

Student Learning Outcomes and Occupational Program Assessment

A Workbook

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Overview

Student Learning Outcomes in Occupational Programs

This workbook is designed to help you work through the new tasks that Occupational Programs must undertake when they embark upon Instructional Planning. The new accreditation standards ask that all occupational programs on campus:

- ❑ **Write SLOs (Student Learning Outcomes) for each degree and certificate offered.**
- ❑ **Design a process to assess them.**
- ❑ **Use the results to improve the program.**
- ❑ **Begin a process to assess the SLOs in departmental courses.**
- ❑ **Revise all departmental course outlines to include course SLOs.**

Lastly, those departments which offer learning labs that serve several courses, such as the Math lab or Writing Center, must also design an assessment process for those labs. The Learning Outcomes Assessment Coordinator is available to work individually with Program Chairs to assist departments in developing this type of larger lab assessment. Labs that are associated with a single course will be assessed as part of that course.

Many occupational programs are finding it impossible to complete all of this work in one year. In recognition of this fact, the Council on Instructional Planning **has granted an extra year to write an Instructional Plan to any occupational program that requests it.** The section of this workbook called **Organizing the Work** will help you see if you need the extra time.

Interested departments should write a one-page request noting their intention to use this one-time one-year extension along with an expected date of completion. Send the letter to the Council on Instructional Planning via the Vice President of Instruction by the October of the year before their plan is due. For example, those programs whose plan is due by February 2006, should submit a letter by October 1, 2005. Those whose plans are due in February 2007 should submit a letter by October 1, 2006.

Yes, this round of Instructional Planning will be time consuming. But you are preparing the ground for next time, which will be a much simpler and shorter process. And this workbook will walk you each and every step! If all this sounds intimidating, don't worry. The Learning Outcomes Assessment Coordinator, Marcy Alan Craig, is also available to assist your department. Contact her at 479-6366.

The most important thing to remember is that each student learning outcome and the assessment which measures it is unique to the occupational program from which it

springs. **You** are the expert in your program. It is up to you to determine how best to assess mastery of your program's outcomes and how then to use the results.

This workbook is divided into four main sections to facilitate analysis of your program and the writing of your Instructional Plan:

- ❑ **Organizing The Work**
- ❑ **Writing Student Learning Outcomes**
- ❑ **Designing Assessments/Creating Rubrics**
- ❑ **Assessment Evaluation**

Here's how to proceed:

Step One: Read through the **Organizing the Work** section and make a time line for your department's activities

Step Two: Take a look at the **Writing Student Learning Outcomes** section. Use these materials to create outcomes for each degree and certificate that your program offers and for each course. If you have already defined program outcomes, use this section to make sure that your current outcomes fit what the new Accreditation Standards ask. Use the worksheets to help you revise them.

Step Three: Look over the **Designing Assessments** section. Use these materials to help you design assessments that measure your program outcomes. An additional **Creating Rubrics** section is available for those who need more detailed help in designing scoring mechanisms for assessments. If you already have an assessment in place, look over this material to see if you would like to revise it.

Step Four: Create an evaluation process using the **Assessment Evaluation** section. These materials will help you develop an assessment process that allows faculty to discuss the results of your program's assessments and design program changes if necessary.

Part I

Organizing the Work

Helpful Definitions and Advice

The Occupational Education Council recently defined some terms and offered the following advice and suggestions for Occupational Programs going through Instructional Planning.

Occupational Program Outcomes

Occupational programs enable students to acquire the knowledge, skills, abilities and attitudes necessary to begin employment and to advance in their careers. Program outcomes and their corresponding assessments assist the program to align curriculum across courses to meet this mission and to provide a means for assessing success and making informed changes to improve preparing students for work.

Student Learning Outcomes

Occupational program learning outcomes (SLOs) state the most essential knowledge, skills, abilities, and attitudes students must acquire by program completion to be successful in the occupations the program prepares students to enter. SLOs are to be defined for all certificates and degrees offered by a program.

Associate Degree - General Education Learning Outcomes

In most cases the associate degree requirements are simply a combination of the requirements for the certificate and the associate degree general education requirements. SLOs for the general education curriculum are the four college core competencies and are specifically defined and assessed in general education courses. It is unnecessary for the occupational program to develop and assess SLOs for associate degree general education requirements.

Associate Degree: Required and Recommended GE courses

Though occupational programs are not responsible for assessing the GE classes that fulfill their degree requirements, it is important that they carefully examine any GE courses that are required or recommended for the degree.

During the Instructional Planning process, occupational programs must determine if the courses make essential contributions to the knowledge, skills, abilities, and attitudes specifically necessary for success in the program's occupational field. For example, a program may rely on the writing skills obtained in a class offered by the English department or the design and composition skills obtained in a class offered by the art department. Occupational programs should examine the course-level SLOs written for those specific GE courses.

If the SLOs for the external course match the occupational program learner outcomes it is reasonable to primarily rely on the department offering the external course to assess outcomes.

If the outcomes are not well matched, an occupational program may wish to determine whether students are obtaining these skills by conducting assessments in one or more of its own classes. Or the occupational program may wish to dialog with the department offering the external course to see if the occupational learner outcomes can be incorporated into the course.

In all cases, the occupational program should maintain and record (through minutes of meetings etc.) an ongoing dialog with the department offering the external class so that the instructors of the external course are aware of the outcomes needed by the occupational students.

Other Program Assessments

In addition to establishing assessments measuring what students have learned, programs should also create or utilize exiting assessments that look at their student's success in the labor market, the contribution the program makes towards meeting the needs of employers, and the contribution the program makes to the overall community by providing a workforce well-prepared to meet community needs.

Labor market assessments can be measured in terms of rates of placement in program-related jobs, starting wages, and wage and career advancement. Some of this information can be obtained from the VTEA Core Indicators and the Completer Leaver Survey.

Employer related assessments can be measured in terms of labor shortages, employer satisfaction, and employer support for the program. These outcomes can be measured by EDD data, surveys, advisory committee members, and by tracking employer contributions.

Community assessments will vary substantially from program to program. Some may measure patronage for program enterprises by community members (Pino Alto, Plant Sale, Hygiene Clinics). Others may track representation of Cabrillo graduates in the local workforce or note project completions that serve the community (CEM Fairgrounds projects, Arche Tech Archaeological Surveys).

