Instructional Design Document: Confusion Recognition and Strategic Response: An eLearning Solution for High School Metacognitive Skill Development

Learning Design & Technology, University of San Diego

LDT 500A

Dr. Lisa Evans

June 24, 2025

INTRODUCTION

High school students across the country struggle with a problem that's often invisible to their teachers: they don't recognize when they're confused, and when they do, they have limited strategies for responding effectively. In Title I schools, this challenge becomes even more complex. Students like Joseline, who quietly shuts down when confused, and Mateo, who asks for help but has only one strategy in his toolkit, represent thousands of learners who could succeed with the right metacognitive tools.

Currently, many high school students do not recognize when they are confused during academic tasks and lack effective strategies to respond to confusion in order to stay engaged and make progress in their learning. This leads to disengagement, passive errors, and widening learning gaps. Without intervention, students continue experiencing academic frustration without developing the self-monitoring skills that could transform confusion from a barrier into a learning opportunity.

The target audience consists of high school students in a Title I school environment where students primarily use Chromebooks and free digital tools. The learning experience focuses on three core components: recognizing confusion signals (emotional, behavioral, and internal dialogue indicators), implementing appropriate response strategies, and building sustainable self-monitoring habits through reflection and practice.

This instructional goal emerged from direct student interviews and classroom observations conducted during AmeriCorps mentoring work, revealing that confusion recognition and strategic response represent teachable skills that could significantly impact student engagement and academic success. This aligns with research demonstrating that confusion can be a productive part of the learning process when properly managed (D'Mello & Graesser, 2012; Lodge et al., 2018).

This instructional design document presents a comprehensive eLearning solution addressing confusion recognition and self-monitoring skill development through evidence-based

strategies. The document includes thorough analysis of the learning need, detailed learner personas, measurable learning objectives, complete instructional planning using Gagne's Nine Events framework, assessment strategies, and implementation guidance for delivering this metacognitive training to high school students.

ANALYZE

Overview

The analyze phase serves as the foundation for effective instructional design by gathering comprehensive information about the problem, learners, and context. This phase ensures thorough understanding of what needs to be addressed before moving into design and development. For this confusion recognition project, the analysis phase revealed significant gaps in students' metacognitive awareness and strategic response capabilities.

The core issue centers on a knowledge and skills gap: students lack both awareness of their cognitive states and strategic options for managing confusion effectively. This represents an instructional problem rather than a motivational or environmental issue because students consistently demonstrate willingness to learn when provided with appropriate tools and strategies. The gap between current performance—defaulting to unproductive responses like disengagement or phone checking—and desired performance—strategic confusion management leading to continued learning progress—indicates a clear need for targeted instruction.

Data-based evidence supporting instruction as the appropriate solution includes student interview responses showing limited strategy awareness, classroom observations documenting consistent confusion patterns, and research demonstrating that metacognitive skills are teachable and transferable across academic contexts. Students expressed frustration with their current approaches while showing enthusiasm for learning new strategies, confirming that this represents a skills gap rather than resistance to learning.

Needs Analysis

Data collection for this project involved multiple sources to ensure comprehensive understanding of the learning need. I conducted empathy interviews directly with students, focusing specifically on their internal experiences during moments of academic confusion. Students articulated feelings of anxiety and frustration, as well as common behavioral reactions such as disengaging and turning to their phones or peers for answers. These interviews highlighted students' limited awareness and strategies to manage their own confusion.

Additionally, informal observational data gathered through my AmeriCorps position mentoring high school students provided key insights. Daily interactions and observations helped me see broader patterns, such as students' discomfort in acknowledging confusion publicly and their preference for immediate, yet ineffective coping mechanisms. The framework came primarily from my direct experience and observations working with students, along with conversations with teachers and students about how confusion actually shows up in classrooms.

I've since found research that backs up the task analysis structure, including studies on metacognition, confusion recognition, and self-monitoring strategies that support the main topics and subordinate components I identified. Research on confusion as an epistemic emotion (D'Mello & Graesser, 2012), adolescent metacognitive development (Weil et al., 2013), and frameworks for distinguishing productive struggle from unproductive confusion (Lodge et al., 2018) all validate the framework's theoretical foundation.

The needs analysis revealed that students are being asked to change their approach to academic challenges by developing greater self-awareness and strategic thinking. Teachers and administrators identified this need based on patterns of disengagement and academic underperformance. The requested change involves both knowledge development (understanding what confusion signals look like and what response options exist) and skills application (implementing appropriate strategies in real academic situations). The gap between

current state and desired state is significant: students currently default to avoidance or single-strategy approaches, while the goal is developing flexible, context-appropriate responses that maintain engagement and promote learning progress.

Learner Analysis

Understanding the characteristics and needs of high school students in Title I schools is essential for designing learner-centered solutions that address real barriers to academic success. The learner analysis gathered demographic information, group characteristics, and learner perspectives to ensure the instructional design meets students where they are and builds on their existing strengths.

The target audience consists primarily of students in grades 9-12 attending a Title I high school where resources are limited but student potential is significant. Students come from diverse backgrounds and bring varied academic experiences, though many share common challenges around academic confidence and strategic learning approaches. The group characteristics include familiarity with digital tools, particularly Chromebooks, and comfort with technology-mediated learning, though access to premium educational software is limited by school budget constraints.

From the learner perspective, many students recognize that they struggle with challenging academic tasks but haven't had explicit instruction in metacognitive strategies. Students expressed interest in learning better approaches to handling confusion but often frame academic difficulty as a personal failing rather than a normal part of the learning process that can be managed strategically. This perspective is particularly significant given that metacognitive abilities continue developing throughout adolescence (Weil et al., 2013), suggesting students are still building the capacity for strategic confusion management. This mindset also represents both a challenge and an opportunity for reframing confusion as a productive part of learning.

The learner personas developed from this analysis represent two distinct but common student profiles. Joseline represents students who experience confusion but tend to withdraw quietly, avoiding help-seeking behaviors that might draw attention to their struggles. Mateo represents students who actively seek help but have limited strategic options beyond asking others for assistance. Both personas highlight the need for expanded strategies and increased metacognitive awareness, though they require different approaches to engagement and skill development.

These personas guide instructional design decisions by ensuring that learning activities accommodate different comfort levels with help-seeking, provide multiple pathways for skill development, and address the social and emotional aspects of academic struggle alongside the cognitive components. The detailed learner personas can be found in Appendix 1.

