Facilitating Adult Learning

Developing A Course

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Developing a Course

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Institutional Factors to be Aware Of

- School policies and procedures
  EXAMPLES: Grading policies, grade submissions, dress codes, inclement weather procedures, plagiarism, substitutes/absences, course evaluations, add/drop deadlines
- Expected methods of communication with students
  EXAMPLES: Moodle, Blackboard
- Student provided services
  EXAMPLES: Tutoring, computer labs, writing centers
- Faculty provided services
  EXAMPLES: Copying, faxing, requests for computer labs, main contacts in case of emergency
- Building and library hours
- Emergency escape routes

6 Steps for Developing a Course

Step 1: Gather necessary information.
- Familiarize yourself with both the institution’s regulations and its social culture.
- Communicate with other instructors who have taught your course regarding their expectations and experiences.
- Determine if the course a required course, a prerequisite course, or if it requires any prerequisite courses.

Step 2: Determine the course goals.
- Write the learning objectives for the course. (See Developing Learning Objectives on page 4.)
- Consider the types of activities students will complete in the course to help their understanding.
- Determine the methods you will use to measure students’ understanding.

Step 3: Decide which types of assessments you will use to reflect students’ understanding.
- Align assessments with the course goals and learning objectives.
- Ensure that the assessments measure student’s learning accurately and fairly.
• Review the different types of assessments and determine which ones best fit with your course material, class size, and available time. (See Different Types of Summative Assessments on page 9.)

**Step 4: Select the materials for the course.**

• Choose a textbook that is well-organized, complete, engaging, and easy to understand.
• Apply teaching methods that are engaging and encourage students to actively participate in the learning process.
• Use instructional media that enhances the explanation of the topic.
• Design learning activities that accomplish the learning goals.

**Step 5: Implement your teaching plan.**

• Give students a skills survey at the beginning of the course to determine their current level of understanding.
• Gain students’ attention and establish clear expectations.
• Link new information to previous learning.
• Guide students in the learning process and elaborate content when necessary.
• Give students time to practice.
• Encourage student feedback.

**Step 6: Review course outcomes and revise your teaching plan as necessary.**

• Distribute both instructor and course evaluations and carefully review the results.
• Evaluate common mistakes made on assessments and determine how instruction can be modified to correct these mistakes.

**Designing Learning Objectives**

**Defining a Learning Objective**

A learning objective answers the question, “What will students be able to do at the end of the class period that they could not do at the beginning?” It focuses on student performance and clearly states the learning outcome for the lesson.

**The Purpose of a Learning Objective**

• Organizes and provides direction to the course content.
• Helps determine appropriate teaching materials and learning activities.
• Shows students how the material in the lesson relates to both the course objectives and their education growth.
• Informs students of the specific information they need to study and learn.
• Guides the assessment development process (which should always directly correspond to the learning objectives).

Developing Learning Objectives

Step 1: Develop the course goal.
A course goal is a broad or global statement that outlines the expected outcomes of the course. EXAMPLE: Students will be able to apply scientific principles to evaluate environmental issues. (For more examples, see “Developing Course-level goals: Examples” at http://teaching.berkeley.edu/docs/CourseGoals.pdf.)

Step 2: Organize content into topical units.
Think of the course content in terms of “chunks” of information. A chunk may consist of one chapter, several chapters, or depending on the complexity of the content, one section within a chapter. Plan to assess students after each chunk is presented.

EXAMPE: Introduction to Statistics course

<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Mean, median, mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Variability</td>
</tr>
</tbody>
</table>
|        | Graphical ...
| Exam 1  |
| Unit 2 | Correlation Coefficients |
|        | Reliability and Validity |
| Exam 2  |
| Unit 3 | Hypotheses |
|        | The Normal Distribution |
|        | Testing for Significance |
| Exam 3  |
| Unit 4 | One Sample Z Test |
|        | t Tests |
|        | ANOVA |
| Exam 4  |
| Unit 5 | Making Predications |
|        | Final Project Due |

Step 3: Establish learning outcomes.
For each chunk or unit you determined in Step 2, now determine the more specific topics that will be covered in each unit and how much time you will spend on each topic.
EXAMPLE: Unit 1 (3 hours)

Mean, median, and mode (1 hour)
  Define and calculate
Range, standard deviation, and variance (1 hour)
  Define and calculate
  Using the computer to calculate
Histograms, frequency polygons, and frequency distributions (1 hour)
  Plotting manually
  Using the computer to plot and draw

Step 4: Write the learning objectives.

Write one or more learning objectives for each topic you determined in Step 3.

