# Writing and Assessing Course-Level Student Learning Outcomes

# **Office of Planning and Assessment**

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### WRITING AND ASSESSING COURSE-LEVEL EXPECTED LEARNING OUTCOMES

Although the term "Expected Learning Outcome" may be new, the process of identifying the key concepts or skills that students are expected to learn during specific courses is not. Many people are more familiar with the terms "course objective" or "course competency". Expected learning outcomes are really very similar to both of these concepts, so if you already have course objectives or competencies, you are close to having expected leaning outcomes for your class. This handbook will provide information on exactly what expected learning outcomes are and what methods can be used to assess them.

This handbook is designed to assist faculty with the process of developing expected learning outcomes and methods for assessing those outcomes in their courses. This handbook begins by providing basic information related to (1) course purpose; (2) expected learning outcomes; (3) methods for assessing expected learning outcomes; (4) criteria for grade determination; and (5) a course outline. The second section of the handbook provides a "work area" to aid in the development of these elements.

### **Expected Learning Outcomes for this handbook:**

After reading and completing this handbook, individuals will be able to:

- Prepare a description of the course as well as a written statement regarding the course's purpose;
- Construct/develop expected learning outcomes for the course;
- Create an assessment plan that outlines the specific methods that will be used to assess the expected student learning outcomes for a course;
- Describe how grades will be determined in a process that is separate and distinct from assessing the expected learning outcomes;
- Identify the common components of a course outline; and
- Revise their course syllabi to incorporate a course purpose, expected learning outcomes, methods to assess those outcomes, the criteria for grade determination, and a course outline.

### OUTCOMES AND ASSESSMENT TERMINOLOGY

This publication uses some terminology related to expected learning outcomes and assessment. A brief glossary of terms has been provided below for reference purposes.

**Assessment of expected learning outcomes** – the process of investigating (1) <u>what</u> students are learning and (2) <u>how well</u> they are learning it in relation to the stated expected learning outcomes for the course.

**Assessment plan** – the proposed methods and timeline for assessment-related activities in a given course (*e.g.*, <u>when</u> are you going to check what/how well the students are learning and <u>how</u> are you going to do that?).

**Classroom Assessment Technique (CAT)** – Angelo and Cross (1993) developed a variety of techniques/activities than can be used to assess students' learning. These CATs are often done anonymously and are not graded. These activities check on the class' learning while students are still engaged in the learning process. *An example of a CAT is a non-graded quiz given a few weeks before the first exam.* 

**Course description** – a formal description of the material to be covered in the course. This description is usually taken or adapted from the course description found in the university's course catalog.

**Course purpose** – the course purpose describes the intent of the course and how it contributes to the major. The course purpose goes beyond the course description.

**Criteria for grade determination** – indicates how the methods of assessment will be used to determine the final grade for the course (may include percent or weight associated with specific assignments – test = 20%, project = 30%, etc. and categories for scores into grades – A = 90-100, B = 80-89, etc.). Obviously, other approaches to determining final grades are possible but a statement of how the grade is determined should be included.

**Expected learning outcome** - a formal statement of what students are expected to learn in a course (*synonyms for "expected learning outcome" include learning outcome, learning outcome statement, and student learning outcome*).

**Evaluation** – making a judgment about the quality of student's learning/work and assigning a grade based on that judgment. Evaluation activities (such as exams, papers, etc.) are often seen as formal ways to assess the expected learning outcomes for a course.

**Methods for assessing student learning outcomes** – this term refers to any technique or activity that is used to investigate *what* students are learning or *how well* they are learning. Formal methods for evaluating student learning outcomes include graded quizzes, exams, papers, homework assignments, etc. Informal methods for assessing student learning outcomes include Classroom Assessment Techniques (CATs) such as class discussion, non-graded quizzes, etc. Both formal and informal assessment methods are used to investigate how the well students have acquired the learning outcomes for the course.

For information on programmatic or departmental learning outcomes and assessment contact Dr. Andrea McCourt at <u>andrea.mccourt@ttu.edu</u> or (806) 742-1505, Texas Tech University, Office of Planning and Assessment.

## **COURSE PURPOSE**

One of the first steps in identifying the expected learning outcomes for a course is identifying the *purpose* of teaching in the course. By clarifying the purpose of the course, faculty can help discover the main topics or themes related to students' learning. These themes help to outline the expected learning outcomes for the course.

The course purpose involves the following:

- 1. What role does this course play within the major?
- 2. How is the course unique or different from other courses?
- 3. Why should/do students take this course? What essential knowledge or skills should they gain from this experience?
- 4. What knowledge or skills from this course will students need to have mastered to perform well in future classes or jobs?
- 5. Why is this course important for students to take?

This section of a syllabus is distinct from the "Course Description" section that many faculty members already use. While the "Course Description" provides general information regarding the topics and content addressed in the course, the "Course Purpose" goes beyond that to describe how this course fits in to the students' educational experience in the major.

# **EXPECTED LEARNING OUTCOMES**

### Expected Learning Outcome (definition)

An expected learning outcome is a formal statement of what students are expected to learn in a course. Expected learning outcome statements refer to specific knowledge, practical skills, areas of professional development, attitudes, higher-order thinking skills, etc. that faculty members expect students to develop, learn, or master during a course (Suskie, 2004). Expected learning outcomes are also often referred to as "learning outcomes", "student learning outcomes", or "learning outcome statements".

Simply stated, expected learning outcome statements describe:

- 1. What faculty members want students to <u>know</u> at the end of the course AND
- 2. What faculty members want students *to be able to do* at the end of the course.

### Learning outcomes have three major characteristics

- 1. They specify an action by the students/learners that is *observable*
- 2. They specify an action by the students/learners that is *measurable*
- 3. They specify an action that is done by the *students/learners* (rather than the faculty members)

Effectively developed expected learning outcome statements should possess all three of these characteristics. When this is done, the expected learning outcomes for a course are designed so that they can be assessed (Suskie, 2004).

### WRITING EFFECTIVE LEARNING OUTCOME STATEMENTS

When stating expected learning outcomes, it is important to use verbs that describe exactly what the learner(s) will be able to <u>do</u> upon completion of the course.

# Examples of good action words to include in expected learning outcome statements:

Compile, identify, create, plan, revise, analyze, design, select, utilize, apply, demonstrate, prepare, use, compute, discuss, explain, predict, assess, compare, rate, critique, outline, or evaluate

There are some verbs that are unclear in the context of an expected learning outcome statement (*e.g., know, be aware of, appreciate, learn, understand, comprehend, become familiar with*). These words are often vague, have multiple interpretations, or are simply difficult to observe or measure (American Association of Law Libraries, 2005). As such, it is best to avoid using these terms when creating expected learning outcome statements.

