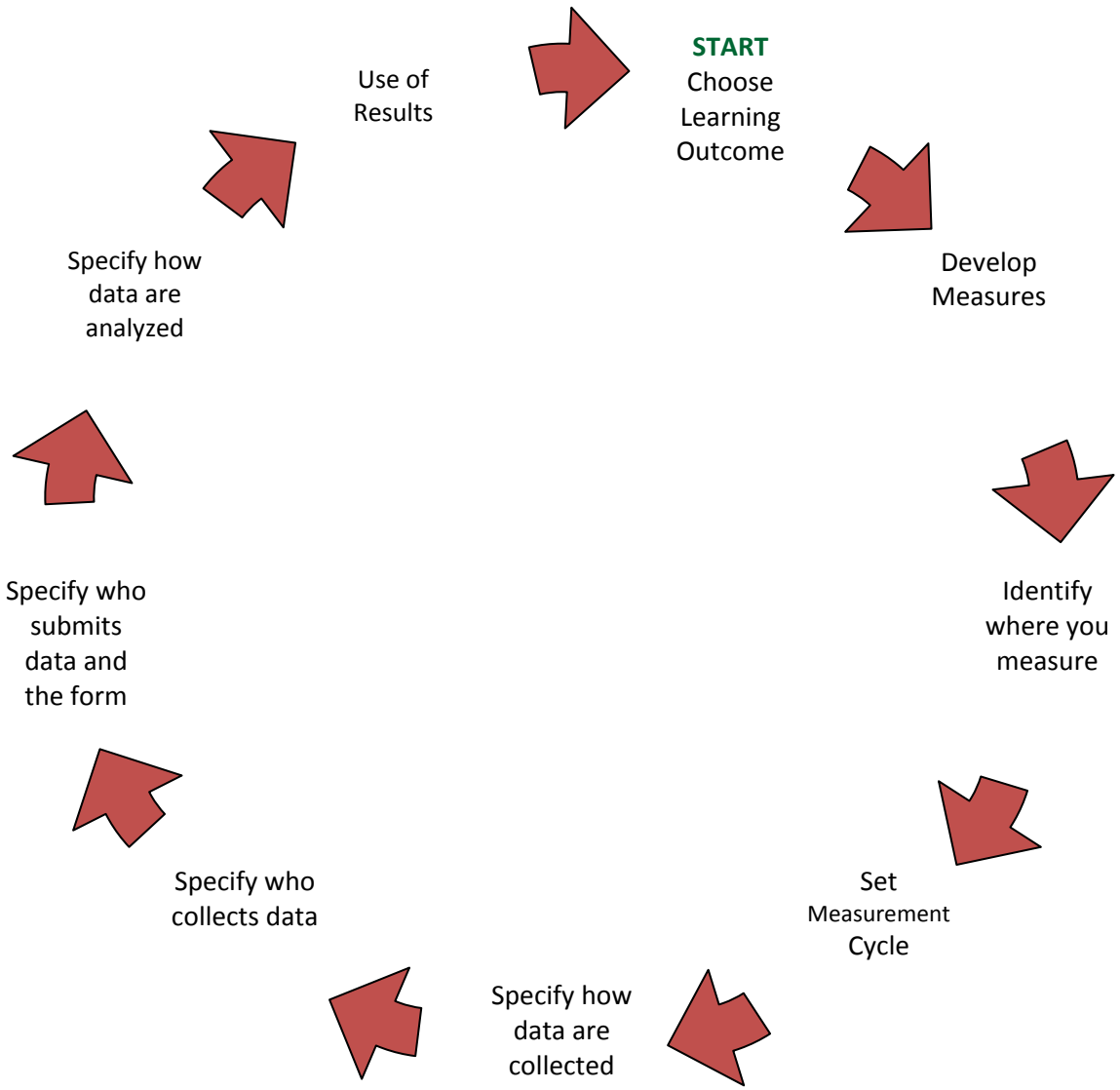
Each of these steps is a critical point where:

- the type of learning outcome to examine (general education or program) is identified;
- a performance standard is set for the learning outcome measurement;
- where the data are going to be measured has been identified;
- when the data are to be measured;
- how the data are going to be measured;
- who collects and submits data;
- how the data are to be analyzed;
- how the results are used to improve student learning.

