WRITING SMART OBJECTIVES

How To Write Effective Instructional Objectives For Online College Courses

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Writing SMART Objectives

How To Write Effective Instructional Objectives For Online College Courses

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Analysis

Background

Founded in 1885, Arizona State University (ASU) is a public metropolitan research university. It has five campuses in the Phoenix metropolitan area.

ASU aligns itself with the "New American University" model founded by ASU President Crow. This model identifies ASU as "a comprehensive public research university, measured not by whom it excludes, but rather by whom it includes and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities it serves" (New American University, 2015).

In 2014, ASU had approximately 82,000 students enrolled, approximately 75% undergraduate students and 25% graduate students, making it the largest public university by enrollment in the US (US News, 2017). In 2016, for the second year in a row, ASU was ranked No.1 in Innovation by U.S. News & World Report. ASU's online campus currently has over 30,000 students enrolled, offers over 150 degrees, and is ranked No. 4 for US online undergraduate programs (ASU Online, 2017).

Needs Assessment

Instructional objectives play an integral role in the learning process. Well-formulated objectives are valuable to both the design and implementation of effective instruction. Instructional objectives help inform decisions on the structure and content of the instruction, and specify expectations for learner success when the instruction is implemented (Morrison, 2013). Learner focused, outcome driven, measurable objectives are even more vital to the online instructional process due to the degree that the instruction itself facilitates learning and the degree to which the learners must self-manage the learning process (Pappas, 2017).

One common evidence-based approach for writing effective instructional objects is the SMART

method. The letters in SMART can represent a variety of different words depending on whom you ask, but the words Specific, Measurable, Achievable, Relevant and Time-bound are generally considered an acceptable expansion of the acronym. It is a commonly accepted practice that instructional objectives should embody these five components to be considered valid.

A 2016 study by ASU examined the consistency and soundness of instructional objectives for ASU online courses. The study commenced by examining the consistency of instructional objectives across multiple sections of the same online course taught by different instructors. It evaluated the consistency of instructional objectives by inspecting the Blackboard shells of the various course sections over the course of one academic year. The study revealed that only 72% of the instructional objectives were consistent in content and structure across the sections, and 10% of the sections were missing objectives altogether. Since these sections have the *same course title*, the expectation was that 100% of the instructional objectives should have been consistent.

Subsequently, the study was expanded to further review the Blackboard shells of ten, 200 level online courses across multiple programs to examine the structure of existing instructional objectives with regard to 'completeness' relative to SMART criteria. The study revealed that only 55% of the courses had instructional objectives that met SMART standards.

The ASU study speculated that the inconsistency was due in part to the large number of different instructors that teach the online courses. These instructors often adjust the curriculum to accommodate the varying course lengths during summer sessions, and customize the content based on their teaching preferences. The study notes that these instructors come from diverse professional backgrounds, and not all of them have formal training in the area of teaching and learning.

Based on these data, ASU has determined that the lack of consistency in instructional objectives is due to a lack of knowledge and skills among the instructors. ASU has requested that an instructional program on writing effective instructional objectives for online courses be developed in order to provide the necessary training to instructors, increase the continuity of

ASU online courses, and protect the integrity of the learning experience for ASU online students.

Performance Analysis

The 2016 ASU study revealed a significant incongruity in the instructional objectives for several ASU online courses. Of the courses surveyed, only 55% contained instructional objectives that met SMART criteria. ASU desires that 100% of its online courses contain instructional objectives that meet SMART criteria, creating a 45% deficit in congruity (Figure 1). ASU has speculated that this incongruity is due to a lack of knowledge and skills among the faculty and instructional professionals who teach the online courses, and has concluded that this gap in performance can be bridged by an instructional intervention.

Following this discovery, a subsequent performance analysis of the target population was conducted to confirm that the performance gap was in fact due to a lack of knowledge and skills. ASU online instructors were given a comprehensive online survey that evaluated their work resources, work environment, and attitude towards work in addition to their current work related knowledge and skills. The results of the survey indicated that the instructors' resources and work environment were conducive to optimal job performance, but that a lack of knowledge and skills in the area of writing instructional objectives was apparent.

Based on these data, ASU determined that an instructional intervention was the most appropriate method to bridge the performance gap between the current level of performance for ASU online instructors and the level of performance that ASU desires (Figure 2). This should in turn increase the congruity of the instructional objectives for ASU online courses.

Figure 1. Current vs. Desired Congruity of Instructional Objectives for ASU Online Courses

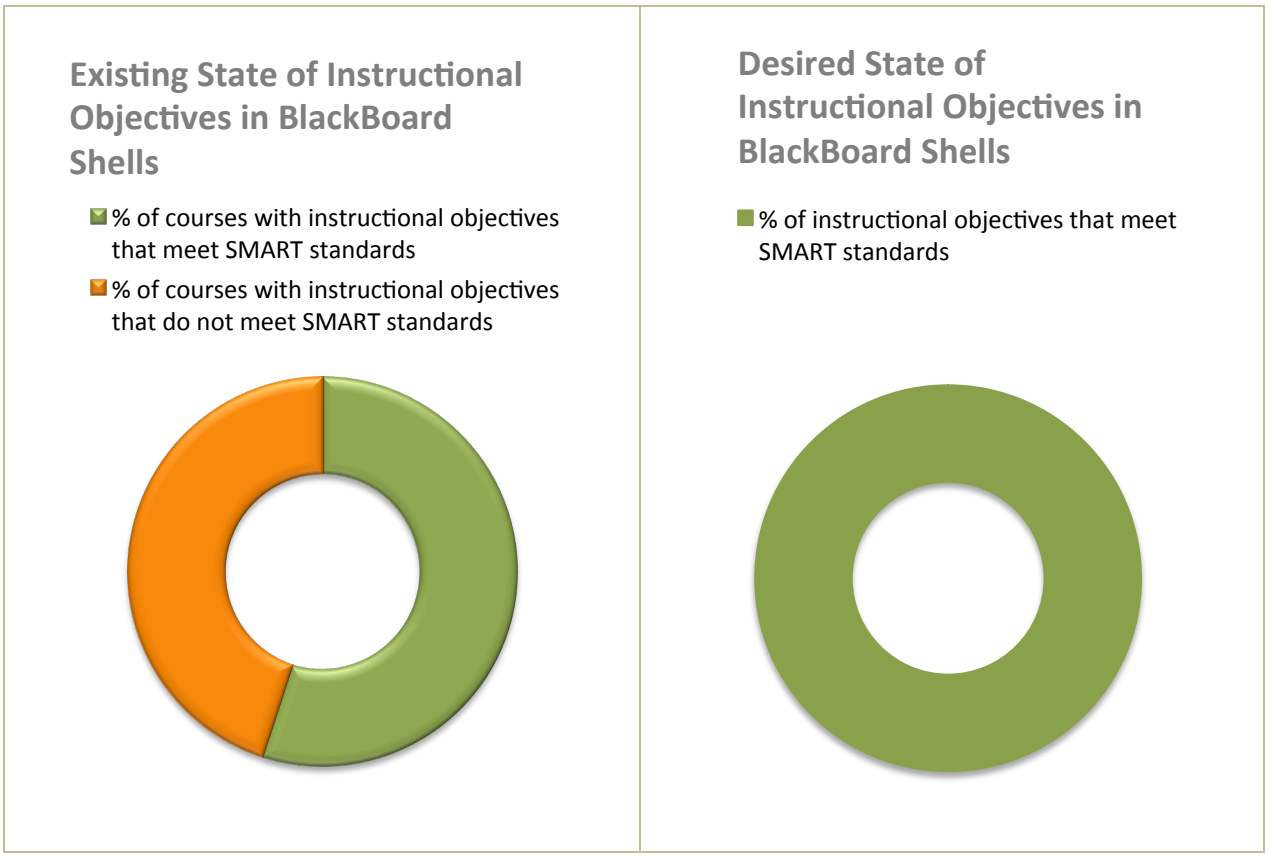
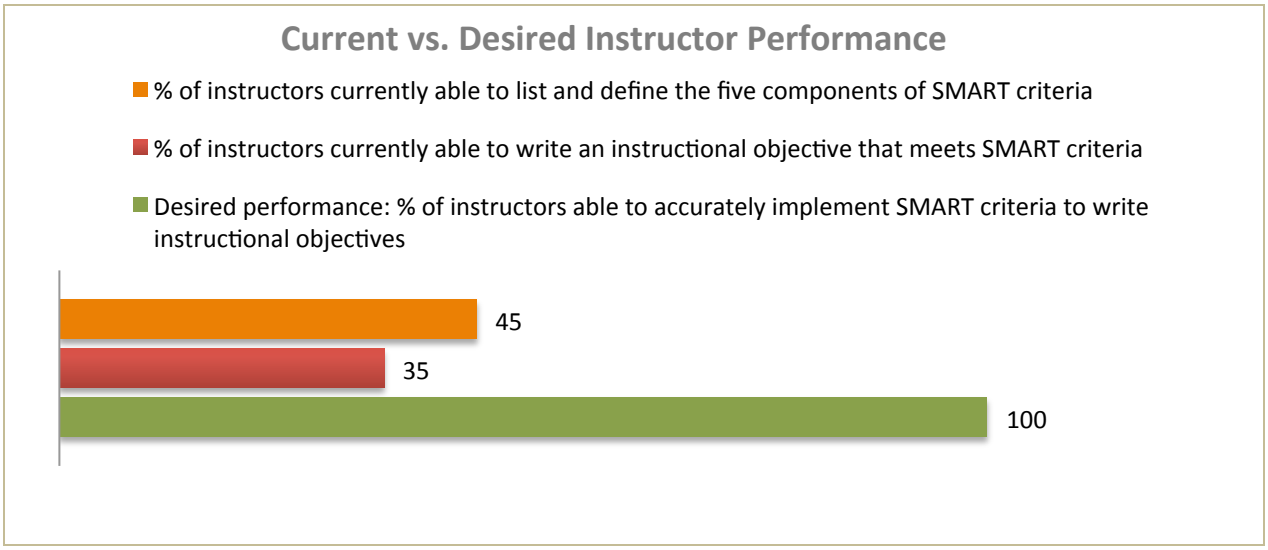


Figure 2. Current vs. Desired Performance of ASU Online Faculty and Instructional Professionals



Purpose Statement

This workshop will provide ASU online faculty and instructional professionals with simple, evidence-based strategies for writing relevant, specific, and measurable instructional objectives.

Target Population

The following tables represent data reported by 150 ASU online faculty and instructional professionals from over 50 different ASU degree programs. Data were collected from an online survey. In summary, the majority of participants are between the ages of 25-50, Caucasian or Hispanic, live inside the Phoenix-metro area, hold a bachelor's or master's degree outside the field of education, and have been teaching online college classes for less than six years. Most participants feel that good instructional objectives are important to the learning process, feel relatively comfortable writing them, and enjoy learning new teaching strategies. The majority of participants prefer to receive instruction from an expert in their field, and prefer instructor-led lectures to slide-based lectures. They prefer learning materials to be relevant, accurate and current, and enjoy a hands-on, collaborative learning environment.

Age

The majority of participants are between the ages of 25-50.

	18-24	25-35	36-50	50 +
Age Range	10%	40%	35%	15%

Ethnicity

The majority of participants are Caucasian or Hispanic.

	Caucasian	Hispanic	African American	Native American	Other
Ethnicity	45%	35%	10%	5%	5%

Location

The majority of participants live in the Phoenix-metro area.

	In the Phoenix-Metro Area	Outside the Phoenix-Metro Are	Outside of Arizona	Outside of the United States
Location	60%	20%	10%	10%

Education

The majority of participants hold a bachelor's or master's degree outside the field of education.

	Education	Business	Science	The Arts	Health Sciences	Psychology	Other
Bachelor's Degree	20%	30%	15%	10%	10%	15%	5%
Master's Degree	15%	20%	10%	10%	5%	15%	10%
Doctoral Degree	5%	-	5%	-	-	10%	5%

Teaching Experience

The majority of participants have been teaching online college courses for less than six years.

	0-2 years	3-5 years	6-10 years	10 + years
Teaching College Courses	30%	40%	20%	10%

Teaching Online College Courses	35%	50%	10%	5%

Motivation & Attitude

Most participants feel that good instructional objectives are important to the learning process, feel relatively comfortable writing them, and enjoy learning new teaching strategies.

	Agree strongly	Agree	Disagree	Disagree strongly
Good instructional objectives are important to quality instruction	80%	10%	10%	_
I feel confident writing instructional objectives	60%	20%	15%	5%
I enjoy learning new teaching strategies	95%	5%	_	_

Learning Preference

The majority of participants prefer to receive instruction from an expert in their field. They prefer instructor-led lectures to slide-based lectures, and learning materials that are relevant, accurate and current. The majority of participants also enjoy a hands-on, collaborative learning environment.

	Agree strongly	Agree	Disagree	Disagree strongly
I am familiar with online learning	95%	5%	_	_

I prefer online learning	55%	20%	15%	10%
I prefer to learn from an expert in my career field	95%	5%	_	_
Prefer learning materials to be relevant, accurate and current	98%	2%	_	_
I prefer to watch an instructor-led lecture	60%	10%	20%	10%
I prefer to watch a slide-based lecture	15%	15%	10%	60%
I am a visual learner	70%	10%	10%	10%
Am an auditory learner	20%	5%	60%	15%
I am a hands-on learner	95%	5%	-	-
I prefer to work individually	85%	10%	5%	-
I prefer group work	10%	10%	50%	30%
I enjoy collaborating with peers	85%	5%	5%	5%

Contexts and Settings

Relevance of Instruction

The survey data indicate that participant motivation is high for this subject, and that the majority of participants believe that instructional objectives are important to the learning process. This workshop is designed to directly target the participants' identified performance deficit in the

area of instructional objectives so they can perform their job more effectively. Through strategic instruction and applied learning activities, this workshop will teach participants a step-by-step process to writing effective instructional objectives for their online courses.

