Unit 5: Cognitive Psychology (includes Memory/Cognition & Intelligence & Individual Differences)

Content Area: **Template**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

UNIT RATIONALE

This unit will examine how our perceptions, attention, and expectations all interfere with the encoding of memories, altering the reality of the experience even slightly. Additionally, how interference from other memories and brain damage that is experienced as a part of life, makes the storage and retrieval of memories more difficult. This unit will also examine the multiple definitions of intelligence and will allow students to challenge their commonly held notions of intelligence.

ESSENTIAL QUESTIONS

- What roles do memory and thinking play in our behaviors?
- What is intelligence and how can we study it to understand it?

STANDARDS

NEW JERSEY STUDENT LEARNING STANDARDS: CONTENT AREA

SAVED

New Jersey (NJSLS) - Grades 11-12 - English Language Arts ELA (2020)

NJSLSA.R2

Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

RI.11-12.7

Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

NJSLSA.W4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.W6
Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
NJSLSA.W9
Draw evidence from literary or informational texts to support analysis, reflection, and research.

LA.K-12.NJSLSA.R2	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
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NEW JERSEY STUDENT LEARNING STANDARDS: CAREER READINESS, LIFE LITERACIES AND KEY SKILLS

TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).
TECH.9.4.12.IML.1	Compare search browsers and recognize features that allow for filtering of information.
TECH.9.4.12.IML.8	Evaluate media sources for point of view, bias, and motivations (e.g., NJSLSA.R6, 7.1.AL.IPRET.6).

NEW JERSEY STUDENT LEARNING STANDARDS: COMPUTER SCIENCE AND DESIGN THINKING

CS.9-12.8.1.12.DA.1	Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
CS.9-12.8.1.12.DA.5	Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.

PRE-ASSESSMENTS

Unit 5 Pre-assessment (memory & cognition)

Unit 5 Pre-assessment (intelligence)

INSTRUCTIONAL PLAN

MODULE 1

Unit 6 ~ Memory & Cognition

Unit 10 ~ Intelligence & Testing

Student Learning Intentions (SLI) WALT: (We are learning to…)	• compare and contrast various cognitive processes • describe and differentiate psychological and physiological systems of memory • identify the contributions of key researchers in cognitive psychology • outline the principles that underlie construction and encoding of memories • outline the principles that underlie the effective storage of memories • describe strategies for retrieving memories • describe strategies for memory improvement and typical memory errors • describe and differentiate psychological and physiological systems of short-and long-term memory • identify problem-solving strategies as we ll as factors that influence their effectiveness • list the characteristics of creative thought an creative thinkers • identify problem-solving strategies as well as factors that create bias and errors in thinking • define intelligence and list characteristics of how psychologists measure intelligence • discuss how culture influences the definition of intelligence • compare and contrast historic and contemporary theories of intelligence • identify the contributions of key researchers in intelligence research and testing • explain how psychologists design tests, including standardization strategies and other techniques to

	establish reliabilitya nd validity • interpret the meaning of scores in terms of the normal curve • describe relevant labels related to intelligence testing • synthesize how biological, cognitive, and cultural factors converge to facilitate acquisition, development, and use of language • debate the appropriate testing practices, particularly in relation to culture-fair test uses

Student Learning Strategies	• activating strategies
	  ○ video clips to engage and link relevant material
	  ○ fact or fiction questions at the intro to units
	• relevant vocabulary
	• graphic organizer
	  ○ ethics in research
	• student-centered
	  ○ ethics in research

Success Criteria	• I can compare and contrast various cognitive processes • I can describe and differentiate psychological and physiological systems of memory • I can identify the contributions of key researchers in cognitive psychology • I can outline the principles that underlie construction and encoding of memories • I can outline the principles that underlie the effective storage of memories • I can describe strategies for retrieving memories • I can describe strategies for memory improvement and typical memory errors • I can describe and differentiate psychological and physiological systems of short-and long-term memory • I can identify problem-solving strategies as we ll as factors that influence their effectiveness • I can list the characteristics of creative thought an creative thinkers • I can identify problem-solving strategies as well as

	factors that create bias and errors in thinking • I can define intelligence and list characteristics of how psychologists measure intelligence • I can discuss how culture influences the definition of intelligence • I can compare and contrast historic and contemporary theories of intelligence • I can identify the contributions of key researchers in intelligence research and testing • I can explain how psychologists design tests, including standardization strategies and other techniques to establish reliabilitya nd validity • I can interpret the meaning of scores in terms of the normal curve • I can describe relevant labels related to intelligence testing • I can synthesize how biological, cognitive, and cultural factors converge to facilitate acquisition, development, and use of language • I can debate the appropriate testing practices, particularly in relation to culture-fair test uses
Formative Assessment (drives instructional decisions)	Daily quizzes to determine if students have been reading and synthesizing the information presented in class
Activities and Resources	• Battle of the Brains • False Memory Experiment • Memory Olympics • Mensa Testing
Suggested Modifications	**English Language Learners** **Native language support**: The teacher provides auditory or written content to students in their native language. **Adjusted Speech**: The teacher changes speech patterns to

increase student comprehension. This could include facing the students, paraphrasing, clearly indicating the most important ideas, and speaking more slowly.