We assess general education learning outcomes and program learning outcomes through this process. The assessment of course learning outcomes is what you do as a faculty member when you assess student performance in your class.

The diagram and flow charts on the following page provides an explanation of what is happening at each stage of the assessment process.

PBCC's Nine Step Assessment Model for Learning Outcomes



LEARNING OUTCOMES ASSESSMENT FLOW CHART

1	**General Education and Program Learning Outcomes**	These learning outcomes are from the developed general education learning outcomes or program learning outcomes.
2	**Develop measure(s) and set performance standard(s).**	These should encompass multiple measures – it could be a combination of class-collected data, CCSSE data, or some of the categories from the APA web site – Classroom/course data, Individual Assessment, Summative Performance Assessment, Self-Assessment, Collaboration, Interviews and Surveys, Archival Measures (http://www.apa.org/ed/eval_strategies.html)
3	**Identify courses for measurement and other data elements.**	This should be a combination of courses where data will be measured and other sets of data are included – transcript analysis, CCSSE. Identify what data is coming from the departments and campuses and what data we have access to in IRE.
4	**Set measurement cycle**	This specifies on what cycle data will be collected – things like CCSSE have their own cycle, and FETPIP data (placement data) is available yearly, but classroom-collected data would be only collected every three years for analysis.
5	**Specify how data are collected**	This specifies how the data are collected – the process – in the classroom through a rubric, extracting data from the data warehouse, through a CCSSE item, etc.
6	**Specify who collects the data**	This specifies who actually is collecting the data – papers from students by faculty, IRE staff member who extracts something from the database, etc.
7	**Specify who submits data and the form of the data**	This specifies who actually submits the data to IRE and in what form – so instead of "artifacts" like actual student papers, the faculty member or associate dean submits the scores associated with the scoring activity. The associate dean (cluster liaison) supervises the activity of getting final data to IRE, or IRE generates the data itself into the assessment repository.
8	**Specify how data are analyzed**	This is pretty basic – the comparison of the averaged data to the standard set in step 2 – an analysis of the "gap" that may exist between the performance standard and the actual measurement of that standard, through a combined score.
9	**Use of results – Focus for Improvement/ Develop an Improvement Plan**	When a "gap" exists, the program or discipline develops a three-year "action plan" to list strategies to lessen or eliminate the gap. The data is re-measured 3 years later…at that time, the program may decide to "recycle" that forward or pick new program learning outcomes to assess with the global ones.

General Education Learning Outcomes Assessment Process

The assessment of general education learning outcomes is an evolving process at PBCC. Seven general education learning outcomes have been defined (listed in Appendix A). The assessment of these learning outcomes began with a pilot project, initiated during the spring 2009 semester, where two general education learning outcomes were selected to be assessed. The outcomes that were chosen are:

- **Communications**: Develop effective reading, writing, speaking, listening, and nonverbal communication skills for a variety of audiences.
- **Quantitative Reasoning**: Use college-level mathematical concepts and methods to understand, analyze, and explain issues in quantitative terms.

Volunteers were requested from the three academic clusters that were identified as the best areas to measures these learning outcomes. English was selected to measure the reading and writing aspects of communications, Speech was selected to measure the spoken and non-verbal aspects of communication, and Math was identified as the most appropriate area to measure quantitative reasoning. In all three clusters, the participating faculty chose to use existing assessment instruments that were already embedded in their curricula. In the case of the Speech faculty, it was a final speech. For English, it was a final writing assignment. The Math cluster used existing exams given throughout the semester, scoring those items representing the aspects of quantitative skills they selected for assessment. Both the Speech and English groups developed a common rubric for scoring their final assignments.

During the fall 2009 semester, the participating faculty will meet and discuss the results of the assessment for their particular area and develop strategies for improvement. All faculty within each of the three clusters will be encouraged to participate in these discussions even if they were not involved in the original assessment. Strategies for improvement that are developed as a result of this process will be implemented throughout the spring 2010 semester. The learning outcomes targeted for improvement will be reassessed at the end of the spring 2010 semester.

