PDCCC
Institutional Effectiveness Handbook

Course Assessments
Program Assessments
General Education
Educational and Administrative Support Units

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Institutional Effectiveness Handbook

Introduction

Paul D. Camp Community College is in compliance with the Virginia Community College System (VCCS) Policy Manual (8.2, Institutional Effectiveness, Research, and Reporting). PDCCC maintains a comprehensive planning and evaluation process that promotes quality and that demonstrates institutional effectiveness. PDCCC uses a variety of methods to evaluate institutional effectiveness, and measure student achievement through outcomes assessment.

The College complies with all elements of the state mandated Student Outcomes Assessment program according to the annual guidelines and schedule of the Virginia Community College System. Additional program assessment activities are completed as necessary for program effectiveness.

Institutional effectiveness is when achievements and outcomes indicate how well the College’s mission is being fulfilled. The purpose of the institutional effectiveness process at PDCCC is to demonstrate continuous improvement in academic programs with student learning outcomes, administrative support units and educational support units.

The Institutional Effective Process at PDCCC is designed to permeate every facet of the College. The College uses the Nichol’s Institutional Effectiveness Model (See Appendix Q: Institutional Effectiveness Model) and outcomes assessment developed by Dr. James O. Nichols, referred to as the Four-Column Model (See Appendix L: Four-Column Model). This maintains consistency in assessment across all areas.

The Mission and Vision Statement of the College form the overall blueprint for the development of institutional goals and outcomes assessment for programs and administrative and educational support units, thereby defining the most fundamental criteria for assessing institutional effectiveness. The current mission and vision statement of the College (See Appendix K: Mission, Goals, Values, and Vision Statement) is the following:

Mission:
Paul D. Camp Community College provides diverse learning opportunities to enhance the quality of life for students and the community.

Vision Statement
Paul D. camp Community College will be our region’s first choice for high-quality transfer and technical programs, workforce services and training, postsecondary education and community partnerships.

Strategic Planning focuses on the actions that are taken to implement the institutional mission, while Institutional Effectiveness Planning focuses on the end result to determine the degree that the institutional mission is being fulfilled. Strategic planning is means/process oriented, meaning it focuses on actions to improve processes or make a unit operate more efficiently. Institutional effectiveness planning (sometimes referred to as outcomes assessment) is outcomes oriented, meaning it focuses on measuring how well students are learning in the programs and measuring how well administrative units are operating (See Appendix P: Relationship of Strategic & IE Planning).
The College’s strategic plan consists of a vision statement, mission statement, and goals. A strategic plan establishes the overall direction for the College and serves as the foundation for annual goal planning at all level of the College.

Each year, the College’s administrative and educational support service leaders are asked to report their progress towards the achievement of their strategic objectives and actions for the previous year and to propose their strategic objectives and actions for the coming year (See PDCCC Policy #905 Planning). The process begins in April/May, when the Chancellor presents the VCCS annual objectives. In May, the President and his administrative staff finalize their objectives and actions for the upcoming year. These annual objectives and actions are then submitted to the College Board at the July meeting and approved goals are then forwarded to the Chancellor. The President’s administrative staff communicate their goals to the units they supervise.

Outcomes for the previous year’s goals and objectives are presented to the College Board and Chancellor each May.

The budgeting process (See Policy #405 Budget Process) is closely tied to college goals. All college cost centers prepare budget requests based on strategic priorities set for the upcoming year. The President’s Advisory Cabinet (PAC) reviews anticipated VCCS funding and establishes budget priorities.

**The Purpose of Assessment**

Paul D. Camp Community College's five-year Student Outcomes Assessment Plan was developed over a period of several years when the Virginia General Assembly mandated that all public institutions of higher education develop assessment plans to measure student achievement.

Assessment in higher education has become increasingly important as the nation debates educational effectiveness at all levels. Political and public pressure requires colleges to be held accountable for both the resources spent in higher education and the educational outcomes of those resources.

The primary goal of the College is to help students learn. In order to do this the material taught must be relevant, comprehensive, and current. The order in which the courses are sequenced in programs must be coherent. Course and program goals must be established and designed to prepare students to achieve their educational goals, whether that be employment or transfer. Classroom instruction needs to be supplemented with academic support services and the appropriate resources provided to create environments conducive to learning. The College also needs to validate that we are doing what we say we are doing and that students are learning what we say they are learning.

That is why the faculty do: (1) an annual student outcomes assessment on courses using a three year matrix, (2) an annual program assessment based on a five-year cycle for all student learning outcomes, (3) annual program reviews on the enrollment, retention, and graduates in the academic program they are responsible, and (4) general education (core competencies). It is a lot...
of work, but it is something that good educators have always done on a continuing basis. The College wants the best for its students, and a program or discipline review gives the opportunity to examine what we are doing in a thorough and complete fashion.

Outcomes assessment is the process of collecting information that will tell an organization whether the services, activities, or experiences it offers are having the desired impact on those who partake in them. In other words, is the organization making a difference in the lives of the individuals it serves?

In higher education, at its simplest, outcomes assessment has three stages:

- **Defining** the most important goals for students to achieve as a result of participating in an academic experience (outcomes)
- **Evaluating** how well students are actually achieving those goals (assessment)
- **Using** the results to improve the academic experience (closing the loop)

Enhancing quality through the improvement of instruction and student learning, as well as support services is the primary focus of all assessment activities at Paul D Camp Community College (PDCCC). The annual outcome assessment process is more qualitative and focuses on improving teaching by analyzing student learning outcomes. The program/discipline review process is more quantitative and focuses on the program/discipline as a whole, how effective it is, and that our students are learning. To achieve the above, some aspect of each program’s goals and objectives needs to be assessed on an annual basis. All program and general education goals must be evaluated at least once within the five-year cycle (It is recommended, however, that most or all student outcome assessments be evaluated yearly, as well as, enrollment, retention, and graduation benchmarks). There are the discipline reviews (e.g. developmental studies, dual credit, distance learning, student services, etc.) which are also reviewed every five years or as needed.

**Student Learning Outcomes Assessment**

In summary, academic student outcomes assessment provides on-going (annual), faculty-based evaluation for the purpose of improving the quality of the college’s courses/instructional programs and ensuring that outcomes achieved are consistent with the mission of the college. (See Assessment, Student Outcomes under Elements of Assessment and Program Review Reports):

- Is more qualitative and focuses on teaching through the analysis of student learning outcomes.
- Improves the quality of the college’s instructional programs.
- Ensures that outcomes achieved are consistent with the mission of the College.
- Uses the results of the annual assessments and other data to determine the effectiveness of the program during the program review process.

**Program/Discipline Review**

Through the review of our programs/disciplines (See Elements of Assessment and Program Review) we seek to demonstrate that:

- Students are **learning** the knowledge, skills, and habits of thought necessary to
✓ Students achieve the program/discipline goals and objectives.
✓ The program/discipline goals are derived from and support the college mission and goals, the general education goals, and the purpose of the program/discipline.
✓ The curriculum is coherent, current and consistent.
✓ The instruction is effective in enabling student learning.
✓ The resources are adequate for the production of student learning.
✓ The academic support services are adequate to facilitate student learning.

Program/discipline reviews demonstrate that assessment results will be used in the improvement of student learning within the program/discipline. Program/discipline reviews also provide information essential to effective planning and budgeting as well as to the process of evaluating our effectiveness as an institution. Finally, the program review is an opportunity to look to the future, to consider where programs need to be in five years and to decide what needs to be done now to make sure programs will continue to meet the needs of students and employers in the future.

Effective instructional programs have certain common characteristics. First and foremost, effective instructional programs are focused on student learning and employ the best practices in curricular design and instructional modalities. Effective programs require continual assessment of student learning and provide ready feedback to students about their learning. Effective programs create a learning environment that provides access to learning for all students.

**Who Benefits from Outcomes Assessment?**

One of the great advantages of outcomes assessment is that when done in a systematic way, it has benefits for people throughout the institution, from our students to the faculty to the administration.

<table>
<thead>
<tr>
<th>Outcomes Assessment Benefits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>For students, outcomes assessment will</td>
<td>communicate clear expectations about what’s important in a course or program &lt;br&gt;Inform them that they will be evaluated in a consistent and transparent way &lt;br&gt;Reassure them that there is common core content across all sections of a course (skills, attitudes, &amp; knowledge) &lt;br&gt;Allow them to make better decisions about programs based on outcomes results measured against a benchmark</td>
</tr>
<tr>
<td>For faculty, participating in outcomes assessment will</td>
<td>help them determine what’s working and what’s not working in their course or program &lt;br&gt;help them to more efficiently design content, instruction, and evaluation in their course/program &lt;br&gt;facilitate valuable interdisciplinary and intercampus discussions &lt;br&gt;provide powerful evidence to justify needed resources to maintain or improve programs &lt;br&gt;allow them to tell their story to individuals outside their area (e.g. administrators, politicians, employers, prospective students, transfer institutions) &lt;br&gt;provide reassurance that all faculty teaching a particular high demand</td>
</tr>
</tbody>
</table>

11/05/03  
Revised 11/4/08, 5/8/14
course agree to address certain core content

| For **administrators**, implementing college-wide outcomes assessment will | demonstrate an institutional commitment to continually improving the academic programs and services offered by the college provide valuable data to support requests for funds from state and local government and private donors demonstrate accountability to funding sources provide valuable data for academic planning and decision-making enable them to inform elected officials, local businesses, and potential donors about the college’s impact on our students and our community in a very compelling and convincing way meet the systematic outcomes assessment requirement for SACS accreditation, SCHEV, VCCS, and IPEDS |

**What is a student learning outcome (SLO)?**

**Student Learning Outcome (SLO):** An SLO identifies the measurable knowledge, skills, behaviors, or attitudes of the learner as the result of engaging in a learning activity or program. Typically, SLOs are composed with the stem, “The student will...”.

**Aren’t the SLOs (Student Learning Outcomes) essentially the same thing as the SOLs (Standards of Learning) that are creating havoc in the public schools?**

No, actually they are quite different. The SOLs really focus on student assessment, whereas our SLOs are meant to be course/program assessment. The goal of the SOLs is to evaluate individual student achievement in a state imposed curriculum and determine whether they are ready to go on to the next grade. SOLs are also used to evaluate whether teachers or schools are successful in getting all their students where they need to be to precede to the next level.

Our SLOs are of our own choosing, within the parameters of the VCCS course/program guide. They are the specific, measurable skills our faculty have stated they want students to achieve in a particular course/program. It is our job to develop assessment tools that measure these, in a way that does not hinder individual teaching styles or methods and promotes sharing of best practice and good ideas.

**Why aren’t grades enough?**

When faced with the news that it’s your discipline’s turn for outcomes assessment, it is tempting to ask why you can’t just look at final grades to determine whether a course is successful. Although counting letter grades is easy, it provides neither consistent nor meaningful information about student success in a multi-section course.

In outcomes assessment, the terms “scoring” and “grading” have different meanings. Scoring refers to the process of marking an assessment instrument to get data about how well the course has done at achieving its outcomes. Grading is the process of marking an assessment instrument for the purpose of assigning a student a grade for the course. Scoring needs to be done consistently across all sections; grading can be done differently in each section if instructions...
desire. In no way, does the outcome assessment scoring process infringe on an instructor’s grading.

Unless every instructor teaching a particular course assigns final course grades in exactly the same way (same assignments, same exams, same weights, same grading approach), you cannot be confident that one section’s A is the same as another section’s A. More significantly, final grades are an aggregate assessment of a student’s entire work for the course, often including attendance and class participation. Consequently, looking at a distribution of grades will provide little, if any, useful information about the degree to which students are learning those things that instructors deem most important in the course.

The list below shows additional differences between assessment versus grades:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formative</td>
<td>Summative</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>Final</td>
</tr>
<tr>
<td>Non-Judgmental</td>
<td>Evaluative</td>
</tr>
<tr>
<td>Assessment is non-judgmental in the sense that it focuses on learning, which is the outcome of many influences, including teaching style, student motivation, time on task, study intensity, and background knowledge. Therefore, no one element can be reasonably singled out for praise or blame for a particular learning outcome. In contrast, grades carry evaluative weight as to the worthiness of student achievement and are applied, for good or ill, directly to them.</td>
<td></td>
</tr>
<tr>
<td>Assessment tends to be used in private and become public only under the assessor’s control. Grades, while not truly public, are part of the administrative record available throughout an educational institution.</td>
<td></td>
</tr>
<tr>
<td>Assessment is almost always collected in anonymous fashion and the results are released in the aggregate. Grades are identified with specific students.</td>
<td></td>
</tr>
<tr>
<td>To use a metaphor from the calculus, assessment more resembles a partial derivative whereas grades are more recognizable as in integrative process.</td>
<td></td>
</tr>
<tr>
<td>Assessment tends to look at specific parts of the learning environment. Grades are holistic in the sense that they record academic achievement for a whole project. Final grades, of course, can reduce academic achievement for an entire semester to a single mark.</td>
<td></td>
</tr>
<tr>
<td>The text of a course is its disciplinary content; grades tend to focus on that. The subtext of a course involves the transferrable baccalaureate skills, such as critical thinking, creative thinking, writing, and analysis. For example, the “text” of a course in anatomy and physiology includes the names of bones and functions or muscles. The “subtext” of such a course might include scientific thinking, problem solving, and memory improvement. Grades tend to focus on text; assessment tends to emphasize subtext.</td>
<td></td>
</tr>
<tr>
<td>Assessment findings tend to be suggestive and have pedagogical significance. That is, assessment findings shift pedagogy for reasons that need not be justified statistically, but can be justified when even one student learns better. In contrast, grades are recorded in a rigorous manner that does have statistical significance.</td>
<td></td>
</tr>
<tr>
<td>As with text and subtext mentioned above, grades tend to reflect student control of disciplinary course content whereas assessment usually aims at the goals for all baccalaureate students, such as synthetic thinking and esthetic appreciation.</td>
<td></td>
</tr>
</tbody>
</table>
In summary, grades do not provide the following:

- Specific information about students’ performance on discrete tasks
- Meaningful data across sections
- Objective student data which can be used for improvement of student learning or recognition of student achievement

It is critical, however, that students do not approach outcome assessment assignments or exam questions thinking they are of no consequence, as they would likely not take them seriously thus creating a false impression regarding the effectiveness of our courses. Regardless of how instructors grade the instruments, they should communicate to students the value of the outcomes and the instruments used to access them.

I. Assessment for External Accountability

Assessment at PDCCC is done first and foremost to improve student learning. However, as a public institution we must respond to public demand for accountability. PDCCC is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS).

Among the Commission's criteria for accreditation is the following [Principles of Accreditation: Foundations for Quality Enhancement]:

2.5 – The institution engages in ongoing, integrated, and institution-wide research-based planning and evaluation processes that (1) incorporate a systematic review of institutional mission, goals, and outcomes; (2) result in continuing improvement in institutional quality; and (3) demonstrate the institution is effectively accomplishing its mission. (Institutional Effectiveness)

3.3.1 – The institution identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of improvement based on analysis of the results in each of the following areas (Institutional Effectiveness):

3.3.1.1 Educational programs, to include student learning outcomes
3.3.1.2 Administrative support services
3.3.1.3 Educational support services

3.5.1 – The institution identifies college-level competencies within the general education core and provides evidence that graduates have attained those competencies. (College-level Competencies)

SACS requires that the college evaluate the effectiveness of its instructional programs (See Appendix J: SACS Standards Relating to Assessment) by a variety of methods and states that the evaluation should involve gathering and analyzing both quantitative and qualitative data that demonstrate student achievement. “Measures to evaluate academic programs and general education may include the following: evaluation of instructional delivery; adequacy of facilities and equipment; standardized tests; analysis of theses, portfolios and recitals; completion rates; results of admissions tests for students applying to graduate or professional schools; job
placement rates; results of licensing examinations; evaluations by employers; follow-up studies of alumni; and performance of student transfers at receiving institutions.” [Criteria for Accreditation, p. 20]

State Council of Higher Education for Virginia (SCHEV) requires institutions to determine “what they want students to know and be able to do as a consequence of their major and general education programs” and then use assessment to determine whether the students generally meet those expectations, as well as how students and alumni rate their skills and abilities.

Assessment should yield specific and detailed information, such as the numbers and percentages of students reaching desired levels of competencies, the extent to which general education criteria are being met, or the numbers and percentages of students who are satisfied with their academic and co-curricular experiences. Assessment should inform institutions of how well they have fostered the success of students who are at risk of failure. It should allow educational leaders to evaluate the quality of off-campus courses and programs. It should allow them to determine how successful they have been in preparing their alumni for further education as transfer or graduate students or for their lives as citizens and workers. It should tell them how well various student support services expect to and do contribute to student learning. [Assessment in Virginia: Guidelines for the Second Decade, SCHEV]

Finally, SCHEV lists the characteristics of good assessment. [Assessment] “should be non-anecdotal, be done systematically and periodically, include all students or an adequate and representative sample, and use both direct and indirect measures of learning and satisfaction.…Good assessment also uses multiple measures and assessors to determine which aspects of programs are successful and which are not. Assessment, to be effective, must be designed by faculty members with appropriate technical support and the support and leadership of top administrators, who use the information it generates to make decisions.” [Assessment in Virginia: Guidelines for the Second Decade, SCHEV]

II. Assessment of Productivity

Degree, Certificates and Career Studies programs must meet the productivity guidelines of the SCHEV. These guidelines are outlined below. Programs that do not meet the productivity guidelines must either be recommended for discontinuation or must be further evaluated in terms of the costs and resources used to support the program.

SCHEV Degree Productivity Requirements and VCCS Viability Standards

State Council of Higher Education (SCHEV) defines productivity of degree programs and certificates in terms of number of graduates, FTES production, and institutional priority. Each degree program must meet the following standards for institutions under 1800 FTES:
### SCHEV’s Standards for VCCS Degree and Certificate Programs

**For Institutions under 1800 FTES**

<table>
<thead>
<tr>
<th></th>
<th>FTES</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer (AA&amp;S)</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>AAS Agriculture &amp; Natural Resources, Business, Arts &amp; Design, Public Service Technologies</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>AAS Engineering, Mechanical, and Industrial Technologies</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>AAS Health Technologies</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Certificates &amp; Diplomas</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: Degree Production = the minimum annual average number of graduates, over 5 years
FTE Production = the minimum annual average number of full-time equivalent students enrolled, over 5 years

### VCCS Program Review Viability Standards

**Three Year Average**

<table>
<thead>
<tr>
<th></th>
<th>FTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer</td>
<td>&lt; 20 FTE</td>
</tr>
<tr>
<td>Occupational-Technical (AAS Degree)</td>
<td>&lt; 15 FTE</td>
</tr>
<tr>
<td>Certificates</td>
<td>&lt; 12 Headcount</td>
</tr>
</tbody>
</table>

### III. Assessment of General Education Identified by SACS and VCCS

SACS requirement for general education is the following [Principles of Accreditation: Foundations for Quality Enhancement, p. 49]:

3.5.1 – The institution identifies college-level competencies within the general education core and provides evidence that graduates have attained those competencies. (College-level Competencies)

The Virginia Community College System (VCCS) defines its general education program as "...that portion of the collegiate experience that addresses the knowledge, skills, attitudes, and values characteristic of educated persons. It is unbounded by disciplines and honors the connections among bodies of knowledge. VCCS degree graduates will demonstrate competency in the following general education areas: communication, critical thinking, cultural and social understanding, information literacy, personal development, quantitative reasoning, and scientific reasoning." [VCCS Policy Manual Section 5.0.2].

