

EDU-907: Research-Based Thinking Strategies

Independent Study Online Course Syllabus

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Number of Graduate Semester Units: 3 units
Target Audience: K-14th grade teachers
Course Access: <https://connect.fresno.edu>

Course Description

All students think to learn. It is skillful use of thinking that makes the difference. Teachers will explore and evaluate a variety of strategies designed to apply thinking skills and create a tool kit for planning K-12 whole class, small group and individualized classroom activities. Thinking Strategies is based on research conducted by Forgarty, Marzano, Costa, Jensen, Sprenger, Kinsella, Payne, and others and as outlined in ASCD's Learning to Think, Thinking to Learn (2007). The course aligns with the new Common Core Standards (CCSS), NCTE and NETS standards and ASCD's Educating Students Position Statement (2008) calling for the need to acquire and apply thinking skills to meet the complex challenges of the 21st Century. ELA, Math, History/Social Science and Science/Technical Common Core State Standards are embedded in reading material and assignments.

Note: Required book must be acquired separately.

Required Texts and Course Materials

Book: Love, Sandra, & Stobaugh, Rebecca. (2019). Critical Thinking in the Classroom: A Practitioner's Guide. ISBN-13: 978-1627632317. <https://www.amazon.com/Critical-Thinking-Classroom-Practitioners-Guide/dp/162763231X>

Other Reading Materials:

- *Learning to Think, Thinking to Learn: The Pathway to Achievement* (excerpts)
- *Habits of Mind: A Resource Book for Teaching Thinking*, Ed. by A. Costa (excerpts)
- *Classroom Instruction that Works* by R. Marzano, D. Pickering, J. Pollock (excerpts)

Note: Students are responsible for purchasing their own textbook, analyzing the content, and applying what they learned to the course assignments. You are welcome to purchase used, e-book, or new versions to save money. You can order the book directly from the publisher or from one of several discount aggregators (for example): <https://amazon.com>

Online Resources: Relevant online resources that support the course content and encourage further investigation will be available throughout the course assignments. Active hyperlinks are

utilized throughout the course and will link to the appropriate information when clicked. These include videos, podcasts, worksheets, online activities, journal articles and other resources.

Canvas: This course will be delivered totally online. Canvas is a web-based learning management system (LMS) that provides students access to online resources, documents, videos, assignments, quizzes, forums, etc. Canvas is easy to learn and has a user-friendly interface.

Course Dates

Self-paced; students may enroll at any time and take up to one year, from the date of registration, to complete assignments. Students may complete assignments in no less than three weeks for a 3-unit course (one week per unit).

National Standards Addressed in This Course

National Board for Professional Teaching Standards (NBPTS)

(<http://www.nbpts.org/standards-five-core-propositions/>)

First published in 1989 and updated in 2016, [*What Teachers Should Know and Be Able to Do*](#) articulates the National Board's Five Core Propositions for teaching. The Five Core Propositions - comparable to medicine's Hippocratic Oath — set forth the profession's vision for accomplished teaching. Together, the propositions form the basis of all National Board Standards and the foundation for National Board Certification. Course assignments have been designed so students can demonstrate excellence against these professional teaching standards whenever possible.

- Proposition 1: Teachers are committed to students and their learning
- Proposition 2: Teachers know the subject they teach and how to teach those subjects to students
- Proposition 3: Teachers are responsible for managing and monitoring student learning
- Proposition 4: Teachers think systematically about their practice and learn from experience
- Proposition 5: Teachers are members of learning communities

Common Core State Standards (CCSS) (www.corestandards.org)

The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy.

College and Career Readiness Anchor Standards define what students should understand and be able to do by the end of each grade span.

Continuing Education Student Learning Outcomes (CE-SLO)

CE-SLO 1	Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.
CE-SLO 2	Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.

CE-SLO 3	Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.
CE-SLO 4	Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.
CE-SLO 5	Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.
CE-SLO 6	Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.

Course Student Learning Outcomes (C-SLO)

Student Learning Outcomes for This Course By the end of this course student will be able to:	National Standards Addressed*	CE-SLO Addressed**
1. Synthesize and create new knowledge about thinking as a learning process	NCTE 8, 11, 12	4, 5, 6
2. Critically read a variety of materials to build background knowledge on thinking, learning and characteristics of the digital student	NCTE 1, 6, 7	3, 4, 5, 6
3. Discuss the role thinking plays in learning and student academic success, including second language learners and students of poverty	NCTE 1, 10	3, 4, 5, 6
4. Explain and apply research as it relates to memory, student engagement and development of thinking skills	NCTE 3	4, 6
5. Reflect on prior learning experiences to make connections between thinking, understanding and learning	NCTE 3	3, 4, 5, 6
6. Use a variety of resources, including technology and on-line resources to gather and synthesize ideas and information related to thinking and learning	NCTE 8	6
7. Exhibit through writing an understanding of thinking as a learning process and respect for diverse learning	NCTE 9	1, 5
8. Demonstrate an understanding of the importance thinking to learn plays in academic success and apply a range of strategies that support application of thinking skills	NCTE 3, 4, 5	4, 5
9. Identify how the digital native, 21st Century work skill needs and the growth of online	NBPTS 1, 4 NETS-T 5	4, 6

