

LIN308

COGNITIVE LINGUISTICS



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Course code: LIN 308
Course title: Cognitive Linguistics
Course credit load: 2 Units

Series 1: Foundations of Cognitive Linguistics

Series 2: Core Theoretical Concepts in Cognitive Linguistics

Series 3: Cognitive Schools and Frameworks

Series 4: Tools and Methods in Cognitive Linguistics

Series 5: Applications and Research Practices in Cognitive Linguistics

Proposed Outline Series for 1

Part 1.1: Introduction to cognitive linguistics

- Sub-Part 1.1.1: Historical background and development
- Sub-Part 1.1.2: Cognitive linguistics as an alternative to formal models
- Sub-Part 1.1.3: Scope and relevance of cognitive linguistics

Part 1.2: Basic concepts in cognitive linguistics

- Sub-Part 1.2.1: Categorisation
- Sub-Part 1.2.2: Semantic frames and domains
- Sub-Part 1.2.3: Prototypes and polysemy

Part 1.3: Meaning construction in cognitive linguistics

- Sub-Part 1.3.1: Metaphor theory
- Sub-Part 1.3.2: Metonymy
- Sub-Part 1.3.3: Conceptual blending

Part 1.4: Sense relations in cognitive linguistics

- Sub-Part 1.4.1: Hyponymy
- Sub-Part 1.4.2: Meronymy
- Sub-Part 1.4.3: Antonymy



Introduction

Cognitive linguistics over the past few decades as a powerful model of language alternative to formal. Rather than treating language as an abstract system detached from human experience, cognitive linguistics emphasises how meaning, categorisation, and conceptual structures are grounded in everyday thought and interaction. This Series introduces you to the foundations of the field, preparing you to engage with its theories and methods while appreciating its relevance to the study of language as a human cognitive capacity.

The aim of this Series with a solid grounding is to provide you in the basic concepts and orientation of cognitive linguistics. By the end of the Series, you should be able to define and explain key ideas, recognise their applications, and begin to analyse language using cognitive approaches.

We shall commence this Series by exploring the historical background and development of cognitive linguistics, considering how it arose as an alternative to formal models. Next, we will examine its basic concepts frames, domains, including categorisation, semantic, prototypes, and polysemy. Following that, we will move on to meaning construction, focusing on metaphor, metonymy, and conceptual blending. Finally, we will wrap up by discussing sense relations such as hyponymy, meronymy, and antonymy, thereby rounding off your introduction to the foundations of cognitive linguistics.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 1.1** describe the historical background and development of cognitive linguistics,
- **SLO 1.2** explain how cognitive linguistics functions as an alternative to formal models of language,
- **SLO 1.3** outline the scope and relevance of cognitive linguistics in language study,
- **SLO 1.4** define the concept of categorisation and illustrate its role in cognitive linguistics,
- **SLO 1.5** explain semantic frames and domains as tools for meaning representation,
- **SLO 1.6** describe prototypes and demonstrate how they account for polysemy,
- **SLO 1.7** analyse metaphor theory and its contribution to meaning construction,
- **SLO 1.8** explain metonymy as a cognitive process in language,
- **SLO 1.9** demonstrate how conceptual blending operates in meaning construction,
- **SLO 1.10** define sense relations such as hyponymy, meronymy, and antonymy, and
- **SLO 1.11** evaluate the role of sense relations in cognitive linguistic analysis.



1.1 Introduction To Cognitive Linguistics

1.1.1 Historical background and development

Cognitive linguistics is a branch of linguistics that studies the relationship between language and the human mind. It emerged in the late twentieth century as scholars sought alternatives to formal models of language that treated grammar as an autonomous system. Instead, cognitive linguistics emphasises that language is shaped by general cognitive processes such as categorisation, perception, and memory.

Fill in the blank: Cognitive linguistics emphasises that language is shaped by general _____ processes such as categorisation, perception, and memory.

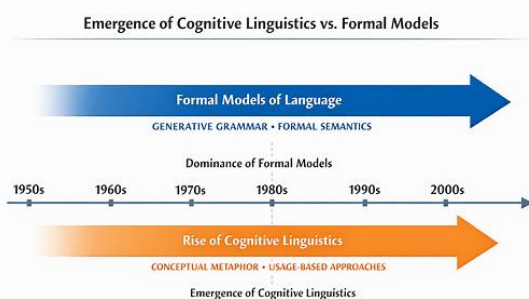


Figure 1.1: Historical development of cognitive linguistics

1.1.2 Cognitive linguistics as an alternative to formal models

Formal models of language, such as generative grammar, often treat language as a self-contained system with rules independent of meaning or usage. In contrast, cognitive linguistics argues that language is inseparable from meaning and human experience. It views grammar not as an abstract set of rules but as a reflection of how humans conceptualise and interact with the world.

Fill in the blank: Formal models of language often treat grammar as a self-contained system independent of _____.

Formal Models vs. Cognitive Linguistics	
Formal Models of Language	Cognitive Linguistics
✓ Grammar is rule-based ✓ Structure is autonomous ✓ Independent of meaning	✓ Grammar is usage-based ✓ Structure is tied to meaning ✓ Linked to human cognition
Late 20th Century Emergence of Cognitive Linguistics	

Box 1.1: Contrast between formal models and cognitive linguistics



1.1.3 Scope and relevance of cognitive linguistics

The scope of cognitive linguistics extends across semantics, grammar, and discourse. It provides tools for analysing how meaning is constructed, how categories are formed, and how conceptual structures influence language use. Its relevance lies in offering insights into everyday communication, language learning, and even artificial intelligence, since it connects linguistic patterns with human cognition.

Fill in the blank: The scope of cognitive linguistics extends across semantics, grammar, and _____.

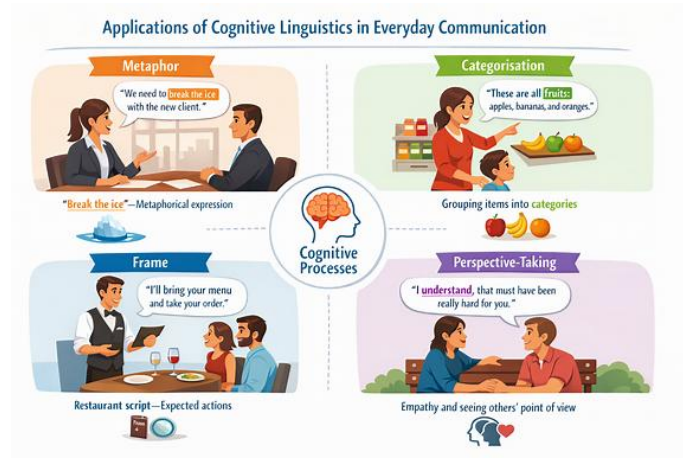


Plate 1.1: Everyday relevance of cognitive linguistics

Pilot questions 1.1

1. What is cognitive linguistics?
2. When did cognitive linguistics emerge as a field?
3. How do formal models of language differ from cognitive linguistics?
4. What is the scope of cognitive linguistics?
5. Why is cognitive linguistics relevant to everyday communication?

1.2 Basic Concepts In Cognitive Linguistics

1.2.1 Categorisation

Categorisation refers to the mental process by which humans group objects, ideas, or experiences into classes based on shared features. In cognitive linguistics, categorisation is central because it explains how language reflects the way we organise knowledge. Categories are not always rigid; they often have fuzzy boundaries, meaning that some members are more typical than others.

Fill in the blank: In cognitive linguistics, categorisation explains how language reflects the way we _____ knowledge.



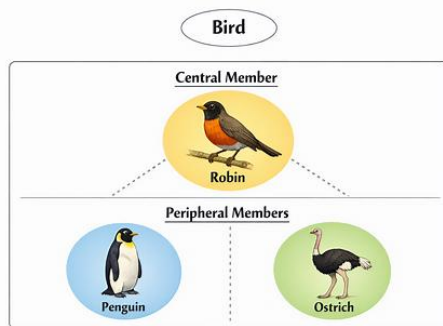
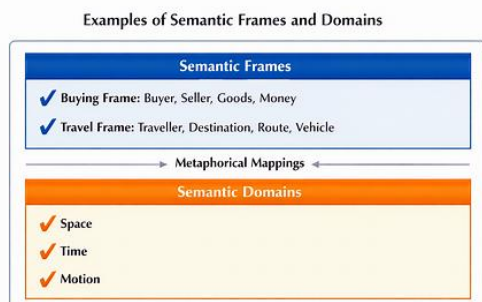


Figure 1.2: Categorisation with central and peripheral members

1.2.2 Semantic frames and domains

A **semantic frame** is a structured representation of knowledge that captures the relationships between concepts in a particular situation. For example, the frame for “buying” includes roles such as buyer, seller, goods, and money. A **domain** refers to the broader conceptual area within which meaning is organised, such as space, time, or motion. Frames and domains help explain how words derive meaning from the contexts in which they are used.

Fill in the blank: The frame for “buying” includes roles such as buyer, seller, goods, and _____.



Box 1.2: Examples of semantic frames and domains

1.2.3 Prototypes and polysemy

A **prototype** is the most typical or representative member of a category. For instance, a robin is often considered a prototype of the category “bird”. Categories are organised around prototypes, with less typical members positioned further away. **Polysemy** refers to the phenomenon where a single word has multiple related meanings. For example, the word “head” can mean the part of the body, the leader of a group, or the top of an object. Cognitive linguistics explains polysemy by showing how meanings radiate from a prototype sense.

Fill in the blank: Polysemy refers to the phenomenon where a single word has multiple _____ meanings.



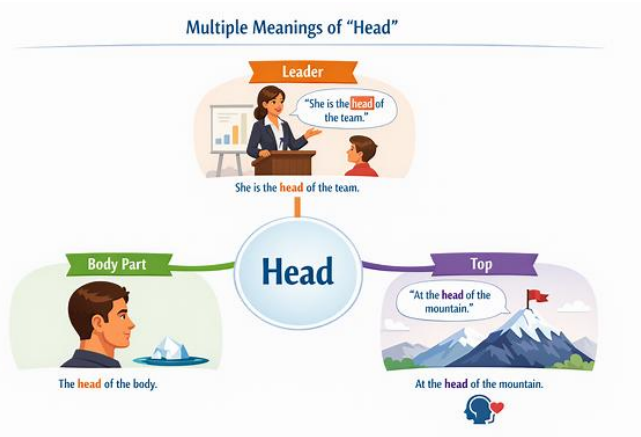


Plate 1.2: Polysemy illustrated through the word "head"

Pilot questions 1.2

1. What is categorisation in cognitive linguistics?
2. Give one example of a semantic frame.
3. What is a domain in cognitive linguistics?
4. What is a prototype, and give one example.
5. Define polysemy with an example.

1.3 Meaning Construction In Cognitive Linguistics

1.3.1 Metaphor theory

Metaphor theory in cognitive linguistics explains how abstract concepts are understood through more concrete experiences. For example, the metaphor "time is money" allows us to conceptualise time in terms of spending, saving, or wasting. Metaphors are not just stylistic devices but fundamental to how humans think and communicate.

Fill in the blank: In cognitive linguistics, metaphors are considered fundamental to how humans _____ and communicate.

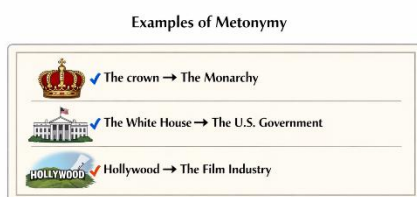


Figure 1.3: Conceptual metaphor mappings

1.3.2 Metonymy

Metonymy is a cognitive process where one concept is used to stand for another that is closely related. For instance, “the crown” can stand for monarchy, and “the White House” can stand for the United States government. Unlike metaphor, which involves mapping across different domains, metonymy operates within the same domain by highlighting a salient feature or part.

Fill in the blank: Metonymy operates within the same _____ by highlighting a salient feature or part.



Box 1.3: Examples of metonymy

1.3.3 Conceptual blending

Conceptual blending refers to the mental process of combining elements from different conceptual domains to create new meaning. For example, the phrase “computer virus” blends the domain of technology with the domain of biology. This blending allows us to understand and communicate novel ideas by merging familiar concepts.

Fill in the blank: The phrase “computer virus” blends the domain of technology with the domain of _____.

Conceptual Blending: “Computer Virus”

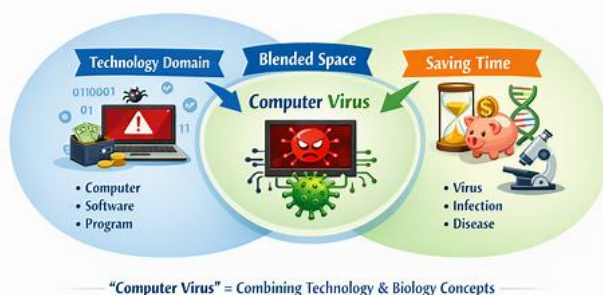


Plate 1.3: Conceptual blending illustrated through ‘computer virus’

Pilot questions 1.3

1. What is metaphor theory in cognitive linguistics?
2. Give one example of a conceptual metaphor.
3. What is metonymy, and how does it differ from metaphor?
4. Provide one example of metonymy.
5. What is conceptual blending, and give one example.