For example, please look at the following learning outcomes statements:

- > The students will understand basic human development theory.
- > The students will appreciate music from other cultures.

Both of these learning outcomes are stated in a manner that will make them difficult to assess. Consider the following:

- How do you observe someone "understanding" a theory or "appreciating" other cultures?
- How easy will it be to measure "understanding" or "appreciation"?

# These expected learning outcomes are more effectively stated the following way:

- The students will be able to identify and describe the major theories of human development.
- The students will be able to identify the characteristics of music from other cultures.

### Incorporating Critical Thinking Skills Into Expected Learning Outcomes Statements

Many faculty members choose to incorporate words that reflect critical or higherorder thinking into their learning outcome statements. Bloom (1956) developed a taxonomy outlining the different types of thinking skills people use in the learning process. Bloom argued that people use different levels of thinking skills to process different types of information and situations. Some of these are basic cognitive skills (such as memorization) while others are complex skills (such as creating new ways to apply information). These skills are often referred to as *critical thinking skills* or *higher-order thinking skills*.

Bloom proposed the following taxonomy of thinking skills. All levels of Bloom's taxonomy of thinking skills can be incorporated into expected learning outcome statements. Recently, Anderson and Krathwohl (2001) adapted Bloom's model to include language that is oriented towards the language used in expected learning outcome statements. A summary of Anderson and Krathwohl's revised version of Bloom's taxonomy of critical thinking is provided below.

### Definitions of the different levels of thinking skills in Bloom's taxonomy

- 1. **Remember** recalling relevant terminology, specific facts, or different procedures related to information and/or course topics. At this level, a student can remember something, but may not really understand it.
- 2. **Understand** the ability to grasp the meaning of information (facts, definitions, concepts, etc.) that has been presented.
- 3. **Apply** being able to use previously learned information in different situations or in problem solving.
- 4. **Analyze** the ability to break information down into its component parts. Analysis also refers to the process of examining information in order to make conclusions regarding cause and effect, interpreting motives, making inferences, or finding evidence to support statements/arguments.
- 5. **Evaluate** being able to judge the value of information and/or sources of information based on personal values or opinions.
- 6. **Create** the ability to creatively or uniquely apply prior knowledge and/or skills to produce new and original thoughts, ideas, processes, etc. At this level, students are involved in creating their own thoughts and ideas.

(Adapted from information from Ball State University accessed at <u>http://web.bsu.edu/IRAA/AA/WB/chapter2.htmm</u>)

### List of Action Words Related to Critical Thinking Skills

Here is a list of action words that can be used when creating the expected student learning outcomes related to critical thinking skills in a course. These terms are organized according to the different levels of higher-order thinking skills contained in Anderson and Krathwohl's (2001) revised version of Bloom's taxonomy.

REMEMBER	UNDERSTAND	APPLY	ANALYZE	EVALUATE	CREATE
Count Define Describe Draw Identify Label List Match Name Outline Point Quote Read Recall Recite Recognize Record Repeat Reproduce Select State Write	Associate Compute Convert Defend Discuss Distinguish Estimate Explain Extend Extrapolate Generalize Give examples Infer Paraphrase Predict Rewrite Summarize	APPLY Add Apply Calculate Change Classify Complete Demonstrate Discover Divide Examine Graph Interpolate Manipulate Modify Operate Prepare Produce Show Solve Subtract Translate Use	ANALYZE Analyze Arrange Breakdown Combine Design Detect Develop Diagram Differentiate Discriminate Illustrate Infer Outline Point out Relate Select Separate Subdivide Utilize	Appraise Assess Compare Conclude Contrast Criticize Critique Determine Grade Interpret Judge Justify Measure Rank Rate Support Test	CREATE Categorize Combine Compile Compose Create Drive Design Devise Explain Generate Group Integrate Modify Order Organize Plan Prescribe Propose Rearrange Reconstruct Related Reorganize Revise Rewrite Summarize
					Specify

(Adapted from information from Kansas State University accessed at <u>http://www.k-state.edu/assessment/Learning/action.htm</u>)

### TIPS FOR DEVELOPING COURSE-LEVEL EXPECTED LEARNING OUTCOMES STATEMENTS

- Limit the course-level expected learning outcomes to 5 10 statements for the entire course (more detailed outcomes can be developed for individual units, assignments, chapters, etc.).
- Focus on overarching or general knowledge and/or skills (rather than small or trivial details).
- Focus on knowledge and skills that are central to the course topic and/or discipline.
- Create statements that are student-centered rather than faculty-centered (e.g., "upon completion of this course students will be able to list the names of the 50 states" versus "one objective of this course is to teach the names of the 50 states").
- Focus on the learning that *results* from the course rather than describing activities or lessons in the course.
- Incorporate or reflect the institutional and departmental missions.
- Incorporate various ways for students to show success (outlining, describing, modeling, depicting, etc.) rather than using a single statement such as "at the end of the course, students will know \_\_\_\_\_\_" as the stem for each expected outcome statement.

# SAMPLE EXPECTED LEARNING OUTCOMES STATEMENTS

The following pages depict some sample expected learning outcome statements from selected courses.

### United States History

Upon completion of this course, the students will be able to:

- Describe the relationship between the past and the present
- Write an essay defining a pluralistic society and its relationship to our democratic principles
- Outline the structure of the Constitution of the U.S.
- Identity and define the social, political, and economic institutions that impact the modern society
- Describe the major events and individuals associated with the history of the United States.