Subject Matter Expert

Assistant Principal Freddie Chavarria serves as the primary subject matter expert for this project, bringing extensive experience in secondary education and student support systems. Mr. Chavarria has over 11 years of educational leadership experience in the Oceanside Unified School District, currently serving as Assistant Principal at Oceanside High School since 2021. His educational background includes a Master's in Educational Administration and Doctor of Education in Organizational Leadership from Brandman University, providing expertise in systemic student intervention approaches.

The SME consultation process involved discussions about student behavior patterns, existing support systems, and practical constraints for implementing metacognitive training in the school environment. These conversations informed both the scope of content—focusing on immediately applicable strategies rather than abstract metacognitive theory—and the sequence of skill development, beginning with basic recognition skills before progressing to strategic application.

SME input was particularly valuable for understanding the real-world context in which students would apply these skills, including classroom dynamics, technology constraints, and the social factors that influence help-seeking behavior among adolescents. This expertise ensured that the instructional design addresses authentic challenges rather than idealized learning scenarios.

Task Analysis

The task analysis breaks down the complex skill of confusion recognition and strategic response into teachable components that build systematically toward independent application. The analysis reveals three main areas of skill development: recognizing confusion, responding strategically, and building sustainable self-monitoring habits.

The task analysis structure progresses from basic awareness skills through strategic application to habit formation, reflecting both cognitive complexity and practical implementation needs. Students must first develop the ability to recognize their own cognitive and emotional states before they can select and implement appropriate response strategies. The scope encompasses both immediate tactical skills—like identifying behavioral indicators of confusion—and longer-term strategic capabilities like building personalized strategy repertoires.

This analysis informed the instructional goal by clarifying the specific knowledge and skills students need to develop independent confusion management capabilities. Rather than focusing solely on help-seeking behaviors or general study skills, the task analysis revealed the importance of metacognitive awareness as the foundation for all other strategic responses. The complete task analysis outline can be found in Appendix 2.

Constraints

Several constraints shape the instructional design decisions for this project. Technology constraints include reliance on Chromebooks and free digital tools, which limits multimedia options but supports accessibility across the student population. Time constraints involve fitting

skill development into existing academic schedules without adding significant burden to students or teachers.

Social constraints include students' reluctance to publicly acknowledge confusion and the cultural dynamics around help-seeking in academic environments. These constraints influenced design decisions toward anonymous participation options and individual reflection activities that build confidence before requiring public engagement.

Resource constraints in the Title I environment necessitate cost-effective solutions that don't require additional software purchases or extensive teacher training. These limitations actually support the focus on transferable skills that students can apply independently across multiple academic contexts.

The analysis phase revealed clear evidence for an instructional solution targeting metacognitive skill development. The comprehensive understanding of learners, context, and constraints provides the foundation for designing an effective eLearning intervention that addresses authentic student needs while working within real-world limitations.

DESIGN

Overview

The design phase translates analyze findings into a comprehensive eLearning system that builds confusion recognition and strategic response capabilities for Title I high school students. What I'm designing here is an interactive, browser-based training that will be developed in Storyline 360, specifically addressing the technology constraints and learning preferences identified in the analyze phase. The design centers on three core learning progressions: recognition skills that make confusion visible to students, strategic application that expands their response repertoires, and metacognitive habits that sustain long-term growth. The eLearning approach was chosen based on learner analysis showing these digital natives prefer online video learning while accommodating Chromebook limitations and varied connectivity at home.

Learning Objectives

The six learning objectives create a comprehensive framework progressing from basic identification through evaluative judgment and strategic application, emerging directly from the task analysis and addressing specific gaps identified in the needs analysis. The objectives emerge directly from the three main components identified in the task analysis: recognizing confusion, responding strategically, and building self-monitoring habits. Objectives 1, 3, and 5 address the recognition phase by building awareness of confusion signals and distinguishing productive struggle from unproductive confusion. Objectives 2, 4, and 6 target the strategic response phase by expanding students' strategy repertoires and improving help-seeking effectiveness. All objectives support the habit-building phase by developing metacognitive awareness that sustains long-term growth.

Learning Objective 1: Given a set of video scenarios showing students in various learning states, high school students will correctly identify at least 3 out of 4 emotional and behavioral indicators of confusion. This foundational objective addresses basic recognition skills—students often experience confusion without conscious awareness, defaulting to avoidance behaviors. This objective resides in the **Factual Knowledge** dimension and **Remember** cognitive process, as students must recall and recognize specific emotional and behavioral indicators of confusion.

Learning Objective 2: Given classroom scenarios, students will correctly match an appropriate strategy to at least four out of five scenarios provided. Strategic application bridges recognition and effective response, ensuring students can select context-appropriate strategies rather than defaulting to generic help-seeking. This objective resides in the **Conceptual Knowledge** dimension and **Apply** cognitive process, as students must apply conceptual understanding of strategy selection to new classroom situations without one prescribed approach.

Learning Objective 3: Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples. This analytical objective addresses the critical misconception that leads students to abandon tasks at first difficulty rather than recognizing when confusion represents productive engagement versus when intervention is needed. This objective resides in the **Conceptual Knowledge** dimension and **Analyze** cognitive process, as students must analyze learning situations to distinguish between different types of academic difficulty.

Learning Objective 4: Given a list of confusion response strategies, high school students will categorize at least 8 out of 10 strategies by type of confusion they address. Categorization builds the conceptual framework students need for strategic thinking rather than defaulting to single approaches. This objective resides in the **Factual Knowledge** dimension and **Understand** cognitive process, as students must understand clear, precise definitions of confusion types and their categorical relationships.

Learning Objective 5: Given a list of help-seeking behaviors, high school students will identify effective help-seeking behaviors with at least 80% accuracy. This addresses quality and effectiveness of help-seeking rather than just frequency. This objective resides in the **Conceptual Knowledge** dimension and **Remember** cognitive process, as scenarios present conceptual situations rather than factual statements about help-seeking behaviors.

Learning Objective 6: Given a set of scenarios depicting various help-seeking situations, high school students will select effective help-seeking behaviors with at least 75% accuracy. This extends beyond identification to strategic selection based on context evaluation. This objective resides in the **Metacognitive Knowledge** dimension and **Evaluate** cognitive process, as students must evaluate contextual factors and demonstrate awareness of effective help-seeking strategies in social learning situations.