As this pilot project was underway, a college-wide Assessment & Academic Development Committee was formed. This committee's primary purpose is to develop and coordinate the assessment of learning outcomes and to create faculty development opportunities based in large part, although not exclusively, on the information provided by those assessment results. This committee has been divided into two smaller committees, one dedicated to the development and grading of assessment instruments and the other to creating an academic development plan for new faculty, continuing faculty and a mentoring program. The two smaller committees will meet separately throughout the year and will join together as a whole committee three to four times during the academic year.

The assessment subcommittee, now known as The General Education Learning Outcomes Assessment Steering Committee (henceforth Assessment Steering Committee), consists of approximately ten full-time faculty along with approximately eight additional members from staff and administration. All members of the committee are welcome to participate in discussions, but only faculty members are permitted to vote on matters relating to the development and scoring of assessment instruments.

Beginning in the fall 2009 semester, the Steering Committee will develop scenarios, or problem-based assessments, to measure the seven general education learning outcomes. At the same time, the committee will also develop rubrics to score these scenarios. The Office of Institutional Research and Effectiveness will randomly select a sample of general education classes or classes that students who have completed their general education requirements are likely to take. The selected classes will utilize one class period to have students write responses to these scenarios. The assessments will be given toward the end of the fall semester. The completed assignments will be collected and all identifying information will be removed – the process is anonymous for both participating students and faculty. During the spring 2010 semester, the completed assignments will be given to the committee who will read and score them using the rubrics they developed. Each assignment will be read and graded by at least two faculty members. Following the grading of the assignments, the faculty will engage in discussion about what the results mean, and how they should best inform faculty development. As part of the discussion, the committee will determine if the assessment instruments actually measured what they were intended to measure. The committee will likely work to improve the scenarios and then they will be re-administered in the same fashion towards the end of the spring semester. This process will continue on an ongoing basis.

In addition to the scenarios, certain general education learning outcomes will also be measured by the use of a nationally-normed standardized exam. This exam will be given in a random sample of general education classes towards the end of the term. These classes will be different classes than the ones receiving the scenarios. The Assessment Steering Committee will meet during the fall 2009 semester to select the most appropriate test for PBCC. It will be administered during the spring 2010 semester.

These three pieces of information, data from the pilot project, the scenarios and the standardized exam, will all be examined together – along with institutional data, such as performance of PBCC graduates in the State University System – to create an overall picture of how PBCC students are achieving the general education learning outcomes.

Program Area Learning Outcomes Assessment Process

The College currently has over 100 programs in the vocational area and every program has developed its own set of program learning outcomes. Each program is asked to assess five learning outcomes; two of the measures are common to all programs and three are chosen by the program from their list of program learning outcomes.

The first common outcome for every program is: "**The program graduate will be employed in field.**" This is measured by data supplied by the State of Florida (Florida Education & Training Placement Information Program or FETPIP) which provides, for each program, the percentage of prior -year graduates that are employed in the field relevant to their training. The second common outcome, for those programs that have state or board exams, is "***The program graduate will pass the state or board licensure/certification exam".*** The program will report the percent of prior-year graduates who passed the requisite exam. The remaining three (four for programs with no state/board exam) outcomes are chosen by the program and each is assessed with at least one measure.

During the fall 2008 semester, nine programs were selected to assess their learning outcomes. These programs included Sonography, Medical Assisting, Respiratory Care, Surgical Technology, Emergency Medical Technician, Paramedic, Corrections and Law Enforcement Criminal Justice Academies and Crime Scene. Each of these nine programs was asked to develop or utilize existing instruments to assess five learning outcomes at the end of the fall 2008 semester. Based on an analysis of the results of these assessments, each program will develop improvement strategies during the spring 2009 semester and implement those strategies during the following fall and spring semesters. A reassessment of the targeted learning outcomes will take place at that end of the spring 2010 semester.

Because of the large number of programs to be assessed, each semester a different group of programs will begin the same assessment process as the initial group of nine. In this way, all programs will be in some stage of the assessment process over the course of a three-year period. The timetable for the assessment of the program areas is shown on the following page.