### Introduction to Business

At the end of the course, students should be able to:

- Identify and describe current domestic and international business trends
- Explain how proper business management benefits consumers and employees
- Define the basic rules related to human resources management
- Compare and contrast the different types of business ownership
- Evaluate and classify various marketing strategies
- Summarize how technology can help a business manage information

### Music Appreciation/History Course (with a focus on Western music)

After completing this course, students will be able to:

- Identify the basic elements of Western music
- List the instruments associated with Western music
- Describe the distinct style periods of Western music
- Recognize selected examples of Western music aurally
- Discriminate among different Western music styles
- Explain music's place in relation to other art forms

### General Psychology

Students who complete this course should be able to:

- Identify and define basic terms and concepts which are needed for advanced courses in psychology
- Outline the scientific method as it is used by psychologists
- Apply the principles of psychology to practical problems
- Compare and contrast the multiple determinants of behavior (environmental, biological, and genetic)
- Analyze current research findings in the areas of physiological psychology, perception, learning, abnormal, and social psychology
- Distinguish between healthy and unhealthy physical, mental, and emotional patterns

### Plant and Soil Sciences

At the end of the course, the student should be able to:

- Label the parts of a plant
- Define the terms used in plant growth and reproduction
- Explain transpiration, respiration and photosynthesis
- Calculate the germination rates of various seeds
- Identify soil texture and structure from soil samples
- List the primary, secondary and micro nutrients present in soil
- Identify and describe land capability classes and their uses

### **General Nutrition**

Upon completion of this course students will be able to:

- Describe the digestive system
- Explain the steps involved in metabolism and the ways energy is derived from carbohydrate, fat, and protein
- Design individualized eating plans utilizing diet planning principles and the Food Guide Pyramid
- State the benefits associated with physical activity and the components of a sound fitness or health program
- Describe how nutrition and lifestyle choices impact the life cycle

# AN OVERVIEW OF ASSESSMENT

### What is assessment?

According to Palomba and Banta (1999) assessment involves the systematic collection, review, and use of evidence or information related to student learning. Assessment helps faculty understand how well their students understand course topics/lessons. Assessment exercises are often anonymous. This anonymity allows students to respond freely, rather than trying to get the "right" answer or look good. Assessment exercises attempt to gauge students' understanding in order to see what areas need to be re-addressed in order to increase the students' learning.

In other words, assessment is the process of investigating (1) <u>what</u> students are learning and (2) <u>how well</u> they are learning it in relation to the stated <u>expected</u> learning outcomes for the course. This process also involves providing feedback to the students about their learning and providing new learning opportunities/strategies to increase student learning.

For example, Dr. Doe initiates a class discussion on material from Chapter One and determines that most students are confused about Topic X. This class discussion served as a method for assessing student learning and helped determine the fact that student learning related to Topic X is somewhat lacking. Dr. Doe now has the opportunity to (1) inform the students that there is some confusion and (2) make adjustments to address this confusion (e.g., ask student to re-read Chapter One, relecture over Topic X, etc.). This assessment process helps increase students' learning.

### What is the difference between "evaluation" and "assessment"?

<u>Evaluation</u> focuses on making a judgment about student work to be used in assigning grades that express the level of student performance. Evaluation is usually used in the process of <u>determining grades</u>. Evaluation typically occurs after student learning is assumed to have taken place (e.g., a final exam). Evaluation is part of the assessment process. Course assignments that are evaluated/graded (e.g., exams, papers, homework, etc.) are often seen as formal assessment techniques.

While evaluation is an important component of most classrooms, it does have some limitations. For example, if the class average on an exam is a 45%, is seems pretty clear that something went wrong along the way. When one has only evaluated the final learning product, it can be challenging to go back and discover what happened. It can also be difficult to address the situation or provide opportunities for students to learn from their mistakes. Yes, a curve on an exam can help address a low class average, but does it help the students learn? Engaging in informal assessment activities throughout the course can help avoid this situation.

### What is involved in the assessment process?

- 1. Establishing *expected learning outcomes* for the course;
- 2. Systematically gathering, analyzing, and interpreting evidence (through formal assessment activities such as exams or papers and informal assessment activities such as in-class discussions or "muddiest point" exercises<sup>1</sup>) to determine how well the students' learning matches:
  - a) faculty expectations for what students will learn AND
  - b) the stated expected learning outcomes for the course
- 3. Faculty members should use this evidence/assessment of student learning to:
  - a) provide feedback to students about their learning (or lack thereof) AND
  - b) adjust their teaching methods and/or students' learning behaviors to ensure greater student learning (Maki, 2004).

<sup>1</sup> The "Muddiest Point" Exercise is a Classroom Assessment Technique (CAT) and is an example of a method that can be used to assess learning outcomes. At the end of a class period or major topic, faculty ask students to anonymously write down what point(s) were the most unclear or "muddy" to them. After class, faculty members review these responses and then re-teach or re-address any confusing topics, thus increasing student learning (Angelo & Cross, 1993).

# METHODS FOR ASSESSING LEARNING OUTCOMES

Formal Evaluation/Assessment Activities for Assessing Expected Learning Outcomes

Exams Quizzes Papers Homework Assignments In-Class Activities Class Discussion

#### Informal Assessment Activities for Assessing Expected Learning Outcomes

Non-Graded Quizzes "Muddiest Point" Activities One Minute Papers Reaction Papers Active Learning Techniques Polling the class Application Cards

**Checkpoint!** - It is best to use <u>**BOTH**</u> Traditional Evaluation/Assessment strategies and Classroom Assessment Techniques to create the best assessment plan for an expected learning outcome in a course. When developing an Assessment Plan, it is a good idea to include activities from both of these groups.

### Assessment Resources

- Angelo, T.A. & Cross, K.P. (1993). Classroom assessment techniques: A handbook for college teachers (2nd Ed.). San Francisco, CA: Jossey-Bass.
- Meyers, C. & Jones, T.B. (1993). Promoting active learning: Strategies for the college classroom. San Francisco, CA: Jossey-Bass.
- Suskie, L. (2004). Assessing student learning: A common sense guide. Bolton, MA: Anker Publishing.

Classroom Assessment Techniques (CATs): An Introduction <u>http://www.psu.edu/celt/CATs.html</u>

Overview of Several Common Classroom Assessment Techniques (CATs) <u>http://www.iub.edu/~teaching/feedback.html</u>

Resources: Assessment of Teaching & Learning <a href="http://www.usc.edu/programs/cet/resources/assessment/">http://www.usc.edu/programs/cet/resources/assessment/</a>

List of Classroom Assessment Techniques

http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/assess-2.htm

### DESCRIPTION OF SEVERAL COMMON METHODS FOR ASSESSING EXPECTED LEARNING OUTCOMES

### "Muddiest Point" Activity

"Muddiest Point" exercises are active learning techniques typically conducted at the end of a topic, chapter or class period. In a "Muddiest Point" exercise, students are anonymously asked to report what idea, topic, etc. about the previous lesson was confusing or unclear. Faculty members collect all "Muddiest Point" responses and later read and analyze them to see what areas of the lesson or assignments students are unclear about.