Transfer of Knowledge & Skills

The knowledge and skills gained from this workshop are highly transferrable to the workplace. Throughout the workshop, participants have the opportunity to apply what they have learned in hands-on practice activities. These activities are designed to closely mimic the typical working environment to ensure seamless transfer into the workplace upon completion of instruction. In Appendix A of the participant guide, participants are also provided with a set of detailed handouts to reference in their future work.

Learning Context

The lecture component of this workshop is delivered in a synchronous, instructor led format. The instructor will use a combination of didactic and experiential methods to teach salient knowledge and skills through a live-streamed lecture. After the lecture has been delivered, the instructor will direct participants to the Blackboard Learn course where they will complete a series of generative learning activities to apply and synthesize what they have learned. A PDF version of the lecture as well as other learning resources will be provided in Blackboard for participants to use as a reference. The activities component of this workshop is completed independently. However, participants will have access to the instructor via instant chat during completion of the activities should they have questions. The lecture will also be recorded and available afterward for asynchronous viewing and reference purposes.

Performance Site

The instruction will be recorded in a filming studio at the ASU Scottsdale Innovation Center, SkySong located at 1475 N Scottsdale Rd, Scottsdale, AZ 85257, and live-streamed to the workshop participants. The lecture component will take place in real-time, and participants will view it online. Activities will be completed independently via Blackboard Learn.

Resource Requirements

The instruction should be recorded in a professional film studio, and live-streamed to the workshop participants. Materials and assessments will be delivered via Blackboard Learn after the lecture has been delivered. Manpower and technical requirements are outlined in the following tables:

Human Requirements		
	Description	**Quantity**
Instructor	A seasoned education professional well-versed in evidence-based methods for writing effective instructional objectives	1
Technical Manager	An individual qualified to operate the computer and software to ensure successful live-streaming of lecture and materials	1
Camera Operators	Professional camera operators	2
Teaching Assistant	An individual qualified to help collect, filter, answer and deliver questions to the instructor that are submitted via online chat during the webinar	1
Grader	Individuals qualified to help grade activities and assessments upon completion of the webinar	10

Technical Requirements - Production		
	Description	**Quantity**
Video	HD digital video camera	2

Audio	Professional grade lapel microphone	1
Lighting	Professional grade continuous studio light	3
Monitor	Approximately 55 inch flat screen LCD	1
Room	Soundproof	1
Computer	Minimum 3ghz processor and 32 gigabytes of RAM	1
Software	iLinc, Zoom or Adobe Connect, Blackboard	1
Internet connection	Minimum 50Mbps	N/A

Technical Requirements - Participants		
	Description	**Quantity**
Computer	Minimum 2ghz processor and 8 gigabytes of RAM	1
Software	iLinc, Zoom or Adobe Connect, Blackboard	1
Internet connection	Minimum 10Mbps	N/A

Software Options

It is up to the instructor what webinar or live-streaming system to use. We suggest iLinc, Zoom or Adobe Connect as reliable options. All three of theses programs have media sharing capabilities, an integrated live chat feature and reliable customer support. If you choose to use a webinar program that does not have a live chat feature, you may consider utilizing a chat system such as Slack to support course activities that rely on this feature.

Participant Support

Throughout the workshop participants will have the opportunity to contact the instructor via instant chat should they have questions or comments that require immediate attention. Participants will also have access to ASU Blackboard Learn technical support.

Design

Overall Course Structure

Total time of completion: 3-4 hours

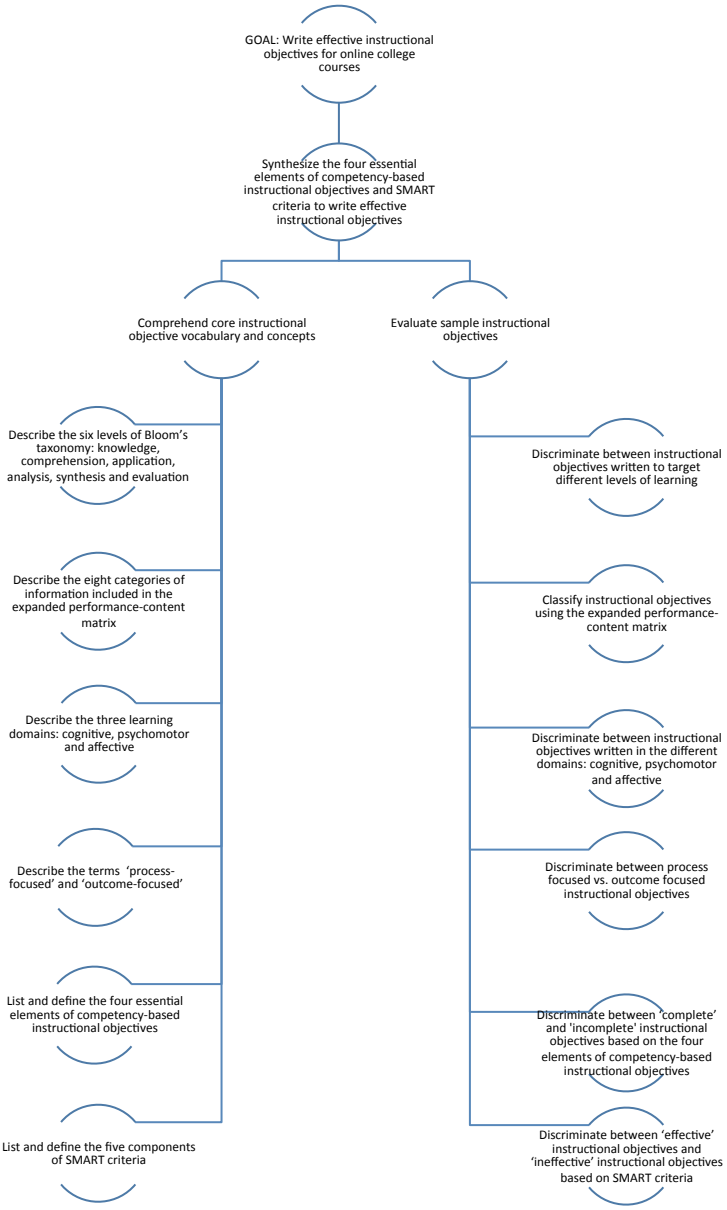
Lecture: 1 hour

Activities and assessments: 2-3 hours

This workshop is instructor led and will be live-streamed to participants. The first part of the workshop, the lecture, will be synchronous. The second part of the workshop, the completion of activities and assessments, will be done independently. Participants will access associated learning materials and activities through Blackboard Learn after watching the lecture in its entirety. The Blackboard Learn interface will include seven sections: a homepage, a pre-test section, a post-test section, two motivational activity sections, and three 'unit' sections. The homepage should have a welcome note explaining the contents and purpose of the workshop, as well as a list of the instructional objectives, and an outline of how the content will be delivered. The pre-test section will contain a link to the pre-test, the post-test section will contain a link to the post-test, and the motivational activity sections will contain a link and instructions for the chat entries. The three remaining sections are 'units' of content corresponding to the instructional objectives. Each section will house one instructional objective and its corresponding learning materials and activity. Throughout the workshop participants will have the opportunity to contact the instructor via instant chat should they have questions or comments that require immediate attention.

The graphic in Figure 3 represents the hierarchy of knowledge, skills and tasks involved in writing effective instructional objectives. The instructional strategies for this workshop are derived from this hierarchy model.

Figure 3.



Prerequisites

This workshop focuses on writing instructional objectives. Participants will be able to successfully apply the knowledge and skills gained from this workshop in environments where an instructional goal and learner analysis are preexisting. It is also assumed that participants have a solid written mastery of the English language.

Assessment Instruments

Pre-test

Prior to the start of the course, registered participants will take an online, multiple-choice and true/false pre-test to provide a baseline for their knowledge of instructional objectives. The pre-test will also give participants a preview of what they will learn during the workshop. It will be graded by the instructor and/or graders using a simple answer key. The answer key is provided in the appendix of the participant guide and the instructor guide.

Post-test

At the end of the workshop, participants will be given an online comprehensive, short-essay final exam, consisting of one question that incorporates aspects of all three instructional objectives. The post-test will be graded by the instructor and/or graders using a rubric that will evaluate the quality and accuracy of the information provided. The rubric is provided in the appendix of the participant guide and the instructor guide. The post-test will also include non-graded questions to gain insight into the participants' user-experience and their overall opinion of the workshop.

Generative Learning Activities

Each objective will include a generative learning activity to facilitate deeper learning in the form of a short-essay writing assignment. Assignments will be graded by the instructor and/or graders using a rubric that will evaluate the quality and accuracy of the information provided. The rubric is provided in the appendix of the participant guide and the instructor guide.

Pre-Instructional Activities

Motivation

At the beginning of the workshop, participants will use the fluid chat system built into the webinar software (or Slack if your webinar software does not have a chat feature), to write an instructional objective for themself in the form of a New Year's resolution. The resolution can be silly or serious, as long as participants use their current knowledge and attempt to write a

‘complete’ instructional objective.

This activity will be also repeated at the conclusion of the workshop (just prior to the post-test) to provide participants with an opportunity to apply the skills they have acquired and demonstrate their learning gain.

Display of Performance Objectives

The instructional objectives will be presented on the homepage of the Blackboard course, and again on the corresponding breakout pages for each of the three learning units. Participants will be directed to review the instructional objectives upon completion of the initial motivational activity.

Instructional Goal

Learners will write effective instructional objectives for use in online college courses.

Performance Objectives

By the end of this workshop, participants should be able to:

1. Comprehend core instructional objective vocabulary and concepts with 90% accuracy as determined by a short-essay assessment
    a. Describe the six levels of Bloom’s taxonomy: knowledge, comprehension, application, analysis, synthesis and evaluation
    b. Describe the eight categories of information included in the expanded performance-content matrix: fact, concept, principles and rules, procedure, interpersonal skills, attitude, recall, and application
    c. Describe the three learning domains: cognitive, psychomotor and affective
    d. Describe the terms ‘process-focused’ and ‘outcome-focused’

e. List and define the four essential elements of competency-based instructional objectives

f. List and define the five components of SMART criteria

2. Evaluate sample instructional objectives with 90% accuracy as determined by a short-essay assessment

    a. Discriminate between instructional objectives written to target different levels of learning

    b. Classify instructional objectives using the expanded performance-content matrix

    c. Discriminate between instructional objectives written in the different domains: cognitive, psychomotor and affective

    d. Discriminate between process focused vs. outcome focused instructional objectives

    e. Discriminate between 'complete' instructional objectives and 'incomplete' instructional objectives based on the four essential elements of competency-based instructional objectives

    f. Discriminate between 'effective' instructional objectives and 'ineffective' instructional objectives based on SMART criteria

3. Synthesize the four essential elements of competency-based instructional objectives and SMART criteria to write effective instructional objectives with 90% accuracy as determined by a short-essay assessment

    a. Given examples of instructional goals and relevant data about the learner group, generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet

SMART criteria.

Performance Objective #1

Comprehend core instructional objective vocabulary and concepts with 90% accuracy as determined by a short-essay assessment

a. Describe the six levels of Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis and evaluation

b. Describe the eight categories of information included in the expanded performance-content matrix: fact, concept, principles and rules, procedure, interpersonal skills, attitude, recall, and application

c. Describe the three learning domains: cognitive, psychomotor and affective

d. Describe the terms 'process-focused' and 'outcome-focused'

e. List and define the four essential elements of competency-based instructional objectives

f. List and define the five components of SMART criteria

Instructional Method

This unit of the workshop consists of a lecture (conducted at the beginning of the workshop) followed by a constructed-response generative learning activity for participants to practice the material.

Content Presentation

The content will be presented by the instructor in lecture form. The lecture should be supplemented by a slide presentation that is displayed on the screen next to the instructor. The presentation should be available to participants in PDF form on Blackboard for viewing and printing. The content for this lecture was derived from the course text, *Designing Effective Instruction* (Morrison, 2013), and the AZ Department of Education's article *Writing SMART, Short-term Outcome Objectives* (azed.gov, 2011).

Six levels of Bloom's taxonomy

- **Knowledge:** the recall of specific information
- **Comprehension:** the lowest level of understanding
- **Application:** application of a rule or principle
- **Analysis:** breaking an idea into component parts and describing the relationship
- **Synthesis:** putting the parts together to form a new whole
- **Evaluation:** making judgments

Key concept: it is important that your instructional objectives target higher levels of learning, and don't just focus on rote learning and memorization.

Expanded performance-content matrix categories

- **Fact:** a statement that connects one component with another; memorized for later recall
- **Concept:** categories used to group items
- **Principles and rules:** express the relationship between multiple concepts
- **Procedure:** sequence of steps to accomplish a task
- **Interpersonal skills:** verbal and nonverbal communication between two or more people
- **Attitude:** observable manifestation of mental outlook
- **Recall:** memorization of information
- **Application:** demonstration or implementation of information

Key concept: These categories are used to sort instructional objectives to ensure that the

objective is appropriate for the targeted skill and that the subsequent instructional activities are appropriate for the objective.

Three learning domains

- **Cognitive:** objectives related to information or knowledge, naming, solving, predicating and other intellectual aspects of learning
- **Psychomotor:** encompasses skills requiring the use and coordination of skeletal muscles
- **Affective:** objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting

Key concept: it is important that you write instructional objectives that are appropriate for the type of skill they target.

Describing process-focused vs. outcome-focused

- **Process-focused:** focusing on the learning process instead of the outcomes
- **Outcome-focused:** focusing on the outcomes instead of the learning process

Key concept: it is important that your instructional objectives are outcome-focused.