- Write each learning objective as a complete sentence.
- Begin each sentence with a verb. (See Different Levels of Learning Objectives on page 5.)

EXAMPLES: Identify the main events that led to the start of World War I.
  Explain why Russia joined the fighting in World War I.
  Evaluate the actions of the United States at the close of World War I.

Different Levels of Learning Objectives

Bloom’s Taxonomy is a classification of cognitive thinking that includes the six tiers listed on the left (where knowledge is the lowest and evaluation is the highest.)

- **Knowledge** – memorize and recall specific facts
  Action verbs: define, list, name, describe, tell, identify, show, label, match, state

- **Comprehension** – interpret or paraphrase the information
  Action verbs: explain, describe, summarize, interpret, contrast, predict, distinguish, estimate, rewrite, translate, paraphrase

- **Application** – transfer or apply information to new or real-world situations
  Action verbs: relate, determine, apply, demonstrate, calculate, examine, modify, discover, show, draw, illustrate, compute, conclude, use

- **Analysis** – examine, take apart, classify, predict, and draw conclusions
  Action verbs: identify, analyze, explain, arrange, discriminate, categorize, classify, compare, contrast, debate, deduce, diagnose, diagram, differentiate, dissect, distinguish, specify

- **Synthesis** – combine and integrate previously learned knowledge into a new product
  Action verbs: integrate, modify, rearrange, plan, create, design, compose, change, combine, construct, design, formulate, generate, invent, originate, predict, pretend, produce, reconstruct, reorganize, revise, suggest, suppose, visualize, write
• **Evaluation** – judge the value of someone else’s conclusions
  Action verbs: appraise, rank, convince, judge, summarize, evaluate, decide, conclude, defend, justify, prioritize, rate, select, support, value, choose, compare

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**Developing a Course Syllabus**

**The Purpose of a Course Syllabus**

• Helps the instructor design and develop the course.
• Provides an overview of course content.
• Provides general information to students.
• Outlines the policies and expectations of the course.
• Gives information regarding schedules, assignments, and exams.

**Information to Include in a Course Syllabus**

• Course information
  • Course name, number, and section
  • Class meeting time and location
• Instructor information
  • Name and title
  • Office location and hours
  • Phone number, fax number, and e-mail address
• Course materials
  • Required textbook and reading materials
  • Suggested reading materials
  • Additional materials necessary for the class
• Course Description
  • Purpose and goal of the course
  • Learning objectives
• Student responsibilities
  • Participation and/or attendance requirements
  • Homework expectations
  • Course projects
  • Quizzes, tests, and exams
Course outline

- Dates the class will meet
- Holidays or other non-meeting dates
- Major topics
- Due dates

Grading and evaluation

- Weight of quizzes, assignments, exams, and projects
- Descriptions of papers and/or projects
- Overall grading scale

Course policies

- Attendance requirements
- Late assignments
- Missed tests
- Extra credit

Institutional polices

- Plagiarism and cheating
- Other misconduct

Policy for changes to the syllabus

Creating a Lesson Plan

A lesson plan serves as a guide to the instructor. It provides information the instructor needs for preparing for the class, and helps the instructor budget the class time. It is recommended for instructors to create a lesson plan for each lesson they teach.

Here are the components that should be included in each lesson plan.

- Lesson information
  - Instructor’s name
  - Unit or subject area
  - Lesson title
  - Lesson timeframe

- Required materials
  EXAMPLES: PowerPoint, handouts, special paper, pens, markers
• Classroom layout
  EXAMPLES: Reorganization of desks, students working in groups or individually
• Lesson objectives
• Lesson procedures
  • Information to be presented
  • Methods for presenting the information
    EXAMPLES: Lecture, discussion, group activity
  • Student participation
    EXAMPLES: Group activity, independent practice
• Methods for addressing the needs of special learners
• Assessing learner understanding
  EXAMPLES: Questions and answers, quiz
• Reflection and self-evaluation
  NOTE: Completed after the lesson is delivered and includes any notes about what went well and what you would improve the next time you teach the lesson.

Assessing Learner Performance

There are two main categories of assessment.

Formative Assessments
• Not graded by the instructor.
• Used to test what students have learned in order to plan further instruction.
• Results help instructors determine which information needs further clarification.
  See “Examples of Formative Assessments” at http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html

Summative Assessments
• Graded by the instructor.
• Used to evaluate and document what students have learned.
• Results indicate if the learning outcomes were met.
Different Types of Summative Assessments

There are several types of summative assessments that instructors can choose from. The choice usually depends on the type of information being tested and the ease creating and grading the assessment.