The complete taxonomy table can be found in Appendix 3.

Learning Theories/Learner Assumptions

The eLearning design strategically integrates three learning theories based on the type of knowledge and cognitive processes required for each objective. **Behaviorist theory** informs the delivery of factual knowledge about confusion indicators and help-seeking behaviors, using teacher-centered direct instruction followed by recognition tasks with immediate reinforcement. This approach works well for Objectives 1 and 5, where students need to accurately recall and identify specific indicators and behaviors.

Cognitivist theory guides activities requiring procedural and conceptual knowledge application, emphasizing learner-centered active problem-solving that builds mental models for strategy selection. This approach supports Objectives 2 and 4, where students must process information, recognize patterns, and apply learned procedures to new situations through interactive scenario-based exercises.

Constructivist theory shapes experiences requiring authentic problem-solving and critical thinking about real learning situations. Students construct understanding through case analysis, discussion, and comparison with expert reasoning for Objectives 3 and 6, which involve higher-order evaluation and metacognitive awareness in social learning contexts.

All six of Knowles's assumptions inform the eLearning design. Students' **self-concept** as independent learners drives the self-paced, choice-driven navigation. Their diverse **life experiences** with academic difficulty provide foundation for connecting new strategies to past successes. The **need to know** is established through interactive scenarios showing real consequences of unmanaged confusion. **Readiness to learn** aligns with immediate application in current coursework. The **problem-centered orientation** ensures all activities focus on authentic classroom scenarios rather than abstract theory. **Internal motivation** develops through gamified elements and immediate feedback showing skill development progress.

Gagne's Nine Events

The eLearning system systematically implements all nine events through interactive multimedia experiences optimized for Chromebook delivery. **Event 1** gains attention through an interactive mystery scenario where students click through clues to discover how unrecognized confusion caused a student's academic decline, followed by a success story timeline and "choose your own adventure" confusion scenarios that build immediate engagement with consequences and possibilities.

Event 2 informs objectives through interactive learning roadmaps showing three main destinations—recognition, strategic response, and habit-building—with clickable objectives and personalized learning contracts based on diagnostic results. Students explore the detective mission framework that gamifies skill development while clearly communicating measurable outcomes.

Event 3 stimulates recall through non-academic success scenarios where students reflect on recognizing difficulty in driving, gaming, or social contexts, myth vs. fact activities about confusion and help-seeking, and guided reflection comparing their most and least successful learning experiences to identify effective patterns.

Event 4 presents content through comprehensive digital toolkits with three interconnected modules: emotional/behavioral indicator recognition using audio/visual examples and video demonstrations, interactive strategy menus organized by confusion type with specific techniques and timing guidance, and step-by-step decision trees for distinguishing productive struggle from unproductive confusion.

Event 5 provides guidance through on-demand help systems offering context-sensitive support, curated collections of common recognition errors with expert commentary, peer strategy databases with student-generated examples, and adaptive guidance that adjusts based on student performance patterns.

Event 6 elicits practice through realistic video scenario analysis where students identify confusion indicators using dropdown menus, diverse confusion scenarios requiring strategy matching with immediate feedback, detailed case study evaluation requiring categorization and reasoning, and branching help-seeking scenarios with consequence feedback.

Event 7 delivers comprehensive feedback on recognition accuracy with visual progress tracking, strategy selection analysis comparing student choices to expert recommendations, nuanced evaluation guidance on case study analyses, and personalized feedback on help-seeking choices that explains contextual effectiveness factors.

Event 8 assesses performance through integrated recognition assessments combining video analysis with decision-making tasks, strategic application portfolios documenting reasoning processes, and comprehensive skills demonstrations requiring complete confusion management processes in realistic academic contexts.

Event 9 enhances retention through real-world implementation tools including subject-specific strategy guides and tracking templates, peer mentoring systems where students help others while reinforcing their own learning, ongoing skill development through monthly challenges and reflection exercises, and portfolio documentation systems tracking growth and transfer evidence.

Learning Activities and Learner Assessment

Assessment strategies align directly with learning objectives through theory-informed approaches that accommodate eLearning delivery constraints. **Objective 1** uses behaviorist-informed eLearning quizzes with video-based multiple choice questions where students watch classroom scenarios and select emotional/behavioral indicators from provided options, with automated scoring providing immediate feedback requiring 75% accuracy.

Objective 2 employs cognitivist-based interactive scenario assessments within the eLearning platform where students complete branching scenarios selecting strategies with

immediate feedback, tracked through detailed analytics showing strategy selection patterns and requiring 80% accuracy across five scenarios.

Objective 3 utilizes constructivist case study analyses with rubric-based assessment where students submit written analyses through the LMS, evaluated on reasoning quality, framework application, and distinction accuracy, including peer review components to build community understanding.

Objective 4 implements cognitivist interactive categorization exercises with immediate automated feedback where students drag strategies into confusion-type categories within the eLearning platform, with instant scoring and explanatory feedback for incorrect responses requiring 80% accuracy.

Objective 5 uses behaviorist eLearning assessments through multiple choice and true/false questions where students identify effective behaviors from lists and scenarios, with automated scoring requiring 80% accuracy and detailed explanatory feedback supporting knowledge retention.

Objective 6 employs constructivist performance-based assessment using branching scenario simulations where students make help-seeking decisions across realistic scenarios with choices tracked and evaluated at 75% accuracy, including reflective journal components where students justify decision-making processes and demonstrate metacognitive awareness.

IMPLEMENT

Overview

The implement phase addresses practical delivery in Title I high school environments where time, technology, and support resources require strategic planning. Rather than adding another program, the implementation integrates skill development into existing support systems while providing standalone options for independent learning.

Method of Delivery

The delivery uses a hybrid approach combining structured skill-building sessions with ongoing application support. This method was chosen based on learner analysis showing students need both explicit instruction and authentic practice opportunities. Students like Joseline require low-pressure environments to build confidence, while students like Mateo need immediate application opportunities for expanded strategies.

Implementation Plan

Phase 1: Foundation Building (Weeks 1-2) delivers recognition skills through two 45-minute sessions during advisory periods. Students complete interactive scenarios, build personal strategy inventories, and create confusion signal reference cards for immediate classroom use.

Phase 2: Strategy Development (Weeks 3-4) expands response options through structured learning and real-world application. Students attend strategy-focused sessions while documenting experiences using simple tracking tools in regular coursework.