It is important to provide follow-up and feedback regarding student responses. Here are some ways to do that:

- Start off the next lecture by clarifying confusing topics
- Re-teach larger sections of material as necessary
- Provide simple explanations, etc. on a course website

### One Minute Papers (which are similar to "Muddiest Points")

In this activity, at the end of a lesson/class period/chapter, faculty members ask their students to write down:

- 1. What they believe to be the most important/significant concept from a certain lesson; AND/OR
- 2. List their major questions related to a lesson/lecture/chapter

These papers allow faculty to assess general learning. These papers are not graded and often done anonymously. They also allow faculty to judge whether the students are focusing on the appropriate major points, or if they are getting caught up in the little details.

### Minute papers can be debriefed by:

- 1. Providing written feedback on students' minute papers (if <u>not</u> done anonymously)
- 2. Writing frequently listed major points on the board
- 3. Discussing answers to students' questions with the class

### Non-Graded Quizzes

Non-graded quizzes can provide great feedback on student learning. These are nonthreatening and non-punitive, so students tend to like them. Non-graded quizzes can be given in a variety of formats (paper & pencil, questions in a PowerPoint presentation, etc.). Be sure to provide students with the correct answers to the quiz items, so they can learn from their mistakes!

### Student-Generated Exam Questions

In this assessment activity, students (either alone, in pairs, or in groups) are asked to generate potential exam questions. This helps you assess student learning as well as their expectations for an upcoming exam.

Having students create potential exam questions helps you assess:

- 1. If students can identify key concepts;
- 2. What your students see as fair or reasonable exam questions; and
- 3. How well the students can answer these potential exam questions

Be sure to discuss the answers to each question with the class. Also discuss with the class which questions are too easy or too hard and which questions are reasonable and similar to those that they will actually see on the upcoming exam.

### **Application Cards**

This activity assists faculty in determining if students can <u>apply</u> the knowledge from the course, which is often tricky. After students have heard or read about an important concept, theory, or procedure, pass out note cards to each student or to small groups of students. Ask them to record two or three different ways to apply the new information to a real-world situation.

### Ideas for debriefing this activity:

- 1. Call on individual students or small groups of students to share their ideas; discuss their responses and list the applications on the board
- 2. Collect all responses, read through them, and share some of the best responses either immediately or at the start of the next class session

### **Reaction Papers**

Reaction papers require students to write down their reactions (thoughts, feelings, attitudes, etc.) to course material or topics. Although reaction papers can be formal graded assignments, they can also be used solely for the purposes of assessing student learning. In this case, faculty members ask their students to take a few minutes of class time and write down their reaction to a fact, opinion, skill, procedure, attitude, critique, etc. that was addressed in the course. By reviewing student responses, faculty can gain knowledge regarding their students understanding of these concepts. It can also give faculty insight into students' attitudes and ways of thinking about class material, which can often be a challenge to assess.

### Polling the Class

- Personal Response Systems (PRS) provide students with remote "clickers" to use in voting on true/false or multiple choice questions (similar to "Ask the Audience" on *Who Wants to be a Millionaire*)
- These polls provide instructors with instant information/feedback regarding student learning
- A graph depicting students' answers can be projected on a screen in the classroom so that students can see the classes' response
- This data can also be downloaded so instructors can review individual student's responses

Ways to debrief PRS questions if there seems to be confusion include:

- 1. Having students turn to the person next to them, discuss the question, and then vote again
- 2. Ask for several volunteers to explain their answer to the class, then have the class re-vote

If you don't have either the access or the desire to use this technology, you have other options!

- Have students vote on an answer with a "thumbs up" or "thumbs down"
- Pass out cards with A, B, C, or D printed on them and have students use the cards to vote on answers

While you can't project graphs of how students respond to your questions using these methods, you can still get a good idea of how well the class understands the topic/concept.

### Active Learning Techniques

Active learning techniques get the students engaged in the learning process. In these activities, faculty members ask students to think, discuss, share their ideas, etc. The way that students participate in these active learning techniques can provide assessment feedback on how well the students truly understand a topic. Here are some common Active Learning Techniques that can be used to assess student learning:

- Think-pair-share. In a think-pair-share, faculty members pose a question to the class and then allow a couple of minutes for each individual student to *think* it through. Next, each student turns to the student next to him/her to discuss the question/answer as a *pair*. Finally, the faculty member will ask student pairs *to share* their response with the class.
  - Assessment data from this technique can be gathered by listening to student pairs' responses to gauge how well they understand the concept.

### Active Learning Techniques Continued

- **Concept mapping.** Concept mapping is a technique that helps the students to organize the lecture and/or recognize the relationships between ideas by creating a visual map of the connections. This technique may be useful to draw together all of the concepts and interrelationships used in solving the lengthy problems inherent in engineering.
  - Assessment data from the activity can be gathered by looking at concept maps that students/classes create, and checking for evidence of how well students understand the topics.
- **Pause procedure.** This active learning technique consists of several 2-3 minute pauses spaced at logical breaks in the material in which the students talk to each other and compare lecture notes (looking for key points or clarifying definitions) with no interaction from you. If the students have a discrepancy or need further clarification, they can ask you; otherwise, you take a hands-off approach and let them learn form each other.
  - Assessment data from this technique is gathered by rotating through the classroom and listening to the students as they engage in this activity. It is also gathered through the questions that students request the faculty member to clarify.

### **Expected Learning Outcomes Statements Survey**

This is one way to directly assess how well students feel that they have mastered the expected learning outcomes for the course. In this method, faculty members have students complete a brief survey at the end of the class that asks students to rate how well they have learned each outcome. The simplest way to do this is to list each stated expected learning outcome and have students indicate on a scale how well they feel they have mastered each outcome.

For example (using the course from the sample syllabus) students would be asked:

I am able to describe developmentally appropriate guidance practices.

1=strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

# I am able to explain the theoretical foundations related to methods used in the field of guidance.

1=strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

# **CRITERIA FOR GRADE DETERMINATION**

"Criteria for grade determination" is a common element of many course syllabi. This section is often referred to as "Grading Information", "Grading Policy", "Course Assignments/Grades", etc. This section of a syllabus describes how faculty members will calculate or determine whether or not a student will receive an A, B, C, D, or F on an assignment or in the course.

Suggested topics to include in the "criteria for grade determination" section include:

- A list/description of all assignments/projects/activities that will be assigned a grade and included in the calculation of the students' final grade in the course
- The point values and/or percent of the final grade in the course related to each of these assignments/projects/activities
- A description of how point values/grades will be earned/determined for each assignment/project/activity as well as for the course as a whole

Note: This list is only a suggested list of things to consider including as criteria for how grades are determined. This list is not meant to be exhaustive or to serve as a list of mandatory inclusions. It is meant only to provide examples and potential areas that may be included in a syllabus.