Four elements of competency-based Instructional objectives

1. **Action verb:** describes the observable action required by the learner
2. **Subject-content reference:** describes the content the objective addresses
3. **Level of achievement:** criterion that indicates the minimum acceptable performance

4. **Conditions of performance:** specifies conditions under which the evaluation takes place

Key concept: it is important that you write 'complete' instructional objectives. It is the first step towards meeting SMART criteria.

Five components of SMART criteria

- **Specific:** clear and well defined
- **Measurable:** a standard of achievement should be stated
- **Achievable:** should be rigorous, but attainable by the learners
- **Relevant:** should result in a meaningful outcome
- **Time-bound:** linked it to a time frame to ensure accountability

Key concept: If your instructional objectives are specific, measurable, achievable, relevant and time-bound, they meet industry standards for effectiveness.

Learner Participation

After viewing the lecture, participants will complete a short-essay activity with questions derived from the six components of the instructional objective. The questions will ask participants to list and/or describe relevant terminology and concepts. This activity will be graded using a rubric to evaluate the quality and accuracy of the information provided.

Assessment Method & Sample Assessment Item

Participants will be assessed twice: once in the generative learning activity directly following the lecture, and again in a comprehensive final assessment (post-test). Both assessments will be delivered in a constructed-response, short-essay format, and both will be graded using a rubric

to evaluate the quality and accuracy of the information provided. The following statement represents a sample assessment item:

> ***Describe the three learning domains: cognitive, psychomotor and affective, and give an example of an instructional objective from each domain.***

Supplemental Activity (optional)

Participants will read pages 105-110 in the course text, *Designing Effective Instruction,* about behavioral and cognitive instructional objectives. Then, they will compare and contrast the two methods in a short essay, describing which method they prefer and why. This activity will be graded using a rubric.

Performance Objective #2

Evaluate sample instructional objectives with 90% accuracy as determined by a short-essay assessment

a. Discriminate between instructional objectives written to target different levels of learning

b. Classify instructional objectives using the expanded performance-content matrix

c. Discriminate between instructional objectives written in the different domains: cognitive, psychomotor and affective

d. Discriminate between process focused vs. outcome focused instructional objectives

e. Discriminate between 'complete' instructional objectives and 'incomplete' instructional objectives based on the four essential elements of competency-based instructional objectives

f. Discriminate between 'effective' instructional objectives and 'ineffective' instructional

objectives based on SMART criteria

Instructional Method

This unit of the workshop consists of a lecture (conducted at the beginning of the workshop) followed by a constructed-response generative learning activity for participants to practice the material.

Content Presentation

The content will be presented by the instructor in lecture form. The lecture should be supplemented by a slide presentation that is displayed on the screen next to the instructor. The presentation should be available to participants in PDF form on Blackboard for viewing and printing. The content for this lecture was derived from the course text, *Designing Effective Instruction* (Morrison, 2013), and the AZ Department of Education's article *Writing SMART, Short-term Outcome Objectives* (azed.gov, 2011).

Examples of instructional objectives targeting different levels of learning

- **Knowledge:** the recall of specific information
  "Students will recall the main components of a digital DSLR camera…"
- **Comprehension:** the lowest level of understanding
  "Students will identify the components of a digital DSLR camera that control exposure…"
- **Application:** application of a rule or principle
  "Students will use the rule of reciprocity to create the same overall exposure using two different aperture settings…"
- **Analysis:** breaking an idea into component parts and describing the relationship
  "Students will explain what role of shutter speed and aperture setting play in reciprocity…"

- **Synthesis:** putting the parts together to form a new whole

  "Students will explain how understanding the rule of reciprocity can benefit a photographer who is shooting a moving subject in natural light…"
- **Evaluation:** making judgments

  "Students will use their knowledge of exposure and reciprocity to decide the optimal exposure settings when given a real-world photographic scenario…"

Key concept: it is important that you are able to write instructional objectives that target all levels of learning.

Examples of objectives in the expanded performance-content matrix

Content	Objective	Performance	
		Recall	**Application**
Fact	*Students will recall the main components of a digital DSLR camera…*	X	
Concept	*Students will identify the components of a digital DSLR camera that control exposure…*	X	
Principles & rules	*Students will use the rule of reciprocity to create the same overall exposure using two different aperture settings…*		X
Procedure	*Students will explain the steps involved in controlling exposure…*	X	
Interpersonal	*Students will demonstrate good interpersonal communication skills when explaining how to use a digital camera to a novice…*		X
Attitude	*Students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active*		X

	gratitude when receiving feedback on their portfolio…		

Key concept: Use these categories to sort your instructional objectives. If the objective falls into more than one category, it should be refined and rewritten as two separate objectives.

Examples of the three learning domains

- **Cognitive:** objectives related to information or knowledge, naming, solving, predicating and other intellectual aspects of learning
  "Students will recall the main components of a digital DSLR camera…"
- **Psychomotor:** encompasses skills requiring the use and coordination of skeletal muscles
  "Students will physically manipulate the aperture and shutter wheels to control exposure…"
- **Affective:** objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting
  "Students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio…"

Key concept: it is important that you write instructional objectives that are appropriate for the type of skill they target.

Analyzing process-focused vs. outcome-focused

- **Process-focused:** focusing on the learning process instead of the outcomes
  "Students will gain knowledge about the rule of reciprocity by practicing adjusting the

exposure on a DSLR camera…"

- **Outcome-focused:** focusing on the outcomes instead of the learning process "*Students will apply the rule of reciprocity by practicing adjusting the exposure on a DSLR camera…"*

Key concept: it is important that your instructional objectives are outcome-focused.

Recognizing the four elements of competency-based Instructional objectives

1. **Action verb:** describes the observable action required by the learner
2. **Subject-content reference:** describes the content the objective addresses
3. **Level of achievement:** criterion that indicates the minimum acceptable performance
4. **Conditions of performance:** specifies conditions under which the evaluation takes place

*"**4**.In a mock interview, photography students will **1**.demonstrate a **2**.positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with **3**.100% accuracy."*

*ASU Online has a great interactive tool called Objectives Builder. You are encouraged to watch the tutorial and explore the features the program has to offer. You can choose the level of Bloom's taxonomy you want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

Key concept: it is important that you include all the components to write 'complete' instructional objectives. It is the first step towards meeting SMART criteria.

Analyzing the five components of SMART criteria

a. **Specific:** clear and well defined
b. **Measurable:** a standard of achievement should be stated
c. **Achievable:** should be rigorous, but attainable by the learners
d. **Relevant:** should result in a meaningful outcome
e. **Time-bound:** linked it to a time frame to ensure accountability

*"**c**.In a mock interview, photography students will **d**.demonstrate a **a**.positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with **b**.100% accuracy **e**.by the end of the instructional unit"*

Key concept: If your instructional objectives are specific, measurable, achievable, relevant and time-bound, they meet industry standards for effectiveness.

Learner Participation

After viewing the lecture, participants will complete a short-essay activity with questions derived from the six components of the instructional objective. The questions will ask participants to analyze sample objectives and use what they have learned rewrite objectives to meet specific criteria. This activity will be graded using a rubric to evaluate the quality and accuracy of the information provided.

Assessment Method & Sample Assessment Item

Participants will be assessed twice: once in the generative learning activity directly following the lecture, and again in a comprehensive final assessment (post-test). Both assessments will be delivered in a constructed-response, short-essay format, and both will be graded using a rubric to evaluate the quality and accuracy of the information provided. The following statement

represents a sample assessment item:

> ***Determine if the following instructional objective meets SMART criteria: "Students will recall information about the civil war." Explain why this objective does or does not meet SMART criteria. If it does not, please rewrite the objective to meet SMART criteria.***

Supplemental Activity (optional)

As participants have learned from the readings in the first supplemental activity, there are several aspects that differentiate behavioral style objectives from cognitive style objectives. Now participants will sharpen their knowledge by practicing. They will rewrite behavioral objectives as cognitive objectives, and rewrite cognitive objectives as behavioral objectives. This activity will be graded using a rubric.

Performance Objective #3

Synthesize the four essential elements of competency-based instructional objectives and SMART criteria to write effective instructional objectives with 90% accuracy as determined by a short-essay assessment

a. Given examples of instructional goals and relevant data about the learner group, generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet SMART criteria.

Instructional Method

This unit of the workshop consists of a lecture (conducted at the beginning of the workshop) followed by a constructed-response generative learning activity for participants to practice the material.

Content Presentation

The content will be presented by the instructor in lecture form. The lecture should be supplemented by a slide presentation that is displayed on the screen next to the instructor. The presentation should be available to participants in PDF form on Blackboard for viewing and printing. The content for this lecture was derived from the course text, *Designing Effective Instruction* (Morrison, 2013), and the AZ Department of Education's article *Writing SMART, Short-term Outcome Objectives* (azed.gov, 2011).

Analyzing the goal, learner data and learning context

Goal: *"Students will demonstrate understanding of how to control exposure on a digital DSLR camera."*

Learner data: *Freshman and sophomore college students with no prior photography experience*

Instructional Context: *Online instruction. Students DO NOT necessarily have access to DSLR cameras.*

Key concept: Analyzing your instructional goal, learner data and learning context is the first step to writing appropriate, effective instructional objectives.

Writing effective instructional objectives

Questions to ask:

- Is the instructional objective appropriate for the learner group? Is it appropriate for the learning context? Does it work towards achieving the overall goal?
- Does the instructional objective contain an action verb, subject-content reference, level of achievement, and condition of performance?

- Is it specific, measurable, achievable, relevant and time-bound?

Example 1: Incomplete, non-specific, not measurable

"*Students will recall the parts of a camera"*

Example 2: Complete, specific, measurable, but…is it relevant or achievable?

"When given a DSLR camera, students will demonstrate how to control exposure settings by manipulating the dials with 90% accuracy by the end of the instructional unit."

- REMEMBER, your leaners don't necessarily have access to a camera -

Example 3: Complete and meets SMART criteria

"Given a diagram of a DSLR camera, students will label the components of the camera that control exposure settings with 90% accuracy by the end of the instructional unit."

Key concept: It is essential to understand the learner and learning context in order to write an effective instructional objective. This is especially true for online learning. You must not only understand the subject matter, the essential components of instructional objectives, and SMART criteria, but also:

- *Understand the online learning community*
- *Understand the online learner and their typical backgrounds*
- *Understand the limitations of the online learning environment*

Congratulations! You are now ready to practice writing effective instructional objectives. This is a vital step towards creating a more meaningful learning experience for your students.

Learner Participation

After viewing the lecture, participants will complete a short-essay activity with questions derived from the components of the instructional objective. The questions will ask participants to apply what they have learned and practice writing effective instructional objectives. This activity will be graded using a rubric to evaluate the quality and accuracy of the information provided.

Assessment Method & Sample Assessment Item

Participants will be assessed twice: once in the generative learning activity directly following the lecture, and again in a comprehensive final assessment (post-test). Both assessments will be delivered in a constructed-response, short-essay format, and both will be graded using a rubric to evaluate the quality and accuracy of the information provided. The following statement represents a sample assessment item:

Consider the following information:

Goal: *Students will demonstrate competency in the process of completing an oil change in a 2015 Nissan Versa*

Learner group: *College students ages 18-23 with moderate prior mechanical experience*

Learning context: *Online, Intro to Auto-Mechanics class*

Generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet SMART criteria.

Supplemental Activity (optional)

Participants will use the tables on pages 103-105, 108 and 114 in the course text, *Designing Effective Instruction,* to practice writing effective instructional objectives in each of three domains. They will create three instructional objectives for each domain using different verbs from the 'shopping-cart' of verbs provided by the course text.

Also, ASU Online has a great interactive tool called Objectives Builder. Participants are encouraged to watch the tutorial and explore the features the program has to offer. They can choose the level of Bloom's taxonomy they want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

WRITING SMART OBJECTIVES

How To Write Effective Instructional Objectives For Online College Courses

Participant Guide

ARIZONA STATE UNIVERSITY

TESSA ETZIONI MELISSA GORDON BENJAMIN FIDDLER

Table of Contents

Participant Guide

Welcome

Welcome to Writing SMART Objectives! Writing SMART Objectives is a workshop aimed at preparing online higher education instructors to write effective instructional objectives for their courses. In this workshop, you will watch a lecture delivered by an industry professional, and participate in chat discussions, guided activities, and assessments. After completing the workshop, you will be able to write effective instructional objectives using SMART criteria.

Why This Workshop Is Important

Instructional objectives are integral to the learning design process. They help inform decisions on the structure and content of instruction, and specify expectations for learner success when the instruction is implemented (Morrison, 2013). Learner focused, outcome driven, measurable objectives are even more vital to the online instructional process due to the degree that the instruction itself facilitates learning and the degree to which the learners must self-manage the learning process (Pappas, 2017).

You may have heard of one common evidence-based approach for writing effective instructional objects called the SMART method. The letters in SMART can represent a variety of different words depending on whom you ask, but the words Specific, Measurable, Achievable, Relevant and Time-bound are generally considered an acceptable expansion of the acronym. It is a commonly accepted practice that instructional objectives should embody these five components to be considered valid.

Writing effective instructional objectives for your courses will foster the development of relevant instruction, cultivate a cohesive learning environment, and ultimately yield a more meaningful

learning experience for your ASU online students. We look forward to seeing how your newly gained knowledge and skills will improve the ASU Online learning community!

What You Will Gain

Knowledge & Skills

The main goal of this workshop is to teach you to write effective instructional objectives for use in online college courses. There are three performance objectives associated with this goal. They specify that by the end of this workshop, you should be able to:

1. Comprehend core instructional objective vocabulary and concepts
2. Evaluate sample instructional objectives for completeness and effectiveness
3. Synthesize the four essential elements of competency-based instructional objectives and SMART criteria to write effective instructional objectives

Through strategic instruction and applied learning activities, you will learn how to write specific, measurable, outcome-focused instructional objectives that will improve the quality of your teaching.