Activities to Support Occupational Programs in Defining, Measuring, and Achieving Outcomes

General Education Alignment

Course-by-course alignment

Encourage occupational and general education programs to identify the occupational program stakeholders for general education courses. For example, the Accounting program might consider itself a stakeholder for the Math sequence concluding with

Algebra. As programs that have a stakeholder relationship go through instructional planning they should consult with each other over issues of curriculum alignment. This relationship should be integrated into the instructional planning process.

Program alignment

There are constellations of occupational programs that have similar needs with respect to general education courses. For example, many of the occupational programs desire that students be able to spontaneously and quickly write reports. Some programs have similar requirements for computational skills. It may be desirable to start regular dialog between clusters of occupational programs and specific general education departments. This could be launched through the Occupational Education Council.

College alignment

Occupational programs as a whole may seek somewhat different outcomes from the general education curriculum. It may be productive to hold a regular dialog between those responsible for shaping the general education curriculum and the occupational programs. The Faculty Senate could initiate this dialog with input from the Occupational Education Council.

Labor Market Information

Employment, Placement, Retention Information

The Planning and Research Office conducts an annual survey of occupational program completers and leavers. This data can be used for assessing outcomes related to employment and student satisfaction after program completion. It would be possible to add questions to this survey to assess student's evaluation of how well the general education curriculum prepared them for seeking and finding work.

The college also receives VTEA Core Indicator Data from the Chancellor's Office each year. This includes data on employment and retention for occupational program completers and leavers.

The Career Education and Economic Development (CEED) office can assist with the collection and interpretation of the above surveys and can also assist in finding other sources of information. CEED can also work with the Planning and Research Office to design and carry out surveys of employers when the above surveys do not provide sufficient information.

Suggested Time Line

How in the world, you may be asking yourself, can my department complete all these tasks and write an Instructional Plan on top of it? While it's possible to do it all in the one year you are given for Instructional Planning, you may find it much more manageable to start the SLO assessment portion of the work before that. CIP and the Learning Outcomes Assessment Coordinator suggest that you use the two years previous to the Instructional Planning process to develop your outcomes and assessment. And, if all else fails, remember that you can also apply for an extra year if you need it (see page 3 for more details). Here's a general time line:

- Semester 1:** Define SLOs for each degree and certificate.
- Identify the GE courses that are required or recommended for your degree; scrutinize the course SLOs and determine how well they match your degree SLOs.
- Semester 2:** Design assessments and an assessment cycle to evaluate the outcomes for each certificate, degree and course.
- Dialog with the departments whose GE courses are required or recommended for your degree; keep minutes or notes to document your discussions.
- Semester 3:** Implement the beginning of your certificate and degree assessment cycle.
- Begin writing course SLOs.
- Semester 4:** Continue to assess program outcomes.
- Finish writing SLOs for each course.
- Semester 5:** Begin the Instructional Planning process.
- Create or utilize existing assessments that track your students' success in the labor market and community needs.
- Semester 6:** Write your report.
- Begin the process of assessing course SLOs.

Task Worksheet

The suggested time line may or may not work for your department, depending on the nature of your program and the number of both certificates and courses you offer. You may be able to do it faster, because you already have assessments in place. It may take you longer because you offer many certificates and courses and need extra time to write SLOs for them. This section of the workbook will help you list those tasks, so you have a better idea of how much time they might take. Use the worksheet below to help you get a picture of all you need to do.

Program:					
Skill certificates	<ol style="list-style-type: none"> 1. 2. 3. 4. 				
Certificates of proficiency	<ol style="list-style-type: none"> 1. 2. 3. 4. 				
Recommended or required GE courses for degree	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%; text-align: left;">Department</th> <th style="width: 40%; text-align: left;">Course</th> </tr> </thead> <tbody> <tr> <td style="height: 100px;"></td> <td></td> </tr> </tbody> </table>	Department	Course		
Department	Course				
Total number of courses offered by the department					

<p>Four</p>	<p>Continue certificate and degree assessment.</p> <p>Finish writing course SLOs.</p>	
<p>Five</p>	<p>Begin Instructional Planning process.</p> <p>Assess workplace success.</p>	
<p>Six</p>	<p>Finish writing plan.</p> <p>Begin assessing course SLOs.</p>	
<p>Seven (if requested and approved - see page 3)</p>		
<p>Eight (if requested and approved - see page 3)</p>		

Part II

Writing Student Learning Outcomes

Writing Student Learning Outcomes

Overview

This portion of the workbook is intended to help you write student learning outcomes for each course and for each certificate and degree that your program offers.

- **Course SLOs** define what skills, knowledge, abilities and attitudes a student can demonstrate by the end of that specific **class**.
- **Certificate SLOs** capture the skills, knowledge, abilities and attitudes a student can demonstrate by the end of the **sequence of courses** required for the certificate. Since certificates are often building blocks to the degree, there are usually fewer certificate SLOs than degree SLOs.
- **Degree SLOs** list the essential skills, knowledge, abilities and attitudes a student acquires by the completion of **all required courses** and define what enables a student to be successful in the occupation. Sometimes degree SLOs are a compilation of several certificate SLOs; other times they are the certificate SLOs plus the general education requirements which are the four college core competencies.

Outcomes speak of what students will be able to **DO**; they capture how they will apply all that has learned in your program. Whether you are writing SLOs for a specific course, a certificate or a degree, **the process is the same. It's just a matter of perspective.**

Here are the steps to follow to write student learning outcomes:

Step One: Read the **General Information on Student Learning Outcomes**. This defines what a student learning outcome is and gives some tips on how to write them. This information pertains to both course SLOs and program SLOs.

Step Two: Look over the list of **Sample Student Learning Outcomes**.

Step Three: Use the **Writing Student Learning Outcomes Worksheet** to compose your outcomes for each certificate and degree or for individual courses.

Step Four: Share what you have written with another faculty member in a different discipline to see if the outcome is written in language that a student or novice in the field might understand.