Visuals: The teacher uses graphics, pictures, visuals, and manipulatives. This helps ELL students better understand and comprehend the subjects at hand.

Front-Loading Vocabulary: The teacher front loads vocabulary. This means providing students with a list of important vocabulary words they will need to know for a book, lesson, etc. prior to the lesson being taught. Including pictures to go with the vocabulary words is also very beneficial for the students.

Special Education Students

Chunking: The teacher presents information in a way that makes it easy for students to understand and remember. Chunking is based on the presumption that our working memory is easily overloaded by excessive detail. The best way to deliver information is to organize it into meaningful units. Because students with special needs get overloaded easily, chunking is an effective strategy to use with them.

Checking for Understanding: It is important to constantly check for understanding, especially for students who have accommodations. Teachers want to make sure students understand the concepts being covered in a way that makes sense to them.

Extra time: The teacher provides students with special needs extra time to complete work or answer questions. It is important to give students enough time to process their thoughts.

Oral Reading: The teacher will read work orally to students. Class work such as tests and literature circles may need to be read aloud to the student.

Timers: The teacher will use timers as an instructional tool. The use of timers is beneficial for students who have trouble completing tasks. Timers can be helpful so the student is aware of how much

time they have to complete an assignment.

Students with 504 Plans

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Gifted & Talented Strategies

Extensions/Enrichments: Teachers will provide gifted and talented students with extension/enrichment projects. Students will be challenged to further their understanding, to apply acquired knowledge, and/or to produce something in reference to acquired knowledge.

Modify/Change Activities: Teachers will monitor and modify activities to accommodate those students who need to be challenged further. Additional reading, problem-solving, writing, or project work is necessary for those students who are ready to move on at a rate more accelerated than their peers. In this way, G & T students are provided the same opportunity for support as special needs students.

Students at Risk of School Failure

Directions or Instructions: Make sure directions and/or

instructions are given in limited numbers. Give directions/instructions verbally and in simple written format. Ask students to repeat the instructions or directions to ensure understanding occurs. Check back with the student to ensure he/she hasn't forgotten.

Peer Support: Peers can help build confidence in other students by assisting in peer learning. Many teachers use the 'ask 3 before me' approach. This is fine, however, a student at risk may have to have a specific student or two to ask. Set this up for the student so he/she knows who to ask for clarification before going to you.

Alternate or Modified Assignments: Always ask yourself, "How can I modify this assignment to ensure the students at risk are able to complete it?" Sometimes you'll simplify the task, reduce the length of the assignment or allow for a different mode of delivery. For instance, many students may hand something in, the at-risk student may jot notes and give you the information verbally. Or, it just may be that you will need to assign an alternate assignment.

Increase One to One Time: When other students are working, always touch base with your students at risk and find out if they're on track or needing some additional support. A few minutes here and there will go a long way to intervene as the need presents itself.

Contracts: It helps to have a working contract between you and

your students at risk. This helps prioritize the tasks that need to be done and ensure completion happens. Each day write down what needs to be completed, as the tasks are done, provide a checkmark or happy face. The goal of using contracts is to eventually have the student come to you for completion sign-offs.

Hands On: As much as possible, think in concrete terms and provide hands-on tasks. This means a child doing math may require a calculator or counters. The child may need to tape record comprehension activities instead of writing them. A child may have to listen to a story being read instead of reading it him/herself.

Tests/Assessments: Tests can be done orally if need be. Break tests down in smaller increments by having a portion of the test in the morning, another portion after lunch and the final part the next day.

Seating: Seat students near a helping peer or with quick access to the teacher. Those with hearing or sight issues need to be close to the instruction which often means near the front.

AP Battle of the Brains

Creating False Memories - Remembering Words Not Presented in Lists.pdf

False Memory Experiment

Messing With Your Mind

Memory Olympics Instructions

Memory Olympics by Tables in Psych

Memory Olympics Student Sheet Psych

Mensa Testing

REFLECTIONS

INTERDISCIPLINARY CONNECTIONS: NEW JERSEY STUDENT LEARNING STANDARDS FOR ELA, SOCIAL STUDIES, SCIENCE AND/OR MATHEMATICS

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