

Linguistics module

Topic 9 Psycholinguistics & Neurolinguistics

Topic Overview: In this topic, students are introduced to Psycholinguistics and Neurolinguistics. Psycholinguistics is the psychology of language, and it aims to help us understand how language is used to communicate ideas and feelings. Neurolinguistics is the relationship between language and the structure and functioning of the brain. We look at what happens when language is compromised and how language disorders can give us clues about how language is represented and processed in the brain.

Key Skills	<p>Communication: presenting, discussing, working with others</p> <p>Information management: gathering and evaluating information and data</p> <p>Pattern recognition</p> <p>Problem solving</p> <p>Data analysis</p>
Expected time	Two hours (not including extra resources)
Self-assessment (check with students at the end of the topic)	<p>I understand the basic causes and characteristics of Specific Language Impairment.</p> <p>I understand the basic causes and characteristics of Williams Syndrome.</p> <p>I understand that the brain has a modular structure.</p> <p>I understand the symptoms of Broca's Aphasia.</p> <p>I understand the symptoms of Wernicke's Aphasia.</p> <p>I (roughly) know where Broca's and Wernicke's areas are located in the brain.</p>

Task 9.1 Description: Students are introduced to Specific Language Impairment (SLI)/ Developmental Language Disorder

Learning Intentions	Students know the causes and characteristics of Specific Language Impairment (also known as Developmental Language Disorder)
Resources	<p>PPT slides Introduction to Psycholinguistics and Neurolinguistics</p> <p>Worksheet 9.1 SLI/DLD Video</p>
Task Outline	<p>Teachers can use the PPT to introduce some basics about SLI.</p> <p>Students are given Worksheet 9.1. The questions in Exercise 1 are based on the video embedded in the PPT. In Exercise 2, students analyse grammatical errors of utterances produced by children with SLI.</p>

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Task 9.2 Description: Students are introduced to Williams Syndrome

Learning Intentions	Students know the cause and characteristics of Williams Syndrome (WS), in particular the superior language abilities compared to their other cognitive abilities.
Resources	PPT slides Introduction to Psycholinguistics Youtube video (embedded in slides or link below): https://www.youtube.com/watch?v=M6n4zOXjPh4 Worksheet 9.2 Williams Syndrome
Task Outline	Teachers introduce WS with the Youtube video (link on PPT). Students are given Worksheet 9.2 and complete Exercise 1 while watching the video (True/False statements). Students complete Exercise 2 (analysis of data from a study on language development in children with WS). Students complete Exercises 3 and 4 (comparison of SLI and WS).

Task 9.3 Description: Students are introduced to Broca's and Wernicke's Aphasia

Learning Intentions	Students understand that different human abilities and behaviours can be traced to different parts of the brain (modular structure of the brain). Students are familiar with the symptoms of Broca's and Wernicke's Aphasia.
Resources	PPT slides to introduce the topic of Neurolinguistics. Worksheet 9.3 : Broca's and Wernicke's Aphasia
Task Outline	Teachers present the slides on the PPT. Students watch a short video on Phineas Gage. His case shows that language can be fully functional despite a massive brain lesion. In the following slides, students will learn about two areas of the brain which have specific language functions, Broca's and Wernicke's area. Damage to these regions causes specific language difficulties (grammatical versus semantic). Students complete worksheet 9.3 which has data from patients with Broca's and Wernicke's aphasia. They need to analyse the sentences and decide on the basis of linguistic evidence which type of aphasia they suffer from.

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Extra Resources

Project

Students can research the following topics/questions and do a project:

Phineas Gage

Genie (already mentioned in Topic 6 – Language Acquisition)

Careers in Speech and Language Therapy