General Information on SLOs

In the new Accreditation Standards, a student learning outcome (SLO) describes the:

- ❑ knowledge
- ❑ skills
- ❑ abilities
- ❑ attitudes

that students have attained by the end of any set of college experiences – classes, occupational programs, degrees and certificates and even encounters with Student Services or the Library. The stress is on what students can **DO** with what they have learned or how they will apply it. Many occupational programs are very familiar with this way of thinking about student learning. You may be way ahead of your transfer department colleagues in understanding and using this approach.

Your department needs to write SLOs for

- each degree
- each certificate of proficiency
- each skills certificate
- each course

Writing Tips

Certificate and Degree SLOs: When writing degree and certificate SLOs, it's sometimes easiest to start by defining the certificates. Those SLOs should capture what students can DO by the end of that sequence of courses. Remember that some programs may only have three to four SLOs for a certificate, but the SLOs for several certificates may form the ones for the degree. In other programs, the degree SLOs will be the certificate SLOs plus the college core competencies (to reflect the GE required and recommended courses). You have to decide what will best capture the skills, attitudes, knowledge and abilities that the students are learning in your program.

Course SLOs: The course outline forms on Fiesta now contain two new sections that deal with SLOs. The first asks you to check boxes to identify which of the Core 4 college-wide competencies your course addresses. Every course should address at least one and Core Competency 4: Personal Responsibility and Professional Development is required. Most will address more than one, sometimes all four.

The second section asks you to write SLOs for your course. The material contained in this section of the workbook is the same as the link on Fiesta to help you write those SLOs and to distinguish them from course objectives. Once you've revised the course to include SLOs, it must go through the regular curriculum approval process.

When the revised courses are approved by the Curriculum Committee, the new Accreditation Standards ask that course SLOs are listed on every syllabus. It's crucial that faculty include those SLOs on the syllabi for every course that they teach.

SLOs versus Course Objectives

A Student Learning Outcome is **different** from a course objective. SLOs for the classroom or a program describe the knowledge, skills, abilities or attitudes that a student can **demonstrate** by the end of a course of study. Most courses would include 3-6 major SLOs. Programs will have as many as the faculty deem are critical.

- ❑ Don't think about content or coverage - consider what students should be able to DO with what they've learned by the end of the semester or the program.
- ❑ How will students demonstrate this?
- ❑ What can they produce to show faculty that they can apply their new knowledge?

When trying to define Student Learning Outcomes for either a program or a class, think of the big picture. SLOs:

- ❑ Describe the broadest goals for the program, ones that require **higher-level** thinking abilities.
- ❑ Require students to **synthesize** many discreet skills or areas of content.
- ❑ Ask them to then **produce** something - papers, projects, portfolios, demonstrations, performances, art works, exams etc. – that **applies** what they have learned.
- ❑ Require faculty to **evaluate** or **assess** the product to measure a student's achievement or mastery of the outcomes.

Course objectives are on smaller scale, describing small, discreet skills or “nuts and bolts” that require basic thinking skills. They are subsets of outcomes. Think of objectives as the building blocks used to produce whatever is used to demonstrate mastery of an outcome. Objectives can be practiced and assessed individually, but are usually only a portion of an overall project or application.

Objectives	Outcomes
Objectives describe skills, tools or content that a student will master by the end of one specific course.	Outcomes describe over-arching goals that a student will be able to demonstrate by the end of a course or program.
Objectives require the use of basic thinking skills such as knowledge, comprehension and application.	Outcomes require the use of higher level thinking skills such as analysis, synthesis and evaluation.
Objectives do not necessarily result in a product. Most often, objectives are synthesized or combined to produce something that measures an outcome.	Outcomes result in a product that can be measured and assessed.

Are you still confused? Look at the following three pages for examples of the difference between outcomes and objectives describing the knowledge, skills and abilities, and attitudes in a course. Note that there is a **flow**, a line of progression from the most basic objectives to the most sophisticated outcomes. The charts are adapted from the work of Janet Fulks and Kate Pluta from Bakersfield College. To help you write SLOs, they have noted the words from Bloom's Taxonomy that can be used to describe either an objective or outcome.



Knowledge

Objectives

Basic

Knowledge

Outcomes

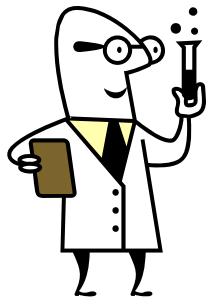
More Sophisticated

Higher Level Thinking



Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Student remembers or recognizes information or specifics as communicated with little personal assimilation.	Student grasps the meaning behind the information and interprets, translates, or comprehends the information.	Student uses information to relate and apply it to a new situation with minimal instructor input.	Student discriminates, organizes, and scrutinizes assumptions in an attempt to identify evidence for a conclusion.	Student creatively applies knowledge and analysis to integrate concepts or construct an overall theory.	Student judges or evaluates information based upon standards and criteria, values and opinions.
Cite Label List Enumerate Identify Imitate Match Name Quote Recall Reproduce State Write	Convert Define Describe Discuss Estimate Explain Generalize Identify Illustrate Locate Paraphrase Restate Summarize	Apply Chart Compute Demonstrate Determine Dramatize Establish Make Manipulate Prepare Project Solve Use	Analyze Compare Contrast Correlate Diagram Dissect Differentiate Distinguish Infer Investigate Limit Outline Separate	Assemble Create Construct Design Develop Formulate Generate Hypothesize Initiate Invent Modify Reframe Synthesize	Access Appraise Conclude Critique Decide Defend Diagnose Evaluate Judge Justify Rank Recommend Support

Adapted from the work of Janet Fulks and Kate Pluta from Bakersfield College.



Skills and Abilities

Objectives
Basic Knowledge
Basic Skills
Level

Outcomes
More Sophisticated Skills
Higher Level Abilities
Critical Understanding of Performance



Observe	Model	Recognize Standards	Correct	Apply	Coach
Students translate sensory input into physical tasks or activities.	Students are able to replicate a fundamental skill or task.	Students recognize standards or criteria important to perform a skill or task correctly.	Students use standards to evaluate their own performances and make corrections.	Students apply this skill to real life situations.	Students are able to instruct or train others to perform this skill in other situations.
Hear Identify Observe See Smell Taste Touch Watch *Usually no outcomes or objectives written at this level.	Attempt Copy Follow Imitate Mimic Model Reenact Repeat Reproduce Show Try	Check Detect Discriminate Differentiate Distinguish Notice Perceive Recognize Select	Adapt Adjust Alter Change Correct Customize Develop Improve Manipulate Modify Practice Revise	Build Compose Construct Create Design Originate Produce	Demonstrate Exhibit Illustrate Instruct Teach Train

Adapted from the work of Janet Fulks and Kate Pluta from Bakersfield College.