Valuable Resources

In addition to the knowledge and skills you will gain from this workshop, you will also gain access to a series of valuable resources for future use. Not only will you get a printable copy of the lecture content, but you will also be provided with five additional handouts that address key concepts and terminology integral to the objective writing process. All handouts are located in Appendix A of this participant guide.

How It Will Work

Pre-test and Post-test

Your first step as part of this workshop is to complete a short pre-test via Blackboard Learn. This pre-test will not count towards your grade. It is given to establish a baseline for your existing knowledge in order to measure learning gain. You will also complete a short-essay post-test at the end of the workshop that will help you synthesize your knowledge of the workshop content. The post-test will be graded using a rubric provided to you on Blackboard and also in Appendix A of this participant guide.

Just For Fun (Bookends Activity)

After the pre-test and before the lecture begins, you will complete a brief chat entry. You will write an instructional objective for yourself in the form of a New Year's resolution. This entry can be silly or serious, as long as you write it in the form of an instructional objective. This activity will be repeated again at the end of the workshop, when you will rewrite your resolution objective using the knowledge and skills you have gained from the workshop. It will be fun to see the entries from all of your colleagues, and to see your progress in writing effective instructional objectives!

Lecture

Next, your instructor will deliver a live-streamed lecture. During this time you will have the opportunity to contact your instructor to ask questions using instant chat.

Activities

After you watch the lecture, you will access associated learning materials and activities through Blackboard Learn. The Blackboard Learn course will include seven sections: a homepage, a pre-test section, a post-test section, two motivational activity sections, and three 'unit' sections. You

will access the learning activities through the 'unit' sections. Each section will have an activity corresponding to one of the three instructional objectives. Should you want to deepen your understanding of the content even further, there will also be an optional supplemental activity for each unit. Upon completion of the three units, you will take a post-test that synthesizes the knowledge and skills associated with the three instructional objectives. Activities and assessments will be graded using a rubric (located in Appendix A). You will receive feedback on your work within two weeks of submission.

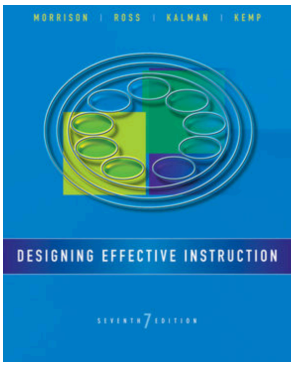
Connections

Throughout the workshop, you will have the opportunity to contact the instructor (and your colleagues) via instant chat should you have questions or comments that require immediate attention. We encourage you to communicate with one another!

Lecture: 1 hour | **Activities and assessments:** 2-3 hours | **Total time of completion:** 3-4 hours

Materials

All materials for this workshop are provided to you in Appendix A of this participant guide. You will also be able to access the course materials via Blackboard at the start of the workshop. You are encouraged to purchase the optional course text, *Designing Effective Instruction* (Morrison, 2013). Much of the workshop content was derived from this book and there are supplemental activities in each unit that require access to it. If you are not able to get access to the book, your instructor will have a PDF of the necessary pages available to you on Blackboard.



Designing Effective Instruction, 7th Edition

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Technical Requirements

	Description	Quantity
Computer	Minimum 2ghz processor and 8 gigabytes of RAM	1
Software	iLinc, Zoom or Adobe Connect, Blackboard	1
Internet connection	Minimum 10Mbps	N/A

Unit 1

What This Unit Will Cover

Unit 1 will introduce you to core instructional objective vocabulary and concepts. After completion of the unit you will be able to:

a. Describe the six levels of Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis and evaluation

b. Describe the eight categories of information included in the expanded performance-content matrix: fact, concept, principles and rules, procedure, interpersonal skills,

attitude, recall, and application

c. Describe the three learning domains: cognitive, psychomotor and affective

d. Describe the terms ‘process-focused’ and ‘outcome-focused’

e. List and define the four essential elements of competency-based instructional objectives

f. List and define the five components of SMART criteria

Content Presentation

The content of this unit will be presented to you by the instructor in a live-streamed lecture at the beginning of the workshop. You can access the lecture through the link provided by your instructor prior to the start of the workshop. The lecture will be supplemented by a slide presentation displayed on the screen next to the instructor. The presentation will also be available to you on Blackboard for viewing and printing, as well as in Appendix A of this participant guide.

Your Turn To Practice

After viewing the lecture, you will have the opportunity to practice what you have learned by logging onto Blackboard and completing a six question short-essay activity. Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Supplemental Activity (optional)

You are encouraged to read pages 105-110 in the course text, *Designing Effective Instruction,* about behavioral and cognitive instructional objectives. Then, please compare and contrast the two methods in a short essay, describing which method you prefer and why. Your instructor will

use a rubric to grade this activity. The rubric will evaluate your depth of thought and accuracy of information. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Unit 2

What This Unit Will Cover

Unit 2 will show you how to evaluate sample instructional objectives for completeness and effectiveness. After completion of unit 2 you will be able to:

a. Discriminate between instructional objectives written to target different levels of learning

b. Classify instructional objectives using the expanded performance-content matrix

c. Discriminate between instructional objectives written in the different domains: cognitive, psychomotor and affective

d. Discriminate between process focused vs. outcome focused instructional objectives

e. Discriminate between 'complete' instructional objectives and 'incomplete' instructional objectives based on the four essential elements of competency-based instructional objectives

f. Discriminate between 'effective' instructional objectives and 'ineffective' instructional objectives based on SMART criteria

Content Presentation

The content of this unit will be presented to you by the instructor in a live-streamed lecture at the beginning of the workshop. You can access the lecture through the link provided by your

instructor prior to the start of the workshop. The lecture will be supplemented by a slide presentation displayed on the screen next to the instructor. The presentation will also be available to you on Blackboard for viewing and printing, as well as in Appendix A of this participant guide.

Your Turn To Practice

After viewing the lecture, you will have the opportunity to practice what you have learned by logging onto Blackboard and completing a six question short-essay activity. Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Supplemental Activity (optional)

As you have learned from the readings in the first supplemental activity, there are several aspects that differentiate behavioral style objectives from cognitive style objectives. Now you will sharpen your knowledge by practicing. Please rewrite the following behavioral objective as a cognitive objective, and rewrite the cognitive objective as a behavioral objective.

Behavioral instructional objective: "*Given a diagram of a camera, students will demonstrate comprehension of how to manipulate exposure setting by correctly labeling the diagram with the parts of the camera that control exposure with 80% accuracy."*

Rewrite as cognitive:

Cognitive instructional objective: *"Given a sample graph of major storm types in the Midwest, students will interpret the graph by:*

a. *Determining the most frequently occurring type of storm*

b. *Determining the type of storm that caused the most damage over a 5 year period*

c. *Determining the state that suffered the most storm damage in 2016"*

Rewrite as behavioral:

Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Unit 3

What This Unit Will Cover

Unit 3 will help you to synthesize the four essential elements of competency-based instructional objectives and SMART criteria to write effective instructional objectives. After completion of this unit you will be able to:

a. Given examples of instructional goals and relevant data about the learner group, generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet SMART criteria.

Content Presentation

The content of this unit will be presented to you by the instructor in a live-streamed lecture at the beginning of the workshop. You can access the lecture through the link provided by your instructor prior to the start of the workshop. The lecture will be supplemented by a slide presentation displayed on the screen next to the instructor. The presentation will also be available to you on Blackboard for viewing and printing, as well as in Appendix A of this participant guide.

Your Turn To Practice

After viewing the lecture, you will have the opportunity to practice what you have learned by logging onto Blackboard and completing a six question short-essay activity. Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Supplemental Activity (optional)

Now you will use the tables on pages 103-105, 108 and 114 in the course text, *Designing Effective Instruction,* to practice writing effective instructional objectives in each of three domains. You will create three instructional objectives for each domain using different verbs from the 'shopping-cart' of verbs provided by the course text (also available in Handout #2 in Appendix A of this participant guide).

Also, ASU Online has a great interactive tool called Objectives Builder. You are encouraged to watch the tutorial and explore the features the program has to offer. You can choose the level of Bloom's taxonomy you want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

Thank you for joining us, and we look forward to a fun and productive workshop!

Appendix A – Participant Materials

Unit 1 – Activity

The following activity will be available for completion electronically via Blackboard.

Use the information you gained from the lecture and the provided learning materials to answer the following questions.
Question 1) Briefly describe the six levels of Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis and evaluation.
Question 2) Briefly describe the eight categories of information included in the expanded performance-content matrix: fact, concept, principles and rules, procedure, interpersonal skills, attitude, recall, and application.
Question 3) Describe the three learning domains: cognitive, psychomotor and affective.
Question 4) Describe the terms 'process-focused' and 'outcome-focused.' Which method is preferable for writing instructional objectives?
Question 5) List and briefly define the four essential elements of competency-based instructional objectives.
Question 6) List and briefly define the five components of SMART criteria.

Unit 1 – Supplemental Activity

You are encouraged to read pages 105-110 in the course text, *Designing Effective Instruction,* about behavioral and cognitive instructional objectives. Then, please compare and contrast the two methods in a short essay, describing which method you prefer and why. Your instructor will use a rubric to grade this activity. The rubric will evaluate your depth of thought and accuracy of information. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Unit 2 – Activity

The following activity will be available for completion electronically via Blackboard.

Use the information you gained from the lecture and the provided learning materials to answer the following questions.

Question 1) Consider the following instructional objective: *"Given a diagram of a camera, students will label the parts of the camera that control exposure with 80% accuracy."*

a. State the level of learning (Bloom's taxonomy) the objective targets.

b. Rewrite the objective to target a higher level of learning.

Question 2) Classify the following instructional objectives using the provided expanded performance-content matrix:

Expanded Performance-Content Matrix:

Content	Objective	Performance	
		Recall	Application
Fact			
Concept			
Principles & rules			
Procedure			

Interpersonal			
Attitude			

Instructional Objectives:

"From memory, students will list all of the chemical symbols for metals on the periodic table with 90% accuracy."

"In a structured writing activity, students will explain how the chemical symbol Fe and the chemical symbol AI are related with 100% accuracy."

"Students will demonstrate good interpersonal communication skills by speaking clearly, making eye contact and using an appropriate level of detail when asked to explain the salient qualities of metals to a peer, with 100% accuracy."

Question 3) The following instructional objectives are written in two different domains. Label the domain that each instructional objective is written in.

a*. "When given a digital SLR camera, students will adjust the shutter wheel and aperture wheel to achieve an exposure setting of f8 @ 1/160 of a second."*

a. *"In a mock interview, photography students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with 100% accuracy."*

Question 4) Consider the following objective: *"Students will gain insight into the civil war by creating a timeline of major events with 90% accuracy."*

a. This objective is process-focused. Rewrite the objective so it is outcome-focused.

Question 5) Please label the components of the following instructional objective. You will find that the objective is missing one essential component. Please identify the missing component and fill it in so the objective is complete relative to the four essential elements of competency-based instructional objectives.

"**a**. Given 5 famous paintings from the Impressionist period, students will correctly **b.** identify the **c.** artists of the paintings" **d.**_____

a. _____

b. _____

c. _____

d. _____

Question 6) Determine if the following instructional objective meets SMART criteria: *"Students will recall information about the civil war."* Explain why this objective does or does not meet SMART criteria. If it does not, please rewrite the objective to meet SMART criteria.

Unit 2 – Supplemental Activity

As you have learned from the readings in the first supplemental activity, there are several aspects that differentiate behavioral style objectives from cognitive style objectives. Now you will sharpen your knowledge by practicing. Please rewrite the following behavioral objective as a cognitive objective, and rewrite the cognitive objective as a behavioral objective.

Behavioral instructional objective: "*Given a diagram of a camera, students will demonstrate comprehension of how to manipulate exposure setting by correctly labeling the diagram with the parts of the camera that control exposure with 80% accuracy."*

Rewrite as cognitive:

Cognitive instructional objective: *"Given a sample graph of major storm types in the Midwest, students will interpret the graph by:*

a. *Determining the most frequently occurring type of storm*
b. *Determining the type of storm that caused the most damage over a 5 year period*
c. *Determining the state that suffered the most storm damage in 2016"*

Rewrite as behavioral:

Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Unit 3 – Activity

The following activity will be available for completion electronically via Blackboard.

Use the information you gained from the lecture and the provided learning materials to answer the following questions.

Question 1) Consider the following information:

***Goal**: Students will demonstrate competency in the process of completing an oil change in a 2015 Nissan Versa*

***Learner group**: College students ages 18-23 with moderate prior mechanical experience*

***Learning context**: Online, Intro to Auto-Mechanics class*

a. Generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet SMART criteria.

1. _____
2. _____
3. _____

Unit 3 – Supplemental Activity

Now you will use the tables on pages 103-105, 108 and 114 in the course text, *Designing Effective Instruction,* to practice writing effective instructional objectives in each of three domains. You will create three instructional objectives for each domain using different verbs from the 'shopping-cart' of verbs provided by the course text (also available in Handout #2 in Appendix A of this participant guide). Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard. It is also provided in Appendix A of this participant guide.

Also, ASU Online has a great interactive tool called Objectives Builder. You are encouraged to watch the tutorial and explore the features the program has to offer. You can choose the level of Bloom's taxonomy you want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

Unit 1 - Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 2) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and	Content aligns somewhat with lecture content; thought is detailed	Content does not align with lecture content; thought lacks detail and is

	developed.		
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 3) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.

		on sentences.	
Question 4) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 5) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.

Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 6) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points_____ out of 90 points possible			
Instructor comments:			

Unit 1 - Supplemental Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content is accurate; thought is detailed and thoroughly developed.	Content is mostly accurate; thought is detailed and well developed.	Content is inaccurate; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 15 points possible			
Instructor comments:			

Unit 2 - Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 2) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly	Content aligns somewhat with lecture content; thought is detailed and well developed	Content does not align with lecture content; thought lacks detail and is under-developed

	developed.		
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 3) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.

		on sentences.	
Question 4) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
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Question 5) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.

Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 6) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points_____ out of 90 points possible			
Instructor comments:			

Unit 2 - Supplemental Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content is accurate; thought is detailed and thoroughly developed.	Content is mostly accurate; thought is detailed and well developed.	Content is inaccurate; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 15 points possible			
Instructor comments:			

Unit 3 - Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 30 points	Meets Expectations 24-29 points	Below Expectations 0-23 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 90 points possible			
Instructor comments:			

Unit 3 - Supplemental Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content is accurate; thought is detailed and thoroughly developed.	Content is mostly accurate; thought is detailed and well developed.	Content is inaccurate; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 15 points possible			
Instructor comments:			

Handout #1 – Lecture

The content for this lecture was derived from the course text, *Designing Effective Instruction* (Morrison, 2013), and the AZ Department of Education's article *Writing SMART, Short-term Outcome Objectives* (azed.gov, 2011).

Six levels of Bloom's taxonomy

- **Knowledge:** the recall of specific information
- **Comprehension:** the lowest level of understanding
- **Application:** application of a rule or principle
- **Analysis:** breaking an idea into component parts and describing the relationship
- **Synthesis:** putting the parts together to form a new whole
- **Evaluation:** making judgments

Key concept: it is important that your instructional objectives target higher levels of learning, and don't just focus on rote learning and memorization.

Expanded performance-content matrix categories

- **Fact:** a statement that connects one component with another; memorized for later recall
- **Concept:** categories used to group items
- **Principles and rules:** express the relationship between multiple concepts
- **Procedure:** sequence of steps to accomplish a task
- **Interpersonal skills:** verbal and nonverbal communication between two or more

people

- **Attitude:** observable manifestation of mental outlook
- **Recall:** memorization of information
- **Application:** demonstration or implementation of information

Key concept: These categories are used to sort instructional objectives to ensure that the objective is appropriate for the targeted skill and that the subsequent instructional activities are appropriate for the objective.

Three learning domains

- **Cognitive:** objectives related to information or knowledge, naming, solving, predicating and other intellectual aspects of learning
- **Psychomotor:** encompasses skills requiring the use and coordination of skeletal muscles
- **Affective:** objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting

Key concept: it is important that you write instructional objectives that are appropriate for the type of skill they target.

Describing process-focused vs. outcome-focused

- **Process-focused:** focusing on the learning process instead of the outcomes
- **Outcome-focused:** focusing on the outcomes instead of the learning process

Key concept: it is important that your instructional objectives are outcome-focused.

Four elements of competency-based Instructional objectives

1. **Action verb:** describes the observable action required by the learner
2. **Subject-content reference:** describes the content the objective addresses
3. **Level of achievement:** criterion that indicates the minimum acceptable performance
4. **Conditions of performance:** specifies conditions under which the evaluation takes place

Key concept: it is important that you write 'complete' instructional objectives. It is the first step towards meeting SMART criteria.

Five components of SMART criteria

- **Specific:** clear and well defined
- **Measurable:** a standard of achievement should be stated
- **Achievable:** should be rigorous, but attainable by the learners
- **Relevant:** should result in a meaningful outcome
- **Time-bound:** linked it to a time frame to ensure accountability

Key concept: If your instructional objectives are specific, measurable, achievable, relevant and time-bound, they meet industry standards for effectiveness.

Examples of instructional objectives targeting different levels of learning

- **Knowledge:** the recall of specific information

  "Students will recall the main components of a digital DSLR camera…"
- **Comprehension:** the lowest level of understanding

  "Students will identify the components of a digital DSLR camera that control exposure…"
- **Application:** application of a rule or principle

  "Students will use the rule of reciprocity to create the same overall exposure using two different aperture settings…"
- **Analysis:** breaking an idea into component parts and describing the relationship

  "Students will explain what role of shutter speed and aperture setting play in reciprocity…"
- **Synthesis:** putting the parts together to form a new whole

  "Students will explain how understanding the rule of reciprocity can benefit a photographer who is shooting a moving subject in natural light…"
- **Evaluation:** making judgments

  "Students will use their knowledge of exposure and reciprocity to decide the optimal exposure settings when given a real-world photographic scenario…"

Key concept: it is important that you are able to write instructional objectives that target all levels of learning.

Examples of objectives in the expanded performance-content matrix

Content	Objective	Performance	
		Recall	**Application**
Fact	*Students will recall the main components of a digital DSLR camera…*	X	
Concept	*Students will identify the components of a digital DSLR camera that control exposure…*	X	
Principles & rules	*Students will use the rule of reciprocity to create the same overall exposure using two different aperture settings…*		X
Procedure	*Students will explain the steps involved in controlling exposure…*	X	
Interpersonal	*Students will demonstrate good interpersonal communication skills when explaining how to use a digital camera to a novice…*		X
Attitude	*Students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio…*		X

Key concept: Use these categories to sort your instructional objectives. If the objective falls into more than one category, it should be refined and rewritten as two separate objectives.

Examples of the three learning domains

- **Cognitive:** objectives related to information or knowledge, naming, solving, predicating and other intellectual aspects of learning

"Students will recall the main components of a digital DSLR camera…"

- **Psychomotor:** encompasses skills requiring the use and coordination of skeletal muscles

  "Students will physically manipulate the aperture and shutter wheels to control exposure…"

- **Affective:** objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting

  "Students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio…"

Key concept: it is important that you write instructional objectives that are appropriate for the type of skill they target.

Analyzing process-focused vs. outcome-focused

- **Process-focused:** focusing on the learning process instead of the outcomes

  "Students will gain knowledge about the rule of reciprocity by practicing adjusting the exposure on a DSLR camera…"

- **Outcome-focused:** focusing on the outcomes instead of the learning process

  "*Students will apply the rule of reciprocity by practicing adjusting the exposure on a DSLR camera…"*

Key concept: it is important that your instructional objectives are outcome-focused.

Recognizing the four elements of competency-based Instructional objectives

1. **Action verb:** describes the observable action required by the learner
2. **Subject-content reference:** describes the content the objective addresses
3. **Level of achievement:** criterion that indicates the minimum acceptable performance
4. **Conditions of performance:** specifies conditions under which the evaluation takes place

*"**4**.In a mock interview, photography students will **1**.demonstrate a **2**.positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with **3**.100% accuracy."*

*ASU Online has a great interactive tool called Objectives Builder. You are encouraged to watch the tutorial and explore the features the program has to offer. You can choose the level of Bloom's taxonomy you want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

Key concept: it is important that you include all the components to write 'complete' instructional objectives. It is the first step towards meeting SMART criteria.

Analyzing the five components of SMART criteria

a. **Specific:** clear and well defined
b. **Measurable:** a standard of achievement should be stated
c. **Achievable:** should be rigorous, but attainable by the learners

d. **Relevant:** should result in a meaningful outcome

e. **Time-bound:** linked it to a time frame to ensure accountability

*"**c**.In a mock interview, photography students will **d**.demonstrate a **a**.positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with **b**.100% accuracy **e**.by the end of the instructional unit"*

Key concept: If your instructional objectives are specific, measurable, achievable, relevant and time-bound, they meet industry standards for effectiveness.

Analyzing the goal, learner data and learning context

Goal: *"Students will demonstrate understanding of how to control exposure on a digital DSLR camera."*

Learner data: *Freshman and sophomore college students with no prior photography experience*

Instructional Context: *Online instruction. Students DO NOT necessarily have access to DSLR cameras.*

Key concept: Analyzing your instructional goal, learner data and learning context is the first step to writing appropriate, effective instructional objectives.

Writing effective instructional objectives

Questions to ask:

- Is the instructional objective appropriate for the learner group? Is it appropriate for the learning context? Does it work towards achieving the overall goal?
- Does the instructional objective contain an action verb, subject-content reference, level of achievement, and condition of performance?
- Is it specific, measurable, achievable, relevant and time-bound?

Example 1: Incomplete, non-specific, not measurable

"*Students will recall the parts of a camera"*

Example 2: Complete, specific, measurable, but…is it relevant or achievable?

"When given a DSLR camera, students will demonstrate how to control exposure settings by manipulating the dials with 90% accuracy by the end of the instructional unit."

- REMEMBER, your leaners don't necessarily have access to a camera -

Example 3: Complete and meets SMART criteria

"Given a diagram of a DSLR camera, students will label the components of the camera that control exposure settings with 90% accuracy by the end of the instructional unit."

Key concept: It is essential to understand the learner and learning context in order to write an effective instructional objective. This is especially true for online learning. You must not only understand the subject matter, the essential components of instructional objectives, and SMART criteria, but also:

- *Understand the online learning community*
- *Understand the online learner and their typical backgrounds*
- *Understand the limitations of the online learning environment*

Congratulations! You are now ready to practice writing effective instructional objectives. This is a vital step towards creating a more meaningful learning experience for your students.

Handout #2 – Quick Reference Guide: Learning Domains

The following tables will serve as a useful reference when writing instructional objectives. The information is provided by the course text, *Designing Effective Instruction* (Morrison, 2013).

Cognitive domain

Observable verbs for the cognitive domain

1. Knowledge		2. Comprehension		3. Application	
Recall information		Interpret information in one's own words		Use knowledge or generalization in a new situation	
arrange	name	classify	report	apply	operate
define	order	describe	restate	choose	practice
duplicate		discuss	review	demonstrate	prepare
Label	relate	explain	select	dramatize	schedule
List	repeat	express	sort	employ	sketch
match	reproduce	identify	tell	illustrate	solve
memorize	state	indicate	translate	interpret	use
		locate			
4. Analysis		**5. Synthesis**		**6. Evaluation**	
Break down knowledge into parts and show relationships among parts		Bring together parts of knowledge to form a whole and build relationships for new situations		Make judgments on basis of given criteria	
analyze	differentiate	arrange	manage	appraise	evaluate
appraise	discriminate	assemble	organize	argue	judge
calculate	distinguish	collect	plan	assess	predict
categorize	examine	compose	prepare	attack	rate
compare	experiment	construct	propose	choose	score
contrast	inventory	create	set up	compare	select
criticize	question	design	synthesize	defend	support
diagram	test	formulate	write	estimate	value

Note: Depending on the meaning in a particular situation, some verbs may apply to more than one level.

Psychomotor domain

Kibler's psychomotor skill grouping

Level	Examples
Gross bodily movements of arms, shoulders, feet, and legs	Throwing a ball for a distance, picking up a heavy object so as not to strain the body, performing a backward dive
Finely coordinated movements of hands and fingers, of hand and eye, of hand and ear, and of hand, eye, and foot	Knitting a scarf, guiding wood through a table saw, using a laptop, driving a car, sight-reading music while playing an instrument
Nonverbal communication through facial expression, gestures, bodily movements	Showing emotions through facial expressions, employing gestures to communicate directions, pantomiming a message
Speech behavior in producing and projecting sound, coordinating sound and gestures	Giving instructions in a foreign language or presenting a literary reading with gestures for emphasis

Domain of psychomotor objectives

Level	Description	Example
Imitation	Demonstrates an observed action	After watching a video recording on drilling countersink holes, you will drill a countersink hole for a wood screw.
Manipulation	Performs an action	After practicing on scrap wood, you will drill a hole for connecting two pieces of wood, scoring 8 of 10 points on the performance checklist.
Precision	Performs an action with accuracy	You will catch 75% of the ground balls hit to your position.
Articulation	Performs a coordinated activity in an efficient and coordinated manner	During a tennis game, you will properly execute a backhand swing as required by the volley.

Affective domain

Affective domain

Level	Description	Example
Receiving	Willing to give attention to an event or activity	Listen to, aware of, perceive, alert to, sensitive to, show tolerance of
Responding	Willing to react to an event through some form of participation	Reply, answer, follow along, approve, obey, find pleasure in
Valuing	Willing to accept or reject an event through the expression of a positive or negative attitude	Accept, attain, assume, support, participate, continue, grow in, be devoted to
Organizing	When encountering situations to which more than one value applies, willing to organize the values, determine relationships among values, and accept some values as dominant over others (according to the importance to the individual learner)	Organize, select, judge, decide, identify with, develop a plan for, weigh alternatives
Characterizing by a value complex	Consistently acting in accordance with accepted values and incorporating this behavior as a part of one's personality	Believe, practice, continue to, carry out, become part of one's code of behavior

Affective verbs

acclaims	cooperates	joins
agrees	defends	offers
argues	disagrees	participates in
assumes	disputes	praises
attempts	engages in	resists
avoids	helps	shares
challenges	is attentive to	volunteers

Handout #3 – Expanded Performance-Content Matrix

This table should be used to classify your instructional objectives before designing your instructional strategy. As a general rule, if an instructional objective fits into more than one category, it should be refined and rewritten as two objectives.

Expanded Performance-Content Matrix

Content	Objective	Performance	
		Recall	Application
Fact			
Concept			
Principles & rules			
Procedure			
Interpersonal			
Attitude			

Handout #4 – Quick Reference Guide: SMART Objectives

This document was retrieved from www.cdc.gov.

EVALUATION eTA **Evaluation Briefs**

No. 3b | January 2009

Writing SMART Objectives

This brief is about writing SMART objectives. This brief includes an overview of objectives, how to write SMART objectives, a SMART objectives checklist, and examples of SMART objectives.