# THE FOLLOWING SECTION OF THIS PUBLICATION WILL BE A "WORK AREA" TO ASSIST IN THE DEVELOPMENT OF:

A COURSE PURPOSE STATEMENT

**EXPECTED LEARNING OUTCOME STATEMENTS** 

AN ASSESSMENT PLAN OUTLINING THE METHODS FOR ASSESSING THE EXPECTED LEARNING OUTCOMES; AND

THE CRITERIA FOR GRADE DETERMINATION

A COURSE OUTLINE (SCHEDULE)

# WRITING A COURSE PURPOSE

### Determining the PURPOSE of teaching the course

When planning a course and determining the Learning Outcomes for that course, it is important to examine the course's purpose within the context of the university, the college, and/or the department/program. This process will assist faculty in determining the intent of the course as well as how the course fits into the curriculum. This will help identify the essential knowledge, skills, etc. that should be incorporated into the course and the stated expected learning outcomes for the course.

The course purpose section should clarify the course's standing within the major (e.g., is the course required or an elective?, does this class have a pre-requisite?, etc.). It should also describe the course's role in the departmental/programmatic curriculum by addressing the intent (importance, main contribution, intrinsic value, etc.) of the class.

# **STEP ONE A:** Determine if the course is part of the Texas Tech Core Curriculum

Texas Tech University has established a list of Core Curriculum courses in order to provide all students with the opportunity to gain a general knowledge base. The core curriculum covers classes in the natural and applied sciences, social sciences, humanities, visual and performing arts, and the tools of language and thought. If a course is part of the Core Curriculum, it plays a role in the general education of Texas Tech students.

If a course is listed as a Core Curriculum course, the University has established some outcomes/objectives for all Core Curriculum courses within the relevant discipline. For more information on Core Courses and the state outcomes/objectives for those core areas, please see refer to pages 42 – 46 of *The TTU 2005-006 Undergraduate & Graduate Catalog*, which can be accessed at:

http://www.depts.ttu.edu/officialpublications/catalog/GenInfo.pdf

# The Stated Outcomes/Objectives for this Area of the Core Curriculum (if applicable)

# <u>STEP ONE B:</u> Determine how the course fits into the departmental or programmatic curriculum

Here are some questions to ask to help determine how a course fits in the departmental/programmatic curriculum:

### What role does the course play in the departmental/programmatic curriculum?

- Is this course required?
- Is this course an elective?
- Is this course required for some students and an elective for others?
- Does this class have a pre-requisite?
- Is this class a pre-requisite for another class in the department?
- Is this course part of Texas Tech University's core curriculum?

### How advanced is this course?

- Is this course an undergraduate or graduate course?
- Where does this course fall in students' degree plan as an introductory course or an advanced course?
- Can I expect the students taking this course to know anything about the course topic?
- Are other faculty members counting on students who have taken this course to have mastered certain knowledge or skills?

### When students leave this course, what do they need to know or be able to do?

- Is there specific knowledge that the students will need to know in the future?
- Are there certain practical or professional skills that students will need to apply in the future?
- Five years from now, what do you hope students will remember from this course?

### What is it about this course that makes it unique or special?

- Why does the program or department offer this course?
- Why can't this course be "covered" as a sub-section of another course?
- What unique contributions to students' learning experience does this course make?
- What is the value of taking this course? How exactly does it enrich the program or department?

Notice that the course purpose is different from the course description that many faculty members commonly include in their syllabi. Information related to the course description is usually found in the Texas Tech University 2005-06 Undergraduate & Graduate Catalog (<u>http://www.depts.ttu.edu/officialpublications/catalog/GenInfo.pdf</u>). The *course description* outlines the actual content of the course (topics, facts, skills, etc. that will be addressed). The *course purpose* explains the intent of the course and how it contributes to the major.

### STEP TWO: State the PURPOSE of the Course

Answers to the questions from the previous pages should help determine the purpose of this course. In the space provided write a paragraph that explains why the course is important and/or taught and how it fits into the major.



A "Course Purpose" statement can be added to a syllabus in a separate section titled "Course Purpose" or as a subsection of the "Course Description".

# WRITING EXPECTED LEARNING OUTCOMES FOR A COURSE

The following pages should be of assistance in developing several broad, effectively stated expected learning outcomes for a course. When beginning to construct expected learning outcome statements, it is always good to think about the learners. Please take a moment to think about the student learners in the course. Please consider the following questions:

- What are the most essential things the students need to know or be able to do at the end of this course?
- What knowledge and skills will they bring with them?
- What knowledge and skills should they learn from the course?

When you begin thinking about the expected learning outcomes for a course, it is a good idea to think broadly. Course-level expected learning outcomes do not need to focus on small details; rather, they address entire classes of theories, skill sets, topics, etc.

### STEP ONE A:

In the space provided, list the major elements that you want your students <u>TO KNOW</u> (facts, theories, concepts, models, etc.) at the end of the course.

### STEP ONE B:

In the following space, list the major things you want your students <u>TO BE ABLE TO</u> <u>DO</u> (skills, abilities, procedures, etc.) after taking the course.



**Checkpoint!** Please make sure your outcomes do not refer simply to the course content (the facts the students will know). Be sure to include learning outcomes that describe what the student can do and who they are. Brainstorm as many outcomes as you like in this section. Later on, you will have the opportunity to narrow down and prioritize these outcomes.

### **STEP TWO:** List the Expected Learning Outcomes

Rewrite the expected learning outcomes you listed under Steps 1A and 1B. In this section, be sure that these learning outcomes follow the guidelines discussed in the first section of this workbook.

After taking this course, the student(s) will be able to:

**Checkpoint!** Are all of your expected learning outcomes (1) observable; (2) measurable; and (3) phrased so they state what the *learners* will do? If a learning outcome is content-centered, can it be re-phrased to focus on the students' skills/development/attitudes as well?

### **STEP THREE:** Prioritize the Expected Learning Outcomes

For this section, please refer to the list of expected student learning outcomes you provided on page 26. Put a number next to each of the learning outcomes to show the value you place on each specific outcome. For example, place a "1" next to the outcome you believe to be the most important, a "2" next to the second most important learning outcome, etc.

While all the outcomes you brainstormed are likely to be important, it is recommended that you select no more than 5 - 10 student learning outcomes to be listed on your syllabus as the overall course-level expected learning outcomes. This helps to keep the course (and your assessment plan) focused and manageable. You will find that the other learning outcomes you listed will still have a place in your course. Most likely, you will address those learning objectives at a more basic level (e.g., as an outcome for a particular chapter, unit, assignment, etc.).

