

TXCETP VISION FOR EFFECTIVE LEARNING AND TEACHING
AN INSTRUMENT FOR REFLECTION

Developed by TXCETP Participants
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TXCETP VISION FOR EFFECTIVE LEARNING AND TEACHING¹

This instrument is to be used by TXCETP instructors as they reflect on the effectiveness of their courses in optimizing student learning. Each of the eight items should be rated “globally.” Indicators are **possible** descriptors of effective practice, **not** necessarily items to be used in a “check-off” list.

Indicator of Effective Learning and Teaching	
<p>1. COURSE DESIGN — The course is coherent in terms of aligning learning goals, course objectives, teaching philosophies, research-based practices, and assessment methods.</p> <p>Students:</p> <ul style="list-style-type: none"> • Clearly understand the course objectives and learning goals. • Clearly understand course expectations. • Take responsibility for their own learning. • Understand how their learning will be assessed. <p>Instructor and/or Syllabus:</p> <ul style="list-style-type: none"> • Fully explains expectations, goals, responsibilities, teaching philosophies, and assessment methods. • Collaborates with other instructors to assure vertical and horizontal alignments. • Correlates course objectives with state (TEKS) and national standards. • Promotes interdisciplinary connections. • Incorporates student-centered formative and summative assessment methods to measure students’ progress towards achieving course objectives. • Reflects “less is more;” that is, an emphasis on fewer topics with more depth in content. • Incorporates problem- and project-based learning curricula when appropriate to integrate conceptual understanding, process, and transfer. • Communicates the value of inquiry in teaching and learning as promoting conceptual understanding and generalization of knowledge. 	<p>Supportive Evidence</p> <p><input type="checkbox"/> Syllabus</p> <p><input type="checkbox"/> Instructor Feedback</p> <p><input type="checkbox"/> Feedback from Students</p> <p><input type="checkbox"/> Class Observations</p> <p><input type="checkbox"/> Student Learning Products</p> <p><input type="checkbox"/> Summative Assessments</p>
<p>Level of Implementation:</p> <div style="display: flex; align-items: center; justify-content: center; gap: 20px;"> ← Considering Planning Initiating Implementing Refining → </div>	