A list of common types of assessments is listed at the left. Click each assessment type to learn about its advantages and disadvantages.

<table>
<thead>
<tr>
<th>Multiple Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
</tr>
</tbody>
</table>
| **Advantages** | • Easy to grade.  
• A good measure of student understanding.  
• Can cover a broad range of content at one time. |
| **Disadvantages** | Difficult and time-consuming to write, especially writing effective distractors. |
| **Tips** | • The stem should be clear and simple.  
• A good stem is one where students know the correct answer before reading the options.  
• Avoid choices that state “none of the above” or “all of the above.”  
• Make all distractors plausible.  
• Do not use double negatives.  
• Present alternatives in logical or numerical order.  
• Place the correct answer in alternative locations.  
• Make question independent of other questions on the test.  
• Include at least 4 options for each question.  
• See “14 Rules for Writing good multiple-choice questions” [http://testing.byu.edu/info/handbooks/14%20Rules%20for%20Writing%20Multiple-Choice%20Questions.pdf](http://testing.byu.edu/info/handbooks/14%20Rules%20for%20Writing%20Multiple-Choice%20Questions.pdf). |

NOTE: Alternate-choice questions are very similar to the multiple-choice questions. The difference is that alternative-choice questions offer only two possible answers per question.

EXAMPLE:  A (a. *multiple-choice*, b. *matching*) question contains a stem, list of distractors, and one correct answer.
### Matching

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Good for measuring knowledge and comprehension levels of understanding.</th>
</tr>
</thead>
</table>
| Advantages | • Easy to create.  
• Students cannot use the process of elimination.  
• Good for content areas that have several facts. |
| Disadvantages | • Can be time-consuming for students to complete.  
• Do not address higher levels of learning. |
| Tips | • Include clear and specific directions.  
• Use 15 items or less for each question.  
• Use items in the response column more than once to reduce guessing.  
• Make all responses plausible.  
• Keep all items on a single page.  
• Place responses in a logical order.  
• Keep responses short. |
<table>
<thead>
<tr>
<th>True/False</th>
<th>Good for measuring knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Can test a large amount of content at one time.</td>
</tr>
<tr>
<td></td>
<td>Students can answer 3-4 questions per minute.</td>
</tr>
<tr>
<td>Advantages</td>
<td>Difficult to write because both answers must be plausible.</td>
</tr>
<tr>
<td></td>
<td>Easy for students to answer.</td>
</tr>
<tr>
<td></td>
<td>For each question, a student has a 50-50 chance of getting it right just by guessing.</td>
</tr>
<tr>
<td></td>
<td>Difficult to determine if students really understand the material.</td>
</tr>
<tr>
<td>Disadvantages</td>
<td>Avoid double negatives, long or complex sentences, and words such as never, always, sometimes, all, none, could, or might.</td>
</tr>
<tr>
<td></td>
<td>Use one central idea for each question.</td>
</tr>
<tr>
<td></td>
<td>Do not use content directly from the students’ textbooks.</td>
</tr>
<tr>
<td></td>
<td>Create more false than true questions.</td>
</tr>
<tr>
<td></td>
<td>Require student to write the whole words, True or False, as opposed to just T or F. (Some student intentionally make their T’s and F’s look similar so they can argue that whatever the correct answer is, they answered it correctly.)</td>
</tr>
<tr>
<td>Tips</td>
<td>Ensure that there is only one right answer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fill-in-the-blank</th>
<th>Good for measuring knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Easy to create.</td>
</tr>
<tr>
<td></td>
<td>Requires students to know the answer as opposed to recognizing the answer.</td>
</tr>
<tr>
<td>Advantages</td>
<td>May encourage students to simply memorize information.</td>
</tr>
<tr>
<td>Disadvantages</td>
<td>Ensure that there is only one right answer.</td>
</tr>
</tbody>
</table>
### Essays

**Purpose**  
Good for measuring application, synthesis, and evaluation levels of understanding.

**Advantages**  
- Easy to create.
- Encourages deeper study of the content.
- Students are less likely to guess and are allowed to express their opinions and original thought.

**Disadvantages**  
- Time consuming for students to answer, which limits the amount of material that can be tested.
- Grading is subjective and time consuming.

**Tips**  
- Provide adequate time for students to answer all questions.
- Avoid giving a list of questions and allowing students to choose which ones to answer.
- Use a rubric for scoring.
- Score one question for all students at a time.