Phase 3: Integration (Weeks 5-6) emphasizes sustainable implementation through comprehensive assessment, personal implementation planning, and peer mentoring opportunities. Students establish ongoing reflection routines supporting continued development.

Ongoing Support continues through monthly advisory check-ins, peer mentoring integrated into existing tutoring, and online resource access. Technology requirements include reliable Chromebook functionality with offline accessibility options for limited connectivity situations. Students receive visual progress indicators and completion certificates while maintaining learning portfolios documenting growth over time.

CONCLUSION

This instructional design document presents a comprehensive eLearning solution addressing confusion recognition and strategic response skill development through evidence-based approaches. The analyze phase revealed significant gaps in students' metacognitive

awareness and strategic capabilities, supported by direct student interviews and classroom observations. The design phase established six measurable learning objectives progressing from basic recognition through strategic application, grounded in cognitive theory and metacognitive strategy instruction while incorporating all of Knowles's adult learning assumptions.

Gagne's Nine Events framework provides systematic structure for engaging learning experiences that accommodate diverse student needs represented by personas like Joseline and Mateo. The implementation approach recognizes Title I constraints while providing flexible delivery options that integrate with existing support systems. This solution transforms confusion from a barrier into a learning opportunity by equipping students with practical tools they can apply immediately across all academic contexts, ultimately supporting improved engagement and learning outcomes.

Appendix Table of Contents

Appendix 1

Learner Persona 1

Joseline Gonzalez

DEMOGRAPHICS
Age: 14
Gender: Female
Grade: 9th grade
Ethnicity: Latina
Location: San Diego, CA

PERSONAL AND ACADEMIC DETAILS
Lives with her mom and siblings. Regularly wanders during class and struggles to complete work. Avoids asking questions when confused.

INTERESTS
Drawing, music, short videos, texting friends.

LEARNER ENVIRONMENT
Joseline learns best in quiet, structured settings with minimal distractions. She focuses more when her phone is put away and prefers visual formats like videos or diagrams. In fast-paced classes, she struggles to keep up and rarely speaks up when confused.

PREVIOUS LEARNING SUCCESSES
Learns best when she can see examples or break things into steps. She enjoys when her phone is away, she's getting the material, and loses track of time.

OTHER DETAILS
Struggles to ask for help. Uses her phone or asks friends later when confused. Shuts down if she feels too far behind.

PRIOR LEARNING EXPERIENCES
Felt confident in elementary school. Participates when material is clear and broken down.

END GOALS
"I just want to understand things the first time and not feel stuck. If I get confused, I want to have a way to deal with it without feeling dumb."

SCENARIO
"In biology, I didn't get what the teacher was saying about the diagram, but I didn't want to ask in front of everyone. I just kind of sat there and checked my phone. Later, I forgot to look it up. I like learning, but when I get lost, I don't really know what to do."

"I like it when I understand stuff. But if I'm confused, I usually just stay quiet."

Learner Persona 2

Mateo Alvarez

DEMOGRAPHICS
Age: 15
Gender: Male
Grade: 10th grade
Ethnicity: Filipino
Location: San Diego, CA

PERSONAL AND ACADEMIC DETAILS
Previously in foster care. Motivated to improve. Seeks help regularly and attends after-school tutoring.

INTERESTS
YouTube, videography, hanging out with friends, staying on top of schoolwork, girlfriend.

LEARNER ENVIRONMENT
Mateo works best in structured environments with predictable routines. He attends after-school tutoring regularly and focuses better when support is immediately available. His home environment can be unpredictable, so he depends on school-based systems for consistency.

PREVIOUS LEARNING SUCCESSES
Improved grades during 10th grade with daily support. On track to pass all classes with As. Was able to realize he was on a bad path and turn his life around.

OTHER DETAILS
Asks for help when confused, but relies mostly on the teacher. Wants more tools to stay on track independently.

PRIOR LEARNING EXPERIENCES
Built study habits through tutoring and mentorship. Learned to ask for help through experience and personal grit.

END GOALS
"I'm trying to keep my grades up and stay focused. I want to have more ways to help myself when I'm lost, not just always needing to ask."

SCENARIO
"In history, I didn't understand something we read, so I asked, but I still didn't fully get it. After school, I brought it to tutoring and figured it out there. I've learned that asking right away helps me stay on track."

"I didn't know how to get help before, but now I ask. I don't want to fall behind again."

Appendix 2

Task Analysis Outline

Instructional Goal:
Students will independently implement appropriate strategies to respond to confusion during academic tasks in order to stay engaged and make progress in their learning.

Task Analysis Outline:

1. Recognize Confusion
    a. Understand what learning clarity feels like
        i. Feeling of ease and flow
        ii. Ability to explain task to others
    b. Identify emotional indicators
        i. Frustration
        ii. Anxiety
        iii. Overwhelm or shutdown
    c. Identify behavioral indicators
        i. Zoning out
        ii. Checking phone
        iii. Looking around
        iv. Starting unrelated tasks
    d. Identify internal dialogue that signals confusion
        i. "I don't get this"
        ii. "This doesn't make sense"
        iii. "I'll never understand this"
    e. Differentiate productive struggle from unproductive confusion
        i. Productive: effort leads to partial insight
        ii. Unproductive: repeated attempts yield no progress
    f. Determine when confusion is blocking progress and requires action
        i. Pausing to assess impact on task completion
        ii. Checking if confusion persists after rereading
    g. Acknowledge personal discomfort without disengaging
        i. Naming the feeling
        ii. Accepting discomfort as part of learning
    h. Identify moments of low self-efficacy that may mask confusion
        i. Recognizing avoidance behavior
        ii. Identifying fixed mindset thoughts
2. Respond to Confusion
    a. Identify type of confusion
        i. Content misunderstanding
        ii. Unclear instructions
        iii. Vocabulary barrier
        iv. Misaligned expectations
    b. Know possible strategies for each type of confusion