Indicator of Effective Learning and Teaching	
<p>2. PRIOR KNOWLEDGE AND CONCEPTUAL UNDERSTANDING -- Instructional strategies and activities probe students' existing knowledge and preconceptions to encourage deep understanding of new concepts and ideas.</p> <p>Students:</p> <ul style="list-style-type: none"> • Connect prior knowledge with class learning activities. • Use metacognitive strategies and understandings about the ways they learn to assist them in assessing what they know and what they need to know. • Can apply current knowledge in new and different situations. <p>Instructor:</p> <ul style="list-style-type: none"> • Preassesses students for their current levels of thinking. • Helps students confront and/or build on their ideas and previous experiences. • Helps students confront misconceptions and correct them. • Refocuses teaching based on students' ideas. • Explicitly connects new learning to preconceptions. • Makes references in class to common experiences. • Asks higher-level questions that require analysis, synthesis, and evaluation of data and information. • Relates subordinate ideas to broader concepts. • Presents accurate information. • Presents information appropriate to students' levels of understanding. • Models metacognitive strategies such as "thinking aloud," referring to additional resources, formation of study groups, etc. • Encourages students to extend and link concepts and skills in inquiry and problem-solving contexts. 	<p>Supportive Evidence</p> <ul style="list-style-type: none"> <input type="checkbox"/> Syllabus <input type="checkbox"/> Instructor Feedback <input type="checkbox"/> Feedback from Students <input type="checkbox"/> Class Observations <input type="checkbox"/> Student Learning Products <input type="checkbox"/> Summative Assessments
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Indicator of Effective Learning and Teaching	
<p>3. INSTRUCTIONAL STRATEGIES — A variety of instructional strategies actively engage students in learning.</p> <p>Students:</p> <ul style="list-style-type: none"> • Exchange ideas in small groups and whole-class discussions. • Provide evidence-based arguments. • Respect and listen critically to other students’ opinions and ideas. • Discuss and challenge others’ explanations in an environment that supports risking their ideas. • Interact in pairs or small groups when appropriate. • Articulate their understanding even in developmental stages. • Seek out-of-class time to exchange, discuss, and challenge others’ explanations. <p>Instructor:</p> <ul style="list-style-type: none"> • Aligns instruction to match learning goals. • Encourages students’ input and reflection. • Challenges students’ ideas and solicits alternative explanations. • Informally assesses levels of student understanding during lessons. • Chooses instructional strategies to match the level of students’ understanding. • Pauses in class to allow students time to reflect and process new ideas. • Uses a variety of instructional strategies, including lecture, demonstrations, discussion, and group work. • Uses strategies that encourage student discussion and exchange of ideas. • Selects strategies that make content understandable to students. • Works with students who have difficulty in articulating their understanding. • Moves from concrete to abstract. • Incorporates effective inquiry and problem solving strategies in instruction. 	<p>Supportive Evidence</p> <p><input type="checkbox"/> Syllabus</p> <p><input type="checkbox"/> Instructor Feedback</p> <p><input type="checkbox"/> Feedback from Students</p> <p><input type="checkbox"/> Class Observations</p> <p><input type="checkbox"/> Student Learning Products</p> <p><input type="checkbox"/> Summative Assessments</p>
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<p>4. ASSESSMENTS — Assessments provide feedback to students and instructor in order to facilitate learning and teaching.</p> <p>Students:</p> <ul style="list-style-type: none"> • Use formative assessments to guide their learning. • Use assessments to reflect on and evaluate their progress toward understanding. • Use alternative methods of assessment to provide evidence of their learning. • Differentiate what they understand from that which they do not understand. • Use formative and summative assessments to take responsibility for their own learning. <p>Instructor:</p> <ul style="list-style-type: none"> • Embeds formative assessment within the context of class routines. • Routinely asks for student input and questions. • Uses formative assessments to guide their teaching. • Adjusts instruction on the basis of formative assessments. • Encourages individual and groups of students to assess their own levels of understanding. • Uses alternative methods to assess students’ understanding. • Encourages students to explain their understanding of concepts. • Assesses higher-order thinking (analysis, synthesis, and evaluation of ideas and information). • Assesses students’ abilities to apply their conceptual understanding in new situations. • Aligns assessment to match learning goals. 	<p>Supportive Evidence</p> <ul style="list-style-type: none"> <input type="checkbox"/> Syllabus <input type="checkbox"/> Instructor Feedback <input type="checkbox"/> Feedback from Students <input type="checkbox"/> Class Observations <input type="checkbox"/> Student Learning Products <input type="checkbox"/> Summative Assessments
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<p>5. PROBLEM SOLVING -- The course provides multiple opportunities for students to seek and value modes of inquiry, investigation, and problem solving.</p> <p>Students:</p> <ul style="list-style-type: none"> • Share their problem-solving strategies. • Share ideas about investigations. • Provide evidence-based arguments. • Experience a range in difficulty and type of problems. • Gain conceptual understanding as a result of engaging in problem solving activities. • Observe different models of problem-solving processes. • Generate conjectures and alternate interpretations. • Refine their thinking through iterations of progressively deeper levels of problem posing and problem solving. <p>Instructor:</p> <ul style="list-style-type: none"> • Presents inquiry opportunities for students. • Asks open-ended questions. • Solicits alternative explanations from students. • Asks for multiple hypotheses and alternative methods for solving problems. • Models inquiry about his/her own teaching. • Attempts to assess students' problem-solving processes, not just answers. • Focuses on the process of problem solving in learning activities. • Models problem posing and problem solving by using "think-aloud" strategies. 	<p>Supportive Evidence</p> <ul style="list-style-type: none"> <input type="checkbox"/> Syllabus <input type="checkbox"/> Instructor Feedback <input type="checkbox"/> Feedback from Students <input type="checkbox"/> Class Observations <input type="checkbox"/> Student Learning Products <input type="checkbox"/> Summative Assessments
