Session 3: Cognitivism and Language Learning

Cognitive Theories of Language Acquisition

Cognitivism in language learning focuses on the internal mental processes involved in acquiring a second language (L2). Unlike behaviorism, which emphasizes observable behaviors, cognitivism investigates how learners process, store, and retrieve linguistic information. Central to this approach is the belief that language learning is a cognitive skill developed through conscious thought, understanding, and problem-solving.

John R. Anderson's "Cognitive Psychology and Its Implications" (2010) provides a comprehensive view of cognitive psychology's relevance to language acquisition. His work emphasizes the role of cognitive mechanisms such as working memory, attention, and long-term memory in learning. Anderson describes language learning as a gradual process where learners transition from declarative knowledge (explicit knowledge about language rules) to procedural knowledge (the ability to use these rules subconsciously in real-time communication).

Key Cognitive Theories in SLA

1. **Information Processing Model**: According to Anderson, learners initially process language through controlled processes requiring conscious attention. Over time, these processes become automated as learners gain fluency. This shift from controlled to automatic processing is central to developing language proficiency.

2. **Declarative and Procedural Memory Systems**: Anderson's cognitive model highlights two main types of memory: declarative memory (explicit knowledge) and procedural memory (implicit knowledge). In language

learning, declarative memory helps learners grasp rules of grammar and vocabulary. Procedural memory is engaged when these rules are used fluently in conversation, enabling learners to speak without consciously thinking about each rule.

3. **Connectionism**: Another cognitive theory is connectionism, which focuses on how the brain makes associations between different pieces of information. According to this theory, learners acquire language by forming connections between words, sounds, and meanings through repeated exposure. As these connections are strengthened, learners become more adept at using the language.

4. **Noticing Hypothesis**: Cognitivist theories emphasize that learners must notice the gap between their current language use and the target language. Noticing this gap helps learners internalize corrections and adjust their language use, eventually achieving better accuracy and fluency.

5. **Working Memory in SLA**: Working memory plays a crucial role in language learning, as it allows learners to hold and manipulate information while engaging in tasks like conversation or grammar exercises. Limited working memory can pose challenges for language learners, particularly when they are asked to process complex grammatical structures or multitask in communication.

The Role of Mental Processes in Learning

Mental processes like attention, perception, memory, and problem-solving are central to cognitivism's explanation of language learning. These processes help learners internalize linguistic structures and vocabulary, turning new information into long-term knowledge that can be retrieved and used automatically.

1. **Attention**: In language learning, attention is essential for noticing new linguistic features and patterns. Learners must focus on certain aspects of input, such as pronunciation or grammar, to store them in long-term memory. Without attention, new language structures may go unnoticed, hampering progress.

2. **Perception**: Perception is the learner's ability to interpret linguistic input. Through perception, learners decode speech sounds and recognize syntactic structures. This process requires learners to filter out irrelevant information and concentrate on key features of the target language.

3. **Memory**: Memory, particularly working and long-term memory, is vital in language acquisition. Working memory allows learners to hold new linguistic input briefly, process it, and transfer it to long-term memory. Long-term memory stores vocabulary, grammar rules, and other language knowledge that learners can draw upon when speaking or writing.

4. **Problem-solving**: Cognitivism posits that learners are active problem solvers. When faced with a new linguistic challenge, they use their existing knowledge to hypothesize possible solutions, test these hypotheses, and adjust their language use based on feedback. This trial-and-error process helps learners gradually refine their language skills.

Examples of Cognitive Approaches

Several teaching methods have been derived from cognitive theories of language learning. These methods focus on enhancing learners' mental processes to facilitate more effective language acquisition.

1. **Task-Based Language Teaching (TBLT)**: TBLT encourages learners to engage in meaningful tasks that require problem-solving and information

processing. By focusing on tasks rather than isolated linguistic forms, learners apply their cognitive skills to real-world scenarios, helping them develop fluency and accuracy.

2. **Content-Based Instruction (CBI)**: CBI involves teaching language through subject matter content. This approach engages learners' cognitive skills as they focus on comprehending and using the target language to understand academic subjects or topics of interest.

3. **Input Enhancement**: In input enhancement, teachers draw learners' attention to specific linguistic forms by highlighting them in reading or listening materials. This method helps learners notice the gap between their current knowledge and the target language, reinforcing their cognitive development.

4. **Error Correction and Feedback**: Cognitivism highlights the importance of feedback in learning. By providing corrective feedback, teachers help learners become aware of their mistakes, which leads to better internalization of language rules and structures.

Critique of Behaviorism from a Cognitive Perspective

Cognitivism emerged partly as a critique of behaviorist approaches to language learning. While behaviorism focused on observable behaviors and reinforcement, cognitivism stresses that internal mental processes are key to understanding how learners acquire language.

1. **Emphasis on Internal Processes**: Behaviorism neglects the role of internal mental processes, focusing instead on external stimuli and responses. Cognitivism, on the other hand, argues that learning cannot be fully

explained without considering how learners think, remember, and solve problems.

2. **Language as a Complex Skill**: Cognitivists view language as a complex skill that requires more than just imitation and reinforcement. Learners must actively construct knowledge, using their cognitive abilities to decode and produce language. Behaviorism's focus on rote memorization and repetition does not account for this deeper cognitive engagement.

3. **Role of Meaning and Context**: Unlike behaviorism, which often treats language learning as context-free, cognitivism emphasizes the importance of meaning and context. Learners must process input in meaningful ways, using cognitive strategies to make sense of new information and apply it to real-world situations.

Conclusion

Cognitivism has significantly shaped our understanding of second language acquisition by focusing on the internal mental processes involved in learning. The theories and approaches derived from cognitivism emphasize the role of memory, attention, perception, and problem-solving in language learning. By considering these cognitive processes, educators can develop more effective teaching strategies that align with how learners naturally acquire language.

Questions for Discussion

1. What are the key differences between behaviorist and cognitivist approaches to language learning?
2. How does working memory influence second language acquisition?

3. Describe the role of attention in language learning according to cognitivist theories.
4. What is the significance of declarative and procedural memory in SLA?
5. How do cognitive approaches explain the transition from controlled to automatic processing in language learning?
6. What is the role of problem-solving in language acquisition?
7. How does Task-Based Language Teaching (TBLT) align with cognitivist principles?
8. What are the limitations of behaviorist approaches in explaining language learning?
9. How does feedback play a role in the cognitive approach to language teaching?
10. In what ways does connectionism explain how learners acquire vocabulary and grammar?

Main Reference:

- Anderson, J. R. (2010). *Cognitive psychology and its implications*. Worth Publishers.