        i. Re-reading or rewatching materials
        ii. Asking a peer for clarification
        iii. Referring to notes or reference sheets
        iv. Seeking outside resources (Khan Academy)
        v. Asking the teacher directly
    c. Match strategy to the situation based on past effectiveness or context
        i. Reflecting on what has worked before
        ii. Considering timing and resources available
    d. Use strategy in the moment (during task or shortly after)
        i. Pause and take action
        ii. Avoid delaying response to confusion
            1. Write down notes of confusion during class
    e. Reflect on the outcome (Was the strategy effective?)
        i. Did understanding improve?
        ii. Did frustration reduce?
    f. Modify or switch strategies if confusion persists
        i. Try alternate methods
        ii. Re-engage with teacher support
3. Build Habits of Self-Monitoring
    a. Use daily and weekly reflection routines to track confusion and response patterns
        i. Organized journal entries
        ii. Tracking strategies used and outcomes
    b. Set short-term goals for practicing specific self-monitoring behaviors
        i. Pausing every 10 minutes to assess understanding
        ii. Using checklists
    c. Recognize patterns of when, where, or how confusion tends to arise
        i. Specific subjects or types of tasks
        ii. Environmental or emotional triggers
    d. Develop a repertoire of go-to strategies and rank them by confidence
        i. Personalized strategy menu
        ii. Rating strategies by comfort level and effectiveness
    e. Reframe confusion as an expected and valuable part of learning
        i. Use classroom mantras or reminders
        ii. Reflect on growth from past confusion
    f. Address resistance or embarrassment associated with asking for help
        i. Normalize help-seeking behavior
        ii. Peer role modeling
    g. Practice self-affirmation or positive self-talk to reduce fear of failure
        i. Write and recite affirmations
        ii. Reframe mistakes as learning opportunities
    h. Revisit and revise strategies over time as new situations arise
        i. Mid-quarter self-check-ins
        ii. Teacher-student conferencing

Appendix 3

Bloom's Taxonomy Table of Learning Objectives

Cognitive Process Dimension

Knowledge Dimension	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual Knowledge	Obj1,	Obj 4				
Conceptual Knowledge	Obj5		Obj2	Obj 3		
Procedural Knowledge						
Metacognitive Knowledge					Obj 6	

Appendix 4

Instructional Strategies Planning Grid

Organizer	Event	Instructional Strategy Describe what the instructor/trainer is doing or what the eLearning prompt is.	Learning Activity Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	Learning Objective(s) Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
Event 1	**Gain learners' attention**	Present an interactive mystery scenario where learners see a student's declining grades over 3 weeks with no obvious explanation, then reveal it was due to unrecognized confusion that snowballed.	Students click through clues to discover what went wrong and predict what could have prevented it.	Given a set of video scenarios showing students in various learning states, high school students will correctly identify at least 3 out of 4 emotional and behavioral indicators of confusion.
		Display a confusion success story interactive timeline showing how a student went from failing to succeeding by learning to recognize and respond to confusion.	Students explore the timeline and identify which moments show confusion recognition skills they want to develop.	Given a set of video scenarios showing students in various learning states, high school students will correctly identify at least 3 out of 4 emotional and behavioral indicators of confusion; Given classroom scenarios, students will correctly match an appropriate strategy to at least four out of five scenarios provided; Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples; Given a list of confusion response strategies, high school students will categorize at least 8 out of 10 strategies by type of confusion they address; Given a list of help-seeking behaviors, high school students will identify effective help-seeking behaviors with at least 80% accuracy; Given a set of scenarios depicting various help-seeking situations, high school students will select effective help-seeking behaviors with at least 75% accuracy.
		Present a confusion skills assessment that reveals their current level and	Students complete a quick self-diagnosis and receive personalized results	Given a set of video scenarios showing students in various learning states, high school students will correctly identify at

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		shows them exactly what they'll be able to do by the end of the module.	showing their confusion-recognition level and potential growth.	least 3 out of 4 emotional and behavioral indicators of confusion; Given classroom scenarios, students will correctly match an appropriate strategy to at least four out of five scenarios provided; Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples; Given a list of confusion response strategies, high school students will categorize at least 8 out of 10 strategies by type of confusion they address; Given a list of help-seeking behaviors, high school students will identify effective help-seeking behaviors with at least 80% accuracy; Given a set of scenarios depicting various help-seeking situations, high school students will select effective help-seeking behaviors with at least 75% accuracy.
		Launch with a “choose your own adventure" style scenario where students experience different types of confusion and see how different responses lead to different outcomes.	Students navigate decision points and immediately see consequences, building curiosity about the right strategies.	Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples.
Event 2	**Inform Learners of the Objectives**	Present an interactive visual roadmap showing	Students explore the interactive map, click	All six objectives (provides comprehensive

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		the learning journey with three main "stops" - recognizing confusion signals, choosing the right response strategies, and building self-monitoring habits. Each stop reveals specific objectives when clicked, with examples of what success looks like.	through each learning destination, and create a personal learning contract by selecting which objectives feel most relevant to their current struggles with confusion.	overview of the entire learning experience and allows students to see how recognition, application, and evaluation skills build on each other)
		Display a quick diagnostic tool that shows students exactly what confusion recognition and response skills they'll develop, framed as "powers" they'll gain - like recognizing their personal confusion signals, matching strategies to different types of confusion, and distinguishing productive struggle from spinning their wheels.	Students complete a brief self-assessment about their current confusion management approach, then receive a personalized preview of which objectives will have the biggest impact on their learning success.	Objectives 1, 4, 5 (focuses on foundational recognition and identification skills that serve as building blocks for more complex applications)
		Present objectives through a before-and-after narrative of a student like Mateo who went from having only one strategy (asking for help) to developing a full toolkit for managing confusion across different subjects and situations.	Students identify which parts of the success story resonate with their own experiences and write one specific goal for each objective area - what they want to be able to do differently by the end of the module.	Objectives 2, 3, 6 (emphasizes practical application and evaluation skills through relatable narrative context)

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		Frame objectives as a strategic mission where students become "confusion detectives" who will learn to spot confusion signals, decode different types of confusion, and deploy the right intervention strategies - making the learning feel purposeful and engaging.	Students receive their "detective toolkit preview" and choose their starting specialization area, then commit to specific learning targets for developing expertise in confusion recognition and strategic response.	All objectives (gamified approach that makes skill development feel engaging while clearly communicating measurable outcomes and building intrinsic motivation)
Event 3	**Stimulate recall of prior learning**	Present a series of non-academic scenarios where learners successfully recognized they needed help (learning to drive, cooking, gaming, sports) with reflection prompts connecting these to academic situations.	Students select 2-3 scenarios they relate to and write how they knew they were stuck in those situations, then identify similarities to school confusion.	Given a set of video scenarios showing students in various learning states, high school students will correctly identify at least 3 out of 4 emotional and behavioral indicators of confusion.
		Display common myths about confusion and help-seeking ("Smart students don't get confused," "Asking for help means you're lazy") alongside evidence-based facts.	Students complete a myth vs. fact sorting activity and reflect on which myths they've believed about their own confusion experiences.	Given a list of help-seeking behaviors, high school students will identify effective help-seeking behaviors with at least 80% accuracy.