1.4 Sense Relations In Cognitive Linguistics

1.4.1 Hyponymy

Hyponymy is a semantic relation where the meaning of one word is included within the meaning of another. For example, “rose” is a hyponym of “flower” because all roses are flowers, but not all flowers are roses. Hyponymy helps us organise vocabulary into hierarchical structures, making it easier to understand how words relate to broader categories.

Fill in the blank: “Rose” is a hyponym of “flower” because all roses are _____, but not all flowers are roses.

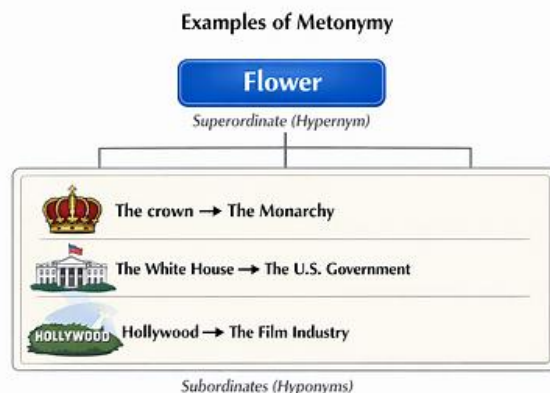


Figure 1.4: Hyponymy hierarchy in vocabulary

1.4.2 Meronymy

Meronymy is a semantic relation where one word denotes a part of something that another word denotes. For instance, “wheel” is a meronym of “car” because a wheel is part of a car. Meronymy highlights part–whole relationships, which are essential for understanding how language reflects the structure of objects and concepts.



Fill in the blank: “Wheel” is a meronym of “car” because a wheel is part of a _____.



Box 1.4: Examples of meronymy

1.4.3 Antonymy

Antonymy is a semantic relation where two words have opposite meanings. For example, “hot” and “cold” are antonyms because they represent contrasting states of temperature. Antonymy can be classified into different types, such as gradable antonyms (hot–cold), complementary antonyms (alive–dead), and relational antonyms (buy–sell). These distinctions show the richness of oppositional meaning in language.

Fill in the blank: “Alive” and “dead” are examples of _____ antonyms.

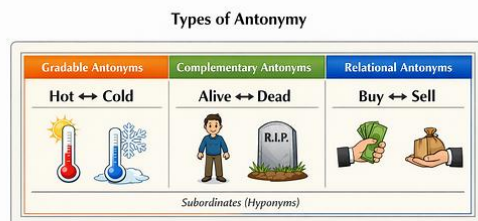


Plate 1.4: Types of antonymy in language

Pilot questions 1.4

1. What is hyponymy, and give one example.
2. What is meronymy, and give one example.
3. Define antonymy with an example.
4. Name one type of antonymy and provide an example.
5. Why are sense relations important in cognitive linguistics?



Series Summary

In this Series, we explored the foundations of cognitive linguistics, setting the stage for deeper engagement with the field. We began by introducing cognitive linguistics, tracing its historical development, and explaining how it emerged as an alternative to formal models of language. This helped establish its scope and relevance in understanding language as a reflection of human cognition.

We then examined basic concepts central to cognitive linguistics, including categorisation, semantic frames, domains, prototypes, and polysemy. These concepts provided insight into how language is organised and how meaning is structured. Following that, we focused on meaning construction, analysing metaphor theory, metonymy, and conceptual blending as processes through which humans create and communicate meaning. Finally, we studied sense relations such as hyponymy, meronymy, and antonymy, which demonstrate how words relate to one another and how oppositional or hierarchical structures shape vocabulary.

By completing this Series, you should now be able to describe the historical background and development of cognitive linguistics (SLO 1.1), explain its role as an alternative to formal models (SLO 1.2), outline its scope and relevance (SLO 1.3), define and explain categorisation, semantic frames, domains, prototypes, and polysemy (SLOs 1.4–1.6), analyse metaphor theory, explain metonymy, and demonstrate conceptual blending (SLOs 1.7–1.9), and finally define and evaluate sense relations such as hyponymy, meronymy, and antonymy (SLOs 1.10–1.11). These outcomes ensure that you have a solid conceptual orientation to cognitive linguistics, preparing you for the more advanced theories and applications in subsequent Series.

Glossary Of Terms [Series 1]

- **Cognitive linguistics:** A branch of linguistics that studies the relationship between language and the human mind, emphasising meaning, categorisation, and conceptual structures.
- **Categorisation:** The mental process of grouping objects, ideas, or experiences into classes based on shared features, often with fuzzy boundaries.
- **Semantic frame:** A structured representation of knowledge that captures the relationships between concepts in a particular situation (e.g., buyer, seller, goods, money in a buying frame).
- **Domain:** A broader conceptual area within which meaning is organised, such as space, time, or motion.
- **Prototype:** The most typical or representative member of a category, around which other less typical members are organised.
- **Polysemy:** The phenomenon where a single word has multiple related meanings (e.g., “head” as body part, leader, or top).
- **Metaphor theory:** The explanation of how abstract concepts are understood through more concrete experiences, such as “time is money”.



- **Metonymy:** A cognitive process where one concept stands for another closely related concept within the same domain (e.g., “the crown” for monarchy).
- **Conceptual blending:** The mental process of combining elements from different conceptual domains to create new meaning (e.g., “computer virus”).
- **Hyponymy:** A semantic relation where the meaning of one word is included within the meaning of another (e.g., rose–flower).
- **Meronymy:** A semantic relation where one word denotes a part of something that another word denotes (e.g., wheel–car).
- **Antonymy:** A semantic relation where two words have opposite meanings, classified into gradable, complementary, or relational types.

Concept Check Questions 1

Objective Questions

1. Cognitive linguistics emerged in the late _____ century as an alternative to formal models. (Linked to SLO 1.1)
2. Formal models of language often treat grammar as independent of _____. (Linked to SLO 1.2)
3. A semantic frame for “buying” includes roles such as buyer, seller, goods, and _____. (Linked to SLO 1.5)
4. A robin is considered a _____ of the category “bird”. (Linked to SLO 1.6)
5. “Wheel” is a _____ of “car” because it denotes a part of the whole. (Linked to SLO 1.10)

Short-Answer Questions

6. Describe the historical background of cognitive linguistics. (Linked to SLO 1.1)
7. Explain how cognitive linguistics differs from formal models of language. (Linked to SLO 1.2)
8. Outline the scope and relevance of cognitive linguistics. (Linked to SLO 1.3)
9. Define categorisation and give one example. (Linked to SLO 1.4)
10. Explain semantic frames and domains with an example. (Linked to SLO 1.5)
11. Describe prototypes and demonstrate how they account for polysemy. (Linked to SLO 1.6)
12. Analyse metaphor theory with one example. (Linked to SLO 1.7)
13. Explain metonymy and provide one example. (Linked to SLO 1.8)
14. Demonstrate conceptual blending with an example. (Linked to SLO 1.9)
15. Define hyponymy and give one example. (Linked to SLO 1.10)



16. Explain meronymy with an example. (Linked to SLO 1.10)
17. Evaluate the role of antonymy in cognitive linguistics. (Linked to SLO 1.11)

Long-Answer Questions

18. Analyse how cognitive linguistics emerged as an alternative to formal models, and explain its relevance to language study. (Linked to SLOs 1.1, 1.2, 1.3)
19. Demonstrate how categorisation, semantic frames, and prototypes contribute to meaning construction in cognitive linguistics. (Linked to SLOs 1.4, 1.5, 1.6)
20. Evaluate the processes of metaphor, metonymy, and conceptual blending in constructing meaning. (Linked to SLOs 1.7, 1.8, 1.9)
21. Discuss the importance of sense relations such as hyponymy, meronymy, and antonymy in cognitive linguistic analysis. (Linked to SLOs 1.10, 1.11)

Answers to Concept Check Questions [Series 1]

Objective Questions

1. Twentieth
2. Meaning
3. Money
4. Prototype
5. Meronym

Short-Answer Questions

6. Cognitive linguistics emerged in the late twentieth century as a response to formal models, emphasising meaning and cognition.
7. Unlike formal models, cognitive linguistics ties grammar to meaning and human experience.
8. Its scope covers semantics, grammar, and discourse, with relevance to communication, language learning, and AI.
9. Categorisation is grouping based on shared features, e.g., “bird” category with robin as typical.
10. Semantic frames structure roles in situations, e.g., buying frame; domains are broader areas like space or time.
11. Prototypes are typical members of categories, e.g., robin as bird; polysemy shows related meanings radiating from a prototype.
12. Metaphor theory explains abstract concepts via concrete ones, e.g., “time is money”.
13. Metonymy uses one concept to stand for another in the same domain, e.g., “the crown” for monarchy.



14. Conceptual blending combines domains, e.g., “computer virus” blends technology and biology.
15. Hyponymy is inclusion, e.g., rose–flower.
16. Meronymy is part–whole, e.g., wheel–car.
17. Antonymy shows oppositional meaning, enriching vocabulary and conceptual contrasts.

Long-Answer Questions

18. **Basic response:** Cognitive linguistics arose as an alternative to formal models, focusing on meaning and cognition. It is relevant because it connects language to human thought and everyday use. **Value-added response:** Beyond this, it challenges traditional grammar models, integrates insights from psychology, and provides frameworks for analysing language learning and AI applications.
19. **Basic response:** Categorisation groups concepts, semantic frames structure roles, and prototypes highlight typical members. Together, they explain how meaning is organised. **Value-added response:** These concepts also show how language reflects cultural models, how polysemy arises, and how context shapes meaning construction dynamically.
20. **Basic response:** Metaphor maps abstract to concrete, metonymy highlights related concepts, and blending merges domains. These processes construct meaning. **Value-added response:** They also reveal creativity in language, explain figurative expressions, and demonstrate how humans innovate communication by merging familiar concepts.
21. **Basic response:** Sense relations like hyponymy, meronymy, and antonymy structure vocabulary and show relationships between words. **Value-added response:** They also provide analytical tools for semantic networks, highlight cultural differences in categorisation, and support computational models of meaning.

Answers to Pilot Questions [Series 1]

Part 1.1: Introduction to cognitive linguistics

1. Cognitive linguistics is a branch of linguistics that studies the relationship between language and the human mind, emphasising meaning, categorisation, and conceptual structures.
2. It emerged in the late twentieth century.
3. Formal models treat grammar as autonomous and independent of meaning, while cognitive linguistics ties grammar to human cognition and usage.
4. Its scope covers semantics, grammar, and discourse.
5. It is relevant because it explains everyday communication, language learning, and even applications in artificial intelligence.

Part 1.2: Basic concepts in cognitive linguistics

1. Categorisation is the mental process of grouping objects, ideas, or experiences into classes based on shared features.
2. An example is the buying frame, which includes buyer, seller, goods, and money.



3. A domain is a broader conceptual area such as space, time, or motion.
4. A prototype is the most typical member of a category, e.g., robin as a prototype of “bird”.
5. Polysemy is when a single word has multiple related meanings, e.g., “head” as body part, leader, or top.

Part 1.3: Meaning construction in cognitive linguistics

1. Metaphor theory explains how abstract concepts are understood through more concrete experiences.
2. An example is “time is money”.
3. Metonymy uses one concept to stand for another closely related concept, while metaphor maps across different domains.
4. An example is “the crown” representing monarchy.
5. Conceptual blending combines elements from different domains, e.g., “computer virus” blending technology and biology.

Part 1.4: Sense relations in cognitive linguistics

1. Hyponymy is a relation where the meaning of one word is included in another, e.g., rose–flower.
2. Meronymy is a relation where one word denotes a part of another, e.g., wheel–car.
3. Antonymy is a relation where two words have opposite meanings, e.g., hot–cold.
4. Gradable antonymy, e.g., hot–cold.
5. Sense relations are important because they structure vocabulary and reveal how words relate to one another in cognitive linguistic analysis.

References and Attributions [Series 1]

This section consolidates references and illustration attributions for **Series 1: Foundations of Cognitive Linguistics: Concepts and Orientation**, presented in APA style.

Scholarly References

- Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. Cambridge: Cambridge University Press.
- Evans, V., & Green, M. (2006). *Cognitive linguistics: An introduction*. Edinburgh: Edinburgh University Press.
- Fillmore, C. J. (1982). *Frame semantics*. In Linguistic Society of Korea (Ed.), *Linguistics in the morning calm* (pp. 111–137). Seoul: Hanshin.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.



- Langacker, R. W. (1987). *Foundations of cognitive grammar: Vol. 1. Theoretical prerequisites*. Stanford: Stanford University Press.