Attitudes

Objectives

Elementary Values and Behaviors
 Inherited Value System
 Egocentric View

Outcomes

More Highly Developed Attitudes
 Well Thought-out Value System
 Higher Level Abilities to Identify and
 Articulate Others' Values

Receiving	Responding	Valuing	Organizing	Characterizing
Students become aware of an attitude, behavior, or value.	Students exhibit a reaction or change as a result of exposure to an attitude, behavior, or value.	Students recognize value and display this through involvement or commitment.	Students determine a new value or behavior as important or a priority.	Students integrate consistent behavior as a naturalized value in spite of discomfort or cost. The value is recognized as a part of the person's character.
Accept Attend Describe Explain Locate Observe Realize Receive Recognize	Behave Comply Cooperate Discuss Examine Follow Model Present Respond Show Studies	Accept Adapt Balance Choose Differentiate Defend Influence Prefer Recognize Seek Value	Adapt Adjust Alter Change Customize Develop Improve Manipulate Modify Practice Revise	Authenticate Characterize Defend Display Embody Habituate Internalize Produce Represent Validate Verify

Adapted from the work of Janet Fulks and Kate Pluta from Bakersfield College.

Sample Student Learning Outcomes

Here are sample outcomes for courses, certificates and degrees developed by Cabrillo faculty. Note the verbs used and how they reflect higher level thinking skills.

Class Outcomes:

CEM 151 Construction Fundamentals: Principles and Practices

1. **Construct** a building applying the skills and knowledge obtained in this class.

CABT 131 Microsoft Word

1. **Analyze** communication requirements and **produce** professional-quality business documents, including letters, memoranda, and multi-page reports, using intermediate and advanced features of Microsoft Word.

JOUR 53 – Newspaper Production and Copy Editing

Construct visually attractive and readable newspaper pages by:

1. Using knowledge of effective design to fit graphical and text elements on newspaper pages and resolve problems with space constraints
2. Critiquing newspaper pages for design principles and design quality

Program Outcomes

ETECH

Manufacturing Specialist Skills Certificate

1. Analyze symptoms of manufacturing configuration errors.
2. Classify a variety of hardware, software and firmware within a manufacturing system.
3. Perform basic manufacturing hardware based installations.
4. Analyze and solve basic manufacturing workflow configuration problems.
5. Work successfully in a field that involves conceptualizing manufacturing flow designs as well as analyzing and solving manufacturing problems.

ACCOUNTING FINANCE

Skills Certificate

1. Analyze and record information necessary to complete the full accounting cycle.

2. Evaluate and interpret records to provide information needed for managerial decision making.
3. Solve novel, multifaceted business problems using software commonly used by local businesses.

CABOT

Computer/Business Applications Certificate of Proficiency

1. Productively work as a team member with people of diverse experiences and backgrounds in a workplace environment.
2. Competently communicate in support of a business office, including production and design of complex electronic and paper based correspondence and documents.
3. Use the Internet, a wide variety of computer application and standard business procedures to compute, analyze business performance and solve problems.
4. Actively assist in implementing general office procedures, including records management.
5. Demonstrate high and efficient qualities of self-management and self-awareness in terms of workshop responsibility and productivity.
6. Demonstrate the ability to competently use a wide variety of office equipment, including computers, peripherals, and non-computerized office machines.

NURSING

Associate Degree

1. Provide safe direct nursing care to individuals and groups by using evidence-based practice in the nursing process and principles of caring to assess and diagnose health status, plan goals, implement and evaluate outcomes, taking into consideration the physiological, psychological, socio-cultural, developmental and spiritual dimensions of care.
2. Demonstrate comprehensive nursing knowledge of health promotion-as-intervention along the wellness/illness continuum.
3. Utilize critical thinking skills to provide effective nursing care for individuals and groups throughout the developmental stages.
4. Integrate knowledge of cultural diversity, legal aspects and ethical principles to provide and/or manage client care in a variety of health care environments.

5. Demonstrate effective communication skills in nurse/client and professional relationships in the practice of nursing.
6. Act as a advocate in order to assist the individual or group's progress towards optimal wellness by minimizing harmful stressors, strengthening coping abilities and maximizing available resources.
7. Provide health teaching for individuals, families and/or groups with the goal of promoting health behaviors, reducing stressors and enhancing coping resources.
8. Incorporate sound leadership principles according to the Standards of Competent Performance in planning, managing, and delivering health care in interdisciplinary teams, including delegation and supervision of nursing care being delivered by others.
9. Assume responsibility and accountability for role function in the practice of nursing as defined by the Nurse Practice Act and professional standards of nursing.

Beginning is often the most difficult step. Remember that you have been doing this all along. Now is your chance to put what you know intuitively as a professional into words. Use the Worksheet below and:

- 1) In one sentence, describe one **major** piece of knowledge, skill, ability or attitude that a student will have gained by the end of your program or course. Describe what students will **do** -- not content, activities or hours.
- 2) Use action verbs. See the previous pages for examples.
- 3) Write it in language that a student will understand.
- 4) Make sure that the outcome is something that can be assessed or tested.
- 5) Hint: Sometimes it's easier to start backwards by thinking about the major assessments you use in the program. These would be the products or demonstrations of your outcomes. Make a list of your major assignments for this program. Then try to describe in one sentence what the students are being asked to demonstrate.
- 6) A word of warning: Be careful when describing attitudes in a learning outcome. They are hard to assess. Ask yourself if the attitude is crucial to success in your program or class. If a student doesn't have a certain attitude, but possesses the knowledge and skills being taught, is that satisfactory? There were unresolved ethical and pedagogical issues that arise for faculty when we assess students about attitudes, yet for certain programs such as nursing, possessing an attitude such as "caring" is vital to success. (See Summer Learner Outcomes Institute Toolkit for a more developed discussion at www.cabrillo.edu/services/pro/assess/assess.html)

