Unit #2: Cognitive Level of Analysis

Content Area: **Social Studies**
Course(s): **IB Psychology**
Time Period: **Second Marking period**
Length: **5 Weeks**
Status: **Published**

Unit Overview

At the second level of analysis, the products of our biological machinery can be seen in our cognitive system, which includes our cognitions, emotions and behaviors. Around the 1950s psychologists began systematically to explore cognition to further understanding of human behavior. This shift in focus from studying observable behavior to studying mental processes, such as memory and perception, is called “the cognitive revolution”. Cognitive psychologists suggested that humans form internal mental representations that guide behavior, and they developed a range of research methods to study these. In recent years, researchers within social and cultural psychology have used findings from cognitive psychologists to understand how mental processes may be influenced by social and cultural factors.

STAGE 1- DESIRED RESULTS

The College, Career, and Civic Life (C3) Framework for Social Studies

PSY.9-12.1	Psychological Perspectives and Methods of Inquiry
PSY.9-12.1.D2.Psy.1.9-12	Demonstrate a basic understanding of the scientific methods that are at the core of psychology.
PSY.9-12.1.D2.Psy.2.9-12	Investigate human behavior from biological, cognitive, behavioral, and sociocultural perspectives.
PSY.9-12.1.D2.Psy.3.9-12	Discuss theories, methodologies, and empirical findings necessary to plan, conduct, and especially interpret research results.
PSY.9-12.1.D2.Psy.4.9-12	Adhere to and consider the impact of American Psychological Association and federal guidelines for the ethical treatment of human and nonhuman research participants.
PSY.9-12.1.D2.Psy.5.9-12	Explain how the validity and reliability of observations and measurements relate to data analysis.
PSY.9-12.1.D2.Psy.6.9-12	Collect and analyze data designed to answer a psychological question using basic descriptive and inferential statistics.
PSY.9-12.1.D2.Psy.7.9-12	Explore multicultural and global perspectives that recognize how diversity is important to explaining human behavior.
PSY.9-12.2	Influences on Thought and Behavior
PSY.9-12.2.D2.Psy.8.9-12	Explain the complexities of human thought and behavior, as well as the factors related to the individual differences among people.
PSY.9-12.2.D2.Psy.9.9-12	Describe biological, psychological, and sociocultural factors that influence individuals’

	cognition, perception, and behavior.
PSY.9-12.2.D2.Psy.10.9-12	Explain the interaction of biology and experience (i.e., nature and nurture) and its influence on behavior.
PSY.9-12.2.D2.Psy.11.9-12	Identify the role psychological science can play in helping us understand differences in individual cognitive and physical abilities.
PSY.9-12.2.D2.Psy.12.9-12	Explain how social, cultural, gender, and economic factors influence behavior and human interactions in societies around the world.
PSY.9-12.3	Critical Thinking: Themes, Sources, and Evidence
PSY.9-12.3.D2.Psy.13.9-12	Explain common themes across the field of psychological science, including ethical issues, diversity, developmental issues, and concerns about health and well being.
PSY.9-12.3.D2.Psy.14.9-12	Use information from different psychological sources to generate research questions.
PSY.9-12.3.D2.Psy.15.9-12	Use existing evidence and formulate conclusions about psychological phenomena.
PSY.9-12.3.D2.Psy.16.9-12	Use critical thinking skills to become better consumers of psychological knowledge.
PSY.9-12.3.D2.Psy.17.9-12	Acknowledge the interconnectedness of knowledge in the discipline of psychology.
PSY.9-12.4	Applications of Psychological Knowledge
PSY.9-12.4.D2.Psy.18.9-12	Apply psychological knowledge to their daily lives.
PSY.9-12.4.D2.Psy.19.9-12	Apply the major theoretical approaches in psychology to educational, emotional, political, ethical, motivational, organizational, personal, and social issues.
PSY.9-12.4.D2.Psy.20.9-12	Suggest psychologically based ethical solutions to actual problems including, but not limited to, those encountered in education, business and industry, and the environment.
PSY.9-12.4.D2.Psy.21.9-12	Discuss ways in which the applications of psychological science can address domestic and global issues.
PSY.9-12.4.D2.Psy.22.9-12	Use psychological knowledge to promote healthy lifestyle choices.
PSY.9-12.4.D2.Psy.23.9-12	Apply psychological knowledge to civic engagement.

Essential Questions

- How do organisms remember, think, solve problems and communicate?
- How do we learn?
- What are different types of learning?
- What is intelligence?
- How do we measure intelligence?
- How do reward and punishment work?
- Are psychological disorders a learned behavior?
- How does memory work?
- How does culture influence learning and behavior?

Enduring Understanding

- Encoding of memory
- Storage of memory
- Retrieval of memory
- Basic elements comprising thought

- Obstacles related to thought
- Perspectives on intelligence
- Assessment of intelligence
- Issues in intelligence

Students will know...

I, Key Ideas / Concepts

II. Possible Misunderstandings

III. Key Terms and Content Vocabulary

Algorithm, Chunking, Constructive Memory, Encoding, Episodic Memory, Functional Fixedness, Heuristic, Interference, Language Acquisition Device, Linguistic Determinism, Long Term Memory, Mental Set, Mnemonic, Morpheme, Phoneme, Recall, Recognition, Rehearsal, Retrieval, Schema, Semantic Memory, Serial Position Effect, Sensory Memory, Short Term Memory, Storage, Long Term Memory, Surface & Deep Structure

Students will be able to...