Program Learning Outcomes Assessment Schedule

Fall 2008	Spring 2009	Fall 2009
Sonography Medical Assisting Respiratory Care Surgical Tech EMT Paramedic CJ Corrections CJ Law Enforcement Crime Scene	Computed Tomography Critical Care Nursing CVIT Dental Assisting Dental Hygiene Massage Therapy MRI Nursing Patient Care Assistant Preoperative Nursing Practical Nursing Radiography	Accounting CCC Accounting Tech Business Administration Cisco Internet Services Tech Legal Office Systems Life, Health, Variable Annuities Agent Marketing Network Administrator Office Administration Office Management Paralegal Programming Property & Casualty General Agent Real Estate Sales Associate
Spring 2010	**Fall 2010**	**Spring 2011**
Apprenticeship: Brick & Masonry Apprenticeship: Carpentry Apprenticeship: Electrical Apprenticeship: Fire Sprinkler Apprenticeship: HVAC Apprenticeship: Painter Apprenticeship: Pipefitting Apprenticeship: Plasterer Apprenticeship: Plumbing Apprenticeship: Sheet Metal Fabrication Apprenticeship: Structural Steel Apprenticeship: Tile Setter Food Service Management Certificate Graphic Design Hospitality and Tourism Management Hospitality Certificate Interior Design	Fire Apparatus Operator Fire Inspector I Fire Instructor Fire Investigator I Fire Officer I Fire Science Tech Firefighter Special Fire Safety Auto Body Repair Auto Service Building Construction Specialist Commercial Vehicle Driving Cosmetology Diesel Tech Drafting Construction Tech Facials HVAC Industrial Operations Management Machining Tech Nail Tech Professional Pilot Maintenance Professional Pilot Operations Professional Pilot Track Welding Tech	Biotechnology CC 40 Hour Certificate CDA CJ Tech-Corrections CJ Tech-Law Enforcement Computer Info Security Early Childhood Educational Assisting Environmental Science Tech Human Services Landscape/Horticulture Medical Coder/Biller Medical Transcription Motion Picture/TV Teacher Certification BAS Business BAS Public Safety BAS Health Health Information Management Power Generation Sugar Institute

Assessment Forms

Templates were developed to summarize the assessment process for general education and program area learning outcomes. These Word forms incorporate the nine steps described above so that the plan for each step can be described in an easy-to-follow format. On the first form, a separate row is used for each learning outcome and the initial assessment process. The second form allows each program area (or general education learning outcome) to specify the plan for developing and implementing strategies to improve student success for the targeted learning outcome. Sample forms for the Crime Scene program are shown below and on the following page.

PALM BEACH COMMUNITY COLLEGE
PROGRAM ASSESSMENT MODEL

Part A: Program Student Learning Outcomes

Program Name: Crime Scene Technology

Learning Outcome	How Measured	Course(s) used in Measure	When Measured	How data are collected	Who collects data	Who submits data	Performance Standard or Benchmark	Results	Results Compared to Standard	Is this Outcome Focus for Improvement?
1. The program graduate will be employed in-field	FETPIP Data	N/A	Yearly	State data sent to college	State of Florida	Data are submitted to College	100% of students will be placed within field.	89%	Gap Analysis - did program meet the 100% mark? No	Yes
2. Demonstrate knowledge of basic and advanced techniques of crime scene photography by theoretical and practical applications	Photography Project	Photo 2	Spring 2008	Instructor	Instructor	Program Manager	Students will achieve an average of score of 95%.	90.7%	Gap Analysis - did program meet the 95% mark? No	Yes
3. Demonstrate presentation skills of presenting scientific evidence in the criminal justice system.	Capstone Course Evaluation	Capstone Course	Fall 2008	Instructor	Instructor	Program Manager	Students will achieve an average score of 90%	94.3%	Gap Analysis - did program meet the 90% mark? Yes	No
4. Demonstrate the theoretical and practical application of fingerprint identification	Fingerprint Exam	Second fingerprinting course	Fall 2008	Instructor	Instructor	Program Manager	Students will achieve an average score of 95%	83.4%	Gap Analysis - did program meet the 95% mark? No	Yes
5. Demonstrate the basic and advanced principles of crime scene evidence collection techniques	Mock Scene	CJB 1721	Spring 2008	Instructor	Instructor	Program Manager	Students will achieve an average score of 95%	86.8%	Gap Analysis - did program meet the 95% mark? No	No

