

# Brain-Based Ways We Think and Learn™

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## Overview

This document contains information specific to the course. For general information on PLS Classes including our academic integrity policy and more, please visit this URL: [PLSClasses.com/our-courses/syllabi](https://PLSClasses.com/our-courses/syllabi).

## Course Description

Brain-Based Ways We Think and Learn is a 3-credit hour course that provides a comprehensive understanding of the ways in which current brain research can be applied to teaching and learning. Participants engage in brain-based learning experiences that take place in a brain-compatible learning environment and correlate to the findings of brain research experts. Participants explore how the brain receives information and creates meaning, the characteristics of a brain-compatible learning environment, how to incorporate brain-based instructional strategies, and how to create an enriched classroom environment that stimulates memory and learning. Participants learn how to plan lessons, design instruction, and enhance comprehension by incorporating brain-compatible strategies and activities that utilize the cognitive processes of induction, deduction, analysis, and synthesis in an enriched environment that supports success.

## Course Materials

For on-site and remote learning courses, each participant will receive a folder of materials along with access to digital materials. Upon registration, participants may choose to receive a printed participant manual in addition to the digital version.

Participants will receive access to digital materials prior to the first day of class. For remote learning classes, printed materials will be sent to the participant's provided address. For on-site classes, printed materials will be distributed on the first day of class.

Online class materials will be accessible through the learning management system (LMS).

## Course Outcomes

Upon completion of this class, the learner will be able to:

1. Evaluate course-related, research-based literature and resources, express opinions, and make correlations to the classroom and teacher practice.
2. Expand expertise and enhance teacher practice by researching, engaging in, and sharing methods, strategies, and activities related to brain-based learning.
3. Apply course concepts by reflecting on teaching and making correlations to the classroom and teacher practice.
4. Incorporate brain-based teaching strategies into instruction or classroom activities.
5. Design learning experiences that require the thinking processes of deduction and induction.
6. Design an enriched brain-based learning environment that addresses the visual, emotional, and physical environment and is learner-centered.
7. Design learning experiences that require the thinking processes of analysis and synthesis.
8. Design a lesson that incorporates the thinking processes of induction, deduction, analysis, and synthesis; is supported by a brain-compatible enriched environment; and utilizes brain-based teaching strategies.

## Course Topical Outline

	List of Concepts
<b>Section 1: Course Overview</b>	Welcome and patterns icebreaker and participant introductions; the storyboard process; activity to introduce Induction, Deduction, Enriched Environment, Analysis and Synthesis; review IDEAS components; brain-based teaching strategies: energizers, state changes, reflections, celebrations, and metacognition; form excerpts from the experts teams; form project teams; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that requires reflective practice.

<p><b>Section 2: Brain-Based Learning</b></p>	<p>Brain facts; parts of the brain; emotions and memory; components of brain-based learning; brain-compatible teaching; emotions in learning activities: sharing cards; generalizations in instance of one scenarios; eight elements of a brain-compatible learning environment; components of an enriched environment that stimulates the brain and enhances memory and learning; differences in students and what they require when learning; celebrations and energizers; excerpts from the experts: The Triune Brain; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that requires the research and review of educational literature; complete an assessment that requires research of methods, strategies, and activities that expand expertise; complete an assessment that identifies brain-based teaching strategies for the classroom.</p>
<p><b>Section 3: Deduction</b></p>	<p>Demonstrate a deductive experience; <b>Deduction:</b> facts about deduction; deductive instructional and learning practices; generalizations in deductive statements; lessons that use deductive instruction; design and share a learning experience that utilizes deductive teaching or learning; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; excerpts from the experts: The Brain.</p>