### **DEVELOPING A PLAN TO ASSESS THE** COURSE-LEVEL EXPECTED LEARNING OUTCOMES

Assessment tells faculty members if their students have actually learned what the faculty planned for them to learn. Assessment goes beyond simply evaluating each student's work and assigning grades. While it is true that some assessment techniques may result in the assignment of a grade, many of the assessment exercises faculty engage in are done simply to explore students' learning.

As discussed earlier in this handbook, both traditional evaluation activities (such as exams, homework, or research papers) and classroom assessment techniques (such as class discussions, non-graded quizzes, or "muddiest point" exercises) can be used to assess the expected learning outcomes for a course.

**STEP ONE:** In the column on the left, please list all Traditional Evaluation Methods (e.g., exams, paper, etc.) you plan to use in the course. Next, in the column to the right, list the Related Expected Learning Outcome(s) that each Traditional Evaluation Method will help assess.

Traditional Evaluation Method	Related Expected Learning Outcome(s)

**STEP TWO:** In the column on the left, please briefly list each Expected Learning Outcome for the course. In the column to the right, list the different Assessment Methods you plan to use to assess this expected learning outcome (e.g., classroom discussion, "muddiest point" exercises, etc.).

Expected Learning Outcome(s)	Assessment Method

You should now have a list of all traditional evaluation methods and all additional assessment methods that will be used to assess each expected learning outcome in the course. It is important to use BOTH traditional evaluation methods and assessment methods to assess each expected learning outcome.

Now that you have selected the methods you will use to assess the expected learning outcomes in the course, you are ready to incorporate those methods into an assessment plan for the course.

# Note: The list of traditional Evaluation Methods and Assessment Methods you just created should be included in the syllabus as "Methods for Assessing the Expected Learning Outcomes".

### STEP THREE: Creating an Assessment Plan

Now that you have determined what methods you will use to assess the expected learning outcomes in the course, you will want to establish a plan that outlines when and how you will engage in these assessment activities.

An Assessment Plan should reflect the following cycle:



Please use the worksheet on the following page to help you design a plan to assess student learning in your course.

A sample of a completed version of this worksheet/form follows the blank worksheet. An additional blank copy of this worksheet that can be copied and used for each learning outcome for a course has been provided in Appendix B.

### PLAN FOR ASSESSING EXPECTED LEARNING OUTCOMES

Course Title/Number		Department _	
---------------------	--	--------------	--

**Expected Learning Outcome** (please use a separate form for each course-level learning outcome)

When will this expected

learning outcome be

assessed? (Please list the

prospective dates for each of

the assessment techniques

listed in the first column)

If these assessments show

deficiencies in students'

mastery of this expected

learning outcome, what are

your plans for improving

student learning related to

this outcome?

How will this expected

learning outcome be

assessed? What methods

will you use to measure

students'

mastery of this outcome?

(Adapted from information from Kansas State University access	ed at
http://www.k-state.edu/assessment/Library/strategies.ppdf)	

### SAMPLE "Plan for Assessing Expected Learning Outcomes"

Course Title/Number \_\_Child/Adolescent Guidance \_\_\_\_ Department \_\_Child Development

**Expected Learning Outcome** (please use a separate form for each course-level learning outcome)

Expected Learning Outcome # 1 Upon completion of this course, students will be able to describe developmentally appropriate guidance practices.

How will this expected learning outcome be assessed? What methods will you use to measure students' mastery of this outcome?	When will this expected learning outcome be assessed? (Please list the prospective dates for each of the assessment techniques listed in the first column)	If these assessments show deficiencies in students' mastery of this expected learning outcome, what are your plans for improving student learning related to this outcome?
• Exams 1-3	(October, November, December)	Review exam answers with class, review unclear concepts.
<ul> <li>In-class activities</li> </ul>	Weekly	Provide written feedback on activities, debrief common errors or misconceptions with the class.
Muddiest Point CAT	Every 2 weeks	Review answers to students' questions from this CAT activity either verbally or on the course website.
Non-Graded Quizzes	At the end of every chapter/unit	Grade quiz with the class, being sure to provide the correct answers. Clarify any confusing areas; re- teach as necessary.

(Adapted from information from Kansas State University accessed at <u>http://www.k-state.edu/assessment/Library/strategies.pddf</u>)

# **DEVELOPING THE CRITERIA FOR GRADE DETERMINATION**

This section of a course typically includes information regarding course assignments, point values for those assignments, information on how final grades are calculated, etc. Although there are some common components that most faculty members include in this section, the "criteria for grade determination" can vary greatly depending on teaching style, discipline, etc. One important thing to remember is that this section is different than the section of the syllabus that outlines the methods for assessing the expected learning outcomes.

Here are some areas to help brainstorm the "Criteria for Grade Determination" section of a course syllabus:

The following section helps organize these assignments for the course:

Course Assignments/Exams	Point Values	% of course grade
	<u> </u>	
		<u> </u>

Other common areas addressed under "Criteria for Grade Determination" include:

- A description of how final grades (A's, B's, C's, D's, and F's) are determined and assigned;
- It can also be helpful to include any policies related to
  - late assignment penalties;
  - extra credit opportunities;
  - curving grades; and/or
  - ➢ information regarding grade appeals.

Note: This list is only a suggested list of things to consider including as criteria for how grades are determined. This list is not meant to be exhaustive or to serve as a list of mandatory inclusions. It is meant only to provide examples and potential areas that may be included in a syllabus.

# THE COURSE OUTLINE

It is also a good idea to include a course outline in a syllabus. A course outline usually contains the following information:

- A general organization of the order in which the topics will be covered
- A schedule that includes the tentative dates for course topics (this can be daily, weekly, or by topic)
- Due dates for assignments and/or exam dates
- Special in-class events such as guest speakers
- Important university deadlines or dates (e.g., last day to withdraw, university Holidays, etc.)

This section is not a list of required elements of a course outline – this list is merely meant to provide ideas of things to include in a course outline.

# **REVISING A COURSE SYLLABUS**

The previous pages should have assisted you in:

- Stating the Course Purpose (this statement is on page 23);
- Writing the "Expected Learning Outcomes" for the course (*these statements are on page 26*);
- Developing an assessment plan that outlines the methods used to assess the expected learning outcomes for a course (the methods for assessing each expected learning outcome for the course are listed on pages 28 and 29, the assessment plan is outlined using the "Plan for Assessing Expected Learning Outcomes Worksheet" found on page 31); and
- Outlining the Description of How Grades are Determined (see page 33); and
- Course Outline *(see page 35)*

Now that these are prepared, all that is left is to insert them into the course syllabus!