The specific general education goals and student learning outcomes that all VCCS degree graduates will be able to demonstrate competency and that each community college needs to assess are the following [VCCS Policy Manual Section 5.0.2.2]:

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Revised 11/4/08, 5/8/14
Communication:
A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood. Degree graduates will demonstrate the ability to: (a) understand and interpret complex materials; (b) assimilate, organize, develop, and present an idea formally and informally; (c) use standard English; (d) use appropriate verbal and non-verbal responses in interpersonal relations and group discussions; (e) use listening skills; and (f) recognize the role of culture in communication.

Critical Thinking:
A competent critical thinker evaluates evidence carefully and applies reasoning to decide what to believe and how to act. Degree graduates will demonstrate the ability to: (a) discriminate among degrees of credibility, accuracy, and reliability of inferences drawn from given data; (b) recognize parallels, assumptions, or presuppositions in any given source of information; (c) evaluate the strengths and relevance of arguments on a particular question or issue; (d) weight evidence and decide if generalizations or conclusions based on the given data are warranted; (e) determine whether certain conclusions or consequences are supported by the information provided, and (f) use problem solving skills.

Cultural and Social Understanding:
A culturally and socially competent person possesses an awareness, understanding, and appreciation of the interconnectedness of the social and cultural dimensions within and across local, regional, state, national, and global communities. Degree graduates will demonstrate the ability to: (a) assess the impact that social institutions have on individuals and culture—past, present, and future; (b) describe their own as well as others’ personal ethical systems and values within social institutions; (c) recognize the impact that arts and humanities have upon individuals and cultures; (d) recognize the role of language in social and cultural contexts; and (e) recognize the interdependence of distinctive world-wide social, economic, geo-political, and cultural systems.

Information Literacy:
A person who is competent in information literacy recognizes when information is needed and has the ability to locate, evaluate, and use it effectively (adapted from the American Library Association definition). Degree graduates will demonstrate the ability to: (a) determine the nature and extent of the information needed; (b) assess needed information effectively and efficiently; (c) evaluate information and its sources critically and incorporate selected information into his or her knowledge base; (d) use information effectively, individually or as a member of a group, to accomplish a specific purpose; and (e) understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.

Personal Development:
An individual engaged in personal development strives for physical well-being and emotional maturity. Degree graduates will demonstrate the ability to: (a) develop and/or refine personal wellness goals; and (b) develop and/or enhance the knowledge, skills, and understanding to make informed academic, social, personal, career, and interpersonal decisions.

Quantitative Reasoning:
A person who is competent in quantitative reasoning possesses the skills and knowledge
necessary to apply the use of logic, numbers, and mathematics to deal effectively with common
problems and issues. A person who is quantitatively literate can use numerical, geometric, and
measurement data and concepts, mathematical skills, and principles of mathematical reasoning to
draw logical conclusions and to make well-reasoned decisions. Degree graduates will
demonstrate the ability to: (a) use logical and mathematical reasoning within the context of
various disciplines; (b) interpret and use mathematical formulas; (c) interpret mathematical
models such as graphs, tables and schematics and draw inferences form them; (d) use graphical,
symbolic, and numerical methods to analyze, organize, and interpret data; (e) estimate and
consider answers to mathematical problems in order to determine reasonableness; and (f)
represent mathematical information numerically, symbolically, and visually, using graphs and
charts.

Scientific Reasoning:
A person who is competent in scientific reasoning adheres to a self-correcting system of inquire
(the scientific method) and relies on empirical evidence to describe, understand, predict, and
control natural phenomena. Degree graduates will demonstrate the ability to: (a) generate an
empirically evidenced and logical argument; (b) distinguish a scientific argument from a non-
scientific argument; (c) reason by deduction, induction and analogy; (d) distinguish between
causal and correlational relationships; and (e) recognize methods of inquiry that lead to scientific
knowledge.

The VCCS Report of the VCCS Task Force on Assessing Core Competencies, clarified and
enhanced general education outcomes for students.

Writing
In a written discourse the student will demonstrate the ability to state the purpose that addresses
the writing task in a thoughtful way; organize content with effective transitions and effective
beginning and ending paragraphs; develop logical and concrete ideas with effective use of
paragraph structure; use appropriate and precise word choice; demonstrate few mechanical and
usage errors with evidence of control of diction.

Information Literacy
The information literate student will demonstrate the ability to determine the nature and extent of
the information needed; access needed information effectively and efficiently; evaluate
information and its sources critically and incorporate selected information into his/her
knowledge base and value system; use information effectively to accomplish a specific purpose;
and, understand many of the economic, legal, and social issues surrounding the use of
information and access and use information ethically and legally.

Quantitative Reasoning
The student will demonstrate the ability to use logical and mathematical reasoning within the
context of various disciplines; interpret and use mathematical formulas; interpret mathematical
models; use arithmetic, algebraic, geometric, and statistical models to solve problems; estimate
and consider answers to mathematical problems in order to determine reasonableness; recognize
and communicate the appropriate applications of mathematical and statistical models; and,
represent mathematical information numerically, symbolically, and visually, using graphs and
charts.
Scientific Reasoning
The student will be able to generate an empirically evidenced and logical argument; distinguish a scientific argument from a non-scientific argument; reason by deduction, induction and analogy; and, distinguish between causal and correlational relationships.

Critical Thinking
The student will demonstrate the ability to discriminate among degrees of truth or falsity of inferences drawn from given data; recognize unstated assumptions or presuppositions in given statements or assertions; determine whether certain conclusions necessarily follow from information; weigh evidence and decide if generalizations or conclusions based on given data are warranted; and, distinguish between arguments that are strong and relevant and those that are weak and irrelevant to a particular question at issue.

Oral Communication
The student will demonstrate skill in idea development and verbal effectiveness by the use of language and the organization of ideas for a specific audience, setting and occasion and to achieve a purpose; nonverbal effectiveness, assuring that the nonverbal message supports and is consistent with the verbal message and responsiveness, communication skills modified based on verbal and nonverbal feedback.

PDCCC General Education Goals & Core Competencies

General Education is the heart of student learning at PDCCC (See Appendix D: General Education Assessment Timeline) and is tied to the College’s mission, values, and strategic goals. In February 2000, the Governor’s Blue Ribbon Commission on Higher Education in the Commonwealth of Virginia (VCCS) called for the creation of a Quality Assurance Plan. What resulted was a plan to conduct assessment for general educational core competencies in the area of writing, information literacy, quantitative reasoning, scientific reasoning, critical thinking, and oral communication. All graduates are tested in the late spring semester (See Appendix D: General Education Assessment Timeline). The results of these core competency tests are analyzed by the VCCS assessment office and forwarded to each community college’s assessment office. Each college then reviews its report and makes changes in courses and/or programs for continuous improvement.

Schematic of VCCS Curriculum Structure for Associate Degrees
As a result of the SACS and VCCS guidelines on general education, the following are the college-wide general education goals:

**Goal 1**: Students will develop college-level communication skills. (SACS reading, writing, & oral communication; Writing and Oral Communication Core Competencies)

**Goal 2**: Students will apply critical thinking and problem solving skills. (Critical Thinking Core Competencies)

**Goal 3**: Students will develop an understanding of culture and society. (VCCS General Education)

**Goal 4**: Students will develop information literacy skills to engage in life-long learning. (Information Literacy Core Competency and SACS computer skills)

**Goal 5**: Students will promote personal development by engaging in physical well-being and emotional maturity. (VCCS General Education)

**Goal 6**: Students will apply quantitative reasoning skills. (Quantitative Reasoning Core Competency/SACS math skills)

**Goal 7**: Students will develop scientific reasoning skills. (Scientific Reasoning Core Competencies)

Each program awarding a degree or certificate is required to devise program-specific general education objectives for each college-wide goal. This approach to general education recognizes that student attainment of the general education goals of the college is achieved within the context of academic degree programs. The general education goals and program goals may overlap, and the assessment of general education is most effective when embedded in program courses.

By establishing college-wide goals and requiring each program to devise its own objectives, ownership and accountability for general education are placed in the hands of program faculty. The college-wide goal statements are intentionally stated broadly to give programs flexibility in meeting the general education goals through objectives that are relevant to their program. As part of the program review, program heads devise program-specific general education objectives for the students in the program for each general education goal using both direct and indirect multiple measures.

Faculties teaching general education discipline courses are required to explicitly link the objectives of their courses to the general education goals. For example, if a social science course is to be used to fulfill general education requirements, then it should be clear which general education goals are addressed in the course, the ways the students might achieve those goals, and how student attainment of the goals will be assessed. These courses will then form the core of general education courses for the college.

In addition, educational programs link outcome objectives to one or more general educational competency. For example, in the Associate of Arts and Sciences programs faculty have adopted the Virginia Community College System’s core competencies as the general education core student learning outcomes for transfer programs. They have identified student learning outcomes, measures, and expected levels of achievement for transfer-oriented Associate of Arts and Sciences programs. These general education outcomes serve as the basis by which the Associate of Arts and Sciences degrees are assessed and continually improved. Occupational/Technical Associate of Applied Science Programs also identify program-specific student learning outcomes.
ELEMENTS OF ASSESSMENT AND PROGRAM REVIEW REPORT

Assessment of Student Outcomes

Assessment is the process of gathering evidence of student learning, reviewing the evidence to determine if students are learning what they are expected to learn, and using this evidence to alter the direction of your course or program (See Appendix H: Assessment of Student Learning Outcomes).

For example, you might “map” certain questions on a test to specific learning objectives. After administering a test, you would examine the students’ performance on the test questions to determine how well the students’ are grasping the intended learning outcomes. If you determine the performance is satisfactory, then you have evidence that the learning objective is being met. If you determine the students’ performance is below your expectations, you should use the feedback to reevaluate the way the material is presented or review the concepts with students. It is important to remember that the purpose of the assessment is to create a better teaching and learning experience.

Students who know what is expected of them in terms of their learning have a framework for learning and are more successful. Faculty who have a clear idea of what they want their students to learn are able to align their instructional activities to these outcomes. In these two ways, clearly articulated outcomes are essential to student learning. Outcomes assessment allows us to systematically examine the alignment between student learning, instructional or institutional expectations and instructional activities. To this end, we begin planning for outcomes assessment with student learning outcomes. A student learning outcome (SLO) is defined as a specific, measurable competency (knowledge, skills, values, or attitudes) that your students should be able to demonstrate as a result of participation in a learning activity. SLOs reflect a shift from a focus from “What am I teaching” to “What are my students learning?” SLOs can be expressed and measured at the course, program or institutional level.

Course Assessments

What is the difference between course assessments vs. class assessment?

Course assessment measures the student learning that takes place in ALL sections of the course for the entire college. It is not to be confused with assessment of instructors or employment evaluation.

A course assessment consists of all the classes (sections) being taught; for example, ENG 111. A class assessment is one section of a course, ENG 111-51A or ENG 111-61B.

How important is it to design Course Assessment processes to include students from all locations that a course is taught?

Inclusion of students from all locations that a course is taught is crucial to the process of Course Assessment. This means that if a course is taught through dual enrollment or is web-based, at both campuses, or off-site, the mechanism for gathering data for assessment of that course
must be designed to reasonably include students regardless of the location or delivery-method of the specific section in which they were enrolled.

Therefore, if an end-of-course or beginning-of-course activity is developed for the purposes of course assessment, the activity must take place in all sections of the applicable course during the semester that data is being collected. The practical logistics of this requirement may influence some choices of such activities. It is important when designing course assessment to consider the logistics of gathering college-wide data.

**Must data towards Course Assessment be limited to data collection at the end of the semester?**

Absolutely not! In fact, some of the most valuable data can be captured in creative ways from students who completed the course being assessed during the previous semester.

For example, students who are beginning Chemistry 112 could be given the first-day-of-class assessment covering the course objectives from Chemistry 111. The CHM 112 instructor can review the results to get an idea of what the students have retained, and then pass those assessment forms to the individual responsible for collating the CHM 111 assessment data. This strategy obviously can work for any two-course required-sequence.

Finally, instructors may find that they can make arrangements with colleagues, either in their same discipline or across disciplines, to collaborate in activities for course assessment. An example of this could be in a nursing course, where it might be appropriate to include either a formative or a summative assessment of students’ knowledge of infant to adolescent developmental psychology. Aggregate student performance information on this assessment could then be turned over to the psychology faculty for use in their assessment of the Developmental Psychology course.

**Where do we start?**

Every course should have a set of college-wide, common, core expectations for student learning. These expectations are the most important things a student who passes the course should take away from any section of the course. While individual instructors may add to this course, there should be a shared understanding of the core skills and knowledge upon which the course is based. It is these expectations which should be reflected on each course syllabus (See Appendix C: Example Course Syllabus Using Student Learning Outcomes) and which should be used to determine student learning outcomes for the outcome assessment process. All course syllabi need to be written in a student learning outcome format so that outcomes can be better evaluated.

Student learning outcomes are statements that specify what you want your students to know and be able to do at the end of the course. For example, student learning outcomes can refer to knowledge, practical skills, critical thinking skills, etc. that students are expected to develop or learn (See Appendix F: Classroom Assessment Techniques).

**What makes a good learning outcome?**

A well-defined student learning outcome specifies actions by students that are observable,
measurable, and must be done by the students themselves. The crucial factor in determining if your learning outcome is well-defined is whether or not the action taken by the students can be measured (See Appendix B: Evaluation Methods to Measure Outcomes). Do not focus on small details, but rather on general knowledge and/or skills you expect your students to acquire through your course. Do not merely describe activities or lessons from the course, but rather articulate the learning that will result from the course. Make sure your statement is centered not on what you are going to teach them, but rather on what the student will do. For example, “upon completion of this course students will be able to identify all the critical elections in 20th Century America” as opposed to “one objective of this course is to teach about the critical elections in 20th Century America.”

Generally speaking, good learning outcomes are:

- Learner centered
- Key to the course’s mission
- Meaningful for faculty and students
- Representative of a range of thinking skills
- Measurable

First, and most importantly, good learning outcomes focus on what students can do instead of the effort we put into teaching them. Second, college-wide outcomes must be essential to the course’s mission, something that everyone teaching the course agrees is important. Avoid outcomes that are idiosyncratic or tied to a particular instructor’s approach to a course. Third, design outcomes that are meaningful for faculty and students. If you cannot explain why a certain outcome is important, it probably isn’t very meaningful. Finally, outcomes often reflect a range of thinking skills, from low level identification to higher level application of knowledge or skills.

Good outcomes are measurable in some way; they communicate what student learning will be evaluated in the course. Often courses will have two levels of outcomes; some broader based outcomes which reflect higher order thinking skills and broad topics, and some more narrow, lower level thinking skills outcomes which are essential to reaching the broader outcomes. If the course doesn’t have expectations for student learning formulated as student learning outcomes, the development of college-wide common core student learning outcomes maybe one of the first outcomes of this process. The outcomes should become a standard part of the syllabus.

When defining SLOs to assess, it is tempting to take the easy route and think only in terms of learning outcomes that represent lower order skills because they will be simpler to evaluate. Instead concentrate on the skills and knowledge which are essential for a student to be considered competent at the end of the semester. While some lower order types of learning outcomes may be essential to reaching higher level outcomes, make sure that you define a range of outcomes which reflect higher order, complex application tasks in addition to any essential supporting learning outcomes which may reflect lower order thinking skills.
Lower order vs. higher order thinking skills

While basic recall of facts is important to any course, your assessment results will be more meaningful if you have chosen a more complex skill. Moreover, it will likely reflect what is truly important in your course. Often facts are important because we want students to be able to do something with that information.

SLOs which reflect higher order thinking skills, use action verbs that are observable and measurable, as well as ones that reflect higher order skills. Examples of such verbs are solve, design, write, compare, apply, decide, draw, persuade, investigate, and evaluate.

Refer to the following possible outcomes for an information technology course:

✓ Students will be able to correctly summarize the key differences between open and closed source software development models.
✓ Students will be able to evaluate the strengths and weaknesses of open and closed source software development models.

While the first outcome is certainly easier to achieve, the second one better represents what students would have to do with the information in the real world. You will get more useful information about student learning with the second SLO.

How do you write SLOs for a course or program?

A student learning outcome statement needs to specify who is to perform (student), what action they are to take, and some result that must come from their action (See Appendix B: Evaluation Methods to Measure Outcomes). A student learning outcomes (SLOs) for a course/program should:

✓ Refer to the College’s strategic goals when setting outcomes/objectives to ensure they reflect the College mission and purposes. In addition, this will aid in the compilation of an institution-wide Strategic Plan.
✓ Be written in terms of what the student/graduate/unit will be able to do at the end of the course/program/academic year
✓ Limit outcomes/objectives to at least three but no more than five per academic year.
✓ Keep them short and simple (KISS)
✓ Make them specific, measurable, attainable, realistic, and timely (S.M.A.R.T)
✓ Establish a target performance level for success (i.e. 75% will…)
✓ Keep the assessment process manageable and meaningful (M&M)
✓ You don’t have to nor should you assess everything every year.
✓ Avoid assessing the same outcomes/objectives every year to ensure you are documenting continuous improvement. If you find that there are no other areas you want to assess, consider changing your “Target” located in the Measure tab.
✓ Use Bloom’s Taxonomy and active verbs (create, analyze, demonstrate, etc.) (See Appendix O: Bloom’s Taxonomy and Appendix I: Creating SLO using Bloom’s Taxonomy)
✓ Reflect a combination of higher order thinking skills and supporting or enabling skills
✓ Be written in the positive instead of the negative
✓ Reflect measurable standards (benchmarks) or reflect the basic knowledge and skills that the student/unit will be held accountable
✓ For each outcome/objective, define one or more measures—triangulate. The more measures you define, the more data (evidence) you will gather.
✓ Use rubrics to help with analysis and action plan (See appendix G: How to Design Rubrics for Assessment)

What are some basic examples of well-defined student learning outcomes?

Unclear student learning outcome statement:

✓ The students will understand democracies.
✓ The students will appreciate art from other cultures.
✓ The students will learn about the law of relativity.