learning intersect to impact education in the United States.		
10. Develop a strategies thinking tool kit that emphasizes the use of thinking skills and differentiates approaches to learning to meet the needs of individual students.	NBPTS 1, 4	6

* Please refer to the section on **National Standards Addressed in This Course**

** Please refer to the section on **Continuing Education Program Student Learning Outcomes**

Topics, Assignments, and Activities

Module Module Title	Module Assignments and Activities	Points Possible for Each Assignment
Welcome Module	• Introduction video • Course Syllabus • Introduce Yourself Forum	
Module 1 – Building Background Knowledge	• Read Critical Thinking, Intro, pp 1-14 • View 21st Century Learning (video) • Read How to Teach Thinking/CCSS, Introduction • Read Wagner's Rigor Redefined • View Digital Natives (video) • Compare 21st Century work skills to CCSS. • Compare characteristics of the digital native with current teaching and learning practices. • 1.1 Thinking in the 21st Century • 1.2 Defining Needs of Digital Native	10 pts 10 pts
Module 2 – Thinking to Learn	• Read Critical Thinking, Chapter 1 and 2 • Read ELA Common Core Standards • Read Putting a Face on Common Core • Read Common Core Standards- Overview • View Walsh's Memory Encoding (video) • View Thinking Models (PowerPoint) • Summarize research on the association between poverty, second language learning and retention of information. • Analyze alignment between current practices, Bloom's taxonomy and new Common Core Standards (CCSS), especially as the standards relate to higher order thinking skills. • 2.1 Connecting Learning, Thinking and Memory • 2.2 Addressing Standards Alignment	15 pts 15 pts
Module 3 – Questioning to Engage the Mind	• Read Critical Thinking, Chapter 7 and Appendices B & C • View Asking Questions (PowerPoint) • View Spiral Questions (video) • View Socratic Questioning (video) • View Inquiry Approach-Questioning (video) • Examine classroom questioning practices • Explore, identify and integrate effective instructional strategies into Thinking Strategies Toolkit, Part A: Questioning Strategies • 3.1 Questioning with Wait Time	15 pts

Module Module Title	Module Assignments and Activities	Points Possible for Each Assignment
	3.2 Thinking Strategies Toolkit Part A	25 pts
Module 4 – Listening and Speaking to Activate Thinking	- Read Critical Thinking Critical Thinking Chapters 3 & 4 - Read Kinsella's and Feldman's Active Engagement Strategies - View Power Teaching (video) - View Reciprocal Teaching (video) - View Inquiry-Based Approach to Thinking (video) - Analyze relationship between oral language thinking skills and student academic success, especially as it relates to development of thinking skills for all learners, including digital natives, ELL and underachieving students - Explore, identify and integrate effective strategies into Thinking Strategies Toolkit, Part B: Oral Language Strategies 4.1 Listening + Speaking = Thinking Power 4.2 Thinking Strategies Toolkit Part B	15 pts 25 pts
Module 5 – Visualizing to Connect Ideas	- Read Critical Thinking, Chapter 5 - Read Richard's Making It Stick - View Story Mapping (video) - View Mind Mapping (video) - Graphically interpret connections between experiences, emotions, and use of visual images to learn. - Explore, identify and integrate effective strategies into Thinking Strategies Toolkit, Part C: Mapping Strategies 5.1 Visualizing to Deepen Understanding 5.2 Thinking Strategies Toolkit Part C	15 pts 25 pts
Module 6 – Reading to Deepen Understanding	- Review Critical Thinking, Chapter 3 - View Crazy Professor Reading Game (video) - View Literature Circles (video) - View Reading Strategies (video) - View Read, Discuss, and Debate (video) - View Post Its (video) - View SIFT Method (video) - Analyze self-learning strategies practiced by a "good reader" to comprehend information at a deeper and higher level - Explore, identify and integrate effective strategies into Thinking Strategies Toolkit, Part D: Reading Strategies 6.1 Reading A Hot Topic 6. 2 Thinking Strategies Toolkit Part C	15 pts 25 pts
Module 7 – Writing to Make Thinking Visible	- View Marzano's Summarizing (power point) - Read Hobkin's Journal Writing Strategies - View Literary Analysis Tools (video) - View Writing Workshop, K-3 (video) - View Writing Workshop, 7-12 (video) - Complete a comparative analysis of writing strategies - Explore, identify and integrate effective strategies into Thinking Strategies Toolkit, Part E: Writing Strategies 7.1 Capturing Thoughts through Writing	15 pts