Illustration Attributions

- **Figure 1.1: Historical development of cognitive linguistics** AI-generated suggestion. Prompt: “Create a timeline diagram showing the emergence of cognitive linguistics in the late twentieth century compared to formal models of language.” Suggested OER search string: “history of cognitive linguistics timeline OER”.
- **Box 1.1: Contrast between formal models and cognitive linguistics** AI-generated suggestion. Prompt: “Create a text box listing contrasts between formal models of language and cognitive linguistics.” Suggested OER search string: “formal models vs cognitive linguistics comparison OER”.
- **Plate 1.1: Everyday relevance of cognitive linguistics** AI-generated suggestion. Prompt: “Create an image showing examples of everyday communication with highlighted cognitive processes such as metaphor and categorisation.” Suggested OER search string: “applications of cognitive linguistics everyday communication OER”.
- **Figure 1.2: Categorisation with central and peripheral members** AI-generated suggestion. Prompt: “Create a diagram showing a category with central and peripheral members, such as ‘bird’ with robin as central and penguin as peripheral.” Suggested OER search string: “cognitive linguistics categorisation diagram OER”.
- **Box 1.2: Examples of semantic frames and domains** AI-generated suggestion. Prompt: “Create a text box listing examples of semantic frames (buying, travel) and domains (space, time, motion).” Suggested OER search string: “semantic frames and domains examples OER”.
- **Plate 1.2: Polysemy illustrated through the word ‘head’** AI-generated suggestion. Prompt: “Create an image showing the word ‘head’ with branches to different meanings such as body part, leader, and top.” Suggested OER search string: “polysemy examples cognitive linguistics OER”.
- **Figure 1.3: Conceptual metaphor mappings** AI-generated suggestion. Prompt: “Create a diagram showing the conceptual metaphor ‘time is money’ with mappings like spending time, saving time, wasting time.” Suggested OER search string: “conceptual metaphor time is money diagram OER”.
- **Box 1.3: Examples of metonymy** AI-generated suggestion. Prompt: “Create a text box listing examples of metonymy such as crown for monarchy, White House for government, Hollywood for film industry.” Suggested OER search string: “examples of metonymy cognitive linguistics OER”.
- **Plate 1.3: Conceptual blending illustrated through ‘computer virus’** AI-generated suggestion. Prompt: “Create an image showing conceptual blending of ‘computer virus’ with overlapping domains of technology and biology.” Suggested OER search string: “conceptual blending computer virus example OER”.
- **Figure 1.4: Hyponymy hierarchy in vocabulary** AI-generated suggestion. Prompt: “Create a diagram showing a hierarchy of hyponymy with flower as the superordinate



and rose, tulip, daisy as hyponyms.” Suggested OER search string: “hyponymy hierarchy diagram OER”.

- **Box 1.4: Examples of meronymy** AI-generated suggestion. Prompt: “Create a text box listing examples of meronymy such as wheel-car, chapter-book, finger-hand.” Suggested OER search string: “examples of meronymy cognitive linguistics OER”.
- **Plate 1.4: Types of antonymy in language** AI-generated suggestion. Prompt: “Create an image showing examples of antonymy with categories: gradable (hot–cold), complementary (alive–dead), relational (buy–sell).” Suggested OER search string: “types of antonymy examples OER”.

Course code: LIN 308

Course title: Cognitive Linguistics

Course credit load: 2 Units

Series 1: Foundations of Cognitive Linguistics

Series 2: Core Theoretical Concepts in Cognitive Linguistics

Series 3: Cognitive Schools and Frameworks

Series 4: Tools and Methods in Cognitive Linguistics

Series 5: Applications and Research Practices in Cognitive Linguistics

Proposed Outline Series for 2

Part 2.1: Categorisation and conceptual structures

- Sub-Part 2.1.1: The role of categorisation in cognition
- Sub-Part 2.1.2: Frames, domains, and semantic fields
- Sub-Part 2.1.3: Prototype theory and category organisation

Part 2.2: Meaning and sense relations

- Sub-Part 2.2.1: Polysemy and meaning networks
- Sub-Part 2.2.2: Hyponymy and hierarchical relations
- Sub-Part 2.2.3: Meronymy and part–whole relations
- Sub-Part 2.2.4: Antonymy and oppositional meaning

Part 2.3: Figurative processes in cognition

- Sub-Part 2.3.1: Metaphor theory and conceptual mapping



- Sub-Part 2.3.2: Metonymy as a cognitive shortcut
- Sub-Part 2.3.3: Conceptual blending and creativity in meaning

Part 2.4: Integrative perspectives on cognitive linguistics

- Sub-Part 2.4.1: Linking theoretical concepts to grammar
- Sub-Part 2.4.2: Applications in discourse and communication
- Sub-Part 2.4.3: Evaluating strengths and limitations of core theories

Introduction

In the last Series, we explored the foundations of cognitive linguistics, focusing on its historical development, basic concepts, and sense relations. Having established this orientation, we now turn to the theoretical core that underpins the field. These theories are essential because they explain how language connects with human cognition, providing the frameworks through which meaning, categorisation, and figurative processes can be systematically studied.

The aim of this Series is to equip you with a clear understanding of the central theories and concepts in cognitive linguistics. By engaging with these ideas, you will be able to define, explain, and evaluate the theoretical models that shape the discipline, and apply them to the analysis of language and communication.

We shall commence this Series by examining categorisation and conceptual structures, including frames, domains, and prototype theory. Next, we will explore meaning and sense relations, focusing on polysemy, hyponymy, meronymy, and antonymy. Following that, we will move on to figurative processes in cognition, analysing metaphor theory, metonymy, and conceptual blending. Finally, we will wrap up by considering integrative perspectives, linking these theoretical concepts to grammar, discourse, and communication, and evaluating their strengths and limitations.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 2.1** define categorisation and explain its role in organising conceptual structures,
- **SLO 2.2** describe frames, domains, and semantic fields as tools for meaning representation,
- **SLO 2.3** explain prototype theory and demonstrate how categories are organised around typical members,
- **SLO 2.4** analyse polysemy and illustrate how meaning networks are formed,



- **SLO 2.5** define hyponymy and evaluate its role in hierarchical relations,
- **SLO 2.6** explain meronymy and demonstrate how part–whole relations function in language,
- **SLO 2.7** classify antonymy into gradable, complementary, and relational types,
- **SLO 2.8** analyse metaphor theory and demonstrate how conceptual mapping operates,
- **SLO 2.9** explain metonymy as a cognitive shortcut with examples,
- **SLO 2.10** demonstrate conceptual blending and evaluate its role in creativity and meaning construction,
- **SLO 2.11** apply theoretical concepts to grammar and discourse analysis, and
- **SLO 2.12**

2.1 Categorisation And Conceptual Structures

2.1.1 The role of categorisation in cognition

Categorisation is the mental process by which humans group objects, ideas, or experiences into classes based on shared features. In cognitive linguistics, categorisation is fundamental because it explains how language reflects the way we organise knowledge. Categories are not always rigid; they often have fuzzy boundaries, meaning that some members are more typical than others. For example, a robin is considered a typical bird, while a penguin is less typical.

Fill in the blank: In cognitive linguistics, categorisation explains how language reflects the way we _____ knowledge.

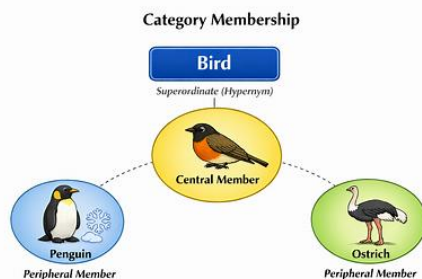


Figure 2.1: Categorisation with central and peripheral members

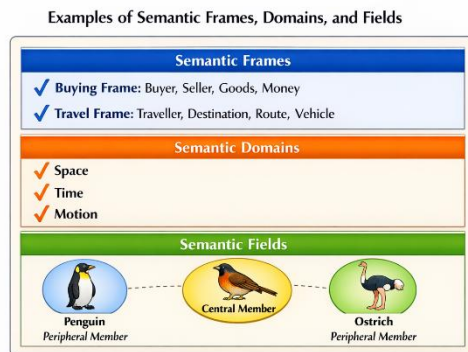
2.1.2 Frames, domains, and semantic fields

A **semantic frame** is a structured representation of knowledge that captures the relationships between concepts in a particular situation. For example, the frame for “buying” includes roles such as buyer, seller, goods, and money. A **domain** refers to the broader conceptual area within which meaning is organised, such as space, time, or motion. A **semantic field** is a set of words



related in meaning, often grouped around a shared concept, such as colours or emotions. These tools help explain how words derive meaning from the contexts in which they are used.

Fill in the blank: The frame for “buying” includes roles such as buyer, seller, goods, and _____.



Box 2.1: Examples of semantic frames, domains, and fields

2.1.3 Prototype theory and category organisation

Prototype theory explains that categories are organised around the most typical or representative member, known as the prototype. For instance, a robin is often considered the prototype of the category “bird”. Other members of the category may be less typical, such as ostriches or penguins, but they are still included. This theory also helps explain **polysemy**, where a single word has multiple related meanings radiating from a prototype sense.

Fill in the blank: A robin is often considered the _____ of the category “bird”.

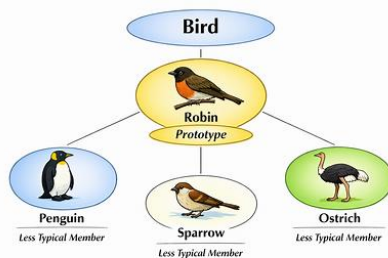


Plate 2.1: Prototype organisation in the category ‘bird’

Pilot questions 2.1

1. What is categorisation in cognitive linguistics?
2. Give one example of a semantic frame.
3. What is a domain, and how does it differ from a semantic field?



4. What is prototype theory, and give one example.
5. How does prototype theory help explain polysemy?

2.2 Meaning And Sense Relations

2.2.1 Polysemy and meaning networks

Polysemy refers to the phenomenon where a single word has multiple related meanings. For example, the word “head” can mean the part of the body, the leader of a group, or the top of an object. In cognitive linguistics, polysemy is explained through meaning networks, where different senses of a word radiate from a prototype meaning. These networks show how language is flexible and how meanings are interconnected.

Fill in the blank: In cognitive linguistics, polysemy is explained through _____ networks, where senses radiate from a prototype meaning.

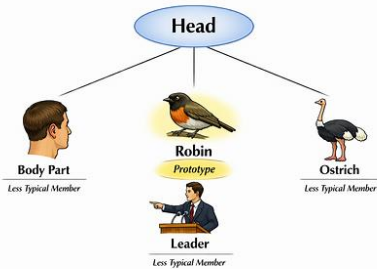


Plate 2.2: Polysemy illustrated through the word “head”

2.2.2 Hyponymy and hierarchical relations

Hyponymy is a semantic relation where the meaning of one word is included within the meaning of another. For example, “rose” is a hyponym of “flower” because all roses are flowers, but not all flowers are roses. Hyponymy helps us organise vocabulary into hierarchical structures, making it easier to understand how words relate to broader categories.

Fill in the blank: “Rose” is a hyponym of “flower” because all roses are _____, but not all flowers are roses.



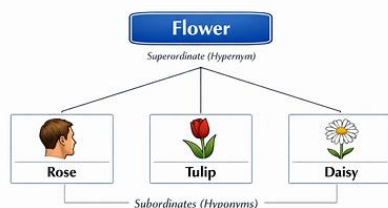
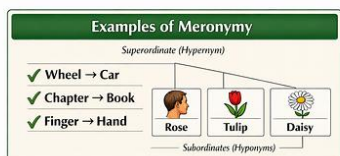


Figure 2.2: Hyponymy hierarchy in vocabulary

2.2.3 Meronymy and part–whole relations

Meronymy is a semantic relation where one word denotes a part of something that another word denotes. For instance, “wheel” is a meronym of “car” because a wheel is part of a car. Meronymy highlights part–whole relationships, which are essential for understanding how language reflects the structure of objects and concepts.

Fill in the blank: “Wheel” is a meronym of “car” because a wheel is part of a _____.



Box 2.2: Examples of meronymy

2.2.4 Antonymy and oppositional meaning

Antonymy is a semantic relation where two words have opposite meanings. For example, “hot” and “cold” are antonyms because they represent contrasting states of temperature. Antonymy can be classified into different types, such as gradable antonyms (hot–cold), complementary antonyms (alive–dead), and relational antonyms (buy–sell). These distinctions show the richness of oppositional meaning in language.

Fill in the blank: “Alive” and “dead” are examples of _____ antonyms.



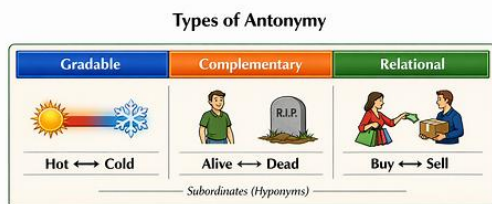


Plate 2.3: Types of antonymy in language

Pilot questions 2.2

1. What is polysemy, and give one example.
2. What is hyponymy, and provide one example.
3. Define meronymy with an example.
4. What is antonymy, and name one type with an example.
5. Why are sense relations important in cognitive linguistics?