Overview of Objectives

For DASH funded partners, program planning includes developing five-year program goals (a broad statement of program purpose that describes the expected long-term effects of a program), strategies (the means or broad approach by which a program will achieve its goals), and annual workplan objectives (statements that describe program results to be achieved and how they will be achieved). Objectives are more immediate than goals; objectives represent annual mileposts that your program needs to achieve in order to accomplish its goals by the end of the five-year funding period. Each year, your workplan objectives should be based on the strategies you have selected to reach your program goals. Because strategies are implemented through objectives and program activities, multiple objectives are generally needed to address a single strategy. Objectives are the basis for monitoring implementation of your strategies and progress toward achieving your program goals. Objectives also help set targets for accountability and are a source for program evaluation questions.

Writing SMART Objectives

To use an objective to monitor your progress, you need to write it as a SMART objective. A SMART objective is:

1. **Specific:**
   - Objectives should provide the "who" and "what" of program activities.
   - Use only one action verb since objectives with more than one verb imply that more than one activity or behavior is being measured.
   - Avoid verbs that may have vague meanings to describe intended outcomes (e.g., "understand" or "know") since it may prove difficult to measure them. Instead, use verbs that document action (e.g., "At the end of the session, the students will list three concerns...")
   - Remember, the greater the specificity, the greater the measurability.
2. **Measurable:**
   - The focus is on "how much" change is expected. Objectives should quantify the amount of change expected. It is impossible to determine whether objectives have been met unless they can be measured.
   - The objective provides a reference point from which a change in the target population can clearly be measured.
3. **Achievable:**
   - Objectives should be attainable within a given time frame and with available program resources.
4. **Realistic:**
   - Objectives are most useful when they accurately address the scope of the problem and programmatic steps that can be implemented within a specific time frame.
   - Objectives that do not directly relate to the program goal will not help toward achieving the goal.
5. **Time-phased:**
   - Objectives should provide a time frame indicating when the objective will be measured or a time by which the objective will be met.
   - Including a time frame in the objectives helps in planning and evaluating the program.

Department of Health and Human Services
Centers for Disease Control and Prevention

Objectives Checklist

Criteria to assess objectives	Yes	No
1. Is the objective SMART? ▪ **Specific:** Who? (target population and persons doing the activity) and What? (action/activity) ▪ **Measurable:** How much change is expected ▪ **Achievable:** Can be realistically accomplished given current resources and constraints ▪ **Realistic:** Addresses the scope of the health program and proposes reasonable programmatic steps ▪ **Time-phased:** Provides a timeline indicating when the objective will be met		
2. Does it relate to a single result?		
3. Is it clearly written?		

SMART Objectives Examples

Non-SMART objective 1: Teachers will be trained on the selected scientifically based health education curriculum.

This objective is not SMART because it is not *specific*, *measurable*, or *time-phased*. It can be made SMART by *specifically* indicating who is responsible for training the teachers, how many will be trained, who they are, and by when the trainings will be conducted.

SMART objective 1: By year two of the project, **LEA staff** will have trained **75% of health education** teachers **in the school district** on the selected scientifically based health education curriculum.

Non-SMART objective 2: 90% of youth participants will participate in lessons on assertive communication skills.

This objective is not SMART because it is not *specific* or *time-phased*. It can be made SMART by *specifically* indicating who will do the activity, by when, and who will participate in lessons on assertive communication skills.

SMART objective 2: By the end of the school year, district health educators will have delivered lessons on assertive communication skills to 90% of youth participants **in the middle school HIV-prevention curriculum.**

Resources

Brief 3: Goals and Objectives Checklist Available at http://www.cdc.gov/HealthyYouth/evaluation/resources.htm

Brief 5: Integrating the Strategic Plan, Logic Model, and Workplan. Available at http://www.cdc.gov/HealthyYouth/evaluation/resources.htm

Strategic Planning Kit for School Health Programs. Available at http://www.cdc.gov/HealthyYouth/evaluation/sp_toolkit.htm

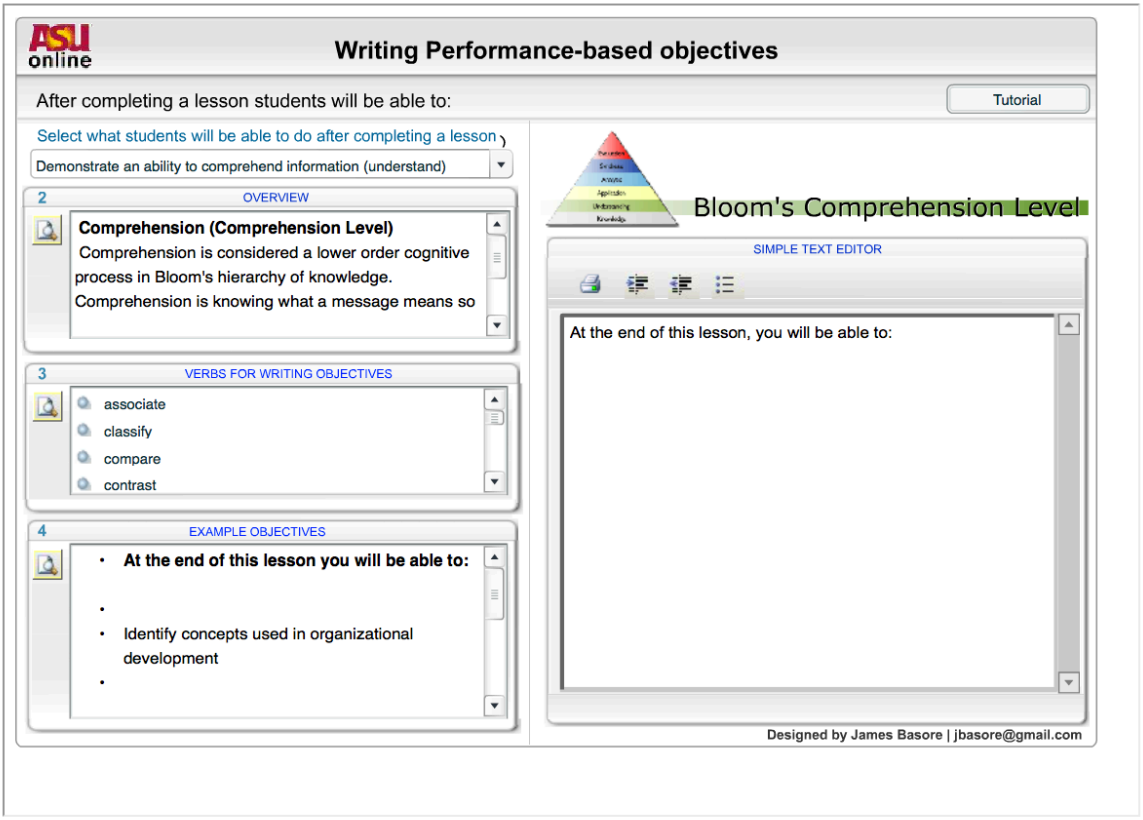
Tutorial 3: Writing Good Goals and Smart Objectives. Available at http://www.cdc.gov/HealthyYouth/evaluation/resources.htm

Handout #5 –Interactive Tools

ASU Online has a great interactive tool called Objectives Builder. You are encouraged to watch the tutorial and explore the features the program has to offer. You can choose the level of Bloom's taxonomy you want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

Objectives Builder

Use this application to develop instructional objectives for your courses and instructional programs.



WRITING SMART OBJECTIVES

How To Write Effective Instructional Objectives For Online College Courses

Instructor Guide

ARIZONA STATE UNIVERSITY

TESSA ETZIONI MELISSA GORDON BENJAMIN FIDDLER

Table of Contents

Instructor Guide

Welcome

Welcome to Writing SMART Objectives! Writing SMART Objectives is a workshop aimed at preparing online higher education instructors to write effective instructional objectives for their courses. In this workshop, you will deliver a detailed lecture about how to write effective instructional objectives, and facilitate activities to encourage deeper learning. After completing the workshop, your participants (ASU Online instructors) will be able to write effective instructional objectives using SMART criteria.

Why This Workshop Is Important

As you know (hopefully), instructional objectives are integral to the learning design process. They help inform decisions on the structure and content of instruction, and specify expectations for learner success when the instruction is implemented (Morrison, 2013). Learner focused, outcome driven, measurable objectives are even more vital to the online instructional process due to the degree that the instruction itself facilitates learning and the degree to which the learners must self-manage the learning process (Pappas, 2017).

You are likely quite familiar with one common evidence-based approach for writing effective instructional objects called the SMART method. The letters in SMART can represent a variety of different words depending on whom you ask, but the words Specific, Measurable, Achievable, Relevant and Time-bound are what we have settled on for this workshop.

Teaching ASU online instructors to write effective instructional objectives for their courses will foster the development of relevant instruction, cultivate a cohesive learning environment, and ultimately yield a more meaningful learning experience for ASU online students. We look

forward to seeing how your instruction will improve the ASU Online learning community!

Overall Course Structure

Total time of completion: 3-4 hours

Lecture: 1 hour

Activities and assessments: 2-3 hours

The first part of the workshop, your lecture, will be synchronous; it will be live-streamed to participants. The second part of the workshop, the completion of activities and assessments, will be done independently. Participants will access associated learning materials and activities through Blackboard Learn after watching your lecture in its entirety. The Blackboard Learn interface should include seven sections: a homepage, a pre-test section, a post-test section, two motivational activity sections, and three 'unit' sections. The homepage should have a welcome note explaining the contents and purpose of the workshop, as well as a list of the instructional objectives, and an outline of how the content will be delivered. The pre-test section will contain a link to the pre-test, the post-test section will contain a link to the post-test, and the motivational activity sections will contain a link and instructions for the chat entries. The three remaining sections are 'units' of content corresponding to the instructional objectives. Each section will house one instructional objective and its corresponding learning materials and activity. Throughout the workshop participants will have the opportunity to contact you via instant chat should they have questions or comments that require immediate attention.

Set Up For Live-Streaming

Performance Site

The instruction will be recorded in a filming studio at the ASU Scottsdale Innovation Center, SkySong located at 1475 N Scottsdale Rd, Scottsdale, AZ 85257. The lecture will be live-

streamed to the workshop participants who will watch it online in real-time. Then, the participants will complete the remaining activities and assessments independently via Blackboard Learn.

Resource Requirements

The instruction should be recorded in a professional film studio, and live-streamed to the workshop participants. Materials and assessments will be delivered via Blackboard Learn after the lecture has been delivered. Manpower and technical requirements are outlined in the following tables:

Human Requirements		
	Description	**Quantity**
Instructor	A seasoned education professional well-versed in evidence-based methods for writing effective instructional objectives	1
Technical Manager	An individual qualified to operate the computer and software to ensure successful live-streaming of lecture and materials	1
Camera Operators	Professional camera operators	2
Teaching Assistant	An individual qualified to help collect, filter, answer and deliver questions to the instructor that are submitted via online chat during the webinar	1
Grader	Individuals qualified to help grade activities and assessments upon completion of the webinar	10

Technical Requirements - Production		
	Description	**Quantity**
Video	HD digital video camera	2
Audio	Professional grade lapel microphone	1
Lighting	Professional grade continuous studio light	3
Monitor	Approximately 55 inch flat screen LCD	1
Room	Soundproof	1
Computer	Minimum 3ghz processor and 32 gigabytes of RAM	1
Software	iLinc, Zoom or Adobe Connect, Blackboard	1
Internet connection	Minimum 50Mbps	N/A

Software Options

It is up to you what webinar or live-streaming system to use. We suggest iLinc, Zoom or Adobe Connect as reliable options. All three of theses programs have media sharing capabilities, an integrated live chat feature and reliable customer support. If you choose to use a webinar program that does not have a live chat feature, you may consider utilizing a chat system such as Slack to support course activities that rely on this feature.

Workshop Materials

Provided For You

Appendix B of this instructor guide contains all of the materials required to deliver this workshop, including the pre-test and pre-test answer key, post-test and post-test rubric, all activities and activity rubrics, as well as the lecture content. Look them over and make adjustments according to your teaching style.

What You Need To Do

We recommend that you use your preferred slide presentation program, such as PowerPoint or Prezi, to build a simple presentation using the provided lecture content. Also, all activities and assessments will need to be inputted into the course Blackboard shell so participants can access them electronically.

You will need access to the Blackboard Learn interface, which requires a computer and internet access. If this is your first online teaching experience, or want to brush up on your online teaching skills, please refer to: http://teachonline.asu.edu/

Preparation

It is encouraged that you are well versed in the topic of writing objectives using SMART criteria and the four essential components of competency-based instructional objectives. It is recommended to review the information on writing objectives in the textbook, *Designing Effective Instruction* by authors Morrison, G. R., Ross, S. M., Kalman, H. K., & Kemp, J. E.

In addition to the content, read over the materials in Appendix B of this instructor guide to gain an understanding of what the participants will be completing.

Also, please review the instructional goal and performance objectives.

Instructional Goal

Learners will write effective instructional objectives for use in online college courses.

Performance Objectives

By the end of this workshop, participants should be able to:

1. Comprehend core instructional objective vocabulary and concepts with 90% accuracy as determined by a short-essay assessment

    a. Describe the six levels of Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis and evaluation

    b. Describe the eight categories of information included in the expanded performance-content matrix: fact, concept, principles and rules, procedure, interpersonal skills, attitude, recall, and application

    c. Describe the three learning domains: cognitive, psychomotor and affective

    d. Describe the terms 'process-focused' and 'outcome-focused'

    e. List and define the four essential elements of competency-based instructional objectives

    f. List and define the five components of SMART criteria

2. Evaluate sample instructional objectives with 90% accuracy as determined by a short-essay assessment

    a. Discriminate between instructional objectives written to target different levels of learning

b. Classify instructional objectives using the expanded performance-content matrix

c. Discriminate between instructional objectives written in the different domains: cognitive, psychomotor and affective

d. Discriminate between process focused vs. outcome focused instructional objectives

e. Discriminate between 'complete' instructional objectives and 'incomplete' instructional objectives based on the four essential elements of competency-based instructional objectives

f. Discriminate between 'effective' instructional objectives and 'ineffective' instructional objectives based on SMART criteria

3. Synthesize the four essential elements of competency-based instructional objectives and SMART criteria to write effective instructional objectives with 90% accuracy as determined by a short-essay assessment

    a. Given examples of instructional goals and relevant data about the learner group, generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet SMART criteria.