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		Provide a checklist of current confusion response strategies (both effective and ineffective) for learners to honestly assess their typical reactions.	Students complete a self-inventory of their go-to responses when confused and categorize them as helpful, sometimes helpful, or not helpful.	Given a list of confusion response strategies, high school students will categorize at least 8 out of 10 strategies by type of confusion they address; Given classroom scenarios, students will correctly match an appropriate strategy to at least four out of five scenarios provided.
		Present a reflection framework asking learners to think about their best and worst learning experiences, focusing on moments of confusion and how they were handled.	Students complete guided reflection prompts comparing successful vs. unsuccessful confusion experiences and identify what made the difference.	Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples.
Event 4	**Present the stimulus (content)**	Present a comprehensive digital toolkit with three modules: (1) Emotional indicators with audio/visual examples, (2) Behavioral indicators with video demonstrations, (3) Internal dialogue examples with student voice-overs.	Students explore each module, take notes using a provided template, and complete embedded knowledge checks after each section.	Given a set of video scenarios showing students in various learning states, high school students will correctly identify at least 3 out of 4 emotional and behavioral indicators of confusion.

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		Deliver an interactive strategy menu organized by confusion type (content, instructions, vocabulary, expectations) with specific techniques for each, including when/why to use each strategy.	Students navigate the menu system, bookmark 3-5 strategies that appeal to them, and create a reference card.	Given classroom scenarios, students will correctly match an appropriate strategy to at least four out of five scenarios provided; Given a list of confusion response strategies, high school students will categorize at least 8 out of 10 strategies by type of confusion they address.
		Present a step-by-step decision tree and comparison chart showing characteristics of productive struggle versus unproductive confusion, with multiple examples and practice scenarios.	Students work through the decision tree with provided examples, then analyze 5 case studies using the framework and receive immediate feedback.	Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples.
		Provide a comprehensive guide to effective help-seeking including: timing, phrasing questions, choosing appropriate sources, and follow-up strategies, with video demonstrations and scripts.	Students review the guide, watch demonstration videos, and practice crafting effective help-seeking messages using provided templates.	Given a list of help-seeking behaviors, high school students will identify effective help-seeking behaviors with at least 80% accuracy; Given a set of scenarios depicting various help-seeking situations, high school students will select effective help-seeking behaviors with at least 75% accuracy.

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
Event 5	**Provide Learning Guidance**	Provide an on-demand guidance system where students can access specific help based on what they're struggling with - visual cues for recognizing confusion signals, decision trees for strategy selection, and troubleshooting guides for when their first approach doesn't work.	Students access context-sensitive help while practicing confusion recognition scenarios, use guided prompts to think through strategy choices, and consult quick-reference guides when they get stuck during practice exercises.	Objectives 2, 3 (supports strategy matching and distinguishing productive vs. unproductive confusion by providing scaffolded decision-making support)
		Present a curated collection of typical confusion recognition errors and strategy mismatches that students often make, with expert commentary explaining why these approaches miss the mark and how to adjust thinking for better outcomes.	Students review mistake examples, identify which errors they recognize in their own approach, and practice correcting these patterns using provided frameworks and self-check tools.	Objectives 1, 4, 5 (helps students refine their recognition skills and avoid common identification errors through guided error analysis)
		Offer access to a digital collection of student-generated tips, strategy combinations that have worked in different subjects, and real examples of effective help-seeking approaches, organized by confusion type and learning situation.	Students browse peer strategies by subject or confusion type, bookmark approaches that seem useful for their situation, and contribute their own successful experiences to help future learners.	Objectives 2, 6 (emphasizes strategy application and help-seeking evaluation through authentic peer examples and social learning)

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		Deliver personalized guidance that adjusts based on student performance - offering more support for complex skills like distinguishing confusion types, and stepping back for areas where students show confidence, like basic recognition tasks.	Students work through adaptive practice exercises that provide more or less guidance depending on their responses, use hint systems that activate when needed, and access deeper explanations for concepts they find challenging.	Objectives 3, 6 (supports higher-order thinking skills through personalized scaffolding that adjusts to individual learning needs and promotes self-regulated evaluation)
Event 6	**Elicit learner performance (practice knowledge or skill learned in Event 4)**	Provide a series of realistic classroom scenarios showing students in various learning states, with assessment tools for learners to identify confusion indicators.	Students analyze 6-8 scenarios, identify emotional and behavioral indicators of confusion in each, and submit their responses for automated scoring with detailed feedback.	Given a set of video scenarios showing students in various learning states, high school students will correctly identify at least 3 out of 4 emotional and behavioral indicators of confusion.
		Present 10 diverse confusion scenarios (unclear instructions, vocabulary barriers, content confusion, etc.) with a bank of potential strategies for learners to matc.	Students read each scenario, select the most appropriate strategy from dropdown menus, justify their choices in text boxes, and receive immediate feedback on accuracy.	Given classroom scenarios, students will correctly match an appropriate strategy to at least four out of five scenarios provided; Given a list of confusion response strategies, high school students will categorize at least 8 out of 10 strategies by type of confusion they address.