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<p>6. MULTIPLE REPRESENTATIONS — A variety of means (including symbols, graphs, pictures, objects, models, and analogies) are used in instruction and assessment to represent concepts and ideas.</p> <p>Students:</p> <ul style="list-style-type: none"> • Engage in exercises that involve multiple steps and real-life examples whenever possible. • Use multiple methods and strategies in representing their understanding of concepts and ideas. • Move fluidly between representations to communicate their conceptual understanding of complex ideas. • Use various forms of materials ranging from concrete models to symbolic representations to acquire deep, complete understandings of complex systems. • Connect graphic, numeric, symbolic, and verbal representations with concrete objects and experiences. • Use multimedia in learning about new concepts and ideas. • Connect topics between and among disciplines. <p>Instructor:</p> <ul style="list-style-type: none"> • Appropriately links concrete experience in the natural world with progressively more abstract levels of representations to achieve conceptual understanding. • Stresses connections between computation and the use of formulas in understanding, representing, generalizing, and solving problem situations. • Connects topics between and among disciplines using multiple representations. • Teaches new concepts using multiple methods of input (models, manipulatives, drawings, graphs, multimedia, etc.) to foster student understanding. • Uses visualizations and animations to enhance conceptual understanding of complex, dynamic processes. 	<p>Supportive Evidence</p> <ul style="list-style-type: none"> <input type="checkbox"/> Syllabus <input type="checkbox"/> Instructor Feedback <input type="checkbox"/> Feedback from Students <input type="checkbox"/> Class Observations <input type="checkbox"/> Student Learning Products <input type="checkbox"/> Summative Assessments
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<p>7. LEARNING ENVIRONMENT — A highly student-centered learning environment encourages students to be active participants in their own learning.</p> <p>Students:</p> <ul style="list-style-type: none"> • Demonstrate self-motivation in learning. • Use metacognitive strategies to reflect on their own learning. • Positively interact with their peers and the instructor • Take risks in exploring new ideas. • Collaborate with other students in- and out-of-class. • Organize, transfer and apply knowledge. • Engage in sense making, logical reasoning, and problem solving. <p>Instructor:</p> <ul style="list-style-type: none"> • Demonstrates flexibility and patience in pacing instruction to fit student needs. • Provides time for students to reflect on their understanding of information. • Uses “think-aloud” strategies to model metacognitive strategies. • Provides opportunities for transfer and application. • Is culturally sensitive. • Addresses multiple learning styles of students. • Actively listens to and respects students’ ideas. • Promotes an environment that supports students’ taking risks with their ideas. • Integrates what students know and understand into the development of new ideas and ways of thinking. • Assists in the development of group process skills and encourages the exchange of ideas. • Builds a sense of community to enhance learning and teaching. • 	<p>Supportive Evidence</p> <ul style="list-style-type: none"> <input type="checkbox"/> Syllabus <input type="checkbox"/> Instructor Feedback <input type="checkbox"/> Feedback from Students <input type="checkbox"/> Class Observations <input type="checkbox"/> Student Learning Products <input type="checkbox"/> Summative Assessments
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Indicator of Effective Learning and Teaching	
<p>8. TEXTBOOKS, INSTRUCTIONAL MATERIALS, AND TECHNOLOGY — Teaching and learning resources are integrated to enhance student understanding.</p> <p>Students:</p> <ul style="list-style-type: none"> • Use a variety of resources in their learning, problem solving, and investigations. • Access multi-sensory resources to assist them in their learning. • Use “state-of-the-art” equipment that is current and functional. • Possess the technological knowledge and skills to use multimedia resources to facilitate their learning. • Organize information for retrieval and transfer by constructing databases, spreadsheets, concept maps, tables, and graphs. <p>Instructor:</p> <ul style="list-style-type: none"> • Uses applicable materials and instructional technologies. • Models appropriate use of resources in inquiry and problem-solving contexts. • Provides multiple learning resources for students in the library, via the Internet, and/or in the laboratory. • Structures learning activities for students to integrate experiences in manipulating, exploring, and investigating objects and concrete models. • Encourages students to be aware of their internal (cognitive) manipulation of abstract ideas and conceptual models. • Actively seeks professional development in the use of innovative materials/technologies/instructional strategies. 	<p>Supportive Evidence</p> <ul style="list-style-type: none"> <input type="checkbox"/> Syllabus <input type="checkbox"/> Instructor Feedback <input type="checkbox"/> Feedback from Students <input type="checkbox"/> Class Observations <input type="checkbox"/> Student Learning Products <input type="checkbox"/> Summative Assessments
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¹Some of the items and aspects of format in this instrument are adapted from the OCEPT Teacher Observation Protocol (O-TOP). See Flick, Morrell, & Wainwright (5/05/02); <http://www.mth.pdx.edu/OCEPT/>.