The above statements are not well-defined learning outcomes since they are not measurable. However, these statements can be modified to become well-defined learning outcomes as follows:

✓ The students will be able to describe the major theories of democracy.
✓ The students will be able to identify the characteristics of art from other cultures.
✓ The students will be able to explain the major tenets of the law of relativity.

Models to assist in creating and writing student outcome assessments include the S.M.A.R.T Model and the A-B-C-D Model (see below).
S.M.A.R.T Goals/Objectives to Generate Outcomes

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific</strong></td>
<td>A specific goal has a much greater chance of being accomplished than a general goal (Who, What, Where, When, Which and Why) General Goal – This year I am going to get into shape. Specific Goal/Objective – This year I am going to join a health club and workout 3 days a week.</td>
<td></td>
</tr>
<tr>
<td><strong>Measurable</strong></td>
<td>Establish concrete criteria for measuring progress toward the attainment of each goal/objective you set Stay on track, reach target dates and experience achievement How much? How many? How will I know when it is accomplished?</td>
<td></td>
</tr>
<tr>
<td><strong>Attainable</strong></td>
<td>When you identify goal/objectives that are most important to you, you begin to figure out ways you can make them come true. You develop attitudes, abilities, skills, and financial capacity to reach them. You can attain most any goal you set when you plan your steps WISELY and establish a time frame that allows you to carry out those steps.</td>
<td></td>
</tr>
<tr>
<td><strong>Realistic</strong></td>
<td>To be realistic, a goal/objective must represent an objective towards which you are both WILLING and ABLOE to work. Your goal is probably realistic if you truly BELIEVE that it can be accomplished.</td>
<td></td>
</tr>
<tr>
<td><strong>Timely</strong></td>
<td>A goal/objective should be grounded within a timeframe. With no timeframe tied to it there’s no sense of urgency. When you set a timeframe, then you have set your unconscious mind into motion to begin working on the goal.</td>
<td></td>
</tr>
</tbody>
</table>

A-B-C-D Model

Writing Effective and Measurable Objectives: The A-B-C-D Model

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A = Audience</strong></td>
<td>Who is performing the action? Learning objectives are always stated in terms of student outcomes.</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
<tr>
<td><strong>B = Behavior</strong></td>
<td>What will the student be able to do? Use Bloom’s Taxonomy and action verb that describe an accomplishment that is measurable.</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
<tr>
<td><strong>C = Condition</strong></td>
<td>Give the conditions under which the performance will occur. Be specific.</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
<tr>
<td><strong>D = Degree</strong></td>
<td>Describe the minimum criteria for acceptable student performance.</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
</tbody>
</table>

A-B-C-D Model

Writing objectives isn’t creative writing: Just follow a formula!

Given [Conditions] the [Audience] will [Behavior] by [Degree].

[Audience] will [Behavior] to [Standard] when provided [Conditions].
How do we choose which SLOs to assess?

To select SLOs to assess for this process, consider the following questions:

What are the 3 or 4 most crucial outcomes for the course?
Are there topic areas or where students struggle on a regular basis?
Do you have questions about a particular area of student achievement?
Are there outcomes which reflect skills or knowledge students will need in future courses or careers?
Are there outcomes which reflect Gen Ed competencies?

Identifying outcomes which reflect any of these characteristics would be a place to start. Ultimately the outcomes you select:

Should reflect higher order thinking skills (application of knowledge or skills)
Be agreed upon as essential and core to the course (addressed in every section of the course)
Be meaningful to the discipline

How do we include a Gen Ed (Core Competency) in our SLOs?

For courses which have a primary Gen Ed (Core Competency) component, one or two of your outcomes should reflect this competency. The outcome should also be more specific as to how the students are expected to use that skill in your course.

Five key things to remember about college-wide common core student leaning outcomes for a course include the following:

✓ Select outcomes to assess because they are meaningful, not because they are easy to measure.
✓ Make sure your outcomes are expressed in terms of how students are impacted by your course.
✓ Make sure they your common core outcomes reflect a faculty consensus in your discipline and not just the views of a few individuals.
✓ Where possible, have your outcomes reflect higher order thinking skills.
✓ Make sure that all faculty and students involved with the course are familiar with the outcomes.

An example of the template used in doing course student learning outcomes assessments is the following:
Sample: Course Assessment

Course Prefix and Number: ENG 111:63B
Course Name: COLLEGE COMPOSITION I
Instructor: Mr. Smith
Term and date: FALL 2014

<table>
<thead>
<tr>
<th>Part I</th>
<th>(Completed sections of Part I should be submitted by August 27 to the Academic Dean for review.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>List All Student Learning Outcomes Objectives from Course Syllabus</td>
<td></td>
</tr>
</tbody>
</table>

Objective 1:
The student will employ the writing process to compose various compositions: narrative, expository, descriptive, and argumentative that are satisfactory on the collegiate-level in focus, content, organization, style, and conventions.

Objective 2:
The student will read, interpret, analyze, and evaluate essays based on numerous human experiences.

Objective 3:
The student will apply critical thinking skills to locate, read, evaluate, and incorporate print and non-print sources into their written and oral communication.

Objective 4:
The student will synthesize researched information to develop a well-documented research paper.

Objective 5:
The student will define and apply the elements of logic and critical thinking to develop argumentative writing.

Objective 6:
The student will use the computer to keyboard writings, exchange e-mails, complete assignments.

Objective 7:
The student will evaluate his/her own writing and peers' using various writing strategies.

List Any Primary Core Competencies Objectives

Gen-Ed Objective 1:
Focus: State purpose that addresses the writing task in a thoughtful way. Graduates will achieve at least 70% proficiency.

Note: At least 60-70% of student learning outcome objectives above should be assessed.

<table>
<thead>
<tr>
<th>For each objective being assessed, list the objective &amp; measure of success (For objective #3, students will be able to…with 70% of proficiency)</th>
<th>Evaluation Method (direct and indirect)</th>
<th>Learning Skill (Bloom)</th>
</tr>
</thead>
</table>

11/05/03
Revised 11/4/08, 5/8/14
For objective #1, With 70% proficiency, the student will employ the writing process to compose various compositions: narrative, expository, descriptive, and argumentative that are satisfactory on the collegiate-level in focus, content, organization, style, and conventions.

Instructor Generated Writing Rubric
Knowledge
Comprehension
Application

For objective #2, With 70% proficiency, the student will read, interpret, analyze, and evaluate essays based on numerous human experiences.

Instructor Generated Assessments
Knowledge
Comprehension
Analysis

For objective #3, With 70% proficiency, the student will apply critical thinking skills to locate, read, evaluate, and incorporate print and non-print sources into their written and oral communication.

Instructor Generated Oral Presentation Rubric
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluate

For objective #4, With 70% proficiency, the student will synthesize researched information to develop a well-documented research paper.

Instructor Generated Argumentative Research Paper Rubric
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluate

For objective #5, With 70% proficiency, the student will define and apply the elements of logic and critical thinking to develop argumentative writing.

Instructor Generated Argumentative Research Paper Rubric
Knowledge
Comprehension
Analysis
Synthesis
Evaluate

For objective #6, With 70% percent proficiency, students will use the computer to keyboard writings, exchange e-mails, complete assignments.

Instructor Generated Writing Rubric
Knowledge
Comprehension
Application

For objective #7, With 70% percent proficiency, students will proficiently evaluate his/her own writing and peers using various writing strategies.

Peer and Self-Evaluation Writing Rubrics
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluate

**Actions Implemented:**

What specific actions or new initiatives (if any) did you implement this year to improve your course? Why?

I created Graded Essays Self-Evaluation rubrics to allow students to analyze each graded writing to identify what their common mistakes were in focus, content, organization, style, and conventions. I wanted students to take more ownership for their writing and for them to analyze their writing to be able to work on specific areas to improve for their next paper.

I provided a Research Scaffold along with a literature review chart to assist students in taking notes effectively to assist in developing a scholarly synthesis for the research paper.
**General Education (Core Competencies):**

(1) Oral Communication, (2) Written Communication, (3) Critical Thinking, (4) Scientific Reasoning, (5) Quantitative Reasoning, and (6) Information Literacy

**Sample Generic Grid for Mapping the Assessment**

(Make sure your grid shows a good balance of outcomes and enough attention to higher learning skills.)

<table>
<thead>
<tr>
<th>Measure of success</th>
<th>Evaluation Method</th>
<th>Learning Skill (Bloom’s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 2: Students will …with 70% proficiency</td>
<td>Common questions 1-8 on Test 1</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Objective 4: Students will … 80% of the time</td>
<td>Common questions 20-35 on Test 2</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Objective 5: Students will …with 75% proficiency</td>
<td>30-minute exam essay question, scored by rubric</td>
<td>Comprehension, analysis</td>
</tr>
<tr>
<td>Objective 8: Students will …with 95% accuracy</td>
<td>Scored by rubric</td>
<td>Comprehension, analysis, synthesis</td>
</tr>
</tbody>
</table>

**Evaluation Method:** (rubric, embedded test questions, project, lab test, journal, certification test, portfolio)

**Bloom’s Taxonomy:**

(Note: Higher-level courses should have higher-level thinking.)

**Knowledge:** Recall of previously learned facts
Words to use to assess recall: identify, define; describe, state, label, list, match, reproduce

**Comprehension:** Understanding what is meant
Words to use to assess comprehension: give examples of, classify, explain, describe, summarize, outline, trace

**Application:** Use of previous knowledge to approach new situations or problems
Words to use to assess application: predict, construct, prepare, produce, show, use, implement, design, show how

**Analysis:** Separate into component parts
Words to use to assess analysis: list the components parts of, break down, differentiate, distinguish, diagram, illustrate, outline, subdivide, interpret, compare/contrast

**Synthesis:** Putting elements together so as to form a new concept
Words to use to assess synthesis: adapt, design, compare/contrast, categorize, compile, assemble, rearrange, give evidence for, give reasons for, formulate, infer, generate, integrate, plan

**Evaluation:** Judging by criteria
Words to use to assess evaluation: Develop criteria for, rank, prioritize, explain why you agree or disagree, which is better, appraise, defend, judge, compare and contrast by criteria, review.
PART II
(Completed sections of Part II should be submitted by January 7 to the Academic Dean. The Dean will review and send to Director of Assessment & IR by January 7)

Findings/Results:
(List each objective number that was assessed and results):

Objective #1:
75% of the students proficiently employed the writing process to compose various compositions: narrative, expository, descriptive, and argumentative that are satisfactory on the collegiate-level in focus, content, organization, style, and conventions.

Objective #2:
66% of the students proficiently read, interpreted, analyzed, and evaluated essays based on numerous human experiences.

Objective #3:
81% of the students proficiently applied critical thinking skills to locate, read, evaluate, and incorporate print and non-print sources into their written and oral communication.

Objective #4:
56% of the students proficiently synthesized researched information to develop a well-documented research paper.

Objective #5:
56% of the students proficiently defined and applied the elements of logic and critical thinking to develop argumentative writing.

Objective #6:
93% of the students proficiently used the computer to keyboard writings, exchange e-mails, complete assignments.

Objective #7:
93% of the students proficiently evaluated his/her own writing and peers using various writing strategies.

Analysis & Evidence of Improvement:
(To what factors for each objective did you attribute your findings/results to? Overall, what evidence of course improvement based on your analysis of results did you find?)

Objective #1:
75% of the students proficiently employed the writing process to compose various compositions: narrative, expository, descriptive, and argumentative that are satisfactory on the collegiate-level in focus, content, organization, style, and conventions.

Students who demonstrated mastery on class assignments in these areas were also able to demonstrate mastery on independent writing assignments in these areas.

Objective #2:
66% of the students proficiently read, interpreted, analyzed, and evaluated essays based on numerous human experiences.

Students struggled to complete out-of-class readings in a comprehensive manner in order to be able to demonstrate mastery during class discussions and assessments.

Objective #3:
81% of the students proficiently applied critical thinking skills to locate, read, evaluate, and incorporate print and non-print sources into their written and oral communication.

As a result of providing more concrete examples and class time, students were able to use their documented essays to help craft effective oral arguments, which included discourse of scholarly sources.

Objective #4:
56% of the students proficiently synthesized researched information to develop a well-documented research paper.
Students struggled to manage time, complete chunked research assignments, and effectively take notes, which were essential characteristics of creating a scholarly documented argument essay.

**Objective #5:**
56% of the students proficiently defined and applied the elements of logic and critical thinking to develop argumentative writing.

Students had difficulty embedding class discussions and practice assignments into their own development of critical thinking and logic to create a scholarly documented argument essay.

**Objective #6:**
93% of the students proficiently used the computer to keyboard writings, exchange e-mails, complete assignments.

As noted on the syllabus, all assignments were to be completed using Microsoft Word, and all exchange of communication beyond in-person and phone conversations had to be documented through the college e-mail system.

**Objective #7:**
93% of the students proficiently evaluated his/her own writing and peers using various writing strategies.

As noted on the syllabus, all students were required to participate in peer and self-evaluations for each essay. A grade and class time were designated for this important review process.

### Action Taken (Closing the Loop) to Modify Course to Improve Student Learning (based on results) and Why?
(What will you do differently? Describe how the results obtained from the assessment will be used to improve student learning for objectives assessed. Why?)

- For results from objective #2, I taught annotating, highlighting, summarizing, paraphrasing, and Cornell Note taking methods at the beginning of the semester and require a demonstration of these note taking methods for each essay to help improve student comprehension.

- For results from objective #4, I had conferences with students one-on-one to address any concerns noted as we progress through chunked research assignments, for which they may not be participating in order to provide more personal guidance for the research paper.

- For results from objective #5, I added additional logic and critical thinking exercises, discussions, and videos to reinforce these skills for students to improve overall success.

### Summary of Course Changes/Needs to Improve Student Learning:
Overall, constructive reading, critical thinking, note taking, and research skills are most critical for student improvement in English 111. By modifying the course to concentrate on these areas, students have a greater chance of success in these noted areas.
**Program Assessment**

**What is the difference between course assessments vs. program assessment?**

Whereas course assessment focuses on the question of “how can the course be strengthened based on how well students are mastering course objectives?”, program assessment focuses on student learning outcomes for the program as a whole, as well as productivity measures related to the viability and effectiveness of a degree or certificate program.

Assessing student outcomes for programs are the most effective way to determine whether PDCCC’s programs are accomplishing the goals and objectives set forth in each program’s review. A careful analysis of the results of the students’ assessment lets faculty and administration know where improvements need to be made.

Certain academic areas, such as general education, transfer, remediation, and selected special programs are assessed annually. The responsibility for assessment in these areas is shared by the Director of Assessment, faculty and administrators in those targeted areas.

Some goals and objectives in programs should be assessed internally on an annual basis and all goals/objectives must be evaluated at least once within the five-year cycle. The responsibility for assessment rests with the program faculty with assistance from the Director of Assessment.

For example, during the five-year cycle, the program faculty might define all program and general education goals with evaluation methods and assess program goal 1 (See sample matrix below) during the first year. The program faculty might do surveys and assess 2-3 program goals and one general education goal during the second year of the cycle. On the third year, the program faculty might assess program goal 1 again along with 3-4 general education goals. The fourth year would focus on assessing any goals not yet assessed. The fifth year would focus on completing the program review.

The following is an example of a program, educational support unit, or administrative support unit assessment:
### SAMPLE Matrix used for Program/Unit Assessments

(Note: Analysis requires some explanation as to why the objective was met or not met.)

<table>
<thead>
<tr>
<th>Goal/Objective being assessed</th>
<th>Evaluation Methods</th>
<th>Findings/results</th>
<th>Actions taken or to be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program Objective 1</strong></td>
<td>Faculty observation during class and completion of task list test.</td>
<td>75% of the students received a satisfactory grade.</td>
<td>A handout on the requirements for a satisfactory grade was provided to students.</td>
</tr>
<tr>
<td>Computer Analysis: Students will be able to diagnose, troubleshoot and repair computer system problems 75% of the time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analysis of Results</strong> (Explain how your strategies improved student success or did not improve student success):</td>
<td></td>
<td></td>
<td>This was an increase of 5% over last year (75% vs. 70%). This improvement appears to be due to the addition of simulation sessions on troubleshooting and repair.</td>
</tr>
<tr>
<td><strong>Program Objective 2</strong></td>
<td>Faculty observation during class-time devoted to group project work in (list course). Student written self-evaluation in (list course).</td>
<td>Faculty observed that 75% of the students demonstrated the ability to work effectively on a team. 90% of the self-evaluations indicated good understanding of effective teamwork.</td>
<td>Have students critique a video showing a team at work and have them indicate which principles were well-employed and which were not.</td>
</tr>
<tr>
<td>Students will demonstrate the ability to work effectively on a team 75% of the time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analysis of Results</strong> (Explain how your strategies improved student success or did not improve student success):</td>
<td></td>
<td></td>
<td>The group projects proficiency improved 8% over last year (75% vs. 67%). Part of this improvement appears to be due to using a rubric for group projects to identify strengths and weaknesses and early feedback to students so that the students know where they need to focus their attention to improve on their next group project.</td>
</tr>
<tr>
<td><strong>Program Objective 3</strong></td>
<td>Project assignments in ALL IST courses are completed in a timely manner. 80% of students will receive a favorable review of portfolios. The portfolios will be evaluated by program heads and the advisory committee. Where possible the portfolios will be available online.</td>
<td>All assignments have been completed in a timely manner per IST faculty. Portfolios were reviewed at the Spring IST meeting IST 226/129 – web sites IST179/180/216-review written procedures for troubleshooting, assembly, safety IST 202/CS200-engineering journals The Advisory Committee approved that all portfolios met IST standards.</td>
<td>No further action required at this time. Faculty continue to monitor and assure that assignments are completed in a timely manner.</td>
</tr>
<tr>
<td>Students will demonstrate the ability to work effectively on a team 75% of the time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analysis of Results</strong> (Explain how your strategies improved student success or did not improve student success):</td>
<td></td>
<td></td>
<td>This year was an improvement (80% vs. 75%) from last year where students demonstrated the ability to work effectively in teams. Part of the improvement appears to be due to an increase emphasis and review by faculty on student portfolios in various program courses. This goal has met the benchmark goal of 75%.</td>
</tr>
</tbody>
</table>

The annual program assessment/review and student outcomes assessments template has been placed on the network drive under Common (Pc02)/Institutional Effectiveness /<specific program folder>. During the program faculty’s five-year program cycle, all annual entries and edits are to be made in the appropriate program Excel document. The Office of Institutional Research (IR) will be entering annually numerical data to each program assessment/review Excel document as it becomes available. Program faculty are to set-up their program and general education goals matrix, make annual entries, and complete the student outcomes assessment narrative.
In setting up the outcome assessment matrix for any program or discipline, there are several steps to follow:

- State the program and general education goals which **support the mission** of the college.
- Determine the **multiple evaluation methods** (direct and indirect) that will most effectively assess whether those goals are being met. **Triangulate** results.
- **Analyze** the data collected from the assessment strategies and describe the findings including strengths and weaknesses.
- Prepare a narrative which describes the assessment process including how the data was analyzed and the process in which assessment strategies were implemented.
- Determine whether the goals of the program objectives, general education objectives, and/or unit objectives are being met, and **state the actions taken or to be taken** to address any concerns or deficiencies. **Close the loop**.

