

Standard 1 Design

This standard reflects the need for the ability to design instruction thoughtfully. Throughout my master's classwork, I have applied the principles of instructional design using a wide variety of instructional strategies based on the message, content, and learner characteristics. This standard is very important because one must always assess learning outcomes and learner characteristics before choosing the supporting technology or instructional strategies. The design process incorporates all of the other standards because it is iterative, and the product can always be improved after development, utilization, and evaluation.

For each benchmark, I have identified the artifacts and provided a brief description of how it applies.

1.1 Instructional Systems Design

1.1.a Utilize and implement design principles which specify optimal conditions for learning.

[240:232](#) This lesson is designed using the Gradual Release of Responsibility method and specifies the learning objectives and the conditions for learning.

[240:240](#) For this project, using the ADDIE model, I created a thorough project description including specifications for optimal conditions for learning.

1.1.b Identify a variety of instructional systems design models and apply at least one model.

[240:240](#) I applied the ADDIE design model to create a 2-4 hour online training course.

[240:245](#) We applied the ADDIE design model to create a presentation for teachers about implementing ADDIE in their instructional design.

1.1.c Identify learning theories from which each model is derived and the consequent implications.

[240:240](#) During the analysis stage, I wrote appropriate objectives, analyzed instructional tasks and categorized my objectives according to learning theories.

1.1.1 Analyzing

1.1.1.a Write appropriate objectives for specific content and outcome levels.

[240:232](#) I wrote objectives for a lesson on Power and Energy.

[240:240](#) During the analysis stage, I wrote appropriate objectives for implementing Blackboard professional development.

[240:260](#) I wrote objectives for a lesson on Visual Analysis and Design.

1.1.1.b Analyze instructional tasks, content, and context.

[240:240](#) During the design phase, I completed a description and rationale of selection process for instructional strategies, which required analysis of instructional tasks, content, and context.

1.1.1.c Categorize objectives using an appropriate schema or taxonomy.

[240:240](#) In the goals and objectives section, I have categorized objectives within learning domains.

1.1.1.d Compare and contrast curriculum objectives for their area(s) of preparation with federal, state, and/or professional content standards.

[240:232](#) I used the Standards for Technological Literacy and the Iowa Core Math, Science and 21st Century Skills standards and benchmarks to

determine appropriate objectives for a lesson on Power and Energy.
1.1.2 Designing
<p>1.1.2.a Create a plan for a topic of a content area (e.g., a thematic unit, a text chapter, an interdisciplinary unit) to demonstrate application of the principles of macro-level design.</p> <p>240:153 We created a plan for a unit on Technology and Society including literacy, technology and social studies concepts and objectives.</p> <p>240:240 During the project overview, I created an overall project goal using the Desired – Actual = Need formula.</p>
<p>1.1.2.b Create instructional plans (micro-level design) that address the needs of all learners, including appropriate accommodations for learners with special needs.</p> <p>240:240 I performed a learner analysis, which included a description of attitudes, ability levels, and motivation. I included appropriate accommodations and interventions to assist learners with special needs.</p>
<p>1.1.2.d Incorporate contemporary instructional technology processes in the development of interactive lessons that promote student learning.</p> <p>240:260 I created interactive, flash media for students to engage in learning the Principles and Elements of Design.</p>
1.1.3 Developing
<p>1.1.3.a Produce instructional materials which require the use of multiple media (e.g., computers, video, projection).</p> <p>240:153 We produced instructional materials using the following applications: Google Documents, GarageBand, Sound Recorder, Google Sites, Wikispaces, iMovie, VoiceThread and PodBean.</p> <p>240:245 We used Prezi, Google Docs and projectors to produce and present our presentation.</p> <p>240:260 I used Power Point and iSpring to create the presentations and Blackboard Course Management System to disseminate the materials.</p>
<p>1.1.3.b Demonstrate personal skill development with at least one: computer authoring application, video tool, or electronic communication application.</p> <p>240:139g I improved my abilities to use Apple computers and software including Garage Band and iMovie.</p> <p>240:260 I used Power Point and iSpring for the first time to create interactive presentations.</p>
1.1.4 Implementing
<p>1.1.4.a Use instructional plans and materials which they have produced in contextualized instructional settings (e.g., practical, field experiences, training) that address the needs of all learners, including appropriate accommodations for learners with special needs.</p> <p>240:260 I implemented the interactive presentations designed for this class with my Introduction to Engineering Design students.</p> <p>240:139g I implemented the Technology and Society lesson with my Manufacturing Enterprises students. Instead of assigning <i>The Jungle</i> as reading, we read together in class to accommodate learners with special needs.</p> <p>240:237 For our 1:1 implementation plan we researched other schools currently implementing 1:1 plans. We researched applications and software which can provide accommodations for learners with special needs.</p>
1.1.5 Evaluating
<p>1.1.5.a Utilize a variety of assessment measures to determine the adequacy of learning and instruction.</p> <p>240:240 For this project, I created an assessment matrix which included different methods for determining the adequacy of learning and instruction.</p>
<p>1.1.5.b Demonstrate the use of formative and summative evaluation within practice and contextualized field experiences.</p>