Procedures

Workshop Introduction

To introduce the workshop to the participating learners, use/adapt this statement: "Welcome to Writing SMART Objectives! Writing SMART Objectives is a workshop aimed at preparing online

higher education instructors to write effective objectives for their courses. Throughout the workshop, you are expected to participate in chat discussions, guided activities, and assessments. After completing this workshop, you will be able to write effective objectives using SMART criteria."

Information and Examples

All information and examples that are being presented to the target learners are located in Appendix B. We recommend that you adapt the lecture information into a slide-based presentation using your preferred tool such as PowerPoint or Prezi. The slide presentation will accompany your lecture during the live-streaming. Also, all unit activities and assessments need to be inputted into Blackboard so participants can access them electronically.

Facilitation

Pre-Session

a. Ensure that participants have access to your webinar chat system, or Slack.

Beginning/End of Session - Pre-test/Post-test

a. Participants will complete a multiple-choice and true/false pre-test at the beginning of the workshop to establish a baseline for their current knowledge and skills. The pre-test should not count towards participants' grades. The pre-test and the pre-test answer key have been provided for you in Appendix B.

b. At the end of the workshop, participants will complete a comprehensive short-essay post-test to check for learning gain. The post-test should count towards the participants' grades. The post-test and the post-test rubric have been provided for you in Appendix B.

Beginning/End of Session – Motivation Bookends Activity

a. Participants will complete the motivation activity for the course by making a chat entry (details are provided in Appendix B).
b. This same activity will be completed at the end of the course as a check for learning gain.

Lecture

a. You will deliver your lecture near the beginning of the workshop after participants have taken the pre-test and completed the motivational activity.

Instructional Units

Unit 1

a. Performance Objective #1- Comprehend core instructional objective vocabulary and concepts
    i. After participants watch the main lecture, they will start on the activities In Unit 1. They will be participating in a short-essay activity to practice their skills for performance objective #1.
    ii. Participants also have an optional enrichment learning activity, which includes reading from the textbook.

Unit 2

a. Performance Objective #2- Evaluate sample instructional objectives
    i. After participants complete Unit 1, they will start on the activities In Unit 2. They will be participating in a short-essay activity to practice their skills for performance objective #2.
    ii. Participants also have an optional enrichment learning activity, which includes reading from the textbook.

Unit 3

a. Performance Objective #3- Synthesize the four essential elements of competency-based instructional objectives and SMART criteria to write effective instructional objectives

i. After participants complete Unit 2, they will start on the activities In Unit 3. They will be participating in a short-essay activity to practice their skills for performance objective #3.
ii. Participants also have an optional enrichment learning activity, which includes reading from the textbook, and practice using an online interactive Objectives Builder tool.

Communication

Throughout the workshop participants will have the opportunity to communicate with you through instant chat. We encourage you to communicate promptly and openly with participants. The ability to interact with a talented and knowledgeable instructor greatly enhances the learning environment for participants, and is part of the draw for this workshop.

We look forward to a fun and productive workshop, and seeing the positive impact your leadership will have on the ASU Online community!

Appendix B – Instructor Materials

Lecture

This lecture should be adapted into a slide presentation using your preferred program, such as PowerPoint or Prezi. The content for this lecture was derived from the course text, *Designing Effective Instruction* (Morrison, 2013), and the AZ Department of Education's article *Writing SMART, Short-term Outcome Objectives* (azed.gov, 2011).

Six levels of Bloom's taxonomy
• **Knowledge:** the recall of specific information • **Comprehension:** the lowest level of understanding • **Application:** application of a rule or principle • **Analysis:** breaking an idea into component parts and describing the relationship • **Synthesis:** putting the parts together to form a new whole • **Evaluation:** making judgments
Key concept: it is important that your instructional objectives target higher levels of learning, and don't just focus on rote learning and memorization.
Expanded performance-content matrix categories
• **Fact:** a statement that connects one component with another; memorized for later

recall

- **Concept:** categories used to group items
- **Principles and rules:** express the relationship between multiple concepts
- **Procedure:** sequence of steps to accomplish a task
- **Interpersonal skills:** verbal and nonverbal communication between two or more people
- **Attitude:** observable manifestation of mental outlook
- **Recall:** memorization of information
- **Application:** demonstration or implementation of information

Key concept: These categories are used to sort instructional objectives to ensure that the objective is appropriate for the targeted skill and that the subsequent instructional activities are appropriate for the objective.

Three learning domains

- **Cognitive:** objectives related to information or knowledge, naming, solving, predicating and other intellectual aspects of learning
- **Psychomotor:** encompasses skills requiring the use and coordination of skeletal muscles
- **Affective:** objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting

Key concept: it is important that you write instructional objectives that are appropriate for the type of skill they target.

Describing process-focused vs. outcome-focused

- **Process-focused:** focusing on the learning process instead of the outcomes
- **Outcome-focused:** focusing on the outcomes instead of the learning process

Key concept: it is important that your instructional objectives are outcome-focused.

Four elements of competency-based Instructional objectives

1. **Action verb:** describes the observable action required by the learner
2. **Subject-content reference:** describes the content the objective addresses
3. **Level of achievement:** criterion that indicates the minimum acceptable performance
4. **Conditions of performance:** specifies conditions under which the evaluation takes place

Key concept: it is important that you write 'complete' instructional objectives. It is the first step towards meeting SMART criteria.

Five components of SMART criteria

- **Specific:** clear and well defined
- **Measurable:** a standard of achievement should be stated
- **Achievable:** should be rigorous, but attainable by the learners
- **Relevant:** should result in a meaningful outcome
- **Time-bound:** linked it to a time frame to ensure accountability

Key concept: If your instructional objectives are specific, measurable, achievable, relevant and time-bound, they meet industry standards for effectiveness.

Examples of instructional objectives targeting different levels of learning

- **Knowledge:** the recall of specific information
  "Students will recall the main components of a digital DSLR camera…"
- **Comprehension:** the lowest level of understanding
  "Students will identify the components of a digital DSLR camera that control exposure…"
- **Application:** application of a rule or principle
  "Students will use the rule of reciprocity to create the same overall exposure using two different aperture settings…"
- **Analysis:** breaking an idea into component parts and describing the relationship
  "Students will explain what role of shutter speed and aperture setting play in reciprocity…"
- **Synthesis:** putting the parts together to form a new whole
  "Students will explain how understanding the rule of reciprocity can benefit a photographer who is shooting a moving subject in natural light…"
- **Evaluation:** making judgments
  "Students will use their knowledge of exposure and reciprocity to decide the optimal exposure settings when given a real-world photographic scenario…"

Key concept: it is important that you are able to write instructional objectives that target all levels of learning.

Examples of objectives in the expanded performance-content matrix

Content	Objective	Performance	
		Recall	**Application**
Fact	*Students will recall the main components of a digital DSLR camera…*	X	
Concept	*Students will identify the components of a digital DSLR camera that control exposure…*	X	
Principles & rules	*Students will use the rule of reciprocity to create the same overall exposure using two different aperture settings…*		X
Procedure	*Students will explain the steps involved in controlling exposure…*	X	
Interpersonal	*Students will demonstrate good interpersonal communication skills when explaining how to use a digital camera to a novice…*		X
Attitude	*Students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio…*		X

Key concept: Use these categories to sort your instructional objectives. If the objective falls into more than one category, it should be refined and rewritten as two separate objectives.

Examples of the three learning domains

- **Cognitive:** objectives related to information or knowledge, naming, solving, predicating and other intellectual aspects of learning
  "Students will recall the main components of a digital DSLR camera…"
- **Psychomotor:** encompasses skills requiring the use and coordination of skeletal muscles
  "Students will physically manipulate the aperture and shutter wheels to control exposure…"
- **Affective:** objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting
  "Students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio…"

Key concept: it is important that you write instructional objectives that are appropriate for the type of skill they target.

Analyzing process-focused vs. outcome-focused

- **Process-focused:** focusing on the learning process instead of the outcomes
  "Students will gain knowledge about the rule of reciprocity by practicing adjusting the exposure on a DSLR camera…"
- **Outcome-focused:** focusing on the outcomes instead of the learning process
  "*Students will apply the rule of reciprocity by practicing adjusting the exposure on a*

DSLR camera…"

Key concept: it is important that your instructional objectives are outcome-focused.

Recognizing the four elements of competency-based Instructional objectives

1. **Action verb:** describes the observable action required by the learner
2. **Subject-content reference:** describes the content the objective addresses
3. **Level of achievement:** criterion that indicates the minimum acceptable performance
4. **Conditions of performance:** specifies conditions under which the evaluation takes place

*"**4**.In a mock interview, photography students will **1**.demonstrate a **2**.positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with **3**.100% accuracy."*

*ASU Online has a great interactive tool called Objectives Builder. You are encouraged to watch the tutorial and explore the features the program has to offer. You can choose the level of Bloom's taxonomy you want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

Key concept: it is important that you include all the components to write 'complete' instructional objectives. It is the first step towards meeting SMART criteria.

Analyzing the five components of SMART criteria

a. **Specific:** clear and well defined
b. **Measurable:** a standard of achievement should be stated
c. **Achievable:** should be rigorous, but attainable by the learners
d. **Relevant:** should result in a meaningful outcome
e. **Time-bound:** linked it to a time frame to ensure accountability

*"**c**.In a mock interview, photography students will **d**.demonstrate a **a**.positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with **b**.100% accuracy **e**.by the end of the instructional unit"*

Key concept: If your instructional objectives are specific, measurable, achievable, relevant and time-bound, they meet industry standards for effectiveness.

Analyzing the goal, learner data and learning context

Goal: *"Students will demonstrate understanding of how to control exposure on a digital DSLR camera."*

Learner data: *Freshman and sophomore college students with no prior photography experience*

Instructional Context: *Online instruction. Students DO NOT necessarily have access to DSLR cameras.*

Key concept: Analyzing your instructional goal, learner data and learning context is the first

step to writing appropriate, effective instructional objectives.

Writing effective instructional objectives

Questions to ask:

- Is the instructional objective appropriate for the learner group? Is it appropriate for the learning context? Does it work towards achieving the overall goal?
- Does the instructional objective contain an action verb, subject-content reference, level of achievement, and condition of performance?
- Is it specific, measurable, achievable, relevant and time-bound?

Example 1: Incomplete, non-specific, not measurable

"*Students will recall the parts of a camera"*

Example 2: Complete, specific, measurable, but…is it relevant or achievable?

"When given a DSLR camera, students will demonstrate how to control exposure settings by manipulating the dials with 90% accuracy by the end of the instructional unit."

- REMEMBER, your leaners don't necessarily have access to a camera -

Example 3: Complete and meets SMART criteria

"Given a diagram of a DSLR camera, students will label the components of the camera that control exposure settings with 90% accuracy by the end of the instructional unit."

Key concept: It is essential to understand the learner and learning context in order to write an effective instructional objective. This is especially true for online learning. You must not only understand the subject matter, the essential components of instructional objectives, and SMART criteria, but also:

- *Understand the online learning community*

- *Understand the online learner and their typical backgrounds*
- *Understand the limitations of the online learning environment*

Congratulations! You are now ready to practice writing effective instructional objectives. This is a vital step towards creating a more meaningful learning experience for your students.

Motivational Activity

After the pre-test and before the lecture begins, participants will complete a brief chat entry. They will write an instructional objective for themself in the form of a New Year's resolution. This entry can be silly or serious, as long as they write it in the form of an instructional objective. This activity will be repeated again at the end of the workshop, when they will rewrite their resolution objective using the knowledge and skills they have gained from the workshop.

Unit 1 – Activity

The following activity should be made available for completion electronically via Blackboard.

Use the information you gained from the lecture and the provided learning materials to answer the following questions.
Question 1) Briefly describe the six levels of Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis and evaluation.
Question 2) Briefly describe the eight categories of information included in the expanded performance-content matrix: fact, concept, principles and rules, procedure, interpersonal skills, attitude, recall, and application.
Question 3) Describe the three learning domains: cognitive, psychomotor and affective.
Question 4) Describe the terms 'process-focused' and 'outcome-focused.' Which method is preferable for writing instructional objectives?
Question 5) List and briefly define the four essential elements of competency-based instructional objectives.
Question 6) List and briefly define the five components of SMART criteria.

Unit 1 – Supplemental Activity

You are encouraged to read pages 105-110 in the course text, *Designing Effective Instruction,* about behavioral and cognitive instructional objectives. Then, please compare and contrast the two methods in a short essay, describing which method you prefer and why. Your instructor will use a rubric to grade this activity. The rubric will evaluate your depth of thought and accuracy of information. A copy of the rubric will be available to you in Blackboard.

Unit 2 – Activity

The following activity should be made available for completion electronically via Blackboard.

Use the information you gained from the lecture and the provided learning materials to answer the following questions.

Question 1) Consider the following instructional objective: *"Given a diagram of a camera, students will label the parts of the camera that control exposure with 80% accuracy."*

e. State the level of learning (Bloom's taxonomy) the objective targets.

f. Rewrite the objective to target a higher level of learning.

Question 2) Classify the following instructional objectives using the provided expanded performance-content matrix:

Expanded Performance-Content Matrix:

Content	Objective	Performance	
		Recall	Application
Fact			
Concept			
Principles & rules			
Procedure			

Interpersonal			
Attitude			

Instructional Objectives:

"From memory, students will list all of the chemical symbols for metals on the periodic table with 90% accuracy."