**Program and Unit Goals**

When doing annual student outcomes assessments, programs are asked to use multiple assessment measures, of which at least one must be a direct measure. Faculty from each major is asked to select any assessment methods that they believe will be effective in measuring whether students achieved the goals of the program. The assessment of a major will give faculty vital information concerning the program. Advisory committees for OT programs are involved in reviewing curriculum (See Appendix E: Program Advisory Committee Checklist). Copies of the Program Advisory Committee minutes should be easily available as supporting documentation of the assessment process. Be sure to also include its recommendations under actions in the assessment matrix. Some of the assessment methods used are tests, competency checklists, rubrics, portfolio review, job placement rates, employer surveys, oral examinations, written examinations, external certification examinations, skills examinations, student surveys and panel reviews. The Director of Assessment will serve as a resource to faculty for implementation of the assessment activities for that program.

The program review is based on five-years of student outcomes assessments. This would include completing the student outcomes assessment matrix showing program and general education goals, multiple assessment methods (external, as well as internal), findings, and actions taken or to be taken. The program review process is concluded with the completion of various quantitative figures and answering questions pertaining to how the other areas of the College are meeting the needs of the program being evaluated.

When assessing your program goals, one should incorporate in the program assessment any additional factors and/or disciplines affecting the program. These factors to assess could include: off-campus/distance learning courses, transfer of students from your program to other institutions, dual credit, vocational articulation agreements, and the effectiveness of student development services or developmental remediation. The Director of Assessment will serve as a resource.

The program review process is a series of questions addressing the program’s productivity, demographic information, goals and objectives (How does the program fit the mission of the college), student outcomes, the curriculum, instruction, and marketing. It assists the program lead faculty in evaluating the program and seeing how it interrelates with other areas of the college.
IV. Guidelines: Programs, Administrative & Educational Support Assessments

Mission/Purpose
This is the overall purpose of your program, administrative support unit or educational support unit, showing how you connect and contribute to the College’s overall work.

Outcomes/Objectives
Outcomes/Objectives are brief, clear statements that describe desired outcomes in relation to broader goals.

Academic Programs
Academic programs MUST assess Student Learning Outcomes (SLO’s). SLO’s are specific types of outcomes/objectives which define the Knowledge, Skills, Values, and Attitudes (Beliefs) the students will have achieved as a result of their educational experience in the program. This may include program specific skills or general education skills necessary for program success. Program outcomes measure effectiveness of the program itself and can include student satisfaction, employer satisfaction, graduation rates, transfer rates, retention rates, etc…

Administrative Support and Education Support Units
Administrative and educational support units have objectives that can be classified as process, outcome, or satisfaction oriented.

Process: what the unit intends to accomplish. This is typically described in terms of level or volume of activity, efficiency of processes, and compliance with good practices/regulations.

Outcomes: what clients will be able to know, do, value, and believe after receiving the unit’s services.

Satisfaction: client satisfaction level after receiving service.

Tips for Assessment:

- Refer to the College’s strategic goals when setting outcomes/objectives to ensure they reflect the College mission and purposes. In addition, this will aid in the compilation of an institution-wide Strategic Plan.
- Be written in terms of what the student/graduate/unit will be able to do at the end of the course/program/academic year
- Limit outcomes/objectives to at least three but no more than five per academic year.
- Keep them short and simple (KISS)
- Make them specific, measurable, attainable, realistic, and timely (S.M.A.R.T)
- Establish a target performance level for success (i.e. 75% will…)
- Keep the assessment process manageable and meaningful (M&M)
✓ You don’t have to nor should you assess everything every year.
✓ Avoid assessing the same outcomes/objectives every year to ensure you are documenting continuous improvement. If you find that there are no other areas you want to assess, consider changing you “Target” located in the Measure tab.
✓ Use Bloom’s Taxonomy and active verbs (create, analyze, demonstrate, etc.) (See Appendix O: Bloom’s Taxonomy and Appendix I: Creating SLO using Bloom’s Taxonomy)
✓ Reflect a combination of higher order thinking skills and supporting or enabling skills
✓ Be written in the positive instead of the negative
✓ Reflect measurable standards (benchmarks) or reflect the basic knowledge and skills that the student/unit will be held accountable
✓ For each outcome/objective, define one or more measures--triangulate. The more measures you define, the more data (evidence) you will gather.
✓ Use rubrics to help with analysis and action plan (See appendix G: How to Design Rubrics for Assessment)

Measure

A measure is a tool(s) used to determine if you have met your expected outcome. To increase the likelihood of valid results, you should strive to use more than one measure for each outcome/objective if possible.--triangulate. If you are struggling to identify a measure ask the following questions about your outcome/objective:

How will we know if this is being accomplished?

What will provide us this information?

For best results, use both direct and indirect measures and qualitative and quantitative measures. Below are some examples of the types of measures you might use:

Direct measures—objective measures of knowledge or ability. This is the most important measure for a Student Learning Outcome (SLO). Examples include students’ scores on national standardized exams such as the Core Competencies Assessments, Program Exit, or Certification Exams, Pre-test/Post-test Evaluation, Comprehensive Exams, Capstone Course Evaluation, Course-Embedded Assessment, Student Portfolios, Employer evaluations, Use of Rubrics, etc.

Indirect measure—subjective measures of beliefs, attitudes and perceptions. Indirect measures are often used to supplement direct measures. Examples include questionnaires and survey of student’s perceptions, such as the CCSSE, graduating Student Questionnaire, Graduate Follow-up Survey, Alumni Survey, Employer surveys, etc. Additional measures could include focus groups, exit interviews of graduates, employment data, graduation rates, and transfer rates.

Qualitative—measures that contain non-numerical data such as verbal or written feedback from students/staff/faculty, etc…
Quantitative—measures that collect numerical data that can be analyzed statistically.

Target allows you to establish a specific criterion for success. This will allow our Objective/Outcome to be measurable. You must ask yourself what level is acceptable and then seek to sustain or enhance that performance.

Below are examples of Outcome/Objectives, Measures, and performance Target for academic programs, administrative support units and educational supports units:

<table>
<thead>
<tr>
<th>Outcome/Objectives</th>
<th>Measure</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Programs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduates from the EMS program will demonstrate the ability to comprehend, apply, and evaluate clinical information relative to his/her role as an entry-level EMT-intermediate or Paramedic</td>
<td><strong>Measure 1</strong> Exit Exam (comprehensive program examination administered at the end of last semester)</td>
<td>90% pass rate (C or better)</td>
</tr>
<tr>
<td></td>
<td><strong>Measure 2</strong> Licensure exam</td>
<td>90% of graduates who attempt the licensure exam will pass</td>
</tr>
<tr>
<td>Graduates will demonstrate competency in oral communication skills.</td>
<td><strong>Measure 1</strong> Faculty Developed Rubric</td>
<td>85% of oral presentations rated by a panel of reviewers will be scored at or above the “Acceptable” level, using a rubric developed by the lead faculty.</td>
</tr>
<tr>
<td></td>
<td><strong>Measure 2</strong> Alumni employer surveys</td>
<td>80% of returned employer surveys positively evaluate the communication skills or graduates.</td>
</tr>
<tr>
<td>Industrial Technology graduates will demonstrate critical thinking skills necessary for competency in their major.</td>
<td><strong>Measure 1</strong> Scores on the Major Field Test</td>
<td>Students will score in the 70th percentile or better on the critical thinking portion of the Exit Exam taken in their capstone course.</td>
</tr>
<tr>
<td>Business Administration graduates will be employed in their field within one year of graduation (program outcome)</td>
<td><strong>Measure 1</strong> Alumni Follow-up Survey</td>
<td>80% of alum responding to the survey will indicate employment in their field.</td>
</tr>
</tbody>
</table>
Graduates of Administrative Support Technology will report satisfaction with the overall program.  

<table>
<thead>
<tr>
<th>Outcome/Objectives</th>
<th>Measure 1</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduating Student Survey</td>
<td>85% of program completers will indicate satisfaction</td>
<td></td>
</tr>
</tbody>
</table>

### Administrative and Educational Support Units

- **The Admissions office** will increase FTE in 2014-2015.
  - **Measure 1** Number of FTE
  - FTE will increase by 5% during the 2014-2015 academic year.

- **The Office of Financial Aid and Veterans** will increase Financial Aid dollars awarded to PDCCC students by 5%.
  - **Measure 1** Dollars awarded as indicated on the FISAP Report
  - The FISAP report will reflect an increase of $50,000 (.015%) when compared to the previous fiscal year.

- **The Registrar’s Office** will provide accurate class enrollment data.
  - **Measure 1** Audit
  - Students’ credit hour auditors from the governing board will verify the accuracy of class enrollments each semester reporting “no adjustments required.”

- Students will be able to effectively utilize the services of the **Library** after attending an orientation session.
  - **Measure 1** Performance assessment by library staff
  - 90% of students attending a library orientation session will receive a favorable performance assessment by library staff.

- Respondents will agree that **the Institutional Effectiveness Office** is helpful by offering assistance in the program assessment process.
  - **Measure 1** Faculty/Staff IE Survey
  - 80% of respondents to the survey will Agree or Strongly Agree with the following statement, “The IE Office was helpful in assisting in the program assessment process.”

- Graduates will be satisfied with services provided by the **Career Coaches Office**.
  - **Measure 1** Graduate Survey
  - 85% of the respondents of the Graduate Survey will indicate a service rating for the Career Coaches Office of “good” or “excellent”.

- Respondents will rate the quality of the **PDCCC’s website** as good or excellent.
  - **Measure 1** Satisfaction Survey
  - 75% of respondents to the Web Satisfaction Survey will rate the new website as “good” or “excellent”.

### Findings/Results

List the result based on the measure (methods & tools) used. This does not need to be overly complicated. Remember, the purpose of this section is to determine if your Outcomes/Objectives were met. Be sure to discuss your data in relation to Outcomes/Objectives and specifically, the Target set in Measures.

11/05/03
Revised 11/4/08, 5/8/14
If you do not meet the Outcome/Objective and the set Target (perhaps only 75% of the returning employer surveys positively evaluated the communication skills of graduates and your Target was 80% or only 60% of students rather than you target of 80% rated the College’s website as good or excellent), don’t panic. This feedback provides data for you to decide what you might do differently to improve those skills (Hint: Action Plan). The changes you propose will be a part of your improvement plan for the next year. **Remember, the purpose of assessment is to help us determine if we are being effective and to allow us to document continuous improvement in programs and student learning outcomes.**

An example of findings/results for a student learning outcome (SLO) would be the following:

| The pass rate for the assessment was __% for 2013-14, which represented a ___% increase from 2012-13. Performance in online sections was ___% better/worse than the pass rate for students who completed the assessment in face-to-face sections. Additional data analysis suggested that students demonstrated the greatest success with ___, but experienced the most difficulty with __. In previous years, students experienced difficulty grasping ___.” |

**Action Plan**

This is where you show how you “closed the loop”. You must answer the following:

- How will you use the results?
- What actions were taken or will be taken based on your data?

If you did not meet your Outcomes/Objectives you **MUST** have an Action Plan. If you plan to implement changes based on your findings, you must discuss these, particularly when findings support planning and budgetary decisions. If this is the case with your findings, please include the “**additional resources needed**” under Action Plan.

An example of an action plan for a SLO would be the following:

| “Students demonstrated the greatest difficulty with ___; therefore, faculty implemented the following improvement strategies for next year.” |
Appendix A: INSTITUTIONAL EFFECTIVENESS TIMELINE CHECKLIST

The following checklist should be used by those doing assessments. Dates listed are the last acceptable date for the completion of the respective activity. (Most should be completed well in advance of the date given.) The Director of Assessment, Deans or Vice President of Instruction may ask for update reports on those activities that should be completed.

Responsibility

The assessment process at PDCCC involves many individuals in order to get the benefit of their insights and experience and to promote broader ownership in doing assessment to promote continuous improvement. At PDCCC the academic deans play a vital role in promoting faculty involvement in assessment such as program credit audits, course assessments, and program assessments. The academic deans, in conjunction with their faculty, also develop the course assessment matrix to identify which program courses to be assessed each term over a three-year period. Academic deans also check to make sure that course syllabi are similar in content with the same student learning outcomes (SLO) no matter what the mode of instruction.

The Director of Assessment and Institutional Research maintains the course assessments based on the course matrix. The director coordinates with faculty and deans on annual program assessments/ program reviews, as well as, providing assessment training to faculty and other personnel. The office supports, coordinates, and advances empirically-based efforts to demonstrate that the college is fulfilling its academic mission and enhancing the quality of a PDCCC education.

Faculty standing committees are involved in approving Institution effectiveness reports pertaining to academic programs (Educational Programs Committee), educational support units (Educational Support Committee), and administrative support units (Planning and Effectiveness Committee).

Institutional Effectiveness Process for Assessment

One of PDCCC’s Achieve 2015 objectives is to create a college culture of institutional effectiveness and continuous improvement. In an effort to improve institutional effectiveness, the college has made changes which make it easier and more efficient to complete annual assessments for academic programs, administrative support units, or educational support units. At the same time, this process allows one to see the current status of all objectives, provide professional development by seeing how peers are doing their assessments, and makes it much easier to be in compliance with SACS 3.3.1 Institutional Effectiveness.

Program Lead Faculty

Due to revisions in the institutional effectiveness processes for continuous improvement, academic lead faculty members are able to complete annual program assessment in less time and fewer pages. Since lead faculty are reporting annually on enrollment, fall-to-spring retention rate, and graduates each year, lead faculty do not need to do the large five-year program review. In
other words, the annual program assessments include student learning objectives (5-7) and program objectives for enrollment, retention rate, and graduates.

**In the fall term**, program lead faculty need to complete an annual Excel spreadsheet for their academic program objectives which is located on the common drive under the Institutional Effectiveness folder. To do this, the lead faculty would click on the Excel spreadsheet for their area of responsibility and click on the tab for the current academic year (Note: One can click on the previous year’s tab and make any additional edits).

For fall term, use the Excel spreadsheet to: (1) define the program’s student learning objectives (5-7) and program objectives, (2) state the performance target for each objective, and (3) state how to measure each objective in meeting its target. It is recommended that lead faculty look at ones area in the PDF document, *Institutional Effectiveness Report*, (which is found on the common drive under Institutional Effectiveness and located in the resource folder) before completing the program’s objectives, targets, and assessment measure for the current year).

The lead faculty’s current year program objectives (Graduates/students will be able to …), performance target (Graduates/students will be able to … with 90% proficiency) for each objective, and how each objective is to be measured have been preloaded based on the program objectives in the College catalog and last year’s data. These objectives include (5-7) measurable student learning outcomes, academic program enrollment, fall-to-spring retention rate, and number of graduates.

The lead program faculty member makes any needed adjustments to each objective, the performance target, or how each objective is to be evaluated. Lead faculty should aim for three means of measurements—triangulate for validity (i.e., specific items on a test during the term, rubric, surveys, and/or comprehensive test for graduates developed by the lead faculty on each objective).

The lead program faculty member makes all changes in **red** (Note: Any changes in a program objective excluding the performance target needs to be presented to the Educational Programs Committee for approval along with how you plan to assess any new objective. Changes in program student learning objectives will be included in next year’s catalog; it is recommended that all student learning objectives (SLO) be evaluated annually. If not, all SLO must be evaluated within a 3-year period). Be sure to **SAVE** the Excel document on the common drive (Do not do a SAVE AS on the common drive).

**In the spring term**, program lead faculty will begin posting in the Excel spreadsheet (1) results from the measurements chosen by for each objective and (2) any action plans to make continuous improvement (Note: It is to the lead faculty member’s advantage to get results based on data that can obtain in the fall term. The lead faculty member’s action plans should be posted in the past tense. If the lead program faculty did not meet the target, there MUST have an action plan. It is recommended that one gives an action plan to show continuous improvement even if the objective was met).

The lead academic faculty will also tell the story about the program’s successes for the year by incorporating successes from the annual Excel spreadsheet into the word document, *Institutional Effectiveness Report, Section I* along with its strengths, weaknesses, and
opportunities. By the end of spring term, the lead academic faculty member completes: (1) the Excel spreadsheet results and action plans section, and (2) the program area in the word document, *Institutional Effectiveness Report*. The *Institutional Effectiveness Report* is one of the college’s main documents for telling the story on PDCCC’s successes in all areas of the college (SACS 3.3.1).

Lead faculty can also add any additional data/edits during the summer term and early fall that was not available prior to the completion of the *Institutional Effectiveness Report*. Since SACS requires a report from the college every 5-years and is looking for at least a 3-year-cycle of data, one should keep at least 3 years and no more than 5 years of data in one’s revision.

They then incorporate/modify their academic year successes in red to the word document, *Institutional Effectiveness Report*. Section I for academic programs (see Instructions for Completion tab in the Excel document for their area).

Once completed, they send any revisions to the Director of Assessment & Research. The Office of Assessment & IR will collect all of them and incorporate into a single document.

**Administrative and Educational Support Services Units**

Due to revisions in the institutional effectiveness processes for continuous improvement, the current process makes it easier to centralize the college’s goals and objectives. It also makes it easier to monitor the status of each objective during the year. The process makes it possible to sort and group common goals or objectives related to Achieve 2015.

**In the fall term**, the individual responsible for the unit needs to complete an annual Excel spreadsheet for the unit objectives which is located on the common drive under the Institutional Effectiveness folder. Depending on the area of responsibility, one would click on either the Administrative Support Services folder or the Educational Support Services folder, click on the Excel spreadsheet for the area of responsibility, and click on the tab for the current academic year (Note: One can click on the previous year’s tab and make any additional edits).

For fall term, the unit adminstrator or designee uses the Excel spreadsheet to: (1) define unit objectives, (2) state performance target for each objective, and (3) state how one plans to measure each objective and its target. It is recommended that the unit administrator or designee looks at areas in the PDF document, *Institutional Effectiveness Report*, (which is found on the common drive under Institutional Effectiveness and located in the resource folder) before completing objectives, targets, and assessment measures for the current year.

The unit administrator’s current year objectives (The business office will …; The new website will …; The new website will … by Spring 20xx;) for each objective, and how each objective is to be measured have been preload for many areas based on the objectives in the College catalog and/or last year’s data.

The unit administrator or designee makes any needed adjustments to each objective, the performance target, or how each objective is to be evaluated. One should aim for three means of measurements--triangulate for validity (i.e., best practices, survey results, audit report, process efficiency, focus groups, rubric, exit interviews, project, certifications, and/or peer review).