### PLEASE REFER TO APPENDIX A TO VIEW A SAMPLE COURSE SYLLABUS THAT CONTAINS THESE ELEMENTS.

**Appendix A** provides a sample syllabus to provide ideas on incorporating these elements into a course syllabus.

An additional "Plan for Assessing Expected Learning Outcomes" worksheet has been provided in **Appendix B**.

### **APPENDIX A: SAMPLE Syllabus**

### Child and Adolescent Guidance Child Development (CD) 4000 - Section 001 Monday/Wednesday/Friday 10:00 a.m. – 10:50 a.m.

Faculty:J. Doe, Ph.DOffice:Texas Hall 101Office Hours:Mon. and Wed. from noon – 2:00 p.m. & by appointmentPhone:(555)888-8888Email:jdoe@university.com

### SAMPLE SYLLABUS DISCLAIMER

This sample syllabus is meant to provide suggestions on how to incorporate a course purpose statement, expected learning outcomes, methods for assessing learning outcomes, criteria for grade determination, and a course outline into a course syllabus. This is not meant to limit faculty in the creation of their course syllabi. Additionally, this sample syllabus is meant to provide examples and suggestions rather than serve as a template.

#### Course Description

This course focuses on the development of strategies for promoting self-discipline, creative capacities, and positive relationships with children and adolescents. The purpose of this course is to provide students with a working knowledge of developmentally appropriate practices in child/adolescent guidance. This goal will be accomplished by a thorough review of current guidance methods and class exercises designed to familiarize students with guidance techniques. By the end of this course, students are expected to develop their own approach to guidance based on practices best suited to their unique skills and the promotion of optimal development for children and adolescents.

### Course Purpose

This course is a required course for all Child Development majors with a focus in Early Child Education. It is also an elective class for all Child or Adolescent Development majors. This course introduces students to concepts and techniques for working with and guiding both children and adolescents. Course materials relate to several theories of human development and how those theories contribute to or influence the development of guidance techniques/strategies. Thus, this course relates to material from several other courses in the department (e.g., Child Development, Adolescent Development, and Theories of Development). One goal of the course is to help students to learn to apply the information from the class to real-life situations.

### **Expected Learning Outcomes (Option A)**

Upon completion of this course, students will be able to:

- 1. Describe developmentally appropriate guidance practices.
- 2. Explain the theoretical foundations related to methods used in the field of guidance.
- 3. Demonstrate their knowledge of how adults teach, guide, and influence children/adolescents.
- 4. Identify appropriate guidance techniques based on the child's age and environment.
- 5. Demonstrate competence in designing, implementing, and evaluating guidance techniques.
- 6. Articulate their personal values regarding guidance issues.

### Methods for Assessing the Expected Learning Outcomes (Option A)

### The expected learning outcomes for the course will be assessed through:

Exams, In-Class Application Activities, Muddiest Point Classroom Assessment Techniques, Non-Graded Quizzes, the Research Paper, Reaction Papers, Class Discussions, One-Minute Paper Classroom Assessment Techniques, Polling the Class, Application Card Application Techniques, and Active Learning Activities.

# The following page provides another commonly used format/option for including "expected learning outcomes statements" and "methods for assessing those outcomes" in a course syllabus.

# Expected Learning Outcomes & Methods for Assessing those Outcomes (Option B)

Upon completion of this course, students will be able to:

1. Describe developmentally appropriate guidance practices.

**Methods for Assessing this Expected Learning Outcome:** Exams 1-3, Inclass Application Activities, Muddiest Point Classroom Assessment Techniques (CATs), and Non-Graded Quiz (CATs)

2. Explain the theoretical foundations related to methods used in the field of guidance.

**Methods for Assessing this Expected Learning Outcome**: Exams 2-3, Research Paper, Reaction Papers, Non-Graded Quiz (CATs), and In-Class Application Activities

3. Demonstrate their knowledge of how adults teach, guide, and influence children/adolescents.

*Methods for Assessing this Expected Learning Outcome: In-Class Application Activities, Application Card CATs, Class Discussions, and One-Minute Paper CATs* 

4. Identify appropriate guidance techniques based on the child's age, ecological context, and situational determinants.

*Methods for Assessing this Expected Learning Outcome:* Exams 1-3, In-Class Application Activities, Active Learning Activities, Polling the Class CATs, and Muddiest Point CATs

5. Demonstrate competence in designing, implementing, and evaluating guidance techniques.

*Methods for Assessing this Expected Learning Outcome:* Research Paper, Class Discussion, In-Class Application Activities, Application Card CATs

6. Articulate their personal values regarding guidance issues.

*Methods for Assessing this Expected Learning Outcome:* Reaction Papers, In-Class Application Activities, Polling the Class CATs, Active Learning Activities, Research Paper, One Minute Paper CATs

### **Course Assignments/Description of How Grades are Determined**

#### Exams

There will be three exams; each exam is worth 200 points. Each exam will include a variety of questions (e.g., multiple choice questions, matching, short-answer). Exam Three is cumulative. Exam dates are listed in the Course Schedule.

#### Application Activities

Throughout the course of the semester, there will be 10 group and/or individual activities; each is worth 20 points. For example, application activities may include brief reaction papers, small group discussions, etc. These activities will supplement the material from course readings and lectures as well as assist students in applying their knowledge of developmental issues to real life guidance situations.

#### Research Paper

Students will be required to write a research paper related to Child and/or Adolescent Guidance. This paper is to be 15 - 20 pages in length, should use APA citation style, and must incorporate at least 10 scholarly sources. More information will be handed out and discussed at a later date.

### **Grading Scale**

A = 900-1000 points (90% - 100%) B = 800-899 points (80% - 89%) C = 700-799 points (70% - 79%) D = 600-699 points (60% - 69%) F = 0-599 points (0 - 59%)

Exams Application Activities Research Paper 600 points (3 exams worth up to 200 points each) 200 points (10 activities worth up to 20 points each) <u>200 points (1 paper worth up to 200 points)</u> 1000 points total

### Extra Credit Policy

There is no extra credit offered in this course.

### Late Assignment Policy

All assignments are considered late if they are not submitted at the beginning of class the day they are due. For each day (not including weekends) that assignments are late, a 10% deduction in the overall grade for that assignment will be enforced.