2.3 Figurative Processes In Cognition

2.3.1 Metaphor theory and conceptual mapping

Metaphor theory in cognitive linguistics explains how abstract concepts are understood through more concrete experiences. For example, the metaphor “time is money” allows us to conceptualise time in terms of spending, saving, or wasting. Metaphors are not merely stylistic devices but fundamental to how humans think and communicate. They provide conceptual mappings between source domains (concrete experiences) and target domains (abstract ideas).

Fill in the blank: In cognitive linguistics, metaphors are considered fundamental to how humans _____ and communicate.

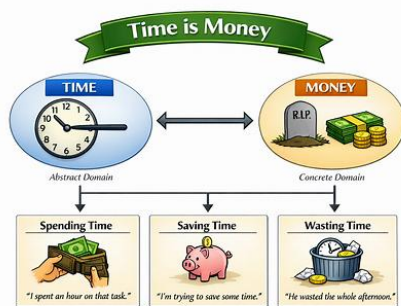


Figure 2.4: Conceptual metaphor mappings

2.3.2 Metonymy as a cognitive shortcut

Metonymy is a cognitive process where one concept is used to stand for another that is closely related. For instance, “the crown” can stand for monarchy, and “the White House” can stand for the United States government. Unlike metaphor, which involves mapping across different domains, metonymy operates within the same domain by highlighting a salient feature or part. It acts as a shortcut in communication, allowing speakers to use a single term to evoke a larger concept.

Fill in the blank: Metonymy operates within the same _____ by highlighting a salient feature or part.

Examples of Metonymy	
✓	“The crown” → The Monarchy
✓	“The White House” → The U.S. Government
✓	“Hollywood” → The American Film Industry

Box 2.3: Examples of metonymy

2.3.3 Conceptual blending and creativity in meaning

Conceptual blending refers to the mental process of combining elements from different conceptual domains to create new meaning. For example, the phrase “computer virus” blends the domain of technology with the domain of biology. This blending allows us to understand and communicate novel ideas by merging familiar concepts. It is a powerful tool for creativity in language, enabling innovation in how ideas are expressed.

Fill in the blank: The phrase “computer virus” blends the domain of technology with the domain of _____.



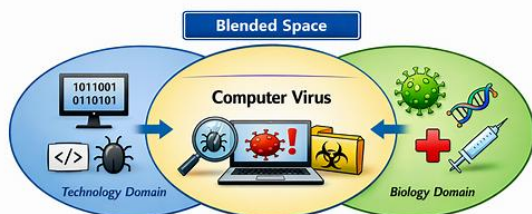


Plate 2.4: Conceptual blending illustrated through 'computer virus'

Pilot questions 2.3

1. What is metaphor theory in cognitive linguistics?
2. Give one example of a conceptual metaphor.
3. What is metonymy, and how does it differ from metaphor?
4. Provide one example of metonymy.
5. What is conceptual blending, and give one example.

2.4 Integrative Perspectives On Cognitive Linguistics

2.4.1 Linking theoretical concepts to grammar

Cognitive linguistics does not treat grammar as a set of abstract rules detached from meaning. Instead, grammar is seen as a reflection of how humans conceptualise and structure experience. For example, constructions such as “She gave him a book” reveal how roles like agent, recipient, and object are mapped in our minds. Grammar is therefore integrally tied to the theoretical concepts of categorisation, frames, and prototypes.

Fill in the blank: In cognitive linguistics, grammar is seen as a reflection of how humans _____ and structure experience.

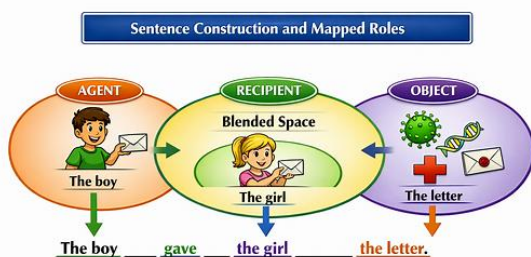


Figure 2.5: Grammar as conceptual mapping of roles

2.4.2 Applications in discourse and communication

The theories of metaphor, metonymy, and conceptual blending are not confined to isolated words or phrases. They extend into discourse, shaping how arguments are framed, how narratives are constructed, and how persuasion operates. For instance, political speeches often rely on metaphors of journeys or battles, while advertising frequently uses blending to create novel associations. These applications show the practical relevance of cognitive linguistics in everyday communication.

Fill in the blank: Political speeches often rely on metaphors of _____ or battles.



Plate 2.5: Figurative processes applied in discourse and communication

2.4.3 Evaluating strengths and limitations of core theories

While cognitive linguistics offers powerful insights into language and cognition, it is important to evaluate its strengths and limitations. Its strengths include its emphasis on meaning, its integration with human cognition, and its applicability to real-world communication. However, limitations exist, such as challenges in formalising theories for computational models and debates about whether all aspects of grammar can be explained through cognition. A balanced evaluation helps learners appreciate both the contributions and the ongoing debates in the field.

Fill in the blank: One limitation of cognitive linguistics is the challenge of formalising theories for _____ models.



Strengths of Cognitive Linguistics	
✓	Emphasis on Meaning ▪ Focus on how language conveys meaning.
✓	Integration with Cognition ▪ Links language to mental processes.
✓	Applicability to Real-World Communication ▪ Applies to everyday language use.
Limitations of Cognitive Linguistics	
⚠	Challenges in Formalisation for Computational Models ▪ Difficult to model in computational systems.
⚠	Debates About Grammar Explanation ▪ Disagreements over grammatical theory.
⚠	Need for Empirical Validation Across Languages ▪ Requires evidence from diverse languages.

Box 2.4: Strengths and limitations of cognitive linguistics **Strengths**

Pilot questions 2.4

1. How does cognitive linguistics link theoretical concepts to grammar?
2. Give one example of figurative processes applied in discourse.
3. What is one strength of cognitive linguistics?
4. What is one limitation of cognitive linguistics?
5. Why is it important to evaluate both strengths and limitations of core theories?

Series Summary

In this Series, we examined the **core theories and concepts in cognitive linguistics**, building upon the foundational orientation established in Series 1. We began by exploring categorisation and conceptual structures, focusing on how categories are organised, how frames and domains shape meaning, and how prototype theory explains typicality and related phenomena.

We then turned to meaning and sense relations, analysing polysemy, hyponymy, meronymy, and antonymy. This provided insight into how words relate to one another, how meaning networks are formed, and how oppositional or hierarchical structures enrich vocabulary. Following that, we studied figurative processes in cognition, including metaphor theory, metonymy, and conceptual blending. These processes revealed how abstract ideas are mapped onto concrete experiences, how shortcuts in meaning operate, and how creativity emerges through blending. Finally, we considered integrative perspectives, linking theoretical concepts to grammar, examining applications in discourse and communication, and evaluating both the strengths and limitations of cognitive linguistics.

By completing this Series, you should now be able to define categorisation and explain its role in conceptual structures (SLO 2.1), describe frames, domains, and semantic fields (SLO 2.2), explain prototype theory (SLO 2.3), analyse polysemy and sense relations (SLOs 2.4–2.7), evaluate figurative processes such as metaphor, metonymy, and blending (SLOs 2.8–2.10), apply theoretical concepts to grammar and discourse (SLO 2.11), and critically evaluate the strengths



and limitations of core theories (SLO 2.12). These outcomes ensure that you have a strong grasp of the theoretical core of cognitive linguistics, preparing you to engage with advanced applications and interdisciplinary connections in subsequent Series.

Glossary Of Terms [Series 2]

- **Categorisation:** The mental process of grouping objects, ideas, or experiences into classes based on shared features, often with fuzzy boundaries.
- **Semantic frame:** A structured representation of knowledge that captures the relationships between concepts in a particular situation, such as buyer, seller, goods, and money in a buying frame.
- **Domain:** A broader conceptual area within which meaning is organised, such as space, time, or motion.
- **Semantic field:** A set of words related in meaning, grouped around a shared concept, such as colours or emotions.
- **Prototype theory:** A theory explaining that categories are organised around the most typical or representative member, known as the prototype.
- **Polysemy:** The phenomenon where a single word has multiple related meanings, often radiating from a prototype sense.
- **Hyponymy:** A semantic relation where the meaning of one word is included within the meaning of another, e.g., rose–flower.
- **Meronymy:** A semantic relation where one word denotes a part of something that another word denotes, e.g., wheel–car.
- **Antonymy:** A semantic relation where two words have opposite meanings, classified into gradable, complementary, or relational types.
- **Metaphor theory:** A framework explaining how abstract concepts are understood through more concrete experiences, e.g., “time is money”.
- **Metonymy:** A cognitive process where one concept stands for another closely related concept within the same domain, e.g., “the crown” for monarchy.
- **Conceptual blending:** The mental process of combining elements from different conceptual domains to create new meaning, e.g., “computer virus”.
- **Grammar as conceptual mapping:** The view in cognitive linguistics that grammar reflects how humans conceptualise and structure experience, rather than being an autonomous set of rules.
- **Discourse applications:** The use of figurative processes such as metaphor, metonymy, and blending in extended communication, including speeches, narratives, and advertising.
- **Strengths of cognitive linguistics:** Emphasis on meaning, integration with cognition, and applicability to real-world communication.



- **Limitations of cognitive linguistics:** Challenges in formalising theories for computational models, debates about grammar explanation, and the need for empirical validation across languages.

Concept Check Questions [Series 2]

Objective Questions

1. Categorisation explains how language reflects the way humans _____ knowledge. (Linked to SLO 2.1)
2. The frame for “buying” includes roles such as buyer, seller, goods, and _____. (Linked to SLO 2.2)
3. A robin is often considered the _____ of the category “bird”. (Linked to SLO 2.3)
4. Polysemy is explained through _____ networks, where senses radiate from a prototype meaning. (Linked to SLO 2.4)
5. “Rose” is a hyponym of “flower” because all roses are _____. (Linked to SLO 2.5)
6. “Wheel” is a _____ of “car” because it denotes a part of the whole. (Linked to SLO 2.6)
7. “Alive” and “dead” are examples of _____ antonyms. (Linked to SLO 2.7)

Short-Answer Questions

8. Define categorisation and explain its role in cognitive linguistics. (Linked to SLO 2.1)
9. Describe frames, domains, and semantic fields with one example each. (Linked to SLO 2.2)
10. Explain prototype theory and give one example. (Linked to SLO 2.3)
11. Analyse polysemy and illustrate how meaning networks are formed. (Linked to SLO 2.4)
12. Define hyponymy and provide one example. (Linked to SLO 2.5)
13. Explain meronymy with one example. (Linked to SLO 2.6)
14. Classify antonymy into its types and provide one example for each. (Linked to SLO 2.7)
15. Analyse metaphor theory and demonstrate how conceptual mapping operates. (Linked to SLO 2.8)
16. Explain metonymy as a cognitive shortcut with one example. (Linked to SLO 2.9)
17. Demonstrate conceptual blending with one example. (Linked to SLO 2.10)
18. Apply theoretical concepts to grammar and discourse analysis. (Linked to SLO 2.11)
19. Evaluate one strength and one limitation of cognitive linguistics. (Linked to SLO 2.12)



Long-Answer Questions

20. Analyse how categorisation, frames, and prototype theory contribute to conceptual structures in cognitive linguistics. (Linked to SLOs 2.1–2.3)
21. Evaluate the role of sense relations (polysemy, hyponymy, meronymy, antonymy) in structuring meaning. (Linked to SLOs 2.4–2.7)
22. Discuss the processes of metaphor, metonymy, and conceptual blending in constructing meaning. (Linked to SLOs 2.8–2.10)
23. Critically evaluate the strengths and limitations of cognitive linguistics, linking them to grammar and discourse applications. (Linked to SLOs 2.11–2.12)

Answers to Concept Check Questions [Series 2]

Objective Questions

1. Organise
2. Money
3. Prototype
4. Meaning
5. Flowers
6. Meronymy
7. Complementary

Short-Answer Questions

8. Categorisation is grouping based on shared features; it shows how language reflects human organisation of knowledge.
9. Frames structure roles in situations (e.g., buying frame), domains are broad conceptual areas (e.g., space), and semantic fields are sets of related words (e.g., colours).
10. Prototype theory explains categories around typical members, e.g., robin as prototype of “bird”.
11. Polysemy forms meaning networks where related senses radiate from a prototype, e.g., “head” as body part, leader, or top.
12. Hyponymy is inclusion, e.g., rose–flower.
13. Meronymy is part–whole, e.g., wheel–car.
14. Gradable antonyms (hot–cold), complementary antonyms (alive–dead), relational antonyms (buy–sell).
15. Metaphor theory maps abstract concepts to concrete ones, e.g., “time is money”.
16. Metonymy uses one concept to stand for another in the same domain, e.g., “the crown” for monarchy.