11/05/03
Revised 11/4/08, 5/8/14
The unit administrator or designee make all changes in **red** and **SAVES** the excel document on the common (Do not do a SAVE AS on the common).

**In the spring term,** the individual responsible for the unit needs to begin posting in the Excel spreadsheet (1) results from the measurements chosen by for each objective and (2) any action plans to make continuous improvement (Note: It is to ones advantage to get results based on data that can be obtain in the fall term. The unit administrator’s action plans should be posted in the past tense. If one did not meet the target, one MUST have an action plan. It is recommended that one gives an action plan to show continuous improvement even if the objective was met).

The individual responsible for the unit will also tell the story about successes for the year by incorporating successes from ones annual excel spreadsheet for the area into the word document, *-- Institutional Effectiveness Report* along with its strengths, weaknesses, and opportunities. By the end of spring term, the unit administrator or designee completes: (1) the Excel spreadsheet results and action plans section and (2) the unit area in the word document, *Institutional Effectiveness Report*. The *Institutional Effectiveness Report* is one of the college’s main documents for telling the story on PDCCC’s successes in all areas of the college (SACS 3.3.1).

The unit administrator or designee can also add any additional data/edits during the summer term and early fall that was not available prior to the completion of the *Institutional Effectiveness Report*. Since SACS requires a report from the college every 5-years and is looking for at least a 3-year-cycle of data, one should keep at least 3 years and no more than 5 years of data in one’s revision.

They then incorporate/modify their annual successes for their area of responsibility in **red** to the word document, *Institutional Effectiveness Report, Section II* for administrative support services or *Section III* for educational support services (see *Instructions for Completion* tab in the Excel document for one’s area).

Once completed, they send revisions to the Director of Assessment & Research. The Office of Assessment and IR will collect all of them and incorporate into a single document.

**Resource and Working Documents**

All Excel documents can be found in the common drive under *Institutional Effectiveness*. These documents are shared documents. Be sure to save data entries often and work only from the common drive. Resource documents are also located on the common drive under *Institutional Effectiveness* to assist with program enrollments, fall-to-spring retention rates, number of graduates, and survey results. Before working on ones Excel spreadsheet, It is recommend that one reviews the area in last year’s PDF *Institutional Effectiveness Report* found in the Resource folder. This will help in deciding on objectives and measurements for this year. Other resources on assessment, Bloom’s taxonomy, rubrics and student learning outcomes (SLOs) can be found on the college web page ([www.pdc.edu](http://www.pdc.edu)). One would click on the blue ribbon, *About PDCCC* located halfway down the page on the left side, click on *Assessment & Research* located on the far right column, and click on *Assessment Toolkit*.
Evaluation of Assessments

The standing committees are involved in the evaluation of the various assessments units. The Academic Programs Committee does an evaluation of all program assessments for continuous improvements; the Educational Support Committee does an evaluation of all educational support units, and the Planning and Effectiveness Committee does an evaluation of all administrative units of the college. All evaluations are returned to the individual responsible for each unit so that continuous improvement in the future can be made.

The deans evaluate course assessment results, program assessments results, and student electronic evaluations of courses by faculty using different modes of instruction to assist faculty in creating a college culture of institutional effectiveness and continuous improvement.

The Director of Assessment and Institutional Research reviews periodically the status and/or completion of course assessments and program assessments. The director will assists faculty in these assessments when needed. All assessment activities are evaluated periodically using surveys to promote continuous improvement.
Appendix B: Evaluation Methods to Measure Outcomes

Evaluation Method to Measure Outcomes

Method A

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = Audience</td>
<td>Who is performing the action? Learning objectives are always stated in terms of student outcomes.</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
<tr>
<td>B = Behavior</td>
<td>What will the student be able to do? Use an action verb that describes an accomplishment that is measurable. Be specific. Choose a verb that expresses the skill and cognitive level that you want the student to exhibit. (See Bloom’s Taxonomy)</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
<tr>
<td>C = Condition</td>
<td>Give the conditions under which the performance will occur. Be specific. Conditions should communicate the situation, tools, references, or aids.</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
<tr>
<td>D = Degree</td>
<td>Describe the minimum criteria for acceptable student performance. Define expectations regarding accuracy, quality, and speed. Be specific</td>
<td>Following completion of the Science program, the student should be able to plot a quadratic equation using a graphing calculator in two minutes or less.</td>
</tr>
</tbody>
</table>

Note: Current educational practices recommend that the audience (student) and the behavior be connected with the terms “should be able to” since faculty cannot promise that everyone will accomplish the stated objective.

A-B-C-D Model

Writing objectives isn’t creative writing: Just follow a formula!

Given [Conditions] the [Audience] will [Behavior] by [Degree].

[Audience] will [Behavior] to [Standard] when provided [Conditions].
### S.M.A.R.T Objectives to Generate Outcomes

<table>
<thead>
<tr>
<th>Specific</th>
<th>A specific objective has a much greater chance of being accomplished than a general goal (Who, What, Where, When, Which and Why)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Goal – This year I am going to get into shape.</td>
</tr>
<tr>
<td></td>
<td>Specific Objective – This year I am going to join a health club and workout 3 days a week.</td>
</tr>
<tr>
<td>Measurable</td>
<td>Establish concrete criteria for measuring progress toward the attainment of each objective you set</td>
</tr>
<tr>
<td></td>
<td>Stay on track, reach target dates and experience achievement</td>
</tr>
<tr>
<td></td>
<td>How much? How many? How will I know when it is accomplished?</td>
</tr>
<tr>
<td>Attainable</td>
<td>When you identify objectives that are most important to you, you begin to figure out ways you can make them come true.</td>
</tr>
<tr>
<td></td>
<td>You develop attitudes, abilities, skills, and financial capacity to reach them.</td>
</tr>
<tr>
<td></td>
<td>You can attain most any goal you set when you plan your steps WISELY and establish a time frame that allows you to carry out those steps.</td>
</tr>
<tr>
<td>Realistic</td>
<td>To be realistic, an objective must represent something towards which you are both WILLING and ABLE to work.</td>
</tr>
<tr>
<td></td>
<td>Your objective is probably realistic if you truly BELIEVE that it can be accomplished.</td>
</tr>
<tr>
<td>Timely</td>
<td>An objective should be grounded within a timeframe. With no timeframe tied to it there’s no sense of urgency.</td>
</tr>
<tr>
<td></td>
<td>When you set a timeframe, then you have set your unconscious mind into motion to begin working on the goal.</td>
</tr>
</tbody>
</table>
### Appendix C: Example Course Syllabus Using Student Learning Outcomes

#### Example Course Syllabus Using Student Learning Outcomes

<table>
<thead>
<tr>
<th>Old Course Objectives</th>
<th>New Course SLO Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>To introduce students to PDCCC and Virginia Community College System policies and procedures</td>
<td>Possess knowledge of Paul D. Camp Community College’s policies, procedures, and resources</td>
</tr>
<tr>
<td>To promote support services available to students</td>
<td>Demonstrate necessary survival skills for college success (critical thinking, financial planning, memory techniques, note-taking, study skills, and time management)</td>
</tr>
<tr>
<td>To familiarize students with skills necessary for successful college adjustment</td>
<td>Demonstrate ability to use a computer to access the Internet, the college website, the blackboard site, and send and reply to email</td>
</tr>
<tr>
<td>To apply the organization skills necessary for college success (time management, stress management, note-taking, etc.)</td>
<td>Demonstrate communication skills (oral and written)</td>
</tr>
<tr>
<td>To familiarize students with the Learning Resources Center web page and information literacy</td>
<td>Demonstrate knowledge of personal development areas, such as, essential facts concerning AIDS, alcohol, and substance abuse</td>
</tr>
<tr>
<td>To apply effective study skills and memory techniques</td>
<td>Demonstrate an understanding of the career planning process</td>
</tr>
<tr>
<td>To explore career possibilities and formulate a tentative career plan</td>
<td></td>
</tr>
<tr>
<td>To understand the curricular planning process</td>
<td></td>
</tr>
<tr>
<td>To understand the college transfer process</td>
<td></td>
</tr>
<tr>
<td>To teach interpersonal communication skills</td>
<td></td>
</tr>
<tr>
<td>To provide essential facts concerning AIDS, alcohol and substance abuse</td>
<td></td>
</tr>
<tr>
<td>To familiarize students with PDCCC’s Web page and e-PDCCC</td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: General Education Assessment Timeline

Virginia Public Higher Education Policy on the Assessment of Student Learning
Template for Reporting Assessment Plans

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Reasoning Core Competency</td>
<td>JMU Scientific Reasoning Test (NAW9)</td>
<td>STAGE</td>
<td>STAGE</td>
<td>STAGE</td>
<td>STAGE</td>
<td>STAGE</td>
</tr>
<tr>
<td></td>
<td>STAGE Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
</tr>
<tr>
<td></td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>Information Literacy Core Competency</td>
<td>JMU Information Literacy (ILT) Test</td>
<td>STAGE</td>
<td>STAGE</td>
<td>STAGE</td>
<td>STAGE</td>
<td>STAGE</td>
</tr>
<tr>
<td></td>
<td>STAGE Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
<td>Capstone Course</td>
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<tr>
<td></td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CCSSE</td>
</tr>
<tr>
<td>Competency</td>
<td>STAGE Capstone Course</td>
<td>STAGE Capstone Course</td>
<td>STAGE Capstone Course</td>
<td>STAGE Graduate Pre-Post Survey</td>
<td>STAGE Graduate Pre-Post Survey</td>
<td>STAGE Graduate Pre-Post Survey</td>
</tr>
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</tr>
<tr>
<td>Oral Communication Core Competency</td>
<td></td>
<td></td>
<td>JMU Oral Communication Test (TOCS)</td>
<td>STAGE Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>Critical Thinking Core Competency</td>
<td></td>
<td></td>
<td>California Test of Critical Thinking</td>
<td>STAGE Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>Quantitative Reasoning Core Competency</td>
<td></td>
<td></td>
<td>JMU Quantitative Reasoning Test (NAW9)</td>
<td>STAGE Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>Written Communication Core Competency</td>
<td></td>
<td></td>
<td>VCCS Writing Test using</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAGE</td>
<td>Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Wellness Inventory</td>
<td>Prompts/rubric</td>
<td></td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>STAGE</td>
<td>Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Wellness Inventory</td>
<td>CCSSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAGE</td>
<td>Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Wellness Inventory</td>
<td>Graduate Pre-Post Survey</td>
<td></td>
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</tr>
<tr>
<td>STAGE</td>
<td>Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Wellness Inventory</td>
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<tr>
<td>STAGE</td>
<td>Capstone Course</td>
<td>Graduate Pre-Post Survey</td>
<td>Wellness Inventory</td>
<td>Graduate Pre-Post Survey</td>
<td></td>
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</tr>
</tbody>
</table>

**Cultural & Social Understanding General Education**

<table>
<thead>
<tr>
<th>STAGE</th>
<th>Graduate Pre-Post Survey</th>
<th>Graduate Pre-Post Survey</th>
<th>Graduate Pre-Post Survey</th>
<th>Graduate Pre-Post Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
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</tbody>
</table>

**Personal Development General Education**

<table>
<thead>
<tr>
<th>STAGE</th>
<th>Graduate Pre-Post Survey</th>
<th>Graduate Pre-Post Survey</th>
<th>Graduate Pre-Post Survey</th>
<th>Graduate Pre-Post Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
<tr>
<td>STAGE</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
<td>Graduate Pre-Post Survey</td>
</tr>
</tbody>
</table>

**STAGE**: Shock-Tucker Assessment of General Education developed by IR staff members from Virginia Community College System

**CCSSE**: Community College Survey of Student Engagement

**Wellness Inventory**: Developed by Notre Dame University and modified by Blue Ridge Community College

**Capstone Course**: PHI 115, Practical Reasoning, assess all core competencies using specific test questions and projects

**VCCS Writing Test Using Rubric**: Writing Test using prompts developed by VCCS colleges using a scale of 1-6 with 1 being low

**California Critical Thinking Skills Test (CCTST)**: JMU Critical Thinking Test modified from Watson-Glaser Critical Thinking Appraisal

**JMU Tests**: Variety of assessment instruments developed by JMU and modified with VCCS faculty on various core competencies
### Scientific Reasoning [2010-11]

A person who is competent in scientific reasoning adheres to a self-correcting system of inquiry (the scientific method) and relies on empirical evidence to describe, understand, predict, and control natural phenomena.

Degree graduates will demonstrate the ability to generate an empirically evidenced and logical argument; distinguish a scientific argument from a non-scientific argument; reason by deduction, induction and analogy; distinguish between causal and correlational relationships; and recognize methods of inquiry that lead to scientific knowledge.

A group of faculty from science and other related disciplines will be brought together by the system office in March 2011 to determine competency scoring levels. Competency for each individual learning objective, as well as overall competency will be determined by the faculty in conjunction with JMU staff. Test results from the 2010-11 administration will then be compared to the competency levels determined by the faculty.

**Population to be Assessed**

Students who have applied for graduation and/or who are enrolled in a capstone course will be assessed. A sample of 50 students who have applied to graduate in an Associate Degree program will be sought from each college. The assessment can be administered in fall or spring or both semesters.

**Assessment Instrument**

The James Madison University (JMU) Scientific Reasoning assessment instrument has been mapped to the five expected learning outcomes listed at the left.

### Information Technology Literacy [2011-12]

A person who is competent in information literacy recognizes when information is needed and has the ability to locate, evaluate, and use it effectively. (adapted from the American Library Association definition)

Degree graduates will demonstrate the ability

In 2010-11 VCCS librarians will participate in a mapping activity to map the Information Literacy assessment to the VCCS expected learning outcomes.

In 2011-12 a group of VCCS librarians and faculty from related disciplines will be brought together to

**Population to be Assessed**

Students who have applied for graduation and/or who are enrolled in a capstone course will be assessed. A sample of 50 students who have applied to graduate in an Associate Degree program will be sought from each college. The assessment can be
| Oral Communication [2012-13] | A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood. Degree graduates will demonstrate the ability to understand and interpret complex materials; assimilate, organize, develop, and present an idea formally and informally; use standard English; use appropriate verbal and non-verbal responses in interpersonal relations and group discussions; use listening skills; and recognize the role of culture in | In 2012-13 a group of speech faculty and faculty from related disciplines will be brought together to determine competency scoring levels. This activity is dependent on the selection of the assessment instrument which is under review as of Fall 2010. | Population to be Assessed Students who have applied for graduation and/or who are enrolled in a capstone course will be assessed. A sample of 50 students who have applied to graduate in an Associate Degree program will be sought from each college. The assessment can be administered in fall or spring or both semesters. Assessment Instrument The Assessment Instrument has yet to be determined at this time. |
| Critical Thinking [2013-14] | A competent critical thinker evaluates evidence carefully and applies reasoning to decide what to believe and how to act. Degree graduates will demonstrate the ability to discriminate among degrees of credibility, accuracy, and reliability of inferences drawn from given data; recognize parallels, assumptions, or presuppositions in any given source of information; evaluate the strengths and relevance of arguments on a particular question or issue; weigh evidence and decide if generalizations or conclusions based on the given data are warranted; determine whether certain conclusions or consequences are supported by the information provided; and use problem solving skills. | In 2013-14 a group of faculty will be brought together to determine competency scoring levels. This activity is dependent on the selection of the assessment instrument which will undergo review in 2011-12. | **Population to be Assessed**
Students who have applied for graduation and/or who are enrolled in a capstone course will be assessed. A sample of 50 students who have applied to graduate in an Associate Degree program will be sought from each college. The assessment can be administered in fall or spring or both semesters. |
|---|---|---|---|
| Quantitative Reasoning [2014-15] | A person who is *competent* in quantitative reasoning possesses the skills and knowledge necessary to apply the use of logic, numbers, and mathematics to deal effectively with common problems and issues. A person who is | In 2014-15 a group of math faculty and faculty from related disciplines will be brought together to determine competency scoring levels. This activity is dependent on the selection of the assessment instrument which will undergo | **Population to be Assessed**
Students who have applied for graduation and/or who are enrolled in a capstone course will be assessed. A sample of 50 students who have applied to graduate in an Associate Degree program will be assessed. |
<table>
<thead>
<tr>
<th>Written Communication [2015-16]</th>
<th>A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood.</th>
<th>In 2015-16 a group of English faculty and faculty from related disciplines will be brought together to determine competency scoring levels for written communication using the rubric that was developed for the 2009-10 assessment as a starting point.</th>
<th>Population to be Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Degree graduates will demonstrate the ability to</td>
<td></td>
<td>Students who have applied for graduation and/or who are enrolled in a capstone course will be assessed. A sample of 50 students who have applied to graduate in an Associate Degree program will be sought</td>
</tr>
<tr>
<td></td>
<td>use logical and mathematical reasoning within the context of various disciplines; interpret and use mathematical formulas; interpret mathematical models such as graphs, tables and schematics and draw inferences from them; use graphical, symbolic, and numerical methods to analyze, organize, and interpret data; estimate and consider answers to mathematical problems in order to determine reasonableness; and represent mathematical information numerically, symbolically, and visually, using graphs and charts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand and interpret complex materials; assimilate, organize, develop, and present an idea formally and informally; use standard English; use appropriate verbal and non-verbal responses in interpersonal relations and group discussions; use listening skills; and recognize the role of culture in communication.</td>
<td>from each college. The assessment can be administered in fall or spring or both semesters.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment Instrument</td>
<td>The methodology has yet to be determined at this time.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E: Program Advisory Committee Checklist

Program Advisory Committee Checklist

Program goals and their alignment with industry goals and standards
Review the program’s goals and assure that they are relevant to the standards of industry.

Student outcomes objectives, including General Education objectives
Describe what students should achieve as a result of the program in specific measurable terms. (Example – “80% of students will achieve a C or better on written exam” “80% of the students will meet or exceed the regional average Work Keys” or the success rate of students on Capstone, Exit exams, portfolio or exit interview.)

Program alignment with standards of accrediting bodies, the state of Virginia, and PDCCC
Confirm that the program is in alignment with SCHEV, VCCS and PDCCC standards of curriculum design, including general education core requirements and O/T objectives.

State and local employer needs
Describe the extent to which the program curriculum meets state and local employer needs.

What sources of information do you use?

Has the program been modified in response to this input?

Support of General Education/Core Competencies outcomes within program-specific courses
Consult the General Education Matrix of the VCCS Assessment Report to determine the general education objectives/elements that are supported in program-specific courses. (Example: Writing reports in a technology laboratory course helps support writing competence.)

Student progress toward program completion
Review the length of time students take to complete the program and address methods of assisting students towards a more timely completion of the program. Assess graduate competence.

