

# Cognitive Level of Analysis Syllabus

## Introduction

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 behaviours. Around the 1950s psychologists began systematically to explore cognition to further understanding of human behaviour. This shift in focus from studying observable behaviour 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 behaviour, 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.

Cognitive psychology represents a vast array of research areas including cognitive psychology, cognitive science, cognitive neuropsychology and cognitive neuroscience. Topics such as memory, perception, artificial intelligence, amnesia and social cognition are studied. Cognitive psychologists use traditional research methods (for example, experiments and verbal protocols) but there is an increasing focus on the use of modern technology.

Cognitive psychologists collaborate increasingly with neuroscientists, social psychologists and cultural psychologists in order to explore the complexity of human cognition. This approach is illustrated in the field of cultural and social cognitive neuroscience, indicating the complementary nature of social, cognitive and biological levels of analysis. Research that integrates these three levels can develop more meaningful theories to explain the mechanisms underlying complex behaviour and the mind.

## Learning outcomes

### General learning outcomes

- Outline principles that define the cognitive level of analysis (*for example, mental representations guide behaviour, mental processes can be scientifically investigated*).
- Explain how principles that define the cognitive level of analysis may be demonstrated in research.
- Discuss how and why particular research methods are used at the cognitive level of analysis (*for example, experiments, observations, interviews*).
- Discuss ethical considerations related to research studies at the cognitive level of analysis.

### Cognitive processes

- Evaluate schema theory with reference to research studies.
- Evaluate two models or theories of one cognitive process (*for example, memory, perception, language, decision-making*) with reference to research studies.
- Explain how biological factors may affect one cognitive process (*for example, Alzheimer’s disease, brain damage, sleep deprivation*).
- Discuss how social or cultural factors affect one cognitive process (*for example, education, carpentered-world hypothesis, effect of video games on attention*).
- With reference to relevant research studies, to what extent is one cognitive process reliable (*for example, reconstructive memory, perception/visual illusions, decision-making/heuristics*)?
- 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

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