Writing Student Learning Outcomes Worksheet

Degree, Certificate or Class _____

Outcome 1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of their study.	Assessment Major Assignment, Project or Test used to demonstrate or apply outcome
Outcome	Assessment

1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of their study.	Major Assignment, Project or Test used to demonstrate or apply outcome

Checklist for Writing Student Learning Outcomes

Now that you've written your SLO's, it's best to show them to other faculty in both your discipline and outside it to see if what you've written is understandable and concise. Use the following checklist:

1. Have you used action verbs in describing your SLOs?
2. Is it written as an outcome rather than objective?
 - ❑ Language indicates the BIG PICTURE rather than nuts and bolts
 - ❑ Describes what students can DO
 - ❑ Asks students to apply what they've learned by producing something
 - ❑ Addresses student competency rather than content coverage
3. Is the SLO appropriate for the degree, certificate or class?
 - ❑ Represents a fundamental result of the program
 - ❑ Is the penultimate outcome, the result of outcomes from courses in a sequence, if applicable
 - ❑ Represents collegiate level work

Part II

Designing Assessments

Designing Assessments Overview

This portion of the workbook is designed to help you create assessments for each of the student learning outcomes you wrote for your degrees, certificate or courses. Each outcome must be measured or assessed. You may already have an assessment instrument in place, such as a state board exam, that you are required to use. If so, you must ask if it

measures all of the outcomes that you have listed. And you must define the levels of success that are acceptable for your program. If you have no assessment in place, use this part of the workbook to help you design one for each outcome or one that measures all of the outcomes together.

Here's how to proceed:

Step One: Read the **General Information on Assessment** page.

Step Two: Complete the **Assessment Worksheets** for **each** of the SLOs that you wrote for the previous section of the workbook. An additional **Creating Rubrics** section is available for those who need more detailed help in designing scoring mechanisms for assessments.

Step One: General Information on Assessment

Assessment is the process used to evaluate how well students have mastered the outcomes of a degree, certificate or class. This assessment is used to **evaluate the program, not the students**. The point is to look at what is being taught and how well students are learning it. Are improvements needed? What can be done so that students learn more or succeed at higher rates?

While the assessment needed for accreditation is not designed to evaluate individual students, it's possible to use assignments or activities from classes as assessments. This **course-embedded assessment** process asks programs to assemble artifacts students have already produced in their courses to evaluate the program. Though the artifacts may be already graded in the course by individual instructors, they are also used to “grade” the program. Faculty analyze the artifacts to see how well the program is helping students to master its program outcomes. This is the process that both transfer and basic skills departments are using to assess Cabrillo’s Core 4 competencies. It may or may not be appropriate for your program.

There are three parts to designing assessments:

Part one: Decide what tool will best demonstrate the students’ mastery of your program outcomes. Assessment tools can be:

- | | |
|------------------------|-----------------------------|
| Portfolios | Classroom observations |
| Written exams | Oral exams |
| Interviews | Written reports/Papers |
| Logs or Journals | Performances/demonstrations |
| Simulated performances | Art works or products |

Part Two: Define the criteria that will be used to measure the tool. Break the criteria down into specific components. This is sometimes called a **rubric**. What are the specific parts of the assessment that students need to master? If you have never created a rubric before, please use the **Creating Rubrics** section to help you. If you use multiple choice tests, skip Part Two and Three and look at the specific section on **Analyzing Test Questions** in this workbook to help you.

Part Three: Define specific levels of quality or proficiency. Faculty must clearly articulate each of the different levels for whatever scoring technique is used. The **Creating Rubrics** section can help you do this in detail if the process is unfamiliar to you.

Step Two: Assessment Worksheets

Fill out this worksheet for **EACH** SLO you wrote in Part I for either a degree, certificate or course. If you are not sure how to develop a rubric, see the Designing Rubric section that follows for help.

SLO #1	
---------------	--

Assessment Tool	
Rubric or Measure for Assessment (What are the criteria what will be considered in evaluating the tool?)	
Scoring Technique (What is each level of quality?)	

SLO #2	
Assessment Tool	

<p>Rubric or Measure for Assessment (What are the criteria what will be considered in evaluating the tool?)</p>	
<p>Scoring Technique (What is each level of quality?)</p>	

<p>SLO #3</p>	
<p>Assessment Tool</p>	

Rubric or Measure for Assessment (What are the criteria what will be considered in evaluating the tool?)	
Scoring Technique (What is each level of quality?)	
SLO #4	
Assessment Tool	

<p>Rubric or Measure for Assessment (What are the criteria what will be considered in evaluating the tool?)</p>	
<p>Scoring Technique (What is each level of quality?)</p>	

General Information on Grading Rubrics

This portion of the workbook can help you develop rubrics to evaluate whatever you are using to assess the SLOs in your program. If you only use exams, skip to the section on **Analyzing Test Questions** for help with this work.

A **rubric** translates the standards and criteria that make up grading into some sort of chart or description. Rubrics can be used to score many kinds of written assignments or

exams, papers, projects, demonstrations, speeches or portfolios. They are not useful, however, as a grading mechanism for multiple choice or short answer tests.

A rubric answers the question, “What precisely is an A on a particular assignment or project? How is it different from a B or C?” While this is information that many of us carry inside our heads, in order to clearly assess student learning outcomes, it must be articulated in writing. However, it is up to you – the expert in your program – to define these standards and criteria and how they will be applied to the work that you evaluate. Your rubric will be as individual as your grading style and pedagogy.

There are three steps to creating a rubric:

1. Define the specific components that are key elements to the assignment or project.
2. Delineate specific levels of success for each element.
3. Assemble the elements into a chart or written document.

After you have created a rubric, it’s helpful to share it with another faculty member in your discipline (or better yet, in a different discipline) to check if:

- a) The wording is understandable to a student or novice (watch for an excess of discipline-specific jargon).
- b) The progression of criteria for each level is logical and consistent.