Curricular Development
Review the program curriculum and determine the need for changes due to technology innovations or industry standards.
Appendix F – Classroom Assessment Techniques – A Short Summary

Assessing Students’ Prior Knowledge, Recall, and Understanding:
Background Knowledge Probe – to assess students’ knowledge or misconceptions of topics in an upcoming unit of study, the faculty member prepares 2-3 open-ended questions and a few short-answer questions about the topics or 10 multiple-choice questions about the topics; before introducing the unit of study, students fill in their answers to the questions; the faculty member uses these responses to determine areas of emphasis on topics during the unit and misconceptions that should be addressed.

Minute Paper – at the beginning or end of a class session, the faculty member asks students to take a few minutes (10 or less) to respond to one or two of the following questions: “What was the most important thing you learned during this class?” and “What important question remains unanswered?” The faculty member uses these responses to determine which questions in students’ minds need to be addressed.

Assessing Students’ Skills in Analysis and Critical Thinking:
Categorizing Grid – to assess students’ level of basic analytical thinking, the faculty member selects 2-3 related categories that are useful for organizing information being presented in class. Then a list of items that belong in each category is created, making sure that each item belongs to only one category, and that the items should be easily recognizable to students from homework and class discussions. A grid is created (on paper, chalkboard, or transparency) with the categories at the top and the items on the side. Students must decide which items belong in which categories, and be prepared to state their reasoning behind their choices.

Pro and Con Grid – select a decision, judgment, dilemma, or issue that has teaching/learning implications in your class; write a statement or question that will elicit thoughtful pros and cons, indicating if possible the point of view that you wish students to take (for example, in a parent-child conflict, should they take the parent’s point of view, or the child’s?); have students come up with a list of pros and cons (limit the number that you expect them to list): use these to analyze whether students are considering all of the points that you expected them to think about.

Assessing Students’ Skills in Synthesis and Creative Thinking:
One-Sentence Summary – the faculty member chooses a topic or work that students have recently studied and should be able to summarize; the faculty member answers the questions “Who Did/Does What to Whom, When, Where, How, and Why?” in relation to the topic – note the amount of time taken; the faculty member turns the answer into a sentence that follows the pattern of the question above; allowing students twice as long, the faculty member gives the exercise to the students, checking the results for quality of response to each part.

Annotated Portfolios – the faculty member chooses a central topic, question or problem dealt with in the course; students are invited to respond with two or three samples of their work on this topic; the students are asked to explain how the work in their portfolio relates to the topic; all of the work and explanations are turned in via a folder, binder, etc., for assessment.

Assessing Students’ Skills in Problem Solving:
Problem-Recognition Tasks – the faculty member selects examples of several different but related problem types that students have trouble distinguishing (each example should fall into only one problem type); make up a short Problem Recognition Task form, with problem types and the examples given; students match the examples to the problem type, explaining the reasoning behind their choices.

Documented Problem Solutions – the faculty member selects 1-3 representative problems from among those which students have studies over a period of time (if more than one is chosen, they should vary in difficulty and be progressively more challenging to the students); solve the problems chosen and document your solutions in writing – when you have problems you can solve in this way in 30 minutes, write them up for the students; give the problems to the students, usually as homework, and give them a maximum amount of time that they should spend on the problems (usually about twice as long as it took the faculty member).

Assessing Students’ Skills in Application and Performance:
Applications Cards – the faculty member identifies an important principle, theory, or procedure that is applicable to areas outside the classroom and how many applications to ask students to generate (usually no more than 3, giving students 3-5 minutes total for the exercise); the faculty member writes a prompt before class and gives it out in class, along with small index cards or slips of paper; students are requested to come up with fresh “new” applications of the principle, theory, or procedure, not just repeat those they may have read about in the text or heard about in class; faculty member collects and analyzes the cards.

Student-Generated Test Questions – the faculty member focuses on an exam that is 3 weeks to a month away, and writes specifications for the types of questions he/she wants to put on the exam; have students write test questions according to their specifications and supply answers to those questions (may want to have students work in groups for this exercise).

With all of these techniques, Cross and Angelo strongly encourage faculty to explain clearly to students that these exercises are not part of their grade in the class, but are designed to assist students in learning and succeeding in the course. Also, they stress the necessity of giving students feedback on the results of these activities – such feedback is crucial to having students get the most out of these activities and fostering a climate of trust between the faculty member and the students.

Appendix G: How to Design Rubrics for Assessment
How to Design Rubrics for Scoring Essays, Projects, and Performances

Follow These Steps
1. Decide whether you want a holistic or analytic rubric.
2. Construct a primary trait scale (a rubric).
3. Obtain consistency in instructions and conditions.
4. Norm the scorers.

A scoring rubric applied consistently by faculty teaching the course is a good way to assess essays, projects, and performances. A rubric describes the primary traits of a high-level essay or project, a poor essay or project, and the levels in between. That is, a rubric lists the criteria for an A, a B, a C, etc., or for a score of 6, 5, 4, etc.—depending on how many levels of differentiation are desired. Instructors use the rubric to score the essay, project, or performance.

1. Decide whether you want a holistic or analytic rubric.
An analytic rubric measures each part of the student work separately; a holistic rubric combines them. To illustrate, here are analytic and holistic rubrics to assess Spanish journals in a beginning Spanish course.

<table>
<thead>
<tr>
<th>Analytic Rubric for Spanish Journal</th>
<th>Holistic Rubric for Spanish Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comprehensibility</strong></td>
<td><strong>Note that several traits (comprehensibility, usage, risk taking, and variety of subject and form) have been combined into a single scale.</strong></td>
</tr>
<tr>
<td>4. Entries are completely understandable.</td>
<td>4. The content of the journal is comprehensible. Although there are errors, verb tenses, sentence structure, and vocabulary are correctly used. The author has taken some chances, employing sentence structures or expressing thoughts that are on the edge of what we have been studying. The entries are varied in subject and form.</td>
</tr>
<tr>
<td>3. Entries are usually understandable.</td>
<td>3. There is some use of appropriate verb tenses and correct Spanish sentence structure and vocabulary, but incorrect usage or vocabulary interferes with the reader’s comprehension.</td>
</tr>
<tr>
<td>2. Entries are difficult to understand.</td>
<td>2. The reader finds many of the entries difficult to understand, or many entries are simplistic or repetitious.</td>
</tr>
<tr>
<td>1. Majority of entries are incomprehensible.</td>
<td>1. The majority of entries are incomprehensible.</td>
</tr>
<tr>
<td><strong>Usage</strong></td>
<td><strong>Source of holistic rubric: Barbara Walvoord and Virginia Anderson, Effective Grading: A Tool for Learning and Assessment, 1998.</strong></td>
</tr>
<tr>
<td>4. Although there are a few errors, verb tenses, sentence structure, and vocabulary are correctly used.</td>
<td></td>
</tr>
<tr>
<td>3. Some use of appropriate verb tenses and correct sentence structure and vocabulary, but incorrect usage or vocabulary interfere.</td>
<td></td>
</tr>
<tr>
<td>2. Many errors make comprehension difficult.</td>
<td></td>
</tr>
<tr>
<td>1. The majority of entries are incomprehensible.</td>
<td></td>
</tr>
<tr>
<td><strong>Risk Taking</strong></td>
<td></td>
</tr>
<tr>
<td>4. Student has taken some chances, employing sentence structures on the edge of what we have been studying.</td>
<td></td>
</tr>
<tr>
<td>3. Student writes mostly safe entries, but is generally current with the textbook.</td>
<td></td>
</tr>
<tr>
<td>2. Student writes only safe entries, and is not current with the textbook.</td>
<td></td>
</tr>
<tr>
<td>1. Student writes only simple structures.</td>
<td></td>
</tr>
<tr>
<td><strong>Variety</strong></td>
<td></td>
</tr>
<tr>
<td>4. Entries are highly varied in subject and form.</td>
<td></td>
</tr>
<tr>
<td>3. Entries are somewhat varied in subject and form.</td>
<td></td>
</tr>
<tr>
<td>2. Entries show only a little variety in subject and form.</td>
<td></td>
</tr>
<tr>
<td>1. Entries show no variety in subject and form.</td>
<td></td>
</tr>
</tbody>
</table>

### EXAMPLE: MTH 163 Proficiency Learning Objectives Rubric Using Comprehensive Test

Sample size consisted of ______ students.

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Number of students below Proficiency 1 point</th>
<th>Number of students at Proficiency 2 points</th>
<th>Number of students above Proficiency 3 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student’s ability to use mathematical logic and reasoning to solve content related problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student’s ability to interpret and use content related formulas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student’s ability to make inferences based on interpretation of graphs, tables, and/or schematics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student’s ability to solve content related problems by using algebra, geometry, and/or statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student’s ability to determine reasonableness based on estimated answers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student’s ability to recognize and communicate appropriate methods to solve content related problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student’s ability to represent mathematical information numerically, symbolically, and/or visually with graphs and charts.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Above Proficiency indicates that a student correctly answered 90% or more of Quantitative Reasoning Objectives items.
At Proficiency indicates that a student correctly answered between 70% and 90% of Quantitative Reasoning Objectives items.
Below Proficiency indicates that a student correctly answered 70% or less of Quantitative Reasoning Objectives items.
### Public Speaking Assessment Rubric

#### Verbal Effectiveness – 50 points

Idea development, use of language, and the organization of ideas are effectively used to achieve a purpose.

<table>
<thead>
<tr>
<th>Advanced</th>
<th>Developing</th>
<th>Emerging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideas are clearly organized, developed, and supported to achieve a purpose; the purpose is clear. The introduction gets the attention of the audience. Main points are clear and organized effectively. Supporting material is original, logical, and relevant. Smooth transitions are used. The conclusion is satisfying. Language choices are vivid and precise. Material is developed for an oral rather than a written presentation.</td>
<td>The Main Idea is evident, but the organizational structure may need to be strengthened; ideas may not always flow smoothly. The introduction may not be well-developed. Main points are not always clear. Supporting material may lack in originality or adequate development. Transitions may be awkward. The conclusion may need additional development. Language is appropriate, but word choices are not particularly vivid or precise.</td>
<td>Idea “seeds” have not yet germinated; ideas may not be focused or developed; the main purpose is not clear. The introduction is underdeveloped or irrelevant. Main points are difficult to identify. Inaccurate, generalized, or inappropriate supporting material may be used. Transitions may be needed. The conclusion is abrupt or limited. Language choices may be limited, peppered with slang or jargon, too complex, or too dull.</td>
</tr>
</tbody>
</table>

#### Nonverbal Effectiveness – 50 points

The nonverbal message supports and is consistent with the verbal message.

<table>
<thead>
<tr>
<th>Advanced</th>
<th>Developing</th>
<th>Emerging</th>
</tr>
</thead>
<tbody>
<tr>
<td>The delivery is natural, confident, and enhances the message – posture, eye contact, smooth gestures, facial expressions, volume, pace, etc. indicate confidence, a commitment to the topic, and a willingness to communicate. The vocal tone, delivery style, and clothing are consistent with the message. Limited filler words (“ums”) are used. Clear articulation and pronunciation are used.</td>
<td>The delivery generally seems effective – however, effective use of volume, eye contact, vocal control, etc. may not be consistent; some hesitancy may be observed. Vocal tone, facial expressions, clothing, and other nonverbal expressions do not detract significantly from the message. Filler words are not distracting. Generally, articulation and pronunciation are clear. Over dependence on notes may be observed.</td>
<td>The delivery detracts from the message; eye contact may be very limited; the presenter may tend to look at the floor, mumble, speak inaudibly, fidget, or read most or all of the speech; gestures and movements may be jerky or excessive. The delivery may appear inconsistent with the message. Filler words (“ums”) are used excessively. Articulation and pronunciation tend to be sloppy. Over dependence on notes may be observed.</td>
</tr>
</tbody>
</table>

---

**Appendix H: Assessment of Student Learning Outcomes**

Part of the outcome assessment plan is choosing an assessment method and writing an
assessment instrument. The assessment method is the general type of tool you will use to assess the SLO. The instrument is the actual assignment, quiz, exam, or project you will use to complete the assessment. First, you should determine what method you want to use, and then, you will develop the actual tool.

**How do we choose an assessment method and develop an assessment instrument?**

Common assessment methods include test questions (multiple choice, short answer, essay), formal writing assignments (essays, research papers, reaction/review papers), performances, and portfolios. You will need to consider a variety of factors as you choose your method, including alignment with the outcome, ability to get faculty consensus, and ease of scoring. It is difficult to separate the method from the instrument; however, it is useful to step back at this point and consider the method separately from the actual assignment. Considering the general approach to the assessment will allow you to determine the most useful method and develop a useful assessment instrument.

**Alignment**

Probably the most important consideration when choosing or developing an assessment method is whether it is aligned with the SLO. In other words, is what you are asking the students to do in your assessment going to provide you with solid evidence about whether or not they have achieved the desired outcome? If your outcome deals with a student’s ability to make a persuasive speech, a research paper is not a good instrument to measure this outcome. If you are assessing a quantitative reasoning outcome which speaks to students’ ability to interpret some particular statistical information, simply asking them to calculate something correctly will not tell you whether they have achieved that outcome.

Aligning outcomes with methods may seem like an obvious recommendation, but it is not uncommon to see a disconnect between the outcome and the assessment instrument when faculty are in the early stages of writing their outcome assessment plans. In some instances faculty end up revising their outcomes after working on their assessment instrument and that is okay.

**Ease of scoring**

We all know that writing good multiple choice questions takes a lot of time, but scoring them is fast. Writing a good essay question is less time-consuming than grading a stack of student essays. With everything we do, we need to consider how much time it will take; you should consider the time involved in scoring the instrument and reporting the data. When choosing an assessment method you must weigh time against meaningful results. It may be challenging to find the balance, but the efforts of going through an outcome assessment plan won’t be worth much if you cannot use the results to make decisions about the strengths and weaknesses of your course/program.

**Assessment Techniques**

There are many techniques that may be used to assess student learning outcomes. In a number of
cases, these assessment techniques may be embedded in course assignments or activities as measures of students’ achievement of program goals as well as their attainment of the college's general education goals.

What is the difference between direct and indirect assessment?

Direct Assessment Methods: Direct assessment methods give instructors measurable data to study. Some examples are written exams, oral exams, performance assessments, standardized tests, licensure exams, oral presentations, projects, demonstrations, case studies, simulations, portfolios, and juried activities with outside panels.

Indirect Assessment Methods: Indirect assessment methods provide extra information that may be used to make changes. Examples include questionnaires, interviews, focus groups, employer satisfaction studies, observations of advisory boards, and job/transfer school placement data.

<table>
<thead>
<tr>
<th>“How do I assess thee, let me count the ways.”</th>
<th>Writing</th>
<th>Performing</th>
<th>Creating/Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essay</td>
<td>Demonstration</td>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>Report</td>
<td>Role play</td>
<td>Poster</td>
<td></td>
</tr>
<tr>
<td>Journal/reflective writing</td>
<td>Experiment</td>
<td>Manual or brochure</td>
<td></td>
</tr>
<tr>
<td>Book review</td>
<td>Simulation exercises</td>
<td>Portfolio</td>
<td></td>
</tr>
<tr>
<td>Letter of advice</td>
<td>Performance</td>
<td>Make a list</td>
<td></td>
</tr>
<tr>
<td>Newspaper article</td>
<td>Presentation</td>
<td>Experiment/hypothesis test</td>
<td></td>
</tr>
<tr>
<td>Lab report</td>
<td>Debate</td>
<td>Concept map</td>
<td></td>
</tr>
<tr>
<td>In-class writing exercise</td>
<td>Interviews</td>
<td>Assignments: Capstone course/project/experience</td>
<td></td>
</tr>
<tr>
<td>Annotated bibliography</td>
<td>Fieldwork/internship/lab/clinical evaluation</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>Evaluate accuracy of...</td>
<td>Testing</td>
<td>Projects: group or individual</td>
<td></td>
</tr>
<tr>
<td>Research paper</td>
<td>Written tests: objective</td>
<td>Analyzing</td>
<td></td>
</tr>
<tr>
<td>Abstract</td>
<td>Written tests: essay</td>
<td>Case study</td>
<td></td>
</tr>
<tr>
<td>Internship/field experience/clinical report</td>
<td>Oral test</td>
<td>Product analysis</td>
<td></td>
</tr>
<tr>
<td>Position paper</td>
<td>Problem set</td>
<td>Discussing</td>
<td></td>
</tr>
<tr>
<td>Critique</td>
<td>Quizzes</td>
<td>Discussion: classroom or online</td>
<td></td>
</tr>
<tr>
<td>Log</td>
<td>Standardized assessment test of subject</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification tests</td>
<td>Lab practical</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Many assessment methods are applicable to more than one category

**Appendix I: Creating Student Learning Outcomes with Bloom’s Taxonomy**
Creating Student Learning Outcomes

To model writing student learning objectives in a straightforward and non-threatening manner, the following chart uses levels of understanding from Bloom’s Taxonomy, combines them with action verbs, and provides examples for a variety of disciplines.

**Student Learning Objectives (SLO)**

<table>
<thead>
<tr>
<th>If I want to measure knowledge outcomes, I might write…</th>
<th>The student/graduate will…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the basic components of empirical research.</td>
<td></td>
</tr>
<tr>
<td>Give examples of major themes or styles in music, art, or theatre.</td>
<td></td>
</tr>
<tr>
<td>Recognize in complex text local, rhetorical, and metaphorical patterns.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If I want to measure comprehension outcomes, I might write…</th>
<th>The student/graduate will…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correctly classify a variety of plant specimens.</td>
<td></td>
</tr>
<tr>
<td>Explain the scientific method of inquiry.</td>
<td></td>
</tr>
<tr>
<td>Summarize the important intellectual, historical, and cultural traditions in music, art, or theatre from the renaissance to modern times.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If I want to measure application outcomes, I might write…</th>
<th>The student/graduate will…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate in the laboratory a working knowledge of lab safety procedures.</td>
<td></td>
</tr>
<tr>
<td>Apply oral communication principles in making a speech.</td>
<td></td>
</tr>
<tr>
<td>Compute the area of a room.</td>
<td></td>
</tr>
<tr>
<td>Use editing symbols and printers’ marks.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If I want to measure analysis outcomes, I might write…</th>
<th>The student/graduate will…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinguish between primary and secondary literature.</td>
<td></td>
</tr>
<tr>
<td>Diagram a sentence.</td>
<td></td>
</tr>
<tr>
<td>Listen to others and analyze their presentations.</td>
<td></td>
</tr>
<tr>
<td>Differentiate between historical facts and trivia.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If I want to measure synthesis outcomes, I might write…</th>
<th>The student/graduate will…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revise faulty copy for a news story.</td>
<td></td>
</tr>
<tr>
<td>Formulate hypothesis to guide a research study.</td>
<td></td>
</tr>
<tr>
<td>Create a poem, painting, and design for a building.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If I want to measure evaluation outcomes, I might write…</th>
<th>The student/graduate will…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare art forms of two diverse cultures.</td>
<td></td>
</tr>
<tr>
<td>Critically assess an oral presentation.</td>
<td></td>
</tr>
<tr>
<td>State traditional and personal criteria for evaluating works of art.</td>
<td></td>
</tr>
<tr>
<td>Draw conclusions from experimental results.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix J: SACS Standards Relating to Assessment

SACS Standards Relating to Assessment

2.5 The institution engages in ongoing, integrated, and institution-wide research-based planning and evaluation processes that incorporate a systematic review of programs and services that (a) results in continuing improvement and (b) demonstrates that the institution is effectively accomplishing its mission.