"In a structured writing activity, students will explain how the chemical symbol Fe and the chemical symbol AI are related with 100% accuracy."

"Students will demonstrate good interpersonal communication skills by speaking clearly, making eye contact and using an appropriate level of detail when asked to explain the salient qualities of metals to a peer, with 100% accuracy."

Question 3) The following instructional objectives are written in two different domains. Label the domain that each instructional objective is written in.

a. *"When given a digital SLR camera, students will adjust the shutter wheel and aperture wheel to achieve an exposure setting of f8 @ 1/160 of a second."*

b. *"In a mock interview, photography students will demonstrate a positive attitude by using a friendly tone, making eye contact, using active listening skills, and expressing gratitude when receiving feedback on their portfolio with 100% accuracy."*

Question 4) Consider the following objective: *"Students will gain insight into the civil war by creating a timeline of major events with 90% accuracy."*

b. This objective is process-focused. Rewrite the objective so it is outcome-focused.

Question 5) Please label the components of the following instructional objective. You will find that the objective is missing one essential component. Please identify the missing component and fill it in so the objective is complete relative to the four essential elements of competency-based instructional objectives.

"**a**. Given 5 famous paintings from the Impressionist period, students will correctly **b.** identify the **c.** artists of the paintings" **d.**_____

b. _____

b. _____

g. _____

h. _____

Question 6) Determine if the following instructional objective meets SMART criteria: *"Students will recall information about the civil war."* Explain why this objective does or does not meet SMART criteria. If it does not, please rewrite the objective to meet SMART criteria.

Unit 2 – Supplemental Activity

As you have learned from the readings in the first supplemental activity, there are several aspects that differentiate behavioral style objectives from cognitive style objectives. Now you will sharpen your knowledge by practicing. Please rewrite the following behavioral objective as a cognitive objective, and rewrite the cognitive objective as a behavioral objective.

Behavioral instructional objective: "*Given a diagram of a camera, students will demonstrate comprehension of how to manipulate exposure setting by correctly labeling the diagram with the parts of the camera that control exposure with 80% accuracy."*

Rewrite as cognitive:

Cognitive instructional objective: *"Given a sample graph of major storm types in the Midwest, students will interpret the graph by:*

a. *Determining the most frequently occurring type of storm*
b. *Determining the type of storm that caused the most damage over a 5 year period*
c. *Determining the state that suffered the most storm damage in 2016"*

Rewrite as behavioral:

Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard.

Unit 3 – Activity

The following activity should be made available for completion electronically via Blackboard.

Use the information you gained from the lecture and the provided learning materials to answer the following questions.

Question 1) Consider the following information:

***Goal**: Students will demonstrate competency in the process of completing an oil change in a 2015 Nissan Versa*

***Learner group**: College students ages 18-23 with moderate prior mechanical experience*

***Learning context**: Online, Intro to Auto-Mechanics class*

b. Generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet SMART criteria.

4. _____

5. _____

6. _____

Unit 3 – Supplemental Activity

Now you will use the tables on pages 103-105, 108 and 114 in the course text, *Designing Effective Instruction,* to practice writing effective instructional objectives in each of three domains. You will create three instructional objectives for each domain using different verbs from the 'shopping-cart' of verbs provided by the course text (also available in Handout #2 in Appendix A of this participant guide). Your instructor will use a rubric to grade this activity. The rubric will evaluate how well the information you provide aligns with the lecture content. A copy of the rubric will be available to you in Blackboard.

Also, ASU Online has a great interactive tool called Objectives Builder. You are encouraged to watch the tutorial and explore the features the program has to offer. You can choose the level of Bloom's taxonomy you want to target, and practice building instructional objectives from scratch by adding one component at a time. Objectives Builder can be accessed at https://teachonline.asu.edu/objectives-builder/.

Unit 1 - Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 2) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and	Content aligns somewhat with lecture content; thought is detailed	Content does not align with lecture content; thought lacks detail and is

	developed.		
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 3) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.

		on sentences.	
Question 4) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 5) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.

Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 6) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points_____ out of 90 points possible			
Instructor comments:			

Unit 1 - Supplemental Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content is accurate; thought is detailed and thoroughly developed.	Content is mostly accurate; thought is detailed and well developed.	Content is inaccurate; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 15 points possible			
Instructor comments:			

Unit 2 - Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 2) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and	Content aligns somewhat with lecture content; thought is detailed	Content does not align with lecture content; thought lacks detail and is

	developed.		
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 3) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
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		on sentences.	
Question 4) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 5) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.

Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Question 6) Points _____			
Content: **Instructor score:** **_____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score:** **_____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score:** **_____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points_____ out of 90 points possible			
Instructor comments:			

Unit 2 - Supplemental Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content is accurate; thought is detailed and thoroughly developed.	Content is mostly accurate; thought is detailed and well developed.	Content is inaccurate; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 15 points possible			
Instructor comments:			

Unit 3 - Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 30 points	Meets Expectations 24-29 points	Below Expectations 0-23 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 90 points possible			
Instructor comments:			

Unit 3 - Supplemental Activity Rubric

Participant Name: _____			
Criteria:	Exceeds Expectation 5 points	Meets Expectations 3-4 points	Below Expectations 0-2 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content is accurate; thought is detailed and thoroughly developed.	Content is mostly accurate; thought is detailed and well developed.	Content is inaccurate; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 15 points possible			
Instructor comments:			

Pre-test

The content of this test should be inputted into Blackboard and delivered electronically. The pre-test should be delivered prior to the start of the workshop.

Question 1) The six levels of Bloom's taxonomy are:	
a) Knowledge Comprehension Implementation Analysis Facilitation Synthesis	**b)** Knowledge Comprehension Application Analysis Synthesis Evaluation
Question 2) The categories of the expanded performance-content matrix are:	
a) Fact Concept Principles and rules Procedure Interpersonal skills Attitude Recall Application	**b)** Information Concept Laws Procedure Interpersonal skills Attitude Understanding Memorization

Question 3) True or False: The three learning domains are accurately stated and defined below:	
Cognitive: objectives related to information or knowledge, naming, solving, predicating and other intellectual aspects of learning **Psychomotor:** encompasses skills requiring the use and coordination of skeletal muscles **Affective:** objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting	
Question 4) True or False: Instructional objectives should be outcome-focused instead of process-focused.	
Question 5) An effective competency-based instructional objective should include which four elements?	
a) Action verb Subject-content reference Level of achievement Conditions of performance	**b)** Adjective Subject-content reference Location Conditions of performance
Question 6) True or False: The five components of SMART criteria can be represented accurately by the words and definitions below:	
Specific: clear and well defined	

Measurable: a standard of achievement should be stated

Achievable: should be rigorous, but attainable by the learners

Relevant: should result in a meaningful outcome

Time-bound: linked it to a time frame to ensure accountability

Pre-test Answer Key

Question 1) The six levels of Bloom's taxonomy are:	
a) Knowledge Comprehension Implementation Analysis Facilitation Synthesis	**b)** Knowledge Comprehension Application Analysis Synthesis Evaluation
Question 2) The categories of the expanded performance-content matrix are:	
a) Fact Concept Principles and rules Procedure Interpersonal skills Attitude Recall Application	**b)** Information Concept Laws Procedure Interpersonal skills Attitude Understanding Memorization
Question 3) True or False: The three learning domains are accurately stated and defined below:	
Cognitive: objectives related to information or knowledge, naming, solving, predicating and	

other intellectual aspects of learning

Psychomotor: encompasses skills requiring the use and coordination of skeletal muscles

Affective: objectives concerning attitudes, appreciation, values, and emotions such as enjoying, conserving, and respecting

Question 4) True or False: Instructional objectives should be outcome-focused instead of process-focused.

Question 5) An effective competency-based instructional objective should include which four elements?

a)	**b)**
Action verb Subject-content reference Level of achievement Conditions of performance	Adjective Subject-content reference Location Conditions of performance

Question 6) True or False: The five components of SMART criteria can be represented accurately by the words and definitions below:

Specific: clear and well defined

Measurable: a standard of achievement should be stated

Achievable: should be rigorous, but attainable by the learners

Relevant: should result in a meaningful outcome

Time-bound: linked it to a time frame to ensure accountability

Post-test

The content of this test should be inputted into Blackboard and delivered electronically.

Use the information you gained from the lecture and the provided learning materials to answer the following questions.

Question 1) Consider the following information:

Goal: *Students will demonstrate competency in proper safety protocol when handling dangerous chemicals in a chemistry lab*

Learner group: *College students ages 18-45 with minimal prior chemistry lab experience*

Learning context: *Online, Intro to Chemistry class*

a. Generate one instructional objective for each of the following domains: cognitive, psychomotor, and affective. Instructional objectives should include the four essential elements of competency-based instructional objectives and meet SMART criteria. At least one instructional objective should target a higher level of learning on Bloom's taxonomy.

b. Label each instructional objective with the level of Bloom's taxonomy it targets.

c. Classify your three instructional objectives using the provided expanded performance-content matrix:

Expanded Performance-Content Matrix

		Performance

Content	Objective	Recall	Application
Fact			
Concept			
Principles & rules			
Procedure			
Interpersonal			
Attitude			

The following questions will not be graded. Your answers will be used to evaluate the course and make improvements for future participants.

Question 2) Explain what you have learned from this workshop.

Question 3) Do you feel that the knowledge and skills you have gained is proportionate to the amount of time you spent on the coursework? How so?

Question 4) Do you feel that the knowledge and skills you have gained will improve the learning experience for your online students? How so?

Question 5) What did you like best about this workshop? What would you change?

Post-test Rubric

Criteria:	Exceeds Expectation 30 points	Meets Expectations 24-29 points	Below Expectations 0-23 points
Question 1) Points _____			
Content: **Instructor score: _____**	Content aligns closely with lecture content; thought is detailed and thoroughly developed.	Content aligns somewhat with lecture content; thought is detailed and well developed.	Content does not align with lecture content; thought lacks detail and is under-developed.
Completeness: **Instructor score: _____**	All aspects of the question are addressed thoroughly.	Most aspects of the question are addressed thoroughly.	Few aspects of the question are addressed; answers are not thorough.
Grammar/Mechanics: **Instructor Score: _____**	Written response is free of spelling, punctuation, and grammatical errors; absent of fragments and run-on sentences.	Written response has minimal spelling, punctuation and grammatical errors. Responses are still easy to follow and contains some fragments and run-on sentences.	Written responses contain multiple punctuation, spelling, and grammatical errors. Errors to make it hard for a reader to follow.
Total points earned_____ out of 90 points possible			
Instructor comments:			

Formative Evaluation Plan

Purpose

The purpose of this formative evaluation is to examine and evaluate the effectiveness of the program structure, instructional materials, and provide a guide for overall improvement for future use.

Evaluation Objectives

1. Determine if the materials provide adequate instruction for participants to complete activities and assessments successfully
2. Evaluate the participants' learning gain
3. Identify potential changes of program structure and usability needed for improvement

Evaluation Process

As recommended by Kay and Knaack (2009), a Constructivist-Oriented Process will be used for formative evaluation of this web-based instructional program. A combination of the connoisseur-based and decision-oriented approaches will be implemented in two stages (Morrison, 2013).

The first stage will involve a subject matter expert (SME), who will be an individual currently working in the field of instructional design. This individual will be asked to evaluate the course content based on its accuracy and applicability relative to industry standards. The SME will be asked to evaluate learning objectives, learning materials and assessments independently, and also evaluate how they align with one another and the overall purpose of teaching learners how to write effective instructional objectives. The SME will provide a detailed written report to the instructional design team synthesizing his/her findings and making recommendations for improvement in specific areas.

The second stage of evaluation will involve a small field trial. Ten ASU Online instructors will be asked to complete the workshop in its entirety, including all activities and assessments. After completion of the workshop, they will also be asked to complete a short survey to give their opinion of the workshop with regard to specific criteria. Field trial participants will receive full credit for the workshop, in addition to a $25 Starbuck's gift card to thank them for their time and thoughtful feedback.

Data Gathering Techniques

SME

- Detailed written report

Field Trial

- Activities
- Assessments
- Survey

Field Trial Survey Questions

Question 1) How long did it take you to complete the workshop?
a) 1-2 hours **b)** 2-3 hours **c)** 3-4 hours **d)** 4-5 hours
Question 2) The knowledge and skills I have gained is proportionate to the amount of time I spent on the coursework?

a) Strongly agree

b) Agree

c) Disagree

d) Strongly disagree

Question 3) I feel that the knowledge and skills I have gained will improve the learning experience for my online students.

a) Strongly agree

b) Agree

c) Disagree

d) Strongly disagree

Question 4) I feel this workshop was easy to navigate.

a) Strongly agree

b) Agree

c) Disagree

d) Strongly disagree

Question 5) I enjoyed listening to a 'live' lecture from an industry professional.

a) Strongly agree

b) Agree

c) Disagree

d) Strongly disagree

Question 6) It was helpful to see the slide presentation displayed next to the instructor during the live lecture.

a) Strongly agree

b) Agree **c)** Disagree **d)** Strongly disagree
Question 7) I feel the materials presented were sufficient to help me successfully complete the activities and assessments.
a) Strongly agree **b)** Agree **c)** Disagree **d)** Strongly disagree
Question 8) What did you like best about this workshop? What would you change?

Evidence

Evidence for the formative evaluation will include a detailed written report from the SME, and graded activities and assessments from the field trial participants, as well as their feedback from the survey.

Analysis

In order to make conscious decisions based on the data that were received from the SME and field trial participants, the data will be placed into three distinct categories to be analyzed by the instructional design team. The three categories will reflect the evaluation objectives: learning materials, participant learning gain, and structure and usability.

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