17. Conceptual blending merges domains, e.g., “computer virus” blends technology and biology.
18. Theoretical concepts apply to grammar by mapping roles (agent, recipient, object) and to discourse through figurative framing.
19. Strength: emphasis on meaning and cognition. Limitation: difficulty in formalising theories for computational models.

Long-Answer Questions

20. **Basic response:** Categorisation groups concepts, frames structure roles, and prototypes highlight typical members. Together, they explain how conceptual structures are organised. **Value-added response:** They also show how cultural models influence categorisation, how semantic fields reflect shared knowledge, and how prototype theory explains variation across languages.
21. **Basic response:** Sense relations structure meaning through inclusion (hyponymy), part-whole (meronymy), opposition (antonymy), and related meanings (polysemy). **Value-added response:** They also provide tools for semantic network analysis, highlight cultural differences in categorisation, and support computational models of meaning.
22. **Basic response:** Metaphor maps abstract to concrete, metonymy highlights related concepts, and blending merges domains. These processes construct meaning. **Value-added response:** They also explain figurative creativity, show how discourse is shaped, and demonstrate how humans innovate communication by merging familiar concepts.
23. **Basic response:** Strengths include emphasis on meaning and cognition, while limitations include challenges in formalisation and grammar debates. **Value-added response:** A deeper evaluation links these strengths to practical applications in discourse and communication, while recognising limitations in computational modelling and cross-linguistic validation.

Answers to Pilot Questions [Series 2]

Part 2.1: Categorisation and conceptual structures

1. Categorisation is the mental process of grouping objects, ideas, or experiences into classes based on shared features.
2. An example of a semantic frame is the buying frame, which includes buyer, seller, goods, and money.
3. A domain is a broader conceptual area such as space or time, while a semantic field is a set of related words grouped around a shared concept, such as colours.
4. Prototype theory explains that categories are organised around typical members, e.g., robin as the prototype of “bird”.
5. Prototype theory helps explain polysemy by showing how related meanings radiate from a prototype sense.

Part 2.2: Meaning and sense relations

1. Polysemy is when a single word has multiple related meanings, e.g., “head” as body part, leader, or top.



2. Hyponymy is a relation of inclusion, e.g., rose–flower.
3. Meronymy is a part–whole relation, e.g., wheel–car.
4. Antonymy is a relation of opposites, e.g., hot–cold as gradable antonyms.
5. Sense relations are important because they structure vocabulary and show how words relate to one another.

Part 2.3: Figurative processes in cognition

1. Metaphor theory explains how abstract concepts are understood through more concrete experiences.
2. An example of a conceptual metaphor is “time is money”.
3. Metonymy is when one concept stands for another closely related concept, while metaphor maps across different domains.
4. An example of metonymy is “the crown” representing monarchy.
5. Conceptual blending is the merging of domains to create new meaning, e.g., “computer virus” blending technology and biology.

Part 2.4: Integrative perspectives on cognitive linguistics

1. Cognitive linguistics links theoretical concepts to grammar by showing how constructions reflect conceptual roles such as agent, recipient, and object.
2. An example of figurative processes in discourse is the use of journey metaphors in political speeches.
3. One strength of cognitive linguistics is its emphasis on meaning and integration with human cognition.
4. One limitation is the challenge of formalising theories for computational models.
5. It is important to evaluate both strengths and limitations to appreciate contributions while recognising ongoing debates in the field.

References and Attributions [Series 2]

This section consolidates references and illustration attributions for **Series 2: Core Theories and Concepts in Cognitive Linguistics**, presented in APA style.

Scholarly References

- Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. Cambridge: Cambridge University Press.
- Evans, V., & Green, M. (2006). *Cognitive linguistics: An introduction*. Edinburgh: Edinburgh University Press.
- Fillmore, C. J. (1982). *Frame semantics*. In Linguistic Society of Korea (Ed.), *Linguistics in the morning calm* (pp. 111–137). Seoul: Hanshin.



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Illustration Attributions

- **Figure 2.1: Categorisation with central and peripheral members** AI-generated suggestion. Prompt: “Create a diagram showing a category with central and peripheral members, such as ‘bird’ with robin as central and penguin as peripheral.” Suggested OER search string: “cognitive linguistics categorisation diagram OER”.
- **Box 2.1: Examples of semantic frames, domains, and fields** AI-generated suggestion. Prompt: “Create a text box listing examples of semantic frames (buying, travel), domains (space, time, motion), and semantic fields (colours, emotions, kinship terms).” Suggested OER search string: “semantic frames domains semantic fields examples OER”.
- **Plate 2.1: Prototype organisation in the category ‘bird’** AI-generated suggestion. Prompt: “Create an image showing the category ‘bird’ with robin as prototype and penguin, ostrich, and sparrow as less typical members.” Suggested OER search string: “prototype theory bird category diagram OER”.
- **Plate 2.2: Polysemy illustrated through the word ‘head’** AI-generated suggestion. Prompt: “Create an image showing the word ‘head’ with branches to different meanings such as body part, leader, and top.” Suggested OER search string: “polysemy examples cognitive linguistics OER”.
- **Figure 2.2: Hyponymy hierarchy in vocabulary** AI-generated suggestion. Prompt: “Create a diagram showing a hierarchy of hyponymy with flower as the superordinate and rose, tulip, daisy as hyponyms.” Suggested OER search string: “hyponymy hierarchy diagram OER”.
- **Box 2.2: Examples of meronymy** AI-generated suggestion. Prompt: “Create a text box listing examples of meronymy such as wheel-car, chapter-book, finger-hand.” Suggested OER search string: “examples of meronymy cognitive linguistics OER”.
- **Plate 2.3: Types of antonymy in language** AI-generated suggestion. Prompt: “Create an image showing examples of antonymy with categories: gradable (hot–cold), complementary (alive–dead), relational (buy–sell).” Suggested OER search string: “types of antonymy examples OER”.
- **Figure 2.4: Conceptual metaphor mappings** AI-generated suggestion. Prompt: “Create a diagram showing the conceptual metaphor ‘time is money’ with mappings like spending time, saving time, wasting time.” Suggested OER search string: “conceptual metaphor time is money diagram OER”.
- **Box 2.3: Examples of metonymy** AI-generated suggestion. Prompt: “Create a text box listing examples of metonymy such as crown for monarchy, White House for government, Hollywood for film industry.” Suggested OER search string: “examples of metonymy cognitive linguistics OER”.



- **Plate 2.4: Conceptual blending illustrated through ‘computer virus’** AI-generated suggestion. Prompt: “Create an image showing conceptual blending of ‘computer virus’ with overlapping domains of technology and biology.” Suggested OER search string: “conceptual blending computer virus example OER”.
- **Figure 2.5: Grammar as conceptual mapping of roles** AI-generated suggestion. Prompt: “Create a diagram showing sentence construction with mapped roles: agent, recipient, object.” Suggested OER search string: “cognitive linguistics grammar conceptual mapping OER”.
- **Plate 2.5: Figurative processes applied in discourse and communication** AI-generated suggestion. Prompt: “Create an image showing examples of figurative processes in discourse, such as journey metaphors in speeches and blending in advertising.” Suggested OER search string: “figurative language in discourse cognitive linguistics OER”.
- **Box 2.4: Strengths and limitations of cognitive linguistics** AI-generated suggestion. Prompt: “Create a text box listing strengths and limitations of cognitive linguistics.” Suggested OER search string: “strengths and limitations of cognitive linguistics OER”.

Course code: LIN 308

Course title: Cognitive Linguistics

Course credit load: 2 Units

Series 1: Foundations of Cognitive Linguistics

Series 2: Core Theoretical Concepts in Cognitive Linguistics

Series 3: Cognitive Schools and Frameworks

Series 4: Tools and Methods in Cognitive Linguistics

Series 5: Applications and Research Practices in Cognitive Linguistics

Proposed Outline Series for 3

Part 3.1: Cognitive grammar

- Sub-Part 3.1.1: Foundations of cognitive grammar
- Sub-Part 3.1.2: Symbolic units and constructions
- Sub-Part 3.1.3: Grammar as meaning

Part 3.2: Construction grammar

- Sub-Part 3.2.1: Principles of construction grammar
- Sub-Part 3.2.2: Constructions as form–meaning pairings



- Sub-Part 3.2.3: Applications in discourse and usage

Part 3.3: Frame semantics and related frameworks

- Sub-Part 3.3.1: Fillmore's frame semantics
- Sub-Part 3.3.2: Frames and encyclopaedic knowledge
- Sub-Part 3.3.3: Applications in lexicon and communication

Part 3.4: Integrative perspectives on cognitive schools

- Sub-Part 3.4.1: Comparing cognitive grammar and construction grammar
- Sub-Part 3.4.2: Linking frameworks to cognitive semantics
- Sub-Part 3.4.3: Evaluating contributions and limitations of cognitive schools

Introduction

In the last Series, we examined the core theories and concepts of cognitive linguistics, focusing on categorisation, sense relations, figurative processes, and integrative perspectives. Having established these theoretical foundations, we now turn to the major schools and frameworks that have shaped the discipline. These schools provide structured approaches to understanding how language reflects cognition, offering models that are widely applied in grammar, discourse, and communication.

The aim of this Series is to introduce you to the principal cognitive schools and frameworks in linguistics, equipping you with the ability to describe their foundations, explain their principles, and evaluate their contributions and limitations.

We shall commence this Series by exploring cognitive grammar, examining its foundations, symbolic units, and the view of grammar as meaning. Next, we will move on to construction grammar, considering its principles, the role of constructions as form–meaning pairings, and applications in discourse. Following that, we will study frame semantics and related frameworks, focusing on Fillmore's contributions, the role of encyclopaedic knowledge, and applications in lexicon and communication. Finally, we will wrap up by comparing these schools, linking them to cognitive semantics, and evaluating their strengths and limitations to bring the Series to a close.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 3.1** define the foundations of cognitive grammar,
- **SLO 3.2** describe symbolic units and constructions in cognitive grammar,



- **SLO 3.3** explain how grammar functions as meaning within cognitive linguistics,
- **SLO 3.4** outline the principles of construction grammar,
- **SLO 3.5** analyse constructions as form–meaning pairings,
- **SLO 3.6** demonstrate applications of construction grammar in discourse and usage,
- **SLO 3.7** explain Fillmore’s frame semantics and its role in meaning representation,
- **SLO 3.8** describe how frames link to encyclopaedic knowledge,
- **SLO 3.9** apply frame semantics to the lexicon and communication,
- **SLO 3.10** compare cognitive grammar and construction grammar,
- **SLO 3.11** link cognitive schools and frameworks to cognitive semantics, and
- **SLO 3.12** evaluate the contributions and limitations of cognitive schools in linguistics.

3.1 Cognitive Grammar

3.1.1 Foundations of cognitive grammar

Cognitive grammar is a framework developed by Ronald Langacker that views grammar not as an autonomous system of rules but as part of our general cognitive abilities. It emphasises that grammar is inherently meaningful and inseparable from semantics. In this view, linguistic structures are symbolic, pairing form with meaning, and they reflect how humans conceptualise experience. Unlike traditional grammar, which often treats syntax as independent from meaning, cognitive grammar insists that meaning is central to all grammatical phenomena.

Fill in the blank: Cognitive grammar views grammar not as an autonomous system of rules but as part of our general _____ abilities.

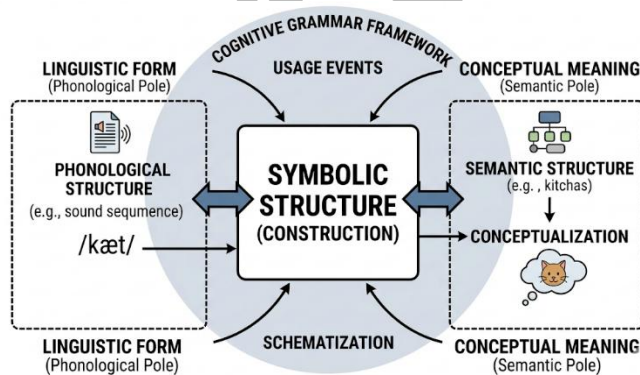


Figure 3.1: Grammar as symbolic pairing of form and meaning

3.1.2 Symbolic units and constructions

In cognitive grammar, **symbolic units** are the basic building blocks of language. A symbolic unit is a pairing of a phonological form (sound or written shape) with a semantic representation



(meaning). For example, the word “tree” is a symbolic unit combining the sound /tri:/ with the concept of a tree. Larger structures, such as phrases and sentences, are called **constructions**, which are also symbolic units but more complex. Constructions show how grammar emerges from meaningful pairings rather than abstract rules.

Fill in the blank: In cognitive grammar, symbolic units are pairings of phonological form with _____ representation.

Level	Phonological Pole (Form)	Semantic Pole (Meaning)
Word	/tri:/	The mental concept of a "tree" (trunk, branches, leaves).
Phrase	/big tri:/	The concept of a tree with the added property of "largeness."
Sentence	/ðə tri: ɪz tɔ:l/	The conceptualization of a specific tree existing in a state of "tallness."