2.7.3 The institution requires in each undergraduate degree program the successful completion of a general education component at the collegiate level that (1) is a substantial component of each undergraduate degree (2) ensures breadth of knowledge, and (3) is based on a coherent rationale.

3.3.1 The institution identifies expected outcomes for its educational programs and its administrative and educational support services; assesses whether it achieves these outcomes; and provides evidence of improvement based on analysis of those results.

3.4.1 The institution demonstrates that each educational program for which academic credit is awarded (a) is approved by the faculty and the administration, and (b) establishes and evaluates program and learning outcomes.

3.4.12 The institution places primary responsibility for the content, quality, and effectiveness of its curriculum with its faculty.

3.4.13 For each major in a degree program, the institution assigns responsibility for program coordination, as well as for curriculum development and review, to persons academically qualified in the field.

3.5.1 The institution identifies college-level competencies within the general education core and provides evidence that graduates have attained those competencies.

3.7.2 The institution regularly evaluates the effectiveness of each faculty member in accord with published criteria, regardless of contractual or tenured status.

3.7.3 The institution provides evidence of ongoing professional development of faculty as teachers, scholars, and practitioners.

4.2 The institution maintains a curriculum that is directly related and appropriate to its purpose and goals and to diplomas, certificates, or degrees awarded.
Appendix K: Mission, Goals, Values and Vision Statement

Paul D. Camp Community College
Mission, Goals, Values, and Vision

The college’s mission, goals, values, and vision statement can be found in the College catalog, Web site, and posted throughout the college. It states the following:

Mission:
Paul D. Camp Community College provides diverse learning opportunities to enhance the quality of life for students and the community.

Goals:
To achieve this mission, the college provides...

Access to higher education for students and promotes their success and goal attainment
Curricula in university parallel programs that facilitate transfer to senior institutions
Career and technical programs that are responsive to the needs of students and employers
A developmental studies program to help students meet college-level learning expectations
Workforce training, services and lifelong learning opportunities
Skills and values students need to function effectively in their world
Support for partnerships for the development, growth and renewal of the service region
Adequate personnel, financial resources, facilities and technology to support its programs and services
Emergency preparedness planning, training, and promotion

Core Values
At Paul D. Camp Community College, we are committed to... The Value of Each Individual—Each person is important. We appreciate the diversity of our student body and college employees. We seek to understand and respect one another. The Development of Talent—Faculty, staff and students bring knowledge, skills and abilities to the institution. We encourage them to develop their full potential in order to live responsible and productive lives. Teamwork and Community—We accomplish more by working together. Collaboration is an organizational priority for faculty and staff and a learning expectation for students. Access and Service—We serve students and each other by working to remove obstacles that threaten success. We challenge students to do the same in their communities. Standards of Excellence—We expect each student and college employee to achieve the standards of quality identified for their academic plan or administrative unit. Innovation and Risk-taking—We encourage each other to try new ways to address challenges and fulfill the college’s mission. Accountability and Improvement—We expect individual students and college employees to fulfill their responsibilities. Meaningful evaluation of student outcomes and other measures of institutional and individual effectiveness are used to improve performance, programs and services.

Vision Statement
Paul D. camp Community College will be our region’s first choice for high-quality transfer and technical programs, workforce services and training, postsecondary education and community partnerships.
Appendix L: Four-Column Model

Four-Column Model

Program objectives and student learning outcomes (SLO) are derived from its mission. The Mission is the purpose of your program, showing how you connect and contribute to the institution’s overall work.

<table>
<thead>
<tr>
<th>Student Learning Outcomes (SLOs)/Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>An outcome is a specific kind of objective that describes a desired end result related to your mission. An outcome statement defines what you expect to happen as a result of your activities. It should also have a performance target.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment Methods &amp; Analysis Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>What assessment tools &amp;/or methods used to determine achievement of the outcome? Describe how data from tools &amp;/or methods will be collected. Identify the procedure to analyze the data. A measure identities evidence and methods you will use to determine whether you are achieving expected results.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Results/Findings Of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>What were the findings of the Analysis (actual assessment results)? Findings are the results of your assessments; they give evidence of achievement versus a target level for each measure you use.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use Of Evaluation Results (Action Taken to improve program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What changes were made as a result of the outcome assessment process? An action is an organized activity you undertake to help your program more effectively achieve its intended outcome/objectives.</td>
</tr>
</tbody>
</table>

Assessment Methods:
Analysis Procedure:
Appendix M: Definitions

Definitions

Action Plan
This is where you show how you “closed the loop.” You must answer the following: How will you use the results? What actions were taken or will be taken based on your data?

If you did not meet your Outcomes/Objectives you MUST have an Action Plan. If you plan to implement changes based on your findings, you must discuss these, particularly when findings support planning and budgetary decisions. If this is the case with your findings, please include any resources needed with the action plan. Here you will discuss how your findings affect planning and the budget if applicable.

Assessment
Assessment is the systematic collection and analysis of information to improve student learning and program viability. Assessment is “…the process of gathering evidence to make inferences about…how students are progressing toward specific goals” (National Standards, quote from Pennington, 2001,p. 206).

Authentic Assessment
In some courses, opportunities can be found to ask students to engage in a simulation of a real-life problem that they must solve using the knowledge and skills they have gained in the course. A single project can be structured to assess both mastery of course content and attainment of program or major goals as well as certain general education goals such as communication skills, life-long learning skills, critical thinking skills, and social and education values. For example, students might be asked to assume the role of a city council member who must make a decision concerning a controversial issue. Students might then be asked to research both sides of the issue and to deliver a persuasive speech or to write an action plan.

Capstone Courses
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. These courses are the optimum place to assess many program or major goals and general education goals. A capstone course is one which completing students take as a culminating experience that gives them the opportunity to tie together the knowledge and skills of other program courses. If your program has such a course, you may want to consider the performance in this type of capstone course as an assessment method. Likewise, some programs assign a capstone project which can be evaluated.

Case Study
Presented with a realistic example of an application in the field, students must respond with an analysis that demonstrates their mastery of course content and their ability to apply the information and skills they have learned. A case study is an examination of a specific phenomenon such as a program, an event, a person, a process, an institution, or a social group. The end product of a case study is a rich, thick description of the phenomenon being studied that illuminates the student's understanding of the phenomenon through the application of the knowledge and skills they have gained.

Certification Tests
Programs in which a student must pass a certification examination in order to be certified to work in
the field, such as nursing, may want to consider using the results of that test as an assessment technique.

**Course Assessment**
Course assessment measures the student learning that takes place in ALL class sections of a course for the entire college. It is not to be confused with assessment of instructors or employment evaluation.

A course assessment consists of all the classes (sections) being taught; for example, ENG 111. A class assessment is one section of a course, ENG 111-51A or ENG 111-61B.

Course assessment focuses on the question of “how can the course be strengthened based on how well students are mastering course objectives?”

**Course-embedded Assessment**
Program or major goals and general education goals may be assessed through assignments embedded in required courses. For example, writing assignments, such as summaries or reports, and oral presentations may be used to assess student mastery of course content as well as their writing, reading, critical thinking or speaking skills and use of the library or other information source. With some planning, a single assignment or project can be designed to assess a number of different program or major goals as well as general education goals.

**Course Tests and Exams**
Common test questions drawn from course content and included on tests and exams in all sections of the course can be used to assess both program or major goals and some general education objectives. A locally developed test gives you the opportunity to determine if specific desired outcomes are being successfully attained. It can be tailored to meet the objectives of your program. However, preparing a test takes a great deal of preparation and study.

**Critical Incidents**
Students can be asked to describe an incident, either real or imagined, that illustrates or illuminates key concepts or principles. An explanation of the concepts or principles illustrated should accompany the description of the incident.

**Curriculum Analysis Review**
This is a common assessment activity used by a number of occupational/technical programs. The Advisory Committee is particularly useful in curriculum review because they are generally practicing in the field and are aware of advances or changes. Often the advisory committee can give valuable insight by reviewing the goals and objectives to help plan future directions of a program. Tying a curriculum to a national standard may be a particularly valuable assessment technique.

The advantage of using this as one aspect of a program’s assessment is that by using the advisory committee, local business/industry are getting a voice in whether the curriculum is meeting their needs. It is also an inexpensive assessment tool.

However, keep in mind that although we need to be sensitive to the needs of local business and industry, it is our obligation to prepare students to work outside our service area as well as within our own region. Generally, we can assume that the skills and knowledge needed in a certain field in our own region will serve a student well anywhere, but there may be instances where that does not prove to be the case.

11/05/03
Revised 11/4/08, 5/8/14
**Direct Assessment Methods:** Direct assessment methods give instructors measurable data to study. Some examples are written exams, oral exams, performance assessments, standardized tests, licensure exams, oral presentations, projects, demonstrations, case studies, simulations, portfolios, and juried activities with outside panels.

**Direct Measures**
Objective measures of knowledge or ability. This is the most important measure for a Student Learning Outcome (SLO). Examples include students’ scores on national standardized exams such as the Core Competencies Assessments, Program Exit, or Certification Exams, Pre-test/Post-test Evaluation, Comprehensive Exams, Capstone Course Evaluation, Course-Embedded Assessment, Student Portfolios, Employer Evaluations, Use of Rubrics, etc.

**Exit Interviews**
There are different types of exit interviews, but they commonly fall into two categories. In one type of exit interview the program head and students discuss topics similar to those found on student surveys. Topics can be very detailed and may result in information that you hadn’t thought to request. Sometimes students will say things that they do not wish to put in writing.

The other type of exit interview is actually more like an oral examination. (Call it an exit interview has the advantage of not scaring students to death.) This method has been used very successfully by the Administration of Justice program, where the interviews are conducted by a panel made up of advisory committee members. It has the advantage of giving students practice in the kind of interviews that they face for the hiring process and future promotion boards and also assessed their proficiency in both oral communication and knowledge of their subject area.

**External Evaluation/Review**
This is a type of peer review where a consultant(s) from either business or another institution examines a program from an outside perspective. This may involve such things as visiting classes, interviewing faculty and students, interviewing advisory committee members, examining curriculum goals and objectives, reviewing final exams, and interviewing local business and industry. This method provides the opportunity for the exchange of ideas with a faculty member of another institution.

**Findings/Results**
List the results based on the measure (methods & tools) used. This does not need to be overly complicated. The purpose of this matrix section is to determine if your Outcomes/Objectives were met. Be sure to discuss your data in relation to Outcomes/Objectives and specifically, the Target set in Measures. If you do not meet the Outcome/Objective and the set Target (perhaps only 75% of the returned employer surveys positively evaluate the communication skills of graduates and your Target was 80%), **don’t panic**. This feedback provides data for you to decide what you might do differently to improve those skills (**Hint: Action Plan**). The changes you propose will be a part of your improvement plan for the next year. **Remember, the purpose of assessment is to help us determine if we are being effective or to allow us to document continuous improvement in programs and student learning outcomes.**

**Focus Groups**
Focus groups are structured but informal discussions with small groups of students. Students may be asked about issues that are pertinent to the program. Focus groups can also be conducted with faculty, advisory committees, administrators and other employees.
Grades
Grades can be used to assess student learning by using primary trait analysis (PTA) to identify the factors that count for scoring and explicitly stating the criteria for the evaluation of the assignment, project, presentation, product in the form of a rubric.

Indirect Assessment Methods: Indirect assessment methods provide extra information that may be used to make changes. Examples include questionnaires, interviews, focus groups, employer satisfaction studies, observations of advisory boards, and job/transfer school placement data.

Indirect Measures
Subjective measures of beliefs, attitudes and perceptions. Indirect measures are often used to supplement direct measures. Examples include questionnaires and surveys of student’s perceptions such as the CCSSE, Graduating Student Questionnaire, Graduate Follow-up Survey, Alumni Survey, Employer Surveys, etc. Additional measures could include focus groups, exit interviews of graduates, employment data, graduation rates, and transfer rates.

Institutional Effectiveness
Institutional effectiveness is when achievements and outcomes indicate how well the College’s mission is being fulfilled. The purpose of the institutional effectiveness process at PDCCC is to demonstrate continuous improvement in academic programs with student learning outcomes, administrative support units and educational support units.

Institutional effectiveness planning (sometimes referred to as outcomes assessment) is outcomes oriented, meaning it focuses on measuring how well students are learning in the programs and measuring how well administrative units are operating

Internships, Field experiences, Clinical Evaluations
Internships, field, or clinical experiences are also ideal for assessing many program or major and general education goals. When these occur at the end of the program or major, they often serve as capstone experiences. It is especially useful to have external experts assess the performance of your students.

Ill-defined or Ill-structured problems
An ill-defined problem is one that is not highly structured and cannot be resolved with a high degree of certainty. Experts may disagree about the best solution. Examples: determining what really happened at Waco or solving the nuclear waste storage problem or predicting the effect of global warming or deciding if there is such a thing as global warming. Dealing with ill-defined problems requires the integration of many skills, abilities, areas of knowledge.

Journals
Journals or learning logs have been used in composition courses for years as a tool for increasing student writing and motivation for writing and for assessing students’ writing skills. However, a journal that focuses on students’ social and educational attitudes and values may be also useful to assess students’ achievement of general education goals. Journals may also be used to assess student attainment of program or major goals.

Measure
A measure is a tool(s) used to determine if you have met your expected outcome. To increase the
likelihood of valid results, you should strive to use more than one measure for each outcome/objective if possible,--triangulate. If you are struggling to identify a measure ask the following questions about your outcome/objective: How will we know if this is being accomplished? What will provide us this information?

Mission/Purpose
This is the overall purpose of your program/unit, showing how you connect and contribute to the College’s overall work.

Outcomes/Objectives
Outcomes/Objectives are brief, clear statements that describe desired outcomes in relation to broader goals. Administrative and educational support units have objectives that can be classified as process, outcome, or satisfaction oriented (Process: what the unit intends to accomplish. Typically described in terms of level or volume of activity, efficiency of processes, and compliance with good practices/regulations; Outcome: what clients will be able to know, do, value, and believe after receiving the unit’s services; and Satisfaction: client satisfaction level after receiving service).

Tips:
Refer to the College’s strategic goals when setting outcomes/objectives to ensure they reflect the College mission and purposes. In addition, this will aid in the compilation of an institution-wide Strategic Plan.
Be written in terms of what the student/graduate/unit will be able to do at the end of the course/program/academic year
Limit outcomes/objectives to at least three but no more than five per academic year.
Keep them short and simple (KISS)
Make them specific, measurable, attainable, realistic, and timely (S.M.A.R.T)
Establish a target performance level for success (i.e. 75% will…)
Keep the assessment process manageable and meaningful (M&M)
You don’t have to nor should you assess everything every year.
Avoid assessing the same outcomes/objectives every year to ensure you are documenting continuous improvement. If you find that there are no other areas you want to assess, consider changing your “Target” located in the Measure tab.
Use Bloom’s Taxonomy and active verbs (create, analyze, demonstrate, etc.) (See Appendix O: Bloom’s Taxonomy and Appendix I: Creating SLO using Bloom’s Taxonomy)
Reflect a combination of higher order thinking skills and supporting or enabling skills
Be written in the positive instead of the negative
Reflect measurable standards (benchmarks) or reflect the basic knowledge and skills that the student/unit will be held accountable
For each outcome/objective, define one or more measures--triangulate. The more measures you define, the more data (evidence) you will gather.
Use rubrics to help with analysis and action plan (See appendix G: How to Design Rubrics for Assessment)

Oral Presentations/ Oral Exams
Depending on the nature and content of the course, oral presentations can be tailored not only to assess

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students’ mastery of course content but also their attainment of general education goals such as critical thinking, general knowledge and historical consciousness, understanding the impact of science and technology, and educational and social values. Oral presentations based on course content can be used as a direct measure of students’ communication skills.

Program Assessment
Program assessment focuses on student learning outcomes for the program as a whole, as well as productivity measures related to the viability and effectiveness of a degree or certificate program.

Program Review
The program review is a series of questions addressing the program’s productivity, demographic information, goals and objectives (How does the program fit the mission of the college), student outcomes, the curriculum, instruction, and marketing. It assists the program lead faculty in evaluating the program and seeing how it interrelates with other areas of the college.

Portfolios
An accumulation of student-produced work, a portfolio may be designed to assess a student’s attainment of program or major goals. The same portfolio may also be used to assess general education goals such as communication skills or the development of skills to enhance life-long learning, such as the ability to use the library and other appropriate sources to retrieve information. Portfolios that contain early or unrevised work as well as later or revised work can assess the growth of skill development. Rubrics to judge portfolios must be clear and shared with the student.

The Advisory Committee (who are working professionals in the field) judged the work in the portfolios using detailed criteria. This process assessed the individual student’s work so that the student could remedy any problem areas during the last semester, and the analysis of the portfolios as a group indicated areas of concern for the program. The students then had something tangible to take with them on job interviews which showcased their work.

Qualitative
Measures that contain non-numerical data such as verbal or written feedback from students/staff/faculty, etc…

Quantitative
Measures that collect numerical data that can be analyzed statistically.

Rubrics
For scoring consistency with longer open-ended assignments such as essays, research papers, or performances, a rubric should be developed. A rubric is a criterion based scoring tool that specifies levels of achievement (e.g. exemplary, satisfactory, and unsatisfactory) for each dimension of the outcome. As part of the rubric, criteria are provided that describe what constitutes the different levels of achievement.

There are two major types of rubrics: holistic and dimensional (analytic) also known as primary trait rubric. Both detail the particular qualities that separate excellent from poor student work along a spectrum, but the first groups the dimensions together, while the second keeps them separate.

The holistic rubric looks at the instrument as a whole; students receive one overall score based on a pre-dimension scheme used by everyone. The dimensional (analytic) rubric yields sub-scores for each
dimension, as well as a cumulative score which is the sum, either weighted or un-weighted, of the dimensional scores.

Each type of rubric has its strengths and weaknesses. Holistic rubrics allow you to look at a student’s overall performance, and often it corresponds better to the grade that pops into our heads immediately after we finish looking at the student work. The dimensional (analytic) rubric provides more information about what is working and what is not. For example, perhaps students are doing a good job with learning the mechanics or writing, but not so well with learning writing development. A dimensional rubric will provide information with this level of detail, whereas a holistic rubric will not.