PALM BEACH COMMUNITY COLLEGE
PROGRAM ASSESSMENT MODEL – STRATEGIES FOR IMPROVEMENT

Part B: Program Student Learning Outcomes
Program Name: Crime Scene

Targeted Learning Outcome	Results compared to Standard	Improvement Target	Strategy/Strategies for Improvement (date of implementation)	Date of Reassessment	Results of Reassessment
The program graduate will be employed in-field.	It was anticipated that 100% of the graduates would be employed infield; Only 89% of the graduates were employed in-field.	100% of graduates to be employed in-field.	1. Resume/CV workshops 2. Encourage students to join professional organizations/guilds 3. Develop booklet for job seeking strategies		
Demonstrate knowledge of basic and advanced techniques of crime scene photography by theoretical and practical applications.	The benchmark for this outcome was for students to achieve an average score of 95% on the photography project. The average score actually achieved was 90.7%.	Students should achieve an average score of 95%.	1. Increase lab time in order to increase student proficiency 2. Budget for additional cameras		
Demonstrate the theoretical and practical application of fingerprint identification.	The benchmark for this outcome was for students to achieve an average score of 95% on the fingerprint exam. The average score actually achieved was 83.4%.	Students should achieve a score of 95%.	1. Research new technology for teaching fingerprint identification 2. Add fingerprinting workbook to formal grading of course 3. Require students to purchase fingerprint magnifiers		

Support for Learning Outcomes

Workshops

Workshops on developing and assessing student learning objectives will be held on each campus to train administrators, department heads, program managers, faculty, and staff.

Website

A companion website for the understanding and development and assessment of learning outcomes is available at http://www.pbcc.edu/learningoutcomes.xml. This website is frequently updated to provide the most up-to-date information on learning outcomes at PBCC.

Liaisons and Workgroups at each campus

A list of campus liaisons will be provided to faculty on each campus. These liaisons will conduct workshops on developing student learning outcomes and provide one-on-one assistance to those needing further help.

Program Review

For program review, learning outcomes will become a keystone in the assessment process in support of institutional effectiveness. Please see the document at http://www.pbcc.edu/documents/academic_services/sectionk.pdf for a detailed explanation on the program review process.

Summary and Conclusions

We hope you have found this guide helpful in our journey in developing learning outcomes and helping to transform our curriculum to being learner centered and focused. As this is a work in progress, if you have any suggestions on how this guide can be improved or how we can better implement learning outcomes, please email learningoutcomes@pbcc.edu.

References and Website Resources

Accountability and Learning Outcomes in Community Colleges - http://ccrc.tc.columbia.edu/Seminar.asp?uid=8

Cascadia Community College - http://www.cascadia.ctc.edu/vanguard/ProjectOverview/AACCforum.asp

Carlson School of Management - http://www.csom.umn.edu/Page3073.aspx

El Camino Community College - http://www.elcamino.edu/academics/slo/

Emerging Challenges for Community Colleges - http://www.gseis.ucla.edu/ccs/digests/dig0207.htm

Course Learning Outcomes from Florida Community College (various course pages): http://www.fccj.org

Foothill College: http://www.foothill.edu/staff/irs/LOA/ArchiveLOA.html

Lane Community College - http://www.lanecc.edu/vanguard/learningoutcomes.htm

Learning Outcomes in Ontario's Community Colleges - http://www.acaato.on.ca/home/research/academic/primaryInternalContentParagraphs/04/document/sheridan.pdf