Though the intent of this workbook is to help you develop a rubric that can be used to assess your program’s SLOs, many Cabrillo faculty have found this grading tool so useful that they have adopted it for general classroom use. You, of course, don’t need to share your rubric with your students, but if you do it may prove helpful. In a survey done in Spring 2003, many Cabrillo Learner Outcomes Summer Institute alumni reported that clear communication resulted from using a rubric. This did not necessarily improve overall grades, but students were more aware of what they’d done and where they needed to improve. As a result, the survey revealed that conflict over grading had significantly lessened!

SAMPLE RUBRICS

Short Essay Rubric

(Used in my Human Genetics course.)

Score	Content	Organization	Development	Use of Language
5	Answer is appropriate to the question. Content is factually correct.	Clear sense of order. Begins with a thesis or topic sentence. Supporting points are presented in a logical progression.	Develops each point with may specific details. Answers question completely.	Uses technical or scientific terminology appropriately and correctly. No major grammatical or spelling errors.
4	Answer is appropriate to the question. Content may have one or two factual errors.	May lack a thesis sentence, but points are presented in a logical progression.	Each point supported with some details and evidence. All important points included.	Accurate word choice. No more than 2 major errors and a few minor errors.
3	Content relates peripherally to the question; contains significant factual errors.	Logic of argument is minimally perceivable. Points presented in a seemingly random fashion, but all support argument.	Sparse details or evidence. Question only partially answered.	Ordinary word choice; use of scientific terminology avoided. Some serious errors (but they don't impair communication).
2	Content unrelated to question.	Lacks clear organizational plan. Reader is confused.	Statements are unsupported by any detail or explanation. Repetitious, incoherent, illogical development.	Limited vocabulary; errors impair communication.

Developed by Denise Lim, Biology.

Sample Rubric for Assessing Photographs

1. Concept, idea, visualization:

- 10 pts Shows coherency of the concept with a high degree of originality and sophistication. The idea is well stated with visual elements and cues.
- 9 pts Shows coherency of the concept with some originality and sophistication. The idea is stated with visual elements and cues but needs to be more clear or more strongly evident.

- 8 pts Shows some coherency of the concept with commonly used, cliché or stereotyped imagery. The idea is obtuse, and requires greater clarity through the use of visual elements and cues.
- 7 pts Lacks general coherency of the concept. Many of the visual elements and cues do not lead the viewer to the intended idea.
- 6 pts Lacks any coherency of the concept. Visual elements and cues do not lead the viewer to the intended idea.
- 0 pts The work was not presented to me.

2. Composition & design:

- 10 pts Shows strong internal integrity of the visual elements. Nothing needs to be added or removed – framing is superb.
- 9 pts Shows internal integrity of the visual elements. A visual element needs to be added, moved or removed – framing needs some slight adjustment.
- 8 pts Shows obvious weaknesses in the internal integrity of the visual elements. Many visual elements need to be added, moved or removed – framing needs definite adjustments.
- 7 pts Image is breaking apart – there is very little internal integrity of the visual elements. Most visual elements need to be rethought – framing needs major readjustment.
- 6 pts Visual integrity is nonexistent and image has broken apart. All of the visual elements need to be rethought – framing needs a complete overhaul.
- 0 pts The work was not presented to me.

3. Technical:

- 10 pts Shows master in the use of photographic equipment and techniques to attain the assignment parameters.
- 9 pts Shows a good command of the use of photographic equipment and techniques to attain most of the assignment parameters.
- 8 pts Shows some command of the use of photographic equipment and techniques to attain some of the assignment parameters.
- 7 pts Shows limited command of the use of photographic equipment and techniques to attain a few of the assignment parameters.
- 6 pts Shows little or no command of the use of photographic equipment and techniques to attain a few or none of the assignment parameters.
- 0 pts The work was not presented to me.

Developed by Susan Hoisington, Photography.

Sample Rubric for Oceanography 10 Lab Project

Bathymetric Map and Cross Section (Lab #2) Grading Criteria

An “A” grade (9 or 10 out of 10):

- The contour lines are extremely smooth and evenly spaced with none of them touching each other.

- Every water depth # has the appropriate contour line next to it and the entire map is “contoured”.
- The overall presentation is excellent.
- The cross section is accurate and complete and the bottoms of the canyons and top of the ridge are not flat.
- The ends of the cross section are complete and the paper shows the vertical exaggeration.

A “B” grade (8 out of 10):

- The contour lines are neat and smooth and appropriately spaced and some are touching, but very few.
- Nearly all the water depth #'s are contoured, some may be missing, but very few.
- The overall presentation is good and very few “shadows” are showing.
- The cross section is accurate, but some information is missing, particularly on the ends.
- Vertical exaggeration may or may not be shown.

A “C” grade (6 or 7 out of 10):

- The contour lines are a little wide and show fringes, some may have double ends and some of them are obviously touching each other.
- Some of the water depth #'s may not be contoured and the contour lines are all not evenly or properly spaced. There may be shadows on the map and the overall presentation is slightly sloppy.
- The cross section is mostly accurate, but some information is off line and missing, particularly on the ends.
- Vertical exaggeration may not be shown.

A “D” and “F” grade (5 or less out of 10):

- The contour lines are sloppy and inaccurate and some or many are touching each other.
- Several of the water depth #'s are not accurately contoured and the map is not complete.
- The overall presentation is below or far below average.
- The cross section is inaccurate, and much information is off line and missing.
- Vertical exaggeration may be shown.

Developed by Dave Schwartz, Geology.

English1A Essay Rubric

WOW!!! (90-100 Points - Grade A)

- Begins with an introduction that shows your understanding of the issues, grabs your readers’ attention, and presents a strong and insightful thesis or point of view.

- Engages the topic in a thoughtful and individual way, showing originality, elegance and clear thinking.
- Develops the topic using a strong detail, quotes from other sources, and a unique synthesis of ideas.
- Utilizes library research and quotes from outside sources, always properly citing them using the MLA format.
- Possesses a fully explained and logical progression of ideas that indicates the writer's sensitivity to different ways of looking at the topic with an awareness of key counter arguments and a consideration of how those alternate positions shape your understanding of the topic.
- Ends with a strong conclusion that clarifies the significance of the paper's lessons
- Chooses words aptly and sometimes inventively.
- Demonstrates mastery of most of the grammar and usage conventions of Standard English.
- Uses phrasing, tone, and expression that reflects a unique personal voice.