#### Grade Appeals

Students initiating grade appeals should follow the official Grade Appeal Procedures outlined by the college. Please see the course website for a link to this policy.

# **Tentative Course Outline**

Date	Topic To Be Covered	Due Dates and Other Important Dates
Week 1	Review of the course syllabus & Introduction to the topic "What is child or adolescent guidance?" (Chapter 1)	
Week 2	The influence of human development theory on child/adolescent guidance (Chapter 2)	
Week 3	Overview of Indirect Guidance Techniques (Chapter 3)	
Week 4	Overview of Direct Guidance Techniques (Chapter 4)	
Week 5	Guiding Infants (Chapter 5)	EXAM 1 (Monday of Week 5)
Week 6	Guiding Toddlers (Chapter 6)	
Week 7	Guiding Preschool Aged Children (Chapter 7)	
Week 8	Guiding Early Elementary Aged Children (Chapter 8)	
Week 9	Diversity and Guidance (Reading Packet)	
Week 10	Diversity and Guidance (Reading Packet)	Exam 2 (Friday of Week 10)
Week 11	Guiding Late Elementary School Aged Children (Chapter 9)	
Week 12	Special Guidance Topic – Peers and Your Child (Article #1 – Reading Packet)	
Week 13	Guiding Adolescents (Chapter 10)	
Week 14	Special Guidance Topic – How to address adolescent's increasing independence(Article #1 – Reading Packet)	Research Paper Due (Monday of Week 14)
Week 15	Special Guidance Topic – Peers and Your Child (Article #1 – Reading Packet)	
Week 16	Reflection and Review of the Course Topics	Cumulative Final Exam (see the published Final Exam Schedule for the exact date and time)

\* Application Activities will occur throughout the semester. There are no set dates for these activities. Announcements regarding all Application Activities will be made in class.

### Other Commonly Included Sections of a Course Syllabus:

- Academic Honesty Statement
- Special Accommodations for Students with Disabilities Statement
- Policy Regarding Student Absence for Observance of a Religious Holiday Statement
- Civility in the Classroom Statement

For more information related to these and other components of a syllabus, please refer to the "SYLLABUS GUIDE FOR FACULTY: Tips For Creating A Conflict Free Syllabus" created by the Texas Tech University Office of the Ombudsman. This can be accessed at:

http://www.depts.ttu.edu/ombudsman/publications/SyllabusGuideforFaculty.doc

### APPENDIX B: Plan for Assessing Expected Learning Outcomes Worksheet

Course Title/Number \_\_\_\_\_ Department \_\_\_\_\_

**Expected Learning Outcome** (please use a separate form for each course-level learning outcome)

How will this Learning Outcome be assessed?	When will this Learning Outcome be assessed?	If these assessments show deficiencies in students'
What methods will you use	(Please list the prospective	mastery of this learning
mastery of this outcome?	aates for each of the	for improving student learning
	in the first column)	related to this outcome?

(Adapted from information from Kansas State University accessed at http://www.k-state.edu/assessment/Library/strategies.pdf)

#### References

- American Association of Law Libraries (2005). Writing learning outcomes. Retrieved May 31, 2005 from http://www.aallnet.org/prodev/outcomes.asp.
- Anderson, L.W., & Krathwohl, D.R. (Eds.) (2001). A taxonomy of learning, teaching, and assessment: A revision of Bloom's taxonomy of educational objectives. New York: Longman.
- Angelo, T.A. & Cross, K.P. (1993). Classroom assessment techniques: A handbook for college teachers (2nd Ed.). San Francisco, CA: Jossey-Bass.
- Ball State University, (1999). *Bloom's Classification of Cognitive Skills*. Retrieved June 10, 2005 from <u>http://web.bsu.edu/IRAA/AA/WB/chapter2.htm</u>.
- Bloom, B.S., (1956) Taxonomy of educational objectives: The classification of educational goals: Handbook I, cognitive domain. Longmans, Green: New York, NY.
- Hales, L.W. & Marshall, J.C. (2004). Developing effective assessments to improve teaching and learning. Norwood, MA: Christopher-Gordon Publishers, Inc.
- Huba, M.E., (2005). Formulating intended learning outcomes. Retrieved June 16, 2005 From<u>http://www.viterbo.edu/academic/titleiii/events/files/Jun04/Intended%20Learning</u>%20Outcomes.ppt#256,1,Formulating Intended Learning Outcomes .

Kansas State University, (2004). Assessment of student learning plan. Retrieved May 15, 2005 from http://www.k-state.edu/assessment/Library/templatew.doc.

- Kansas State University, (2004). Form for identifying strategies and processes for the assessment of student learning outcome(s). Retrieved May 15, 2005 from http://www.k-state.edu/assessment/Library/strategies.pdf.
- Kansas State University, (2005). *How to write student learning outcomes: Action verb List – suggested verbs to use in each level of thinking skills*. Retrieved May 15, 2005 from <u>http://www.k-state.edu/assessment/Learning/action.htm</u>.
- Krumme, G (2001). *Major categories in the taxonomy of educational objectives* (*Bloom 1956*). Retrieved June 6, 2005 from http://faculty.washington.edu/krumme/guides/bloom1.html.
- Maki, P.L. (2004). Assessing for learning: Building a sustainable commitment across the institution. Stylus: Sterling, VA.
- Palomba, C.A. & Banta, T.W. Eds. (2001). Assessing student competence in accredited disciplines: Pioneering approaches to assessment in higher education. Stylus: Sterling, VA.
- Siebold, R. & Beal, M. (May 2005). Online course development guide: The workbook. Presented at The Teaching Professor Conference in Shaumburg, IL.
- Suskie, L. (ed) (2001). Assessment to promote deep learning: Insight from AAHE's 2000 and 1999 Assessment Conferences.
- Suskie, L. (2004). Assessing student learning: A common sense guide. Anker Publishing Company: Bolton, MA.
- St. Edward's University Center for Teaching Excellence (2004). Task Oriented Question Construction Wheel Based on Bloom's Taxonomy. Retrieved on May 17, 2005 from http://www.stedwards.edu/cte/resources/bwheel.htm.
- Texas Tech University (2005). Texas Tech University 2005-06 Undergraduate and Graduate Catalog Volume LXXXII. Published by the Office of Official Publications: Lubbock, TX.
- Texas Tech University Office of the Ombudsman, (2005). Syllabus Guide for Faculty: Tips for creating a conflict free syllabus. Retrieved June 9, 2005 from http://www.depts.ttu.edu/ombudsman/publications/SyllabusGuideforFaculty.doc.