Box 3.1: Examples of symbolic units and constructions

3.1.3 Grammar as meaning

One of the central claims of cognitive grammar is that **grammar is meaning**. This means that grammatical structures are not arbitrary but reflect how speakers conceptualise relationships between entities and events. For example, the difference between “She gave him a book” and “He received a book from her” lies not only in form but in perspective and conceptualisation. Grammar therefore encodes meaning at every level, from word choice to sentence structure.

Fill in the blank: Cognitive grammar claims that grammar is not arbitrary but reflects how speakers _____ relationships between entities and events.

Level	Phonological Pole (Form)	Semantic Pole (Meaning)
Word	/tri:/	The mental concept of a "tree" (trunk, branches, leaves).
Phrase	/big tri:/	The concept of a tree with the added property of "largeness."



Level	Phonological Pole (Form)	Semantic Pole (Meaning)
Sentence	/ðə tri: ɪz tɔ:l/	The conceptualization of a specific tree existing in a state of "tallness."

Plate 3.1: Grammar as meaning through perspective

Pilot questions 3.1

1. What is cognitive grammar, and how does it differ from traditional grammar?
2. Define symbolic units and give one example.
3. What are constructions in cognitive grammar?
4. Explain the claim that grammar is meaning with an example.
5. How does cognitive grammar link form and meaning?

3.2 Construction Grammar

3.2.1 Principles of construction grammar

Construction grammar is a framework that treats all levels of language, from words to complex sentences, as **constructions**. A construction is defined as a conventionalised pairing of form and meaning. This approach challenges the traditional separation between lexicon and syntax, arguing instead that both are part of a continuum of constructions. Construction grammar highlights how speakers rely on stored patterns rather than abstract rules, making language use more flexible and context-sensitive.

Fill in the blank: In construction grammar, a construction is a conventionalised pairing of _____ and meaning.

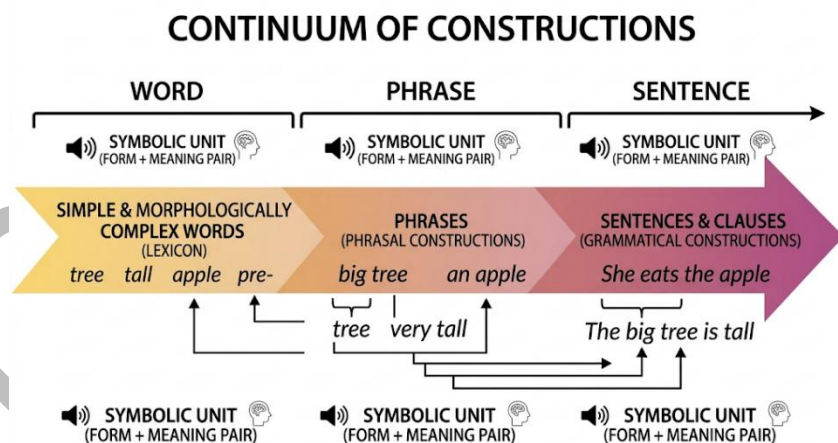


Figure 3.2: Continuum of constructions in construction grammar



3.2.2 Constructions as form–meaning pairings

In construction grammar, constructions are not limited to simple words or phrases. They can include idioms, fixed expressions, and even complex syntactic patterns. For example, the phrase “kick the bucket” is a construction because its meaning (“to die”) cannot be derived from the literal meanings of its parts. Similarly, sentence patterns like “the more...the more...” are constructions that encode specific meanings. This shows how grammar and lexicon are unified under the concept of constructions.

Fill in the blank: The phrase “kick the bucket” is a construction because its meaning cannot be derived from the literal meanings of its _____.

Construction Type	Form (Phonology/Syntax)	Meaning (Semantics/Function)
Word	/dɒg/	The mental concept of a canine animal.
Idiom	"Kick the bucket"	A non-compositional meaning: "To die."
Abstract Pattern	"The [Comparative], the [Comparative]"	A correlative relationship (e.g., "The more, the merrier").
Morphological	[Noun] + "-s"	The concept of plurality (more than one).

Box 3.2: Examples of constructions as form–meaning pairings

3.2.3 Applications in discourse and usage

Construction grammar is particularly useful in explaining how language is used in real communication. Constructions often carry pragmatic functions, shaping how speakers express stance, politeness, or emphasis. For instance, the construction “What’s X doing Y?” (e.g., “What’s this cat doing on the table?”) conveys surprise or disapproval beyond its literal meaning. By focusing on constructions, linguists can analyse how grammar interacts with discourse and how speakers creatively adapt patterns to new contexts.

Fill in the blank: The construction “What’s X doing Y?” conveys _____ or disapproval beyond its literal meaning.



DISCOURSE CONSTRUCTIONS IN EVERYDAY CONVERSATION: CONSTRUCTION GRAMMAR EXAMPLES

THE "WHAT'S X DOING Y?" CONSTRUCTION



FORM: SYNTAX/PHONOLOGY What's X doing Y?

MEANING: PRAGMATICS/FUNCTION that pizza on the lamp

EXAMPLES: What's she doing with his phone?
What are those shoes doing here?

THE INCRECUDILITY CONSTRUCTION



FUNCTION: EXPRESSING SURPRISE

THE RESUMPTIVE "SO" CONSTRUCTION

FORM: SYNTAX/PHONOLOGY (A) Anyway, that's what happened.

MEANING: PRAGMATICS (B) So, are we still going?

FUNCTION: RE-FOCUSING

Plate 3.2: Discourse functions of constructions

Pilot questions 3.2

1. What is construction grammar, and how does it differ from traditional grammar?
2. Define a construction and give one example.
3. Why is "kick the bucket" considered a construction?
4. Provide one example of a sentence pattern that functions as a construction.
5. How does construction grammar explain discourse functions?

3.3 Frame Semantics And Related Frameworks

3.3.1 Fillmore's frame semantics

Frame semantics is a theory developed by Charles Fillmore that explains how words evoke entire conceptual structures, called **frames**. A frame is a mental representation of a situation, including its participants and relationships. For example, the word "buy" evokes a commercial transaction frame, which involves a buyer, a seller, goods, and money. This approach highlights that meaning is not isolated but depends on the broader conceptual structures activated by words.

Fill in the blank: The word "buy" evokes a commercial transaction frame involving a buyer, seller, goods, and _____.



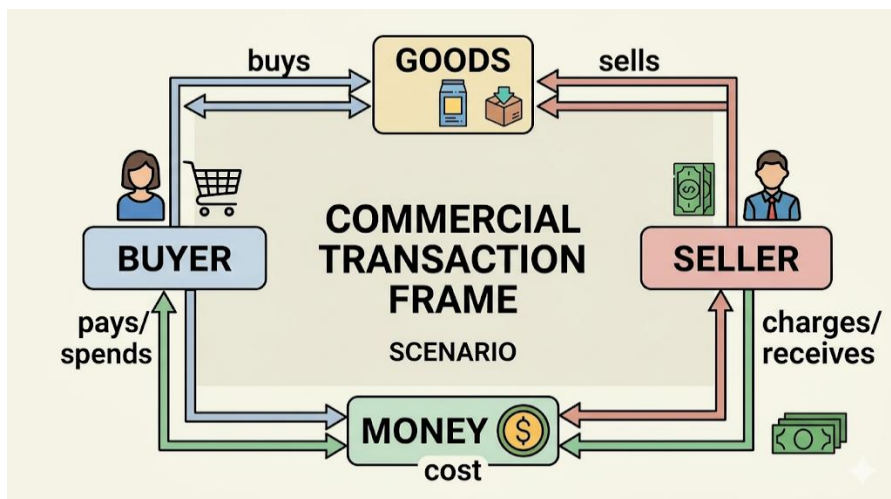


Figure 3.3: Fillmore's commercial transaction frame

3.3.2 Frames and encyclopaedic knowledge

Frames are closely linked to **encyclopaedic knowledge**, which refers to the vast network of information humans use to interpret meaning. When we encounter a word, we do not only access its dictionary definition but also a rich background of cultural, social, and experiential knowledge. For instance, the word “hospital” evokes not only the building but also doctors, patients, treatments, and social practices. Frames therefore connect linguistic meaning to broader human experience.

Fill in the blank: The word “hospital” evokes not only the building but also doctors, patients, treatments, and social _____.

Core Concept (Word)	Frame Elements (Participants & Objects)	Script / Social Practices (Associated Activities)
School	Teachers, students, classrooms, textbooks, principal.	Attending lessons, grading, homework, graduation ceremonies.
Restaurant	Waiters, chefs, menus, tables, bill/check, patrons.	Being seated, ordering, eating, paying, tipping.
Hospital	Doctors, nurses, patients, beds, surgical tools.	Diagnosis, admission, medical treatment, recovery.

Box 3.3: Examples of frames linked to encyclopaedic knowledge



3.3.3 Applications in lexicon and communication

Frame semantics has wide applications in the study of the **lexicon** and communication. Lexical meaning is best understood in terms of the frames words evoke, which helps explain polysemy and contextual variation. For example, the word “bank” can evoke a financial institution frame or a riverbank frame, depending on context. In communication, frames are powerful tools for persuasion, as they shape how issues are conceptualised. Political discourse often relies on framing to highlight certain perspectives while downplaying others.

Fill in the blank: The word “bank” can evoke either a financial institution frame or a _____ frame, depending on context.

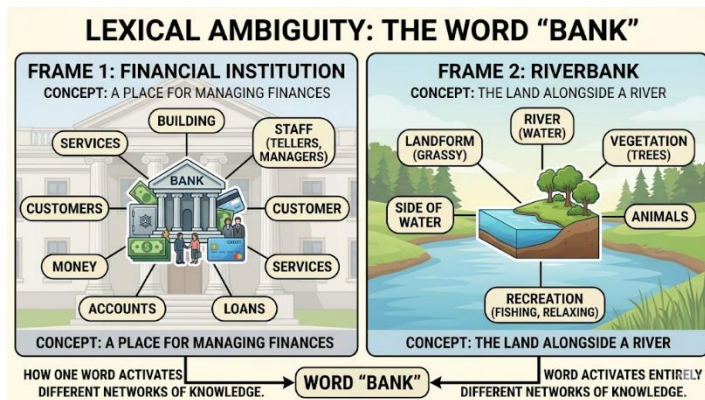


Plate 3.3: Lexical variation through frames

Pilot questions 3.3

1. What is frame semantics, and who developed it?
2. Give one example of a frame and its roles.
3. How are frames linked to encyclopaedic knowledge?
4. Provide one example of a word that evokes multiple frames.
5. Why are frames important in communication and persuasion?

3.4 Integrative Perspectives On Cognitive Schools

3.4.1 Comparing cognitive grammar and construction grammar

Cognitive grammar and construction grammar share the view that grammar is meaningful and inseparable from semantics, but they differ in emphasis. **Cognitive grammar** focuses on symbolic units and the conceptualisation of experience, while **construction grammar** highlights constructions as conventionalised form–meaning pairings across all levels of language. Comparing the two helps us see how they complement each other: cognitive grammar explains the cognitive basis of grammar, while construction grammar provides a framework for analysing patterns in usage.

Fill in the blank: Cognitive grammar focuses on symbolic units, while construction grammar highlights _____ as conventionalised form–meaning pairings.



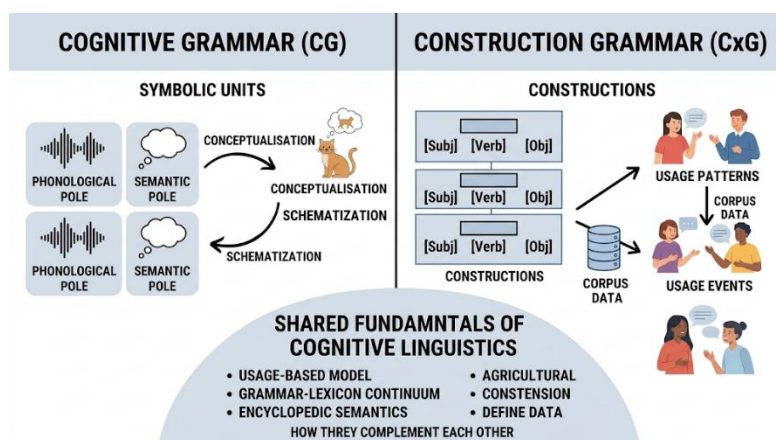


Figure 3.4: Comparison of cognitive grammar and construction grammar

3.4.2 Linking frameworks to cognitive semantics

Both frameworks are closely connected to **cognitive semantics**, which studies how meaning is structured and represented in the mind. Cognitive grammar contributes by showing how grammatical structures encode meaning, while construction grammar demonstrates how constructions function as meaning-bearing units. Together, they reinforce the idea that language is not autonomous but deeply tied to human cognition. Linking these frameworks to cognitive semantics allows us to see language as a system of conceptual tools for organising and communicating experience.