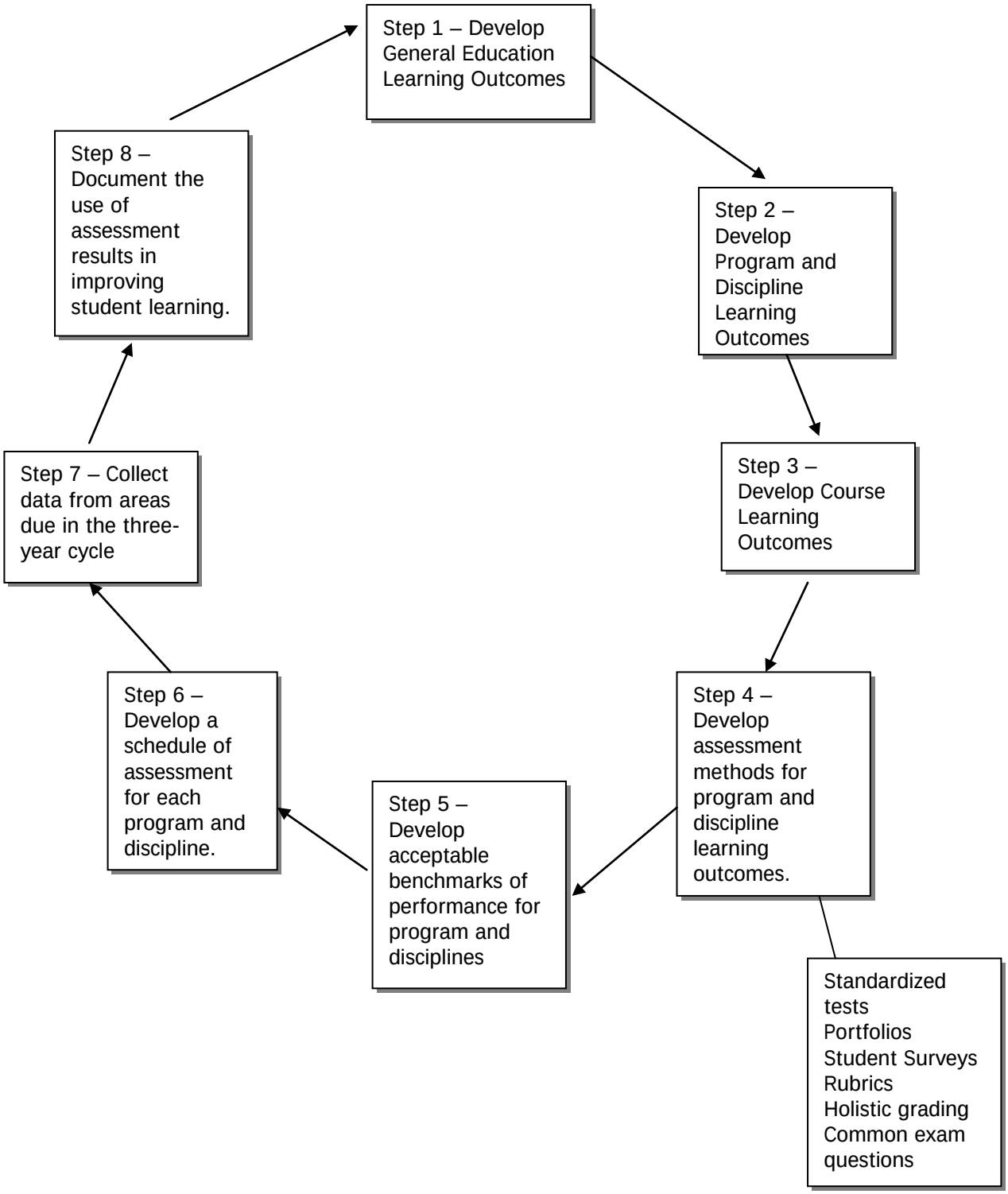
Manchester Community College Program Learning Outcomes - http://www.mctc.commnet.edu/academic/degrees/

Santa Fe Community College - http://inst.sfcc.edu/~21century/intro-rationale.htm

Tacoma Community College – Program Learning Outcomes http://www.tacomacc.edu/academics/programlearningoutcomes.aspx

Taxonomy of Educational Objectives: The Classification of Educational Goals; pp. 201-207; B. S. Bloom (Ed.) Susan Fauer Company, Inc. 1956.

Appendix A
Learning Outcomes Model



General Education Learning Outcomes

Appendix B

General Education Philosophy and Learning Outcomes

Philosophy Statement

General Education requirements at PBCC represent a foundation for active lifelong learning. Theses outcomes are designed to promote personal development and provide a comprehensive base of knowledge and skills necessary to participate effectively in a diverse community and the global workplace.

General Education Learning Outcomes

Communications: Develop effective reading, writing, speaking, listening, and nonverbal communication skills for a variety of audiences.