Module Module Title	Module Assignments and Activities	Points Possible for Each Assignment
	7.2 Thinking Strategies Toolkit Part E	25 pts
Module 8 – Integrating Technology to Prepare the Digital Learner	- Read Critical Thinking, Chapter 6 - Read Costa's Habit of Mind with Technology (power point) - View A Vision for 21st Century Learning (video) • View Robotics (video) - View Introduction to Teaching Integration of Technology (video) - Critique technology applications to determine level of thinking skills required to learn and master intended objectives. - Explore, identify and integrate effective technology tools and strategies into Thinking Strategies Toolkit, Part F: Technology Strategies 8.1 Bringing Technology into the Game 8.2 Thinking Strategies Toolkit Part F	20 pts 25 pts
Module 9 – Pulling It All Together	- Read Critical Thinking, Chapter 6 - Create and evaluate effectiveness of a standards-aligned unit of study based on research and developed Thinking Strategies Toolkit - Reflect on the relationship between thinking, learning, and ability to apply new skills. 9.1 Realizing What You Have Learned 9.2 Reflecting on Thinking	75 pts 10 pts
Course Wrap-up – Grading and Evaluation	- Final Reflection Forum - Course Evaluation - Course Completion Checklist - Grade Request / Transcript Request	
	TOTAL POINTS	380 pts

Grading Policies, Rubrics, and Requirements for Assignments

Grading Policies

- Assignments will be graded per criteria presented in the course rubrics.
- A = 90-100% and B = 80-89%, (anything below 80% will not receive credit.)
- The discernment between an A or a B letter grade is at the discretion of the instructor based on the quality of work submitted (see course rubrics).
- Coursework falling below a B grade will be returned with further instructions.
- All assignments must be completed to receive a grade and are expected to reflect the quality that teacher-training institutions require of professional educators. If completed assignments do not meet this standard, students will be notified with further instructions from the instructor.

Grading Rubrics

Grade	Percent	Description	Rubric
A	90-100%	Excellent	Meets all course / assignment requirements with significant evidence of subject mastery and demonstration of excellent graduate level professional development scholarship.
B	80-89%	Very Good	Adequately meets criteria for all course/assignment requirements - demonstrates subject competency with very good graduate level professional development scholarship.
NC	Below 80%	Unacceptable	Does not meet the minimum criteria for all course/assignment requirements and demonstrated little, if any, evidence of acceptable graduate level professional development scholarship.

Writing Requirements

- **Superior:** Writing is clear, succinct, and reflects graduate level expectations. Clearly addresses all parts of the writing task. Maintains a consistent point of view and organizational structure. Includes relevant facts, details, and explanations.
- **Standard:** Writing is acceptable with very few mistakes in grammar and spelling. Addresses most parts of the writing task. Maintains a mostly consistent point of view and organizational structure. Includes mostly relevant facts, details, and explanations.
- **Sub-standard:** Writing contains noticeable mistakes in grammar and spelling. Does not address all parts of the writing task. Lacks a consistent point of view and organizational structure. May include marginally relevant facts, details, and explanations.

Lesson Plan Requirements

- **Superior:** Instructional goals and objectives clearly stated. Instructional strategies appropriate for learning outcome(s). Method for assessing student learning and evaluating instruction is clearly delineated and authentic. All materials necessary for student and teacher to complete lesson clearly listed.
- **Standard:** Instructional goals and objectives are stated but are not easy to understand. Some instructional strategies are appropriate for learning outcome(s). Method for assessing student learning and evaluating instruction is present. Most materials necessary for student and teacher to complete lesson are listed.
- **Sub-standard:** Instructional goals and objectives are not stated. Learners cannot tell what is expected of them. Instructional strategies are missing or strategies used are inappropriate. Method for assessing student learning and evaluating instruction is missing. Materials necessary for student and teacher to complete lesson are missing.

Instructor/Student Contact Information

Throughout the course participants will be communicating with the instructor and their classmates on a regular basis using asynchronous discussion forums. Students are provided with instructor contact information in the event they want to make email or phone contact. In addition, students are encouraged to email or phone the instructor at any time. Students will also receive feedback on the required assignments as they are submitted.