Good! Almost There (80-89 Points - Grade B)

- Begins with an introduction that shows some understanding of the issues, gives some background and has an adequate thesis or point of view.
- Presents a thoughtful response to the topic, using appropriate reasoning and a partially realized analysis that is accurate.
- Develops the topic showing appropriate details, a sense of orderly progress between ideas, and use of references that reveal a familiarity with the topic.
- Uses words precisely if not creatively.
- Varies sentence structure enough to read smoothly.
- Utilizes library research and quotes from outside sources, usually properly citing them using the MLA format.
- Uses competently the conventions of written English, containing few, if any, errors in sentence structure, punctuation and capitalization or usage.
- Uses mostly consistent phrasing, tone and expression that reflects a personal world view and style.

Developed by Marcy Alancraig, English. Note grading sheet at the end.

Getting there (70-79 Points - Grade C)

- Presents an adequate response to the topic, using superficial analysis and weak point of view.
- Uses logical reasoning, but the supporting evidence is general and imprecise with few examples. There may be some small factual errors.
- Uses a less precise vocabulary and may contain awkwardness of expression.

- Utilizes library research and quotes from outside sources, with fairly consistent use of the MLA citation format. May make some errors.
- Contains minor errors in mechanics and usage, and perhaps one or two more distracting errors in sentence structure.
- Uses fairly consistent phrasing, tone and expression that reflect a personal world view and style with occasional inconsistencies.

Try Again (60-69 Points - Grade D)

- Responds to the topic illogically, without a coherent structure or focus.
- Has no point of view, uses mostly summary and lacks evidence and support.
- Makes several large, factual errors.
- Makes enough errors in usage and sentence structure to cause a reader serious, if occasional, distraction.
- Improperly uses the MLA format for citations. Makes major errors in quoting and uses few sources.
- Uses frequently inconsistent phrasing, tone and expression, often formulaic and imitative; lacks evidence of a personal worldview and style.

Let's not even go there (50-59 Points - Grade F)

- Doesn't attempt the task or distorts it
- Lacks organization or detail.
- Contains many distracting errors in sentence structure, simplistic or inaccurate word choice, many repeated errors in grammar and usage.
- Not enough is written to get a sense of personal worldview and style.

English 1A Grading Sheet
Paper #1-7 Grading Sheet

Name: _____ Total Grade: _____

This paper is one of the pieces of evidence for Outcomes #3 and 4:

- Use your unique voice to write papers that analyze the ecological, anthropological, historical and literary aspects of the Monterey Bay region.
- Use the library to find information in books, magazines, electronic databases and on-line sources. Incorporate those sources in your writing, acknowledging them using MLA documentation style

Based on the grading scale listed under Grading Requirements, your grade is divided into the elements listed in the chart below.

Elements of Grade	Wow!	Good	Getting There	Try Again	Let's Not Go There
Introduction					
Thesis or Claim					
Response to Topic					
Evidence to support thesis					
MLA citation and documentation					
Awareness of counter arguments					
Flow and order of Ideas					
Conclusion					
Word Choice					
Grammar and Punctuation					
Personal Voice					

Comments:

Creating Rubrics Worksheet 1

Program	
----------------	--

SLO	
Assessment Tool/Assignment	
Assignment Components	
1.	2.
3.	4.
5.	6.
7.	8.

Creating Rubrics Worksheet 2

Articulate your standards for each component

Score: A	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Creating Rubrics Worksheet 2

Articulate your standards for each component

Score: B	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Creating Rubrics Worksheet 2

Articulate your standards for each component

Score: C	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Creating Rubrics Worksheet 2

Articulate your standards for each component

Score: D	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Creating Rubrics Worksheet 2

Articulate your standards for each component

Score: F	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Analyzing Test Questions

If you assess student learning in your courses through multiple choice exams, it's possible to analyze the questions in your tests to assess how well students are mastering any of the core competencies. The first two steps help you to analyze your questions. Step Four describes how to use campus scoring machines to help you complete your analysis. This particular method was developed by Paul Harvell, in Economics. You may find another approach works better for you. If so, please contact the Assessment Coordinator and describe what you do, so she can share it with others.

Step One: Identify the questions on the test which you feel address the Core competency that you are assessing. There should be several questions throughout an exam that you feel require students to demonstrate mastery of the specific competency.

Step Two: Deepen your analysis of the questions by further categorizing them. A way to do this is offered in *Effective Grading*, by Walvoord and Anderson, page 87, created by Patricia Schlecht of Raymond Walters College in Ohio.

Level A: Those that require higher critical thinking, including analysis, synthesis or evaluation. For these questions, there may be no directly visible connection between the course material and the test question.

Level B: Those that require lower critical thinking skills, such as application. These questions can be directly answered from the background provided by course materials. There is a visible connection between the material and the test questions.

Level C: Those that utilize knowledge and comprehension, but not critical thinking. The answers to these questions arise directly from the course material, with some changes in wording and phrasing.

Step Three: Grade the entire exam as you do usually. If you use Scantron or any other campus scoring machines, program it with the key to your entire exam.

Step Four: Create a second key that only scores the answers to the questions that you have identified as addressing the core competency. Ask the machine to give you a summary that reports how many students missed each question.

Step Five: Analyze the results, looking at how many students missed what level of question. Are you pleased or satisfied with how they did? Is there anything you could do differently to try to ensure that more students answer the questions correctly? In other words, how well do you think students are demonstrating mastery of the competency in your exam? Use the forms on pages 29 and 30 to record your thoughts.

Step Six: Report your assessment results and analysis in your department during Flex.

Part III

Assessment Evaluation: Using Assessment Results to Improve Your Program

Assessment Evaluation: Using Assessment Results to Improve Your Program

This portion of the workbook is designed to help you plan how your program will use the results of your Assessment tool(s) to improve teaching and learning.

Assessment is just an exercise if we don't take the next step and use the results to help our programs improve. The new Accreditation Standards require a final step in the assessment process that is sometimes called **Closing the Feedback Loop**. They ask that faculty develop and implement a regular, on-going evaluation process that analyzes the results revealed by the program's assessment tool(s). After analyzing the results, faculty must decide if anything is needed to improve mastery of the student learning outcomes and what specific steps the program will take to meet those needs. The results of that discussion will be incorporated into the narrative of your Instructional Plan.