Fill in the blank: Linking frameworks to cognitive semantics allows us to see language as a system of conceptual tools for _____ and communicating experience.

Field	Primary Perspective	Core Contribution
Cognitive Semantics	Language as Conceptualization	Focuses on how we use metaphor, image schemas, and frames to organize experience and thought.
Cognitive Grammar	Grammar as Meaning	Argues that grammar is not a set of formal rules, but a collection of symbolic units (form-meaning pairs) that allow us to "view" a scene in different ways.
Construction Grammar	Constructions as Units	Posits that the entire language is a network of constructions—patterns of varying complexity and abstraction that carry their own inherent meaning.

Box 3.4: Links between frameworks and cognitive semantics



3.4.3 Evaluating contributions and limitations of cognitive schools

Each cognitive school offers valuable insights but also faces limitations. Cognitive grammar contributes a strong emphasis on meaning and conceptualisation, yet it can be difficult to formalise for computational models. Construction grammar provides a flexible framework for analysing usage patterns, but some critics argue it lacks precision in distinguishing constructions. Frame semantics enriches our understanding of lexical meaning, though it requires extensive encyclopaedic knowledge that can be challenging to model. Evaluating these contributions and limitations helps learners appreciate the strengths of cognitive schools while recognising areas for further development.

Fill in the blank: One limitation of frame semantics is that it requires extensive _____ knowledge that can be challenging to model.

STRENGTHS & LIMITATIONS OF COGNITIVE SCHOOLS		
COGNITIVE GRAMMAR (CG)	CONSTRUCTION GRAMMAR (CxG)	FRAME SEMANTICS (FS)
 STRENGTHS • Explicitly links form to meaning (symbolic units) • Uses general cognitive processes (e.g., categorisation, schematization) • Explains grammatical metaphors	 STRENGTHS • Unifies core & periphery (idioms, general rules) • Based on actual usage (usage-based model) • Explains language acquisition patterns	 STRENGTHS • Links words to encyclopedic knowledge • Crucial for lexical ambiguity • Facilitates machine translation & knowledge bases (e.g., FrameNet)
 LIMITATIONS • Highly complex and abstract • Difficult to verify and quantify conceptualizations • Can feel disconnected from real-world usage	 LIMITATIONS • Defining boundaries of a construction • May over-emphasize storage over computation • Large number of constructions can be overwhelming	 LIMITATIONS • Creating consistent, universal frames is difficult • Annotating large corpora is labor-intensive • Does not inherently explain grammatical structure

Plate 3.4: Contributions and limitations of cognitive schools

Pilot questions 3.4

1. How do cognitive grammar and construction grammar differ in emphasis?
2. What is the link between these frameworks and cognitive semantics?
3. Give one contribution of cognitive grammar.
4. Give one limitation of construction grammar.
5. Why is it important to evaluate both contributions and limitations of cognitive schools?

Series Summary

In this Series, we explored the major **cognitive schools and frameworks** that shape the study of language within cognitive linguistics. Building on the theoretical foundations from Series 2, we examined how grammar, constructions, and frames are understood as meaningful, symbolic, and deeply tied to human cognition.

We began with **cognitive grammar**, focusing on its foundations, symbolic units, and the claim that grammar itself encodes meaning. This provided a basis for understanding grammar as a



reflection of conceptualisation rather than an autonomous set of rules. We then moved to **construction grammar**, where we studied principles, constructions as form–meaning pairings, and their applications in discourse and usage. Following that, we explored **frame semantics and related frameworks**, considering Fillmore’s contributions, the role of encyclopaedic knowledge, and applications in lexicon and communication. Finally, we concluded with **integrative perspectives**, comparing cognitive grammar and construction grammar, linking them to cognitive semantics, and evaluating the contributions and limitations of these schools.

By completing this Series, you should now be able to define the foundations of cognitive grammar (SLO 3.1), describe symbolic units and constructions (SLO 3.2), explain grammar as meaning (SLO 3.3), outline principles of construction grammar (SLO 3.4), analyse constructions as form–meaning pairings (SLO 3.5), demonstrate applications in discourse (SLO 3.6), explain Fillmore’s frame semantics (SLO 3.7), describe frames and encyclopaedic knowledge (SLO 3.8), apply frame semantics to lexicon and communication (SLO 3.9), compare cognitive grammar and construction grammar (SLO 3.10), link frameworks to cognitive semantics (SLO 3.11), and evaluate contributions and limitations of cognitive schools (SLO 3.12). These outcomes ensure that you have a comprehensive grasp of the frameworks underpinning cognitive linguistics, preparing you to engage with advanced applications and interdisciplinary perspectives in subsequent Series.

Glossary Of Terms [Series 3]

- **Cognitive grammar:** A framework developed by Ronald Langacker that views grammar as part of general cognitive abilities, emphasising that grammar is inherently meaningful and inseparable from semantics.
- **Symbolic unit:** The basic building block of language in cognitive grammar, defined as a pairing of phonological form (sound or written shape) with semantic representation (meaning).
- **Construction:** In both cognitive and construction grammar, a conventionalised form–meaning pairing, ranging from words to complex sentence patterns.
- **Construction grammar:** A framework that treats all levels of language as constructions, challenging the traditional separation between lexicon and syntax.
- **Idiom construction:** A fixed expression whose meaning cannot be derived from the literal meanings of its parts, e.g., “kick the bucket”.
- **Discourse construction:** A construction that carries pragmatic functions in communication, e.g., “What’s X doing Y?” expressing surprise or disapproval.
- **Frame semantics:** A theory developed by Charles Fillmore that explains how words evoke conceptual structures called frames, which represent situations with participants and relationships.
- **Frame:** A mental representation of a situation, including roles and relationships, e.g., the commercial transaction frame with buyer, seller, goods, and money.



- **Encyclopaedic knowledge:** The background of cultural, social, and experiential information linked to frames, which enriches word meaning beyond dictionary definitions.
- **Lexicon:** The vocabulary of a language, understood in frame semantics as a system of words that evoke frames.
- **Polysemy in frames:** The phenomenon where a word evokes multiple frames depending on context, e.g., “bank” as financial institution or riverbank.
- **Cognitive semantics:** The study of how meaning is structured and represented in the mind, closely linked to cognitive grammar and construction grammar.
- **Integrative perspectives:** Comparative approaches that link cognitive grammar, construction grammar, and frame semantics to cognitive semantics, evaluating their contributions and limitations.

Concept Check Questions [Series 3]

Objective Questions

1. Cognitive grammar views grammar as part of general _____ abilities. (Linked to SLO 3.1)
2. A symbolic unit is a pairing of phonological form with _____ representation. (Linked to SLO 3.2)
3. Construction grammar treats all levels of language as _____. (Linked to SLO 3.4)
4. The idiom “kick the bucket” is a construction because its meaning cannot be derived from the literal meanings of its _____. (Linked to SLO 3.5)
5. The word “buy” evokes a commercial transaction frame involving buyer, seller, goods, and _____. (Linked to SLO 3.7)
6. The word “hospital” evokes not only the building but also doctors, patients, treatments, and social _____. (Linked to SLO 3.8)
7. The word “bank” can evoke either a financial institution frame or a _____ frame. (Linked to SLO 3.9)

Short-Answer Questions

8. Define cognitive grammar and explain how it differs from traditional grammar. (Linked to SLO 3.1)
9. Describe symbolic units with one example. (Linked to SLO 3.2)
10. Explain the claim that grammar is meaning with an example. (Linked to SLO 3.3)
11. Outline the principles of construction grammar. (Linked to SLO 3.4)
12. Analyse why idioms such as “kick the bucket” are considered constructions. (Linked to SLO 3.5)



13. Demonstrate one example of a discourse construction and explain its function. (Linked to SLO 3.6)
14. Explain Fillmore's frame semantics with one example. (Linked to SLO 3.7)
15. Describe how frames are linked to encyclopaedic knowledge. (Linked to SLO 3.8)
16. Apply frame semantics to explain lexical variation in the word "bank". (Linked to SLO 3.9)
17. Compare cognitive grammar and construction grammar in terms of emphasis. (Linked to SLO 3.10)
18. Link cognitive grammar and construction grammar to cognitive semantics. (Linked to SLO 3.11)
19. Evaluate one contribution and one limitation of cognitive schools. (Linked to SLO 3.12)

Long-Answer Questions

20. Analyse the foundations of cognitive grammar, focusing on symbolic units and the claim that grammar is meaning. (Linked to SLOs 3.1–3.3)
21. Evaluate construction grammar by discussing its principles, examples of constructions, and applications in discourse. (Linked to SLOs 3.4–3.6)
22. Discuss frame semantics, linking Fillmore's theory to encyclopaedic knowledge and applications in lexicon and communication. (Linked to SLOs 3.7–3.9)
23. Critically compare cognitive grammar and construction grammar, and evaluate their contributions and limitations within cognitive linguistics. (Linked to SLOs 3.10–3.12)

Answers to Concept Check Questions [Series 3]

Objective Questions

1. Cognitive abilities
2. Semantic representation
3. Constructions
4. Parts
5. Money
6. Practices
7. Riverbank

Short-Answer Questions

8. Cognitive grammar is a framework that views grammar as part of general cognition, differing from traditional grammar by emphasising meaning rather than autonomous rules.
9. A symbolic unit is a pairing of form and meaning, e.g., "tree" as /tri:/ + concept of tree.



10. Grammar encodes meaning, e.g., “She gave him a book” vs. “He received a book from her” reflects different perspectives.
11. Construction grammar treats all language as constructions, unifying lexicon and syntax.
12. Idioms are constructions because their meanings cannot be derived from literal parts, e.g., “kick the bucket” means “to die”.
13. Example: “What’s X doing Y?” conveys surprise or disapproval beyond literal meaning.
14. Frame semantics explains meaning through frames, e.g., “buy” evokes a commercial transaction frame.
15. Frames link to encyclopaedic knowledge, e.g., “hospital” evokes doctors, patients, treatments, and practices.
16. “Bank” can evoke financial institution or riverbank depending on context.
17. Cognitive grammar emphasises symbolic units and conceptualisation, while construction grammar emphasises constructions as form–meaning pairings.
18. Both frameworks link to cognitive semantics by showing language as conceptual organisation.
19. Contribution: emphasis on meaning. Limitation: difficulty in formalising for computational models.

Long-Answer Questions

20. **Basic response:** Cognitive grammar emphasises symbolic units and claims grammar encodes meaning, showing grammar as part of cognition. **Value-added response:** It also highlights how cultural models influence conceptualisation and how grammar reflects perspective-taking in communication.
21. **Basic response:** Construction grammar treats language as constructions, including idioms and patterns, with applications in discourse. **Value-added response:** It also explains creativity in language use, pragmatic functions, and challenges the lexicon–syntax divide.
22. **Basic response:** Frame semantics shows how words evoke frames, linked to encyclopaedic knowledge, with applications in lexicon and communication. **Value-added response:** It also explains polysemy, contextual variation, and the persuasive power of framing in political and social discourse.
23. **Basic response:** Cognitive grammar focuses on symbolic units, construction grammar on constructions, both emphasising meaning. Contributions include insights into grammar and discourse; limitations include challenges in formalisation. **Value-added response:** A deeper comparison shows how they complement each other, with cognitive grammar explaining conceptualisation and construction grammar explaining usage patterns, while recognising limitations in precision and computational modelling.



Answers to Pilot Questions [Series 3]

Part 3.1: Cognitive grammar

1. Cognitive grammar is a framework that views grammar as part of general cognitive abilities, differing from traditional grammar by emphasising meaning rather than autonomous rules.
2. Symbolic units are pairings of phonological form with semantic representation, e.g., “tree” as /tri:/ + concept of tree.
3. Constructions are larger symbolic units such as phrases or sentences, e.g., “big tree” or “The tree is tall”.
4. Grammar is meaning because structures encode conceptual perspectives, e.g., “She gave him a book” vs. “He received a book from her”.
5. Cognitive grammar links form and meaning through symbolic pairings at all levels of language.

Part 3.2: Construction grammar

1. Construction grammar is a framework that treats all levels of language as constructions, unifying lexicon and syntax.
2. A construction is a conventionalised form–meaning pairing, e.g., the word “dog” or the idiom “kick the bucket”.
3. “Kick the bucket” is considered a construction because its meaning (“to die”) cannot be derived from the literal meanings of its parts.
4. An example of a sentence pattern construction is “the more...the more...”, which encodes correlation.
5. Construction grammar explains discourse functions by showing how constructions convey pragmatic meanings, e.g., “What’s X doing Y?” expresses surprise or disapproval.

Part 3.3: Frame semantics and related frameworks

1. Frame semantics is a theory developed by Charles Fillmore that explains how words evoke conceptual structures called frames.
2. An example is the commercial transaction frame, which includes buyer, seller, goods, and money.
3. Frames are linked to encyclopaedic knowledge because they evoke cultural, social, and experiential information beyond dictionary definitions.
4. The word “bank” evokes multiple frames, such as financial institution and riverbank.
5. Frames are important in communication and persuasion because they shape how issues are conceptualised and interpreted.