Regardless of the type of rubric, it is important that it be shared with students well before the assessment is administered. It is unreasonable to expect students to perform well on an assessment if they do not have a clear understanding of the standards being used to evaluate it.

**Standardized Tests**
Standardized tests are nationally normed and may also be used to assess students’ perception of their attainment of general education goals. These tests best assess reading comprehension, critical thinking, scientific reasoning, the ability to solve math problems, and writing skills such as knowledge of grammar and correct usage. Additionally, there are major field tests which may be used to assess student learning.

When administered pre and post, standardized tests can be an effective way to measure achievement in a particular area. They have the advantage of credibility since they are nationally normed. However, these tests are often expensive and do not always match well with the curriculum. Our use of standardized tests in assessment has been limited in the past. We have found that although it is good for detecting general problem areas, it is sometimes quite difficult to discern more specific areas needing attention.

**Strategic Planning**
Strategic planning focuses on the actions that are taken to implement the institutional mission, while institutional effectiveness planning focuses on the end result to determine how will the institutional mission is being fulfilled. Strategic planning is means/process oriented, meaning it focuses on actions to improve processes or make a unit operate more efficiently.

The College’s strategic plan consists of a vision statement, mission statement, and goals. A strategic plan establishes the overall direction for the College and serves as the foundation for annual goal planning at all level of the College.

**Student Learning Outcome (SLO)**
Student learning outcome (SLO) identifies the measurable knowledge, skills, behavior, or attitudes of the learner as the result of engaging in a learning activity or program. Typically, SLOs are composed with the stem, “The student will…”.

**Surveys**
Surveys may be used to assess the degree to which students perceived that they have attained program or major goals as well as certain general education goals. Items that elicit this information may be included on surveys developed by program or major faculty and administered to current and/or prior students and on surveys sent to employers of program or major graduates.
The use of surveys is a way to gain information that may directly impact a program. There are many types of surveys. The ones most often used are graduate surveys, employer surveys and student surveys. Surveys allow you to get direct feedback from a number of perspectives such as employers and graduates. Results sometimes raise issues that would not be apparent in other types of assessment.

One disadvantage is that it is often time-consuming and expensive. It requires careful planning since a survey that is not thought through thoroughly may give you little useful information.

**Target**
Target allows you to establish a specific criterion for success. This will allow your objective/Outcome to be measurable. You must ask yourself what level is acceptable and then seek to sustain or enhance that performance.

**Value-Added Assessment**
Value-Added is an analytical strategy to determine the degree to which students change from the beginning to the end of a program. Astin (1985) referred to this type of change as talent development.

**Writing Samples**
Writing assignments can be used as a measure of students' mastery of course content and attainment of program or major goals. Such assignments may also be used as a direct measure of the general education communication skills goal as well as an indirect assessment of critical thinking skills. Examples of writing samples include essays, research or term papers, answers to essay questions on tests, book reports, summaries, lab reports, and the like.

One advantage of doing that is that successful results demonstrate credibility of the curriculum. One disadvantage is that many organizations will not disclose students’ results to the college (although individual students might).
Appendix N: PDCCC Teaching Resources

PDCCC Library
Teaching Resources & Assessment Bibliography


Cushman, Kathleen. First in the Family: Advice about College from First-Generation Students; Your College Years. Providence, RI: Next Generation, 2006.


Appendix O: Bloom’s Taxonomy

Bloom's Taxonomy of Measurable Verbs

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. During the 1990's a new group of cognitive psychologists, lead by Lorin Anderson (a former student of Bloom's), updated the taxonomy reflecting relevance to 21st century work. The graphic is a representation of the NEW verbage associated with the long familiar Bloom's Taxonomy. Note the change from Nouns to Verbs to describe the different levels of the taxonomy (Note that the top two levels are essentially exchanged from the Old to the New version).
<table>
<thead>
<tr>
<th>Cognitive Domain</th>
<th>Level I: The student will be able to:</th>
<th>Level II: The student will be able to:</th>
<th>Level III: The student will be able to:</th>
<th>Level IV: The student will be able to:</th>
<th>Level V: The student will be able to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding (Comprehension): can the student explain ideas or concepts?</td>
<td>Level I: The student will be able to:</td>
<td>Level II: The student will be able to:</td>
<td>Level III: The student will be able to:</td>
<td>Level IV: The student will be able to:</td>
<td>Level V: The student will be able to:</td>
</tr>
<tr>
<td>Applying (Application): can the student use the information in a new way?</td>
<td>Level I: The student will be able to:</td>
<td>Level II: The student will be able to:</td>
<td>Level III: The student will be able to:</td>
<td>Level IV: The student will be able to:</td>
<td>Level V: The student will be able to:</td>
</tr>
<tr>
<td>Analyzing (Analysis): can the student distinguish between the different parts?</td>
<td>Level I: The student will be able to:</td>
<td>Level II: The student will be able to:</td>
<td>Level III: The student will be able to:</td>
<td>Level IV: The student will be able to:</td>
<td>Level V: The student will be able to:</td>
</tr>
<tr>
<td>Evaluating (Synthesis): can the student justify a stand or decision?</td>
<td>Level I: The student will be able to:</td>
<td>Level II: The student will be able to:</td>
<td>Level III: The student will be able to:</td>
<td>Level IV: The student will be able to:</td>
<td>Level V: The student will be able to:</td>
</tr>
</tbody>
</table>

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Creating (Evaluation): can the student create new product or point of view?

Level VI: The student will be able to: Assemble, Appraise, Argue, Assess, Choose, Compare, Conclude, Consider, Construct, Contrast, Convince, Create, Critique, Decide, Defend, Determine, Discriminate, Develop, Estimate, Evaluate, Explain, Formulate, Grade, Judge, Justify, Measure, Predict, Rank, Rate, Recommend, Revise, Score, Select, Standardize, Summarize, Support, Test, Validate, Verify, Write.

Affective Domain

Receiving: The Student will choose to: Accept, Accumulate, Combine, Control, Choose to differentiate, Listen (for), Postually respond to, Select, Separte, Set apart, Share.

Responding: The Student will choose to: Acclaim, Applaud, Approve, Augment, Commend, Comply (with), Discuss, Follow, Play, Practice, Spend leisure time in, Volunteer.

Valuing: The student will choose to: Assist, Debate, Deny, Help, Increase numbers of, Protest, Relinquish, Sepecify, Subsidize, Support, Argue.

Organization: The student will choose to: Abstract, Balance, Compare, Define, Discuss, Formulate, Organize, Theorize (on).

Characterization by Value: The student will choose to: Avoid, Be rated high by peers in, Be rated high by, be rated high by superiors in, Change, Complete, Manage, Require, Resist, Resolve, Revise.

[Note: All levels of learning are important. The lower levels support the higher levels; Verbs Clusters that demonstrated Critical Thinking (Analysis, Synthesis, and Evaluation)]

Watch Out for Verbs that are not Measurable: In order for an objective to give maximum structure to instruction it should be free of vague or ambiguous words or phrases. The following lists notoriously ambiguous words or phrases which should be avoided so tht the intended outcome is concise and explicit.

Words to Avoid: Believe, Hear, Realize, Capacity, Intelligence, Recognize, Comprehend, Know, See, Conceptualize, Listen, Self-Actualize, Depth, Memorize, Think, Experience, Perceive, Understand, Feel.

Phrases to Avoid: Evidence a (n), To Become, To Reduce, Appreciation for .., Acquainted with ..., Anxiety, Attitude of ..., Adjusted to ..., Immaturity, Awareness of ..., Cognizant of ..., Conscious of..., Feeling for .., Familiar with ..., Interest in ..., Interested in ..., Knowledge of ..., Knowledgeable about ..., Understanding of..., Self-Confident in ....
**COGNITIVE** learning is demonstrated by knowledge recall and the intellectual skills: comprehending information, organizing ideas, analyzing and synthesizing data, applying knowledge, choosing among alternatives in problem-solving and evaluating ideas or actions.

<table>
<thead>
<tr>
<th>Level</th>
<th>Illustrative Verbs</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>arrange, define, describe, duplicate, identify label, list, match, memorize, name, order, outline, recognize, relate, recall, repeat, reproduce, select, state</td>
<td>Remembering previously learned information</td>
<td>Memory of specific facts, terminology, rules, sequences, procedures, classifications, categories, criteria, methodology, principles, theories, and structure</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Classify, convert, defend, describe, discuss distinguish, estimate, explain, express, extend, generalize, give examples, identify, indicate, infer, locate, paraphrase, predict, recognize, rewrite, report, restate, review, select, summarize, translate</td>
<td>Grasping the meaning of information</td>
<td>Stating problem in own words, translating a chemical formula, understanding a flow chart, translating words and phrases from a foreign language</td>
</tr>
<tr>
<td>Application</td>
<td>Applying, change, choose, compute, demonstrate, discover, dramatize, employ, illustrate, interpret, manipulate, modify, operate, practice, predict, prepare, produce, relate, schedule, show, sketch, sole, use write</td>
<td>Applying knowledge to actual situations</td>
<td>Taking principles learned in math and applying them to figuring the volume of a cylinder in an internal combustion engine</td>
</tr>
<tr>
<td>Analysis</td>
<td>Analyze, appraise, break down, calculate, categorize, compare, contrast, criticize, diagram, differentiate, discriminate, distinguish, examine, experiment, identify, illustrate, infer, model, outline, point out, question, relate, select, separate, subdivide, test</td>
<td>Breaking down objects or ideas into simple parts and seeing how the parts relate and are organized</td>
<td>Discussing how fluids and liquids differ, detecting logical fallacies in a student’s explanation of Newton’s 1st law of motion</td>
</tr>
<tr>
<td>Synthesis</td>
<td>Arrange assemble, categorize, collect, combine, comply, compose, construct, create, design, develop, devise, design, explain, formulate, generate, integrate, manage, modify, organize, plan, prepare, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite, set up, summarize, synthesize, tell write</td>
<td>Rearranging component ideas into a new whole</td>
<td>Writing a comprehensive report on a problem-solving exercise, planning a program or panel discussion, writing a comprehensive term paper</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Appraise, argue, assess, attach, choose, compare, conclude, contrast, defend, describe, discriminate, estimate, evaluate, explain, judge, justify, interpret, relate, predict, rate, select, summarize, support, value</td>
<td>Making judgments based on internal evidence or external criteria</td>
<td>Evaluating alternative solutions to a problem, detecting inconsistencies in the speech of a student government representative</td>
</tr>
</tbody>
</table>


**Affective** learning is demonstrated by behaviors indicating attitudes of awareness, interest, attention, concern, and responsibility, ability to listen and respond in interactions with others, and ability to demonstrate those attitudinal characteristics or values which are appropriate to the test situation and the field of study.

<table>
<thead>
<tr>
<th>Level</th>
<th>Illustrative Verbs</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving</td>
<td>Asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits erect, replies, uses</td>
<td>Willingness to receive or attend</td>
<td>Listening to discussions of controversial issues with an open mind, respecting the rights of others</td>
</tr>
<tr>
<td>Responding</td>
<td>Answers, assists, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes</td>
<td>Active participation indicating positive response or acceptance of an ideas or policy</td>
<td>Completing homework assignments, participating in team problem-solving activities</td>
</tr>
<tr>
<td>Valuing</td>
<td>Completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works</td>
<td>Expressing a belief or attitude about the value or worth of something</td>
<td>Accepting the ideas that integrated curricula is a good way to learn, participating in a campus blood drive</td>
</tr>
<tr>
<td>Organization</td>
<td>Adheres, alters, arranges, combines, compares, completes, defends, explains, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes</td>
<td>Organizing various values into an internalized system</td>
<td>Recognizing own abilities, limitations, and values and developing realistic aspirations</td>
</tr>
<tr>
<td>Characterization by a value or value complex</td>
<td>Acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, uses, verifies</td>
<td>The value system becomes a way of life</td>
<td>A person’s lifestyle influences reactions to many different kinds of situations</td>
</tr>
</tbody>
</table>

PSYCHOMOTOR learning is demonstrated by physical skills: coordination, dexterity, manipulation, grace, strength, speed; actions which demonstrate the fine motor skills such as use of precision instruments or tools or actions which evidence gross motor skills such as the use of the body in dance or athletic performance.

<table>
<thead>
<tr>
<th>Level</th>
<th>Illustrative Verbs</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
<td>Chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects, separates</td>
<td>Using sense organs to obtain cues needed to guide motor activity</td>
<td>Listening to the sounds made by guitar strings before tuning them, recognizing sounds that indicate malfunctioning equipment</td>
</tr>
<tr>
<td>Set</td>
<td>Begins, displays, explains, moves, proceeds, reacts, responds, snows, starts, volunteers</td>
<td>Being ready to perform a particular action: mental, physical or emotional</td>
<td>Knowing how to use a computer mouse, having instrument ready to play and watching conductor at start of a musical performance, showing eagerness to assemble electronic components to complete a task</td>
</tr>
<tr>
<td>Guided response</td>
<td>Assembles, builds, calibrates, constructs, dismantles, displays, desserts, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches</td>
<td>Performing under guidance of a model: imitation or trial and error</td>
<td>Using a torque wrench just after observing an expert demonstrate its use, experimenting with various ways to measure a given volume of a volatile chemical</td>
</tr>
<tr>
<td>Mechanism</td>
<td>(same list as for guided response)</td>
<td>Being able to perform a task habitually with some degree of confidence and proficiency</td>
<td>Demonstrating the ability to correctly execute a 60 degree banked turn in an aircraft 70 percent of the time</td>
</tr>
<tr>
<td>Complex or overt response</td>
<td>(same list as for guided response)</td>
<td>Performing a task with a high degree of proficiency and skill</td>
<td>Dismantling and re-assembling various components of an automobile quickly with no errors</td>
</tr>
<tr>
<td>Adaptation</td>
<td>Adapts, alters, changes, rearranges, reorganizes, revises, varies</td>
<td>Using previously learned skills to perform new but related tasks</td>
<td>Using skills developed learning how to operate an electric typewriter to operate a work processor</td>
</tr>
<tr>
<td>Origination</td>
<td>Arranges, combines, composes, constructs, creates, designs, originates</td>
<td>Creating new performances after having developed skills</td>
<td>Designing a more efficient way to perform an assembly line task</td>
</tr>
</tbody>
</table>

Appendix P Relationship of Strategic and IE Planning

The Relationship of Strategic and IE Planning

Strategic Planning
IS
Means/Process Oriented

Institutional Effectiveness Planning
IS
Ends/Outcomes Oriented

College Mission & Goals
Division/Unit Purposes

Answers Question:
What actions should we take to implement our mission and goals?

Program and Services Improvements

Academic Planning
Administrative Planning
Budget Planning
Facilities Planning

Assessment of Administrative & Education Support Services
Assessment of Student Learning

Answers Question:
How well are our students learning and administrative and educational support services functioning?


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Appendix Q – Institutional Effectiveness Model

The Institutional Effectiveness Model

College Mission and Strategic Goals

Institutional Adjustments

Use of Results: “Closing The Loop”

Program & Services Improvements/Modifications

Development of Unit Assessment Plans
  ~ Student Outcomes for Educational Programs
  ~ Administrative and Educational Support Services Objectives

Feedback of Assessment Results

Assessment Activities

Implementation of Unit Assessment Plans

Resource Availability Decisions


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### Appendix R: Improvement Codes for Assessment

#### Paul D. Camp Community College

**Assessment Audit**

**Taxonomic Schemes: Codes for Categorizing Use of Results for Unit Improvement/Change**

<table>
<thead>
<tr>
<th>FOR EDUCATIONAL UNITS</th>
<th>CODE</th>
<th>DESCRIPTION</th>
<th>FOR ADMINISTRATIVE AND EDUCATIONAL SUPPORT UNITS</th>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Curricular Change</td>
<td></td>
<td>Curricular change to degree program (added a course or other requirements; changed sequence or courses; Competed program audit)</td>
<td>A: Revised Service</td>
<td></td>
<td>Modified way service is offered; modified frequency of service; modified some other aspect of service</td>
</tr>
<tr>
<td>2. Course Revision</td>
<td></td>
<td>Revised existing course or courses; added assignment; modified assignment; modified content of course, changed textbook, etc.</td>
<td>B: Revised Process</td>
<td></td>
<td>Changed reporting forms, changed reporting process, changed tabulation process; change advising process or placement testing process to enhance customer service</td>
</tr>
<tr>
<td>3. Pedagogy</td>
<td></td>
<td>Revised methodology of delivering course material (less lecture, more student involvement); integrated technology, etc.</td>
<td>C: Implemented New Policy</td>
<td></td>
<td>Developed and implemented new policy</td>
</tr>
<tr>
<td>4. Assessment methodology</td>
<td></td>
<td>Changed assessment tools; modified assessment tools; changed data analysis; etc.</td>
<td>D: Implemented New Process</td>
<td></td>
<td>Developed and implemented new process</td>
</tr>
<tr>
<td>5. Criteria</td>
<td></td>
<td>Increased or modified criteria for success (i.e., increase from 70% proficiency to 85% proficiency)</td>
<td>E: Informed Budget</td>
<td></td>
<td>Requested fiscal or human resources</td>
</tr>
</tbody>
</table>

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### 6. Process Revision
- Changed entrance requirements; hired new faculty; changed environment, etc.
- Developed and implemented new assessment method or modified current assessment method

### 7. Budget
- Requested additional fiscal resources
- Modified criteria for success

### 8. Development/Training
- Provided faculty development or training
- Engaged a consultant to further study and recommend changes; engaged contract labor to do a job

### 9. Enhance Recruitment
### 10. Other
- Example: Developed program brochure; Participated in career fairs, etc.
- Provided staff development or training
- Changed workshop, training session in response to learning outcome assessment

### 11. Enhance Technology Initiative
- Examples: Use of software upgrades, meeting electronic equipment needs, or effective use of blackboard
- Provided staff development or training
- Examples: Use of software upgrades, meeting electronic equipment needs, or effective use of blackboard

### 12. Enhanced Communication
- Examples: Increased in data and voice communication services, redesign of web pages, increased communication initiatives across institutional units, and/or college branding

### M. Other
- Any other use of results not described above

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**Note:** Taxonomic Schemes Codes are used to demonstrate how assessment resulted in improvements. Assessment is not about showing what you are doing well; rather it provides an opportunity for an honest evaluation of your learning or operations in an attempt to make them better. Of course, programs/units are not expected to use results each and every time. But over time there is the expectation that they will be able to use assessment data to make improvements. The Results Codes are used to illustrate both the type and frequency of using results to make improvements. When reviewing your objectives and results, enter the result code in the appropriate column, if an improvement/change took place else leave blank.