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		Offer 8 detailed case studies of students experiencing difficulty, requiring learners to determine whether each represents productive struggle or unproductive confusion using the framework from Event 4.	Students evaluate each case study, categorize as productive/unproductive, explain their reasoning, and compare their responses to expert analysis.	Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples.
		Provide a two-part assessment: (1) A list of help-seeking behaviors for identification practice, and (2) Scenario-based situations requiring selection of effective help-seeking approaches.	Students first identify effective behaviors from a provided list, then navigate branching scenarios selecting appropriate help-seeking approaches and receiving consequence feedback.	Given a list of help-seeking behaviors, high school students will identify effective help-seeking behaviors with at least 80% accuracy; Given a set of scenarios depicting various help-seeking situations, high school students will select effective help-seeking behaviors with at least 75% accuracy.
Event 7	**Provide Feedback**	Deliver instant, specific feedback when students practice confusion recognition - highlighting which indicators they correctly identified, explaining why certain choices were accurate or off-target, and showing them patterns in their recognition accuracy across different scenarios.	Students receive real-time feedback on their confusion identification attempts, review detailed explanations for each response, and track their improvement patterns through visual progress indicators that show growing expertise.	Objectives 1, 5 (focuses on building accurate recognition skills through immediate corrective feedback and reinforcement of correct identification patterns)

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		Provide comprehensive feedback on students' strategy selection and application, showing which approaches worked well in different confusion scenarios, where their reasoning was sound, and what alternative strategies might have been even more effective.	Students analyze their strategy choice patterns through visual dashboards, compare their selections to expert recommendations, and reflect on what they're learning about their own decision-making process.	Objectives 2, 4 (supports strategy matching and categorization skills by providing detailed analysis of choice effectiveness and reasoning quality)
		Offer nuanced feedback on students' ability to distinguish productive struggle from unproductive confusion, explaining the specific indicators they caught or missed, and helping them refine their analysis through guided reflection questions.	Students receive detailed feedback on their case study analyses, compare their reasoning to expert evaluations, and practice applying feedback insights to new scenarios until their analysis becomes more consistent.	Objective 3 (specifically targets the complex analytical skill of distinguishing confusion types through expert-guided feedback and reflective practice)
		Present feedback on students' help-seeking choices that goes beyond right/wrong to explain why certain approaches are more effective, what contextual factors influenced the best choice, and how their selections show developing awareness of social and academic dynamics.	Students review personalized feedback on their help-seeking scenario choices, reflect on what they're learning about effective communication and timing, and adjust their approach based on detailed effectiveness explanations.	Objective 6 (supports evaluation and selection of help-seeking behaviors through detailed feedback that builds metacognitive awareness of social and contextual factors)
Event 8	**Assess Performance**	Present a multi-scenario assessment where	Students complete an integrated assessment	Objectives 1, 3 (measures core

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		students demonstrate their full confusion recognition toolkit - identifying emotional and behavioral indicators across different learning contexts, distinguishing productive struggle from unproductive confusion, and showing their understanding of when different approaches are needed.	that combines video analysis, case study evaluation, and scenario-based decision making, demonstrating mastery across all recognition and analysis skills within a realistic academic context.	recognition and analytical skills through comprehensive performance demonstration)
		Provide a performance-based assessment where students must demonstrate their ability to match appropriate strategies to confusion scenarios, categorize different strategy types accurately, and show their reasoning process for strategy selection decisions.	Students build a portfolio of strategy applications by working through varied confusion scenarios, documenting their decision-making process, and demonstrating mastery of both strategy categorization and contextual application skills.	Objectives 2, 4 (assesses both strategy matching abilities and categorization understanding through authentic application tasks)
		Deliver a practical assessment where students show they can identify effective help-seeking behaviors and select appropriate approaches for different situations, demonstrating both recognition skills and evaluative judgment in social learning contexts.	Students navigate a series of help-seeking scenarios, demonstrate their ability to identify effective behaviors from provided options, and make strategic choices about approach selection while documenting their reasoning process.	Objectives 5, 6 (measures both identification and evaluation skills related to help-seeking through practical demonstration)
		Present a comprehensive	Students complete a capstone assessment that	All objectives (comprehensive

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		assessment that requires students to demonstrate the full confusion management process - from initial recognition through strategy selection and evaluation - showing how all their skills work together in realistic academic situations.	integrates all learning objectives, working through complex scenarios that require recognition, analysis, strategy application, and evaluation skills, demonstrating readiness to transfer these abilities to real academic contexts.	assessment that measures integrated performance across the complete skill set)
Event 9	**Enhance Retention and Transfer**	Provide tools and resources that help students transfer their confusion recognition and response skills to their actual coursework - including subject-specific strategy guides, confusion tracking templates, and reflection frameworks they can use across different classes.	Students create personalized implementation plans for using their new skills in upcoming assignments, set up confusion monitoring systems for their current classes, and establish check-in routines to track how well they're applying these strategies in real academic situations.	All objectives (supports transfer of complete skill set to authentic academic contexts)
		Establish a system where students can continue developing their skills by helping others recognize confusion and select strategies, reinforcing their own learning while building confidence through teaching and peer support activities.	Students mentor newer learners through the confusion recognition process, share their strategy selection experiences in discussion forums, and contribute to a growing knowledge base of student-tested approaches for different academic challenges.	Objectives 1, 2, 5 (reinforces recognition, strategy matching, and help-seeking skills through peer teaching and social learning)

Organizer	**Event**	**Instructional Strategy** Describe what the instructor/trainer is doing or what the eLearning prompt is.	**Learning Activity** Use action verbs to describe what the learner is doing. The activity should help learners achieve the objective.	**Learning Objective(s)** Use the same learning objectives you wrote in Module 5. One objective may appear in multiple rows and multiple objectives may appear in one row.
		Deliver periodic refresh opportunities that help students update their confusion management toolkit as they encounter new academic challenges, including advanced strategy options, subject-specific adaptations, and troubleshooting guides for complex situations.	Students participate in monthly skill-building challenges, update their personal strategy repositories based on new experiences, and engage in reflection exercises that help them recognize growth in their confusion management abilities over time.	Objectives 3, 4, 6 (focuses on continued development of analytical, categorization, and evaluation skills through ongoing practice)
		Support students in building comprehensive documentation of their confusion management growth, including examples of successful strategy applications, evidence of improved academic outcomes, and reflection on how these skills are changing their overall approach to learning challenges.	Students maintain ongoing learning portfolios that document their confusion recognition successes, track strategy effectiveness across different subjects, and create personal case studies showing how these skills have improved their academic confidence and performance.	All objectives (promotes retention through reflective documentation and evidence collection of skill transfer across academic contexts)