Global Awareness: Exhibit a sense of community and be sensitive to cultural and global diversity; exercise civic responsibility; give service to others; and respect and care for our natural environment.

Critical Thinking: Evaluate arguments; separate fact and opinion; recognize points of view; understand implications and consequences, and acknowledge diverse values.

Technology and Information Literacy: Use printed materials, personal communication, observation, and technological applications to find, evaluate organize, and present information in order to achieve educational and professional success.

Quantitative Reasoning: Use college-level mathematical concepts and methods to understand, analyze, and explain issues in quantitative terms.

Ethics: Demonstrate a responsibility for personal, social, professional, educational and natural environments and make informed decisions based on those responsibilities.

Personal Development: Develop an ability to understand and manage self, adapt to change, enhance wellness, learn effectively, establish a framework for aesthetic responsiveness, and set personal and professional goals.

Appendix C

PBCC's Assessment Statement (Draft)

Assessment at Palm Beach Community College is a purposeful and collaborative process that contributes to the continuous improvement of student learning. We demonstrate this through clear statements of student learning outcomes, measurement of those outcomes, and the use of the resulting information to document, explain and improve performance. This on-going process builds a dynamic academic culture encouraging best practices, inspiring creativity and fostering college-wide conversation about student learning.

Assessment is…

- A process - it is ongoing, faculty-driven, and promotes student learning.
- Creative - it can take on a wide variety of forms and is only limited by the instructor's imagination.
- Wisdom - it emerges from the collective insight and experience of the faculty.
- Connection – it informs academic development planning for shared dialogue, peer presentation, workshops and other professional development and training opportunities.
- Accountability - it provides evidence of learning for purposes of accountability.
- Purposeful - Assessment provides students with opportunities to identify their strengths and weakness throughout the learning process.
- Anonymous – faculty and students are never identified.
- A college-wide indicator - assessment results are aggregated, because assessment results represent the institution, not individual students or faculty.

Assessment is NOT…

- An end in itself - assessment that does not help us to promote student learning is a waste of time.
- Punitive - the purpose of assessment is to evaluate student learning, not to reward or punish faculty or staff.
- One dimensional - we will not use any single mode of assessment to answer all questions. We are committed to using multiple measures to examine student learning.
- Intrusive - we will not use assessment in a way that will impinge upon the academic freedom or professional rights of faculty. Individual faculty members must continue to exercise their best professional judgment in matters of grading and discipline.
- Burdensome - we do not need to directly assess all students in order to learn about the effectiveness of our programs and policies.
- Narrow - we will not use assessment only to evaluate the end of the student's experience or merely to be accountable to outside parties. Assessment must be an ongoing observation of what we believe is important.
- Grades – we will not assume that assessment is only grading.
- Disruptive - the assessment process should not hinder the student's progress in completion of a degree.
- Static - assessment is an evolving process that must be reviewed periodically to improve validity and efficiency.

Appendix D

Definition of Terms

Assessment - Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance. When it is embedded effectively within larger institutional systems, assessment can help us focus our collective attention, examine our assumptions, and create a shared academic culture dedicated to assuring and improving the quality of higher education *(Angelo, AAHE Bulletin, November 1995, p. 7).*

Bloom's Taxonomy - Benjamin Bloom (1957) created a taxonomy for categorizing level of abstraction of questions that commonly occur in educational settings. The taxonomy provides a useful structure in which to categorize learning outcomes, since faculty will characteristically ask questions within particular levels.

Course Learning Outcome – Learning outcome that defines more specific skills and competencies a student should be able to do upon completion of the course.

General Education Learning Outcomes – Learning outcomes that are developed at global level that defines what students should be able to do upon completion of the general education program.

Learning Outcome - Learning outcomes are statements that indicate what is expected that the student will be able to do upon completion of an activity, course, program, or degree.

Objective – A statement of what we hope students will learn as the result of taking a course. Sometimes used interchangeably with the term outcome, but the outcome usually focuses on what the student actually learned and how they incorporate that learning into other learning activities.

Program Learning Outcome – Learning outcomes that define in broad terms what a student should be able to do as the result of completing a program of study.

Program Map – Table that lists the program learning outcomes and assesses which courses in the core curriculum introduce, reinforce, or provide extended coverage of the outcomes.