Forums

Participation is an important expectation of this course and all online courses. Online discussions promote reflection and analysis while allowing students to appreciate and evaluate positions that others express. While students may not be engaging with the same students throughout this course, they will be expected to offer comments, questions, and replies to the discussion question whenever possible. The faculty role in the discussion forum is that of an observer and facilitator.

Coursework Hours

Based on the Carnegie Unit standard, a unit of graduate credit measures academic credit based on the number of hours the student is engaged in learning. This includes all time spent on the course: reading the textbook, watching videos, listening to audio lessons, researching topics, writing papers, creating projects, developing lesson plans, posting to discussion boards, etc. Coursework offered for FPU Continuing Education graduate credit adheres to 45 hours per semester unit for the 900-level courses. Therefore, a student will spend approximately 135 hours on a typical 3-unit course.

Services for Students with Disabilities

Students with disabilities are eligible for reasonable accommodations in their academic work in all classes. In order to receive assistance, the student with a disability must provide the Academic Support Center with documentation, which describes the specific disability. The documentation must be from a qualified professional in the area of the disability (i.e. psychologist, physician or educational diagnostician). Once documentation is on file, arrangements for reasonable accommodations can be made. For more information and for downloadable forms, please go to <https://www.fresno.edu/departments/disability-access-education>.

Plagiarism and Academic Honesty

All people participating in the educational process at Fresno Pacific University are expected to pursue honesty and integrity in all aspects of their academic work. Academic dishonesty, including plagiarism, will be handled per the procedures set forth in the Fresno Pacific University Catalogue and Handbook - <https://handbook.fresno.edu/graduate/academic-policies>

Technology Requirements

To successfully complete the course requirements, course participants will need Internet access, can send and receive email, know how to manage simple files in a word processing program, and have a basic understanding of the Internet. Please remember that the instructor is not able to offer technical support. If you need technical support, please contact your Internet Service Provider.

Getting Help with Canvas: If you need help with Canvas, please contact the FPU Help Desk by phone: (559) 453-3410 or email: helpdesk@fresno.edu. Help is available Mon-Fri 8:00 am to 7:00 pm.

Final Course Grade and Transcripts

When all work for the course has been completed, students will need to request their final grade by accessing the form at ce.fresno.edu/grade-request. Once the instructor receives the request and

posts their final grade, students will receive an email communication from the University. Please allow at least two weeks for the final grade to be posted before you order your transcripts online.

University Policies and Procedures

Students are responsible for becoming familiar with the information presented in the Academic Catalog and for knowing and observing all policies and procedures related to their participation in the university community. A summary of university policies may be found on the university website at <https://www.fresno.edu/departments/registrar-office/academic-catalogs>.

Fresno Pacific University Student Learning Outcomes (FPU-SLO)

FPU-SLO 1	Student Learning Outcomes Oral Communication: Students will <i>exhibit</i> clear, engaging, and confident oral communication – in both individual and group settings – and will critically <i>evaluate</i> content and delivery components.
FPU-SLO 2	Written Communication: Students will <i>demonstrate</i> proficient written communication by <i>articulating</i> a clear focus, <i>synthesizing</i> arguments, and utilizing standard formats in order to <i>inform</i> and <i>persuade</i> others.
FPU-SLO 3	Content Knowledge: Students will <i>demonstrate</i> comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
FPU-SLO 4	Reflection: Students will <i>reflect</i> on their personal and professional growth and <i>provide evidence</i> of how such reflection is utilized to manage personal and vocational improvement.
FPU-SLO 5	Critical Thinking: Students will <i>apply</i> critical thinking competencies by <i>generating</i> probing questions, <i>recognizing</i> underlying assumptions, <i>interpreting</i> and <i>evaluating</i> relevant information, and <i>applying</i> their understandings to new situations.
FPU-SLO 6	Moral Reasoning: Students will <i>identify</i> and <i>apply</i> moral reasoning and ethical decision-making skills, and <i>articulate</i> the norms and principles underlying a Christian worldview.
FPU-SLO 7	Service: Students will <i>demonstrate</i> service and reconciliation as a way of leadership.
FPU-SLO 8	Cultural and Global Perspective: Students will <i>identify</i> personal, cultural, and global perspectives and will employ these perspectives to <i>evaluate</i> complex systems.
FPU-SLO 9	Quantitative Reasoning: Students will accurately <i>compute</i> calculations and symbolic operations and <i>explain</i> their use in a field of study.
FPU-SLO 10	Information Literacy: Students will <i>identify</i> information needed in order to fully understand a topic or task, <i>explain</i> how that information is organized, <i>identify</i> the best sources of information for a given enquiry, <i>locate</i> and critically <i>evaluate</i> sources, and accurately and effectively <i>share</i> that information.