### Short-Answer Questions

**Purpose**  
Good for measuring application, synthesis, analysis, and evaluation levels of understanding.

**Advantages**  
- Easy to create.
- Good for measuring factual content, such as who, what, where, and when.
- Minimizes guessing.
- Requires students to know the answer as opposed to recognizing the answer.

**Disadvantages**  
- May encourage students to simply memorize information.
- Grading is time consuming.

**Tips**  
- Give the term and have students supply the definition rather than the other way around.
- Use direct questions, not incomplete sentence that students must complete.
- Phrase questions in such a way that there is only one correct answer.
### Performance Tasks

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Good for measuring the application of knowledge, as well as one’s abilities and skills.</th>
</tr>
</thead>
</table>
| Advantages | • Can assess multiple skills at one time (writing, critical thinking, and problem solving).  
• Allows students to present the sum total of what they have learned.  
• Students are actively involved in the evaluation process. |
| Disadvantages | Time consuming and difficult to grade. |

### Student Portfolios

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Good for measuring knowledge, application, synthesis, and evaluation levels of understanding.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantages</td>
<td>Can be used to measure skills that cannot be measured in any other way.</td>
</tr>
</tbody>
</table>
| Disadvantages | • Cannot be used in all fields of study.  
• Difficult to develop.  
• Difficult to grade.  
• Time-consuming for students and instructors. |

### Oral Exams

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Good for measuring knowledge, synthesis, and evaluation levels of understanding.</th>
</tr>
</thead>
</table>
| Advantages | • Can be used as a tool to teach while testing.  
• Instructor can guide students during the assessment process, which can lead to more learning.  
• Good for testing foreign languages and speech capabilities. |
| Disadvantages | • Time consuming for both the student and the instructor.  
• Provides no written record of the assessment.  
• Can be unreliable if students have had insufficient practice. |
Using a Rubric

A rubric is a scoring guide used to evaluate student performance based on clearly defined criteria. It should be given to students before the assignment begins to inform them of the criteria on which they will be judged.

The Benefits of Using a Rubric

- Serves as a guide for both students and instructors.
- Provides focus and direction for the assignment.
- Enables students to know the exact criteria for which they will be graded.
- Ensures that each student is graded by the same criteria.
- Can be created for any subject area.
- Can be modified and reused.

Creating a Rubric

- List the things you want students to accomplish as a result of completing the assignment.
- Organize the list from most important to least important.
- Determine the overall point value of the assignment.
- Assign each item in the list a percentage value.
- Multiply each item by the total point value.
- List each grading category.
- Assign grading criteria for each category.

See “How to Create Rubrics”
http://assessment.uconn.edu/docs/How_to_Create_Rubrics.pdf

“Kathy Schrock’s Guide for Educators”
http://school.discoveryeducation.com/schrockguide/assess.html

“Rubric Builder”
https://www.e-education.psu.edu/facdev/id/assessment/rubrics/rubric_builder.html
References

Web References

14 Rules for Writing Good Multiple-Choice Questions
http://testing.byu.edu/info/handbooks/14%20Rules%20for%20Writing%20Multiple-Choice%20Questions.pdf

The Advantages of Rubrics

Create Rubrics
http://712educators.about.com/cs/rubrics/ht/htcreaterubric.htm

Designing an Effective Course
http://learningforlife.fsu.edu/ctl/explore/onlineresources/docs/Chptr1.pdf

Designing Test Questions
http://www.utc.edu/Administration/WalkerTeachingResourceCenter/FacultyDevelopment/Assessment/test-questions.html

Developing Course-level goals: Examples
http://teaching.berkeley.edu/docs/CourseGoals.pdf

Examples of Formative Assessments
http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html

Formative Assessment: Examples of Practice

How to Create Rubrics
http://assessment.uconn.edu/docs/How_to_Create_Rubrics.pdf

Instruction at FSU: A Guide to Teaching and Learning Practices
http://learningforlife.fsu.edu/ctl/explore/onlineresources/i@fsu.cfm

Kathy Schrock’s Guide for Educators
http://school.discoveryeducation.com/schrockguide/assess.html

Parts of a Lesson Plan
http://frank.mtsu.edu/~mbalacha/partsofalllessonplan.htm

Preparing Effective Essay Questions
http://testing.byu.edu/info/handbooks/WritingEffectiveEssayQuestions.pdf
Rubric Builder
https://www.e-education.psu.edu/facdev/id/assessment/rubrics/rubric_builder.html

What is a Lesson Plan
http://itc.utk.edu/~bobannon/lesson_plan.html

**Book References**


*Facilitating Adult Learning* (2002). Oklahoma Department of Career and Technology Education.