In addition to designing an assessment process for the SLOs for each certificate and degree your program offers, you must also design one for the SLOs in your courses. If you feel it's useful, you can use the course-embedded assessment process that the Faculty Senate developed to assess the Core 4 college-wide competencies (see the **Student Learning Outcomes and Instructional Planning Workbook** for details). Or use a process that matches whatever one you develop for your degree and certificates so that you can evaluate both at the same time.

Remember, the assessment process used by your program is individual and does not need to match a process used by any other program on campus. The only requirement for your assessment process is that it should be cyclical and repetitive at regular intervals. The worksheets included should help you develop a process that is unique to the culture of your program.

Here's how to proceed:

Step One: Brainstorm ideas for how your program should use your assessment tool(s) to improve the program. If you already have an assessment instrument in place, such as state board exams, what happens now when you get the results? What could you do to formalize that process so that all the faculty hear the results and take time to think about the program and evaluate it? If you have just created an assessment process, what is needed to facilitate a dialogue about the results? If your program offers a degree and more than one certificate, how can you stagger the assessment process so that each is evaluated and analyzed in turn? What kind of cycle makes sense for your program? In this brainstorming process, throw out several ideas before you evaluate them. Allow yourself to be creative and dream. Begin with the most delightful or impossible and then refine your ideas.

Step Two: Choose the most feasible brainstorm idea and complete the **Evaluation of Assessment Worksheet** to further develop your plan. Who will analyze your assessment results? How? How many faculty will be involved? Anyone else? How many meetings will be needed? Who will attend? When will they be held? Who will be responsible for facilitating this process? The questions you answer on this worksheet match those on the **Occupational Assessment Plan Form** which follows. This form will be appended to your Instructional Plan.

Step Three: Now that you have created a process for analysis, look at the **Occupational Assessment Analysis** form. This form will also be appended to your Instructional Plan and must become a regular part of your assessment process.

Step Four: Once you have created a process for your degrees and certificates, repeat these steps to design one for the SLOs in your courses. The Assessment Coordinator recommends that you create a process that can be done at the same time as the assessment of degree and certificate SLOs to maximize use of faculty time and energy.

Brainstorming

Use this page to brainstorm ideas for your program to discuss the results of your assessment process for your degrees, each certificate and courses. Remember that that your assessment must be held at regular intervals and then analyzed and discussed. Given the culture of your particular program, what are three ways this could possibly be

accomplished? You don't have to be practical yet. Brainstorm and throw out wild ideas. Then refine them.

Method One:

Method Two:

Method 3:

Evaluation of Assessment Worksheet

Choose the most practical of your brainstorms and develop it by using this worksheet.

Occupational Program	
-----------------------------	--

Assessment Tool For degree, certificate and course SLOs	
Process Used to Discuss Results (Describe the steps your program will take to evaluate your assessment results: What meetings will be held? Who will be involved? What will be discussed? How will you record the results?)	1. 2. 3. 4. 5.
Timeline for Process	
Person Responsible for Facilitating Process	

Occupational Program Assessment Plan

Use the form below to describe your assessment plan and to analyze the results of it. Include this form in your Instructional Plan and incorporate the results into the narrative of your instructional plan.

Department	
<p>Program Outcomes (List the SLOs for your degree and all your certificates. Attach another sheet if necessary)</p>	
<p>Assessment of Program SLOs</p> <p>Describe the Assessment Process your program will use to evaluate the degree,</p>	

<p>certificate and course outcomes. Include the assessment tool used and the rubric or criteria used to evaluate success</p>	
<p>Assessment Evaluation</p> <p>Describe the process the department uses to evaluate assessment results. Include:</p>	

What meetings will be held?

When?

Who will be involved?

What will be discussed?

How will you record the results?)

Occupational Program Assessment Analysis

Use the form below to summarize the results of the department meeting in which you discussed the results of your program’s assessment process. Include this form in your Instructional Plan and incorporate the results into the narrative of your instructional plan.

Department	
Meeting Date	
Number of Faculty/Staff in Attendance and percentage of department represented.	
Number of Faculty sharing Assessment Results – if applicable	
SLO(s) Measured Competency	
Assessment Tool (Briefly describe assessment tool)	
Assessment Results (Summarize the overall results of your department)	
Next Step in the Classroom to Improve Student Learning	<ul style="list-style-type: none"> ○ State goals or objectives of assignment/activity more explicitly

<p>(check all the items faculty felt would help them improve student learning)</p>	<ul style="list-style-type: none"> ○ Revise content of assignment/activities ○ Revise the amount of writing/oral/visual/clinical or similar work ○ Revise activities leading up to and/or supporting assignment/activities ○ Increase in-class discussions and activities ○ Increase student collaboration and/or peer review ○ Provide more frequent or fuller feedback on student progress ○ Increase guidance for students as they work on assignments ○ Use methods of questions that encourage competency ○ State criteria for grading more explicitly ○ Increase interaction with students outside of class ○ Ask a colleague to critique assignments/activities ○ Collect more data ○ Nothing; assessment indicates no improvement necessary ○ Other (please describe)
<p>Next Step in the Department to Improve Student Learning</p> <p>(check all that the department felt would help them improve student learning)</p>	<ul style="list-style-type: none"> ○ Offer/encourage attendance at seminars, workshops or discussion groups about teaching methods ○ Consult teaching and learning experts about teaching methods ○ Encourage faculty to share activities that foster competency ○ Write collaborative grants to fund departmental projects to improve teaching ○ Prove articles/books on teaching about competency ○ Visit classrooms to provide feedback (mentoring) ○ Create bibliography of resource material ○ Have binder available for rubrics and results ○ Analyze course curriculum to determine that competency skills are taught, so that the department can build a progression of skills as students advance through courses ○ Nothing; assessments indicate no improvements necessary ○ Other (please describe) ○
<p>Priorities to Improve Student Learning</p>	

<p>(List the top 3-6 things faculty felt would <u>most</u> improve student learning based on the information on the previous pages)</p>	
<p>Implementation</p> <p>(List the departmental plans to implement the listed above priorities)</p>	
<p>Timeline for Implementation</p> <p>(Make a timeline for implementation of your top priorities)</p>	