Part 3.4: Integrative perspectives on cognitive schools

1. Cognitive grammar focuses on symbolic units and conceptualisation, while construction grammar highlights constructions as conventionalised form–meaning pairings.
2. Both frameworks link to cognitive semantics by showing language as conceptual organisation and meaning-bearing structures.
3. One contribution of cognitive grammar is its emphasis on meaning and conceptualisation.
4. One limitation of construction grammar is the lack of precision in distinguishing constructions.
5. Evaluating contributions and limitations is important to appreciate strengths while recognising areas for further development in cognitive linguistics.

References and Attributions [Series 3]

This section consolidates references and illustration attributions for **Series 3: Cognitive Schools and Frameworks**, presented in APA style.

Scholarly References

- Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. Cambridge: Cambridge University Press.
- Evans, V., & Green, M. (2006). *Cognitive linguistics: An introduction*. Edinburgh: Edinburgh University Press.
- Fillmore, C. J. (1982). *Frame semantics*. In Linguistic Society of Korea (Ed.), *Linguistics in the morning calm* (pp. 111–137). Seoul: Hanshin.
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Illustration Attributions

- **Figure 3.1: Grammar as symbolic pairing of form and meaning** AI-generated suggestion. Prompt: “Create a diagram showing the relationship between form and meaning in cognitive grammar, with arrows linking linguistic form to conceptual meaning.” Suggested OER search string: “cognitive grammar form meaning diagram OER”.
- **Box 3.1: Examples of symbolic units and constructions** AI-generated suggestion. Prompt: “Create a text box listing examples of symbolic units and constructions, such as word ‘tree’, phrase ‘big tree’, sentence ‘The tree is tall’.” Suggested OER search string: “symbolic units constructions cognitive grammar examples OER”.
- **Plate 3.1: Grammar as meaning through perspective** AI-generated suggestion. Prompt: “Create an image showing two sentences (‘She gave him a book’ vs. ‘He



received a book from her') with arrows highlighting different perspectives." Suggested OER search string: "grammar as meaning cognitive linguistics examples OER".

- **Figure 3.2: Continuum of constructions in construction grammar** AI-generated suggestion. Prompt: "Create a diagram showing the continuum of constructions from words to phrases to sentences in construction grammar." Suggested OER search string: "construction grammar continuum diagram OER".
- **Box 3.2: Examples of constructions as form–meaning pairings** AI-generated suggestion. Prompt: "Create a text box listing examples of constructions as form–meaning pairings, including words, idioms, and sentence patterns." Suggested OER search string: "examples of constructions form meaning pairings OER".
- **Plate 3.2: Discourse functions of constructions** AI-generated suggestion. Prompt: "Create an image showing examples of discourse constructions, such as 'What's X doing Y?' used in everyday conversation." Suggested OER search string: "construction grammar discourse examples OER".
- **Figure 3.3: Fillmore's commercial transaction frame** AI-generated suggestion. Prompt: "Create a diagram showing the commercial transaction frame with roles: buyer, seller, goods, money." Suggested OER search string: "Fillmore frame semantics diagram OER".
- **Box 3.3: Examples of frames linked to encyclopaedic knowledge** AI-generated suggestion. Prompt: "Create a text box listing examples of frames linked to encyclopaedic knowledge, such as school, restaurant, hospital." Suggested OER search string: "encyclopaedic knowledge frame semantics examples OER".
- **Plate 3.3: Lexical variation through frames** AI-generated suggestion. Prompt: "Create an image showing two frames for the word 'bank': financial institution vs. riverbank." Suggested OER search string: "frame semantics bank financial institution riverbank OER".
- **Figure 3.4: Comparison of cognitive grammar and construction grammar** AI-generated suggestion. Prompt: "Create a diagram comparing cognitive grammar (symbolic units, conceptualisation) and construction grammar (constructions, usage patterns)." Suggested OER search string: "cognitive grammar vs construction grammar comparison diagram OER".
- **Box 3.4: Links between frameworks and cognitive semantics** AI-generated suggestion. Prompt: "Create a text box listing links between cognitive grammar, construction grammar, and cognitive semantics." Suggested OER search string: "cognitive grammar construction grammar cognitive semantics links OER".
- **Plate 3.4: Contributions and limitations of cognitive schools** AI-generated suggestion. Prompt: "Create an image showing strengths and limitations of cognitive grammar, construction grammar, and frame semantics." Suggested OER search string: "strengths and limitations cognitive grammar construction grammar frame semantics OER".



Course code: LIN 308
Course title: Cognitive Linguistics
Course credit load: 2 Units

Series 1: Foundations of Cognitive Linguistics

Series 2: Core Theoretical Concepts in Cognitive Linguistics

Series 3: Cognitive Schools and Frameworks

Series 4: Tools and Methods in Cognitive Linguistics

Series 5: Applications and Research Practices in Cognitive Linguistics

Proposed Outline Series for 4

Part 4.1: Corpus-based methods in cognitive linguistics

- Sub-Part 4.1.1: Introduction to corpus linguistics
- Sub-Part 4.1.2: Using corpora to study meaning and usage
- Sub-Part 4.1.3: Case studies of corpus-based cognitive linguistic research

Part 4.2: Experimental and psycholinguistic methods

- Sub-Part 4.2.1: Designing experiments in cognitive linguistics
- Sub-Part 4.2.2: Methods for studying language processing
- Sub-Part 4.2.3: Applications of psycholinguistic evidence

Part 4.3: Computational and modelling approaches

- Sub-Part 4.3.1: Computational tools for cognitive linguistics
- Sub-Part 4.3.2: Conceptual modelling and simulations
- Sub-Part 4.3.3: Challenges and opportunities in computational approaches

Part 4.4: Integrative methodological perspectives

- Sub-Part 4.4.1: Combining corpus, experimental, and computational methods
- Sub-Part 4.4.2: Evaluating strengths and limitations of methodological approaches
- Sub-Part 4.4.3: Future directions in cognitive linguistic methodology



Introduction

In the last Series, we explored the major schools and frameworks of cognitive linguistics, including cognitive grammar, construction grammar, and frame semantics. Having understood these theoretical perspectives, it is now important to consider the practical tools and methods that allow researchers to investigate language in real-world contexts. This Series will equip you with methodological approaches that make cognitive linguistics not just theoretical but also empirical and applicable.

The aim of this Series is to introduce you to the analytical tools and methodological approaches used in cognitive linguistics, enabling you to apply corpus-based, experimental, and computational techniques, and to critically evaluate their strengths and limitations.

We shall commence this Series by examining corpus-based methods, beginning with an introduction to corpus linguistics and moving on to how corpora are used to study meaning and usage, supported by case studies. Next, we will explore experimental and psycholinguistic methods, focusing on how experiments are designed and how language processing is studied. Following that, we will consider computational and modelling approaches, including the use of computational tools and simulations. Finally, we will wrap up with integrative methodological perspectives, where we will discuss how corpus, experimental, and computational methods can be combined, evaluate their strengths and limitations, and consider future directions in cognitive linguistic methodology.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 4.1** define the basic principles of corpus linguistics,
- **SLO 4.2** demonstrate how corpora can be used to study meaning and usage,
- **SLO 4.3** analyse case studies of corpus-based cognitive linguistic research,
- **SLO 4.4** design simple experimental approaches for investigating cognitive linguistic questions,
- **SLO 4.5** explain methods for studying language processing in psycholinguistics,
- **SLO 4.6** apply psycholinguistic evidence to support cognitive linguistic claims,
- **SLO 4.7** describe computational tools relevant to cognitive linguistics,
- **SLO 4.8** construct basic conceptual models or simulations of linguistic phenomena,
- **SLO 4.9** evaluate challenges and opportunities in computational approaches to cognitive linguistics,
- **SLO 4.10** integrate corpus, experimental, and computational methods in cognitive linguistic analysis,



- **SLO 4.11** assess the strengths and limitations of different methodological approaches, and
- **SLO 4.12** propose future directions for methodological development in cognitive linguistics.

4.1 Corpus-Based Methods In Cognitive Linguistics

4.1.1 Introduction to corpus linguistics

Corpus linguistics is the study of language through large collections of texts, known as **corpora**. A corpus is a systematically compiled database of written or spoken language that allows researchers to observe patterns of usage, frequency, and meaning. In cognitive linguistics, corpora are particularly useful because they provide empirical evidence of how language reflects thought and conceptualisation. By examining authentic data, researchers can move beyond intuition and test hypotheses about meaning and grammar.

Fill in the blank: A corpus is a systematically compiled database of _____ or spoken language.

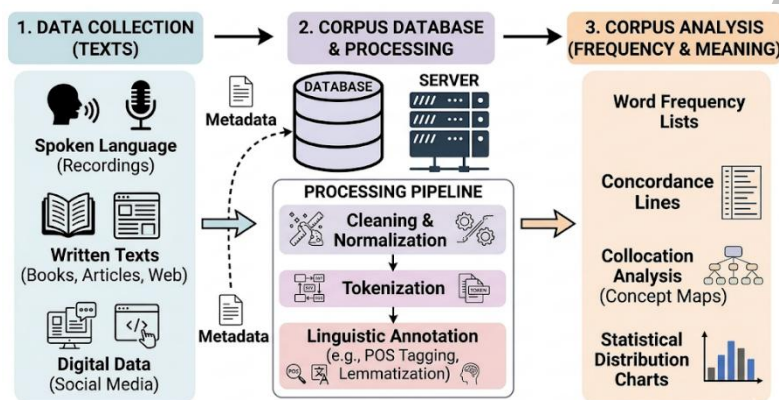


Figure 4.1: Structure of a corpus in linguistic research

4.1.2 Using corpora to study meaning and usage

Corpora allow researchers to study **meaning** and **usage** by examining how words and constructions occur in real contexts. For example, the word “run” can be analysed across thousands of instances to reveal its different senses, such as physical movement, managing something (“run a company”), or functioning (“the engine runs”). This method highlights polysemy and contextual variation, which are central to cognitive linguistics. Corpora also reveal frequency patterns, showing which meanings are more common and how they are distributed across genres or registers.

Fill in the blank: The word “run” can mean physical movement, managing something, or _____ depending on context.



Example Phrase	Collocates (Neighboring Words)	Semantic Domain / Meaning
"Run fast"	Fast, athlete, marathon, track.	Physical Movement: Rapid locomotion on foot.
"Run a company"	Business, CEO, meeting, department.	Management/Control: Overseeing or directing an organization.
"The engine runs"	Machine, fuel, noise, smooth.	Functioning: A mechanical state of operation.
"Run for office"	Candidate, election, vote, ballot.	Political Activity: Competing for a government position.

Box 4.1: Examples of corpus-based meaning variation

4.1.3 Case studies of corpus-based cognitive linguistic research

Corpus-based methods have been applied in many **case studies** within cognitive linguistics. For instance, researchers have used corpora to study metaphorical language, such as the metaphor “time is money,” by analysing how expressions like “spend time” or “save time” occur in real texts. Similarly, corpora have been used to investigate construction grammar, showing how certain patterns are more frequent in spoken versus written language. These case studies demonstrate how corpora provide evidence for theoretical claims and help refine frameworks in cognitive linguistics.

Fill in the blank: The metaphor “time is money” can be observed in corpora through expressions like “spend time” or _____ time.

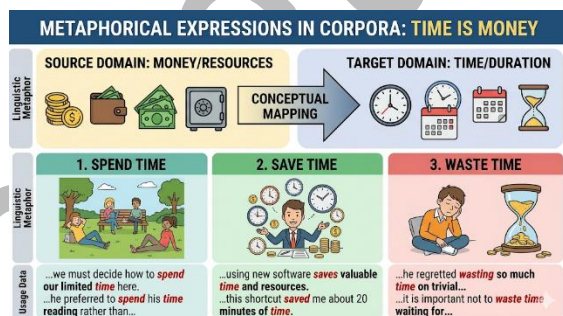


Plate 4.1: Corpus evidence of metaphorical language



Pilot questions 4.1

1. What is corpus linguistics, and why is it important in cognitive linguistics?
2. Define a corpus and give one example.
3. How can corpora be used to study meaning and usage?
4. Provide one example of polysemy revealed through corpus analysis.
5. What kind of evidence do corpus-based case studies provide for cognitive linguistics?

4.2 Experimental And Psycholinguistic Methods

4.2.1 Designing experiments in cognitive linguistics

Experimental methods in cognitive linguistics involve creating controlled conditions to test hypotheses about how language reflects cognition. Researchers design tasks that isolate specific linguistic phenomena, such as metaphor comprehension or sentence processing, and measure participants' responses. Experiments may use reaction times, accuracy rates, or decision-making tasks to provide evidence about how meaning is processed. The strength of experimental methods lies in their ability to provide systematic and replicable data.

Fill in the blank: Experimental methods in cognitive linguistics often measure participants' responses through reaction times, accuracy rates, or _____ tasks.