General learning outcomes

1. Outline principles that define the cognitive level of analysis (for example, mental representations guide behavior, mental processes can be scientifically investigated).
2. Explain how principles that define the cognitive level of analysis may be demonstrated in research (that is, theories and/or studies)
3. Discuss how and why particular research methods are used at the cognitive level of analysis (for example, experiments, observations, interviews).
4. Discuss ethical considerations related to research studies at the cognitive level of analysis.

Cognitive processes learning outcomes

1. Evaluate schema theory with reference to research studies.
2. Evaluate two models or theories of one cognitive process (for example, memory, perception, language, decision-making) with reference to research studies.

3. Explain how biological factors may affect one cognitive process (for example, Alzheimer's disease, brain damage, sleep deprivation).
4. Discuss how social or cultural factors affect one cognitive process (for example, education, carpentered-world hypothesis, effect of video games on attention).
5. With reference to relevant research studies, to what extent is one cognitive process reliable (for example, reconstructive memory, perception/visual illusions, decision-making/heuristics)?
6. Discuss the use of technology in investigating cognitive processes (for example, MRI (magnetic resonance imaging) scans in memory research, fMRI scans in decision-making research).

Cognition and emotion learning outcomes

1. To what extent do cognitive and biological factors interact in emotion (for example, two factor theory, arousal theory, Lazarus' theory of appraisal)?
2. Evaluate one theory of how emotion may affect one cognitive process (for example, state-dependent memory, flashbulb memory, affective filters).

STAGE 2- EVIDENCE OF LEARNING

Authentic Assessments

- Lesson Plans
    - Students will receive a shallow lesson on subject material then given a test a number of days later. The test will then be reviewed and students will receive a deeper lesson on the material, exemplifying shallow vs deep processing.
- Working Vs Long-term
    - During a lecture the teacher will deliver a moderately useful, short term, fact mixed into long-term subject appropriate material, during a test review the short-term fact will be tested and students will realize the difference between working and long-term memory.
- IQ Test
    - An abridged, amended version of an IQ test will be administered to the students and the methods of the test will be analyzed.
- Problem Solving
- After being exposed to problem solving and its challenges the students will be challenged to develop a puzzle that is difficult to solve.

Traditional / Benchmark Assessments

- Critical Thinking Do Nows
- Proposal Writing
    - Students will act as teachers and write a proposal to their supervisor on ways to enhance the

delivery of information to the students to better accomplish long-term storage.

- Research Paper
    - Do American Public Schools adequately test students?
- Homework
- Test/Quizzes

Formative Assessment During Lesson

- 3- Minute Pause
- A-B-C Summaries
- Analogy Prompt
- Choral Response
- Debriefing
- Exit Card / Ticket
- Hand Signals
- Idea Spinner
- Index Card Summaries
- Inside-Outside Circle Discussion (Fishbowl)
- Journal Entry
- Misconception Check
- Observation
- One Minute Essay
- One Word Summary
- Portfolio Check
- Questions & Answers
- Quiz
- Self-Assessment
- Student Conference
- Think-Pair-Share
- Web or Concept Map

STAGE 3- LEARNING PLAN

Instructional Map

1. Solve brain teasers, any kind! Discuss methods used, barriers to solving etc.
2. Memorize a long list using peg words (perhaps Erikson's Stages of Development?)

3. Conduct a serial position or forgetting memory experiment and graph results
4. Short term memory test
5. Watch a video on or recreate the Loftus experiment

Modifications/Differentiation of Instruction

Enter specific modifications for:

ELL

Special Needs

Reaching Level

Challenge

Modification Strategies

- Extended Time
- Frequent Breaks
- Highlighted Text
- Interactive Notebook
- Modified Test
- Oral Directions
- Peer Tutoring
- Preferential Seating
- Re-Direct
- Repeated Drill / Practice
- Shortened Assignments
- Teacher Notes
- Tutorials
- Use of Additional Reference Material
- Use of Audio Resources

Differentiation Strategies

High Preparation Differentiation

- Alternative Assessments
- Choice Boards
- Games and Tournaments
- Group Investigations
- Guided Reading
- Independent Research / Project
- Interest Groups
- Learning Contracts
- Leveled Rubrics
- Literature Circles
- Multiple Intelligence Options
- Multiple Texts
- Personal Agendas
- Project Based Learning (PBL)
- Stations / Centers
- Think-Tac-Toe
- Tiered Activities / Assignments
- Varying Graphic Organizers

Low Preparation Differentiation

- Choice of Book / Activity
- Cubing Activities
- Exploration by Interest (using interest inventories)
- Flexible Grouping
- Goal Setting With Student
- Homework Options
- Jigsaw
- Mini Workshops to Re-teach or Extend Skills
- Open-ended Activities
- Think-Pair-Share by Readiness, Interest, or Learning Style
- Use of Collaboration
- Use of Reading Buddies
- Varied Journal Prompts
- Varied Product Choice
- Varied Supplemental Materials
- Work Alone / Together

Horizontal Integration- Interdisciplinary Connections

Connections with Sociology and Anatomy

Vertical Integration- Discipline Mapping

This is a high school elective course

Additional Materials

- Myers Psychology 9th Edition In Modules
- Various teacher created PowerPoint presentations
- Self recorded lectures with the goal of flipping the classroom
- Pavlov's experiments
- Little Albert Experiment
- Case Study: Phineas Gage
- Case Study: H.M.'s seizure surgery
- Case Study: Washoe Chimpanzee
- Case Study: "The Monster Study" on Stutterers
- Case Study*: Monkey Drug Trials* 1969
- Case Study: Jill Price
- *The Miracle Worker*
- *Brain Games*
- Various Subject Appropriate Case Studies found in multiple publications.
- Current Event APA (and other) publications