<p><b>Section 4: Deductive Instruction</b></p>	<p>Common generalities activity; metacognition and making thinking visible in the classroom; Simon Says energizer and connections to deduction; deductive/inductive activities: banking, make-a-box, Japanese character drawing; analyze deductive/inductive aspects; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that designs a deductive learning experience; conduct a project team meeting to design a synthesis lesson of course concepts to present to colleagues.</p>
<p><b>Section 5.1: Induction</b></p>	<p><b>Induction:</b> examples of the inductive process; inductive instructional and learning practices; inductive activities: mental rehearsal, virtual field trips, mental imagery; make correlations to induction; abstracts on “imagineering;” visualization; inductive activity: animal inquiry activity; design and share a learning experience that utilizes inductive teaching or learning; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that designs an inductive learning experience.</p>
<p><b>Section 5.2: Brain-Compatible Learning</b></p>	<p>Excerpts from the experts: Brain-Compatible Learning Environment; enhanced learning graph and continuum; brain-based teaching strategies; advocating for brain-based teaching strategies; develop a plan for brain-based teaching strategies in grade-level groups; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that requires the design of brain-based teaching strategies in the classroom; conduct a project team meeting to design a synthesis lesson of course concepts to present to colleagues.</p>

<p><b>Section 5.3: Inductive Instruction</b></p>	<p>Discovery learning centers and make correlations to inductive learning: ratio, emotions in music, web mapping, measuring and mapping, and brainstorming; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; conduct a project team meeting to design a synthesis lesson of course concepts to present to colleagues; complete an assessment that requires a synthesis lesson of course concepts.</p>
<p><b>Section 5.4: Enriched Environment</b></p>	<p>Excerpts from the experts: Memory; expand expertise and enhance teacher practice in an exchange of methods, strategies, and activities; educational literature share; providing an enriched environment in the classroom; design an enriched environment in grade-level groups; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that requires the design of an enriched environment in the classroom; conduct a project team meeting to design a synthesis lesson of course concepts to present to colleagues.</p>
<p><b>Section 6: Analysis and Patterns of Thinking</b></p>	<p><b>Analysis:</b> examples of analysis; instructional and learning practices that involve analysis; analysis activities: cost of a family vacation, important aspects of one’s life, words of wisdom from educators; make correlations to analysis; relevant strategies for the classroom; design and share a learning experience that utilizes analysis; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that designs a learning experience that requires analysis; excerpts from the experts: Patterns and Meaning; patterning activities: pattern and fact energizers, patterns in music, word mapping, make correlations to patterning; conduct a project team meeting to finalize a synthesis lesson of course concepts to present to colleagues.</p>

<b>Section 7: Synthesis</b>	<b>Synthesis:</b> examples of synthesis; instructional and learning practices that involve synthesis; synthesis activities: The Human Zoo; make correlations to synthesis; Life’s a Zoo; make correlations to induction, deduction, analysis, synthesis, and enriched environment; design and share a learning experience that utilizes synthesis; relevant strategies for the classroom; reflect on content learned and make correlations to the classroom and teacher practice; complete an assessment that designs a learning experience that requires synthesis; present a synthesis lesson of course concepts to colleagues; spiral conclusion activity.
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## Course Portfolio Assessments

### Correlations to Course Outcomes and Institutional Outcomes

Throughout the course, participants complete a Course Portfolio which includes a multicomponent Action Research Project comprised of several Action Research Assessments, as well as multiple Application Assessments aligned to Course Outcomes. The Action Research Assessments comprise 50% of the final grade and the Application Assessments comprise the other 50% of the final grade in accordance with the Course Portfolio Assessments table shown here. Grades are assigned in accordance with the criteria for each corresponding rubric.

Course Portfolio	Pts.	Correlations to Course Outcomes
Assessment 1: Resource Reviews	30	Outcome 1
Assessment 2: Expanding Expertise	35	Outcome 2
Assessment 3: Reflection Connection	20	Outcome 3
Assessment 4: Brain-Based Teaching Strategies	20	Outcome 4
Assessment 5: Deduction and Induction	20	Outcome 5
Assessment 6: Brain-Based Learning Environment	20	Outcome 6
Assessment 7: Analysis and Synthesis	20	Outcome 7
Assessment 8: I.D.E.A.S Lesson Plan	35	Outcome 8
<b>Action Research Assessments Total</b>	<b>100</b>	
<b>Application Assessments Total</b>	<b>100</b>	

<b>Course Portfolio Total</b>	<b>200</b>	
Virtual Classroom and Reflection/Discussion Forum {REMOTE LEARNING ONLY}	TBD	Outcome 3
Supplemental Assessment 1: Excerpts from the Experts	[25]	Outcome 4 Outcome 6
<b>Final Course Portfolio Total</b>		

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