<p>240:260 I used short quizzes as formative evaluation after students had engaged with the presentations. The presentations also included questions for students to answer as they went through them. I used the quiz results to inform my instructional decisions and teaching strategies. I then used a longer quiz as a summative evaluation.</p>
<p>1.1.5.c Demonstrate congruency among goals/objectives, instructional strategies, and assessment measures.</p> <p>240:232 In the lesson I designed for this project, students help design the rubric for assessing their presentations. As a class, we use the goals and objectives in order to design appropriate assessment measures.</p> <p>240:240 For this project, I created an assessment matrix which helped me design congruency among goals/objectives, instructional strategies, and assessment measures.</p>
<p>1.2 Message Design</p>
<p>1.2.a Apply principles of educational psychology, communications theory, and visual literacy to the selection of media for macro- and micro-level design of instruction.</p> <p>240:240 During the design phase, I included a description and rationale of selection process for instructional strategies including principles of educational psychology, communications theory, and visual literacy</p>
<p>1.2.b Apply principles of educational psychology, communications theory, and visual literacy to the development of instructional messages specific to the learning task.</p> <p>240:240 In the Selection and Description of the Instructional Media to be Used section you will find a thorough analysis of the principles of educational psychology, communications theory, and visual literacy to the development of instructional messages specific to the learning task.</p>
<p>1.2.c Understand, recognize and apply basic principles of message design in the development of a variety of communications with their learners.</p> <p>240:240 For this project, I designed a variety of communication tools to use with learners including pdf documents, webpages, email and video.</p>
<p>1.3 Instructional Strategies</p>
<p>1.3.a Select instructional strategies appropriate for a variety of learner characteristics and learning situations.</p> <p>240:153 Our Technology and Society Lesson teaching materials included podcasts, video and websites. These instructional materials are appropriate for a variety of learners because they appeal to the visual, auditory, and verbal learners. We also included an anticipatory set, which included an activity that required students to move about. Students also work in groups and have class discussions, which caters to the interpersonal learner.</p> <p>240:232 The Energy and Power Lesson uses hands-on learning, simulations, presentations, and group activities.</p> <p>240:240 The Blackboard training site uses audio, video, textual and pictorial media.</p> <p>240:245 We used Prezi to present our message as a quest, which is a familiar theme worldwide.</p>
<p>1.3.b Identify at least one instructional model and demonstrate appropriate contextualized application within practice and field experiences.</p> <p>240:240 The Blackboard training site uses video demonstrations to guide student through independent learning.</p>
<p>1.3.c Analyze their selection of instructional strategies and/or models as influenced by the learning situation, nature of the specific content, and type of learner objective.</p> <p>240:240 As part of the analysis phase of the instructional design process, I weighed the merits of different instructional strategies to choose the best for the content and objectives.</p>
<p>1.3.d Select motivational strategies appropriate for the target learners, task, and learning situation.</p>

[240:240](#) I analyzed my learners using Attention Relevance Confidence and Satisfaction (ARCS) model to determine the motivational strategies appropriate for the target learners, task, and learning situation.

[240:232](#) For the Energy and Power Lesson, I closely analyzed learner characteristics to determine strategies to focus student attention on the concepts and objectives. I applied Universal Design for Learning strategies to minimize anxiety and increase motivation.

1.4 Learner Characteristics

1.4.a Identify a broad range of observed and hypothetical learner characteristics for their particular area(s) of preparation.

[240:240](#) The learner characteristics analysis included identifying general learning preferences, educational and ability levels, attitudes toward potential delivery system, attitude toward content, and prior knowledge of topic area.

1.4.b Describe and/or document specific learner characteristics which influence the selection of instructional strategies.

[240:240](#) As part of the analysis phase of the instructional design process, I weighed the merits of different instructional strategies to choose the best for the content and objectives with regard to learner characteristics.

[240:131](#) As part of the research into various course management systems, I looked at the learner characteristics of digital natives.

1.4.c Describe and/or document specific learner characteristics which influence the implementation of instructional strategies.

[240:240](#) The learner characteristics analysis included identifying general learning preferences, educational and ability levels, attitudes toward potential delivery system, attitude toward content, and prior knowledge of topic area.

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