Appendix 5

Objectives-Activities-Assessment Crosswalk

Learning Objective (The same objectives you wrote in Module 5)	**Knowledge Type and Cognitive Process** (Identify and justify)	**Learning Theory** (Identify and justify)	**Learning Activity** (An activity from your Nine Events grid in Module 6)	**Learner Evaluation (Assessment Type)**
Example: *After completing the FERPA training, faculty will be able to distinguish, with at least 80% accuracy, which requests for student information are and are not protected under federal privacy laws.*	***Example*** *Factual* ***Knowledge Type 1:*** *Factual (what student information is and isn't protected under federal privacy laws).* ***Cognitive Process 1:*** *Analyze(distinguish)*	***Example*** *Behaviorist and Cognitivist* ***Behaviorist:*** *(teacher-centered, factual knowledge)* ***Cognitivist:*** *(learner-centered, active learning, mental models/schema, problem-solving)*	***Example:*** *A scenario-based learning activity where learners decide if various requests from parents, other faculty, law enforcement, and prospective employers violate federal privacy laws.*	***Example:*** *Scenario-based knowledge check and a multiple choice and true/false quiz at the end of the module.*
Given a set of video scenarios showing students in various learning states, high school students will correctly identify at least 3 out of 4 emotional and behavioral indicators of confusion.	Factual Factual Knowledge (specific emotional and behavioral indicators of confusion) Remember(recall and recognize specific indicators)	Behaviorist Teacher-centered delivery of factual knowledge about confusion indicators with clear, correct identification responses. Direct instruction followed by recognition tasks with immediate feedback.	Students analyze 6-8 realistic classroom video scenarios, identify emotional and behavioral indicators of confusion in each scenario using dropdown menus and checklists, and submit responses for automated scoring with detailed feedback.	eLearning objective quiz with video-based multiple choice questions. Students watch brief video clips and select which emotional/behavioral indicators are present from provided options. Automated scoring provides immediate feedback with a requirement to correctly identify at least 3 out of 4 indicators.
Given	ProceduralProc	Cognitivist	Students read	Interactive

classroom scenarios, students will correctly match an appropriate strategy to at least four out of five scenarios provided.	edural Knowledge (how to apply confusion response strategies) Apply(use strategy knowledge in new situations)	Learner-centered active problem-solving requiring students to build mental models for strategy selection. Involves processing information, pattern recognition, and applying learned procedures to new situations.	10 diverse confusion scenarios (unclear instructions, vocabulary barriers, content confusion), select the most appropriate strategy from dropdown menus, justify their choices in text boxes, and receive immediate feedback on accuracy.	scenario-based assessment within the eLearning platform. Students complete 5 branching scenarios, selecting strategies and receiving immediate feedback. Performance tracked with detailed analytics showing strategy selection patterns and accuracy.
Presented with case studies of student learning experiences, high school students will distinguish between productive struggle and unproductive confusion in at least 4 out of 5 examples.	ConceptualCon ceptual Knowledge (understanding productive vs. unproductive confusion concepts) Analyze (distinguish between different types of learning states)	Constructivist Authentic problem-solving requiring critical thinking about real learning situations. Students construct understanding through case analysis, discussion, and comparison with expert reasoning.	Students evaluate 8 detailed case studies of students experiencing difficulty, categorize each as productive struggle or unproductive confusion using provided frameworks, explain their reasoning in text responses, and compare their analysis to expert evaluations.	Case study analysis with rubric-based assessment. Students submit written analyses of 5 case studies through the LMS, evaluated using detailed rubrics focusing on reasoning quality, use of framework concepts, and accuracy of distinctions. Includes peer review component.
Given a list of	ConceptualCon	Cognitivist	Students	Interactive

confusion response strategies, high school students will categorize at least 8 out of 10 strategies by type of confusion they address (content, instructions, vocabulary, expectations).	ceptual Knowledge (understanding strategy categories and their applications) Understand(classify strategies into appropriate categories)	Requires active mental processing to understand categorical relationships and organize information into meaningful schema. Involves pattern recognition and conceptual understanding rather than rote memorization.	complete a self-inventory of confusion response strategies, categorizing provided strategies as helpful for content, instructions, vocabulary, or expectations confusion using drag-and-drop interfaces, and receive immediate feedback on categorization accuracy.	categorization exercise with immediate automated feedback. Students drag 10 strategies into appropriate confusion-type categories within the eLearning platform. System provides instant scoring and explanatory feedback for incorrect categorizations.
Given a list of help-seeking behaviors, high school students will identify effective help-seeking behaviors with at least 80% accuracy.	FactualFactual Knowledge (specific effective help-seeking behaviors)Remember (identify and recall effective behaviors)	BehavioristTeacher-centered delivery of factual knowledge about effective help-seeking with clear correct/incorrect responses. Direct instruction followed by identification tasks with immediate reinforcement.	Students complete a myth vs. fact sorting activity about help-seeking behaviors, review a comprehensive list of help-seeking behaviors, and identify which ones are considered effective using interactive checklists with immediate feedback.	eLearning objective assessment using multiple choice and true/false questions. Students identify effective help-seeking behaviors from provided lists and scenarios. Automated scoring with 80% accuracy threshold and detailed explanatory feedback.
Given a set of	MetacognitiveMe	ConstructivistAut	Students	Performance-

scenarios depicting various help-seeking situations, high school students will select effective help-seeking behaviors with at least 75% accuracy.	tacognitive Knowledge (awareness of effective help-seeking strategies in context) Evaluate(judge and select most appropriate help-seeking approaches)	hentic decision-making requiring evaluation of real-world help-seeking situations. Students construct understanding through scenario analysis, decision-making, and reflection on outcomes in social learning contexts.	navigate branching help-seeking scenarios where they encounter different confusion situations, select help-seeking approaches from multiple options, receive consequence feedback showing outcomes of their choices, and retry scenarios with improved strategies until successful.	based assessment using branching scenario simulations. Students make help-seeking decisions across 5 realistic scenarios, with choices tracked and evaluated with 75% accuracy required for mastery. Includes reflective journal component where students justify their decision-making process.

REFERENCES

D'Mello, S., & Graesser, A. (2012). Dynamics of affective states during complex learning. *Learning and Instruction*, *22*(2), 145-157. https://doi.org/10.1016/j.learninstruc.2011.10.001

Lodge, J. M., Kennedy, G., Lockyer, L., Arguel, A., & Pachman, M. (2018). Understanding difficulties and resulting confusion in learning: An integrative review. *Frontiers in Education*, *3*, 49. https://doi.org/10.3389/feduc.2018.00049

Weil, L. G., Fleming, S. M., Dumontheil, I., Kilford, E. J., Weil, R. S., Rees, G., Dolan, R. J., & Blakemore, S. J. (2013). The development of metacognitive ability in adolescence. *Consciousness and Cognition*, *22*(1), 264-271. https://doi.org/10.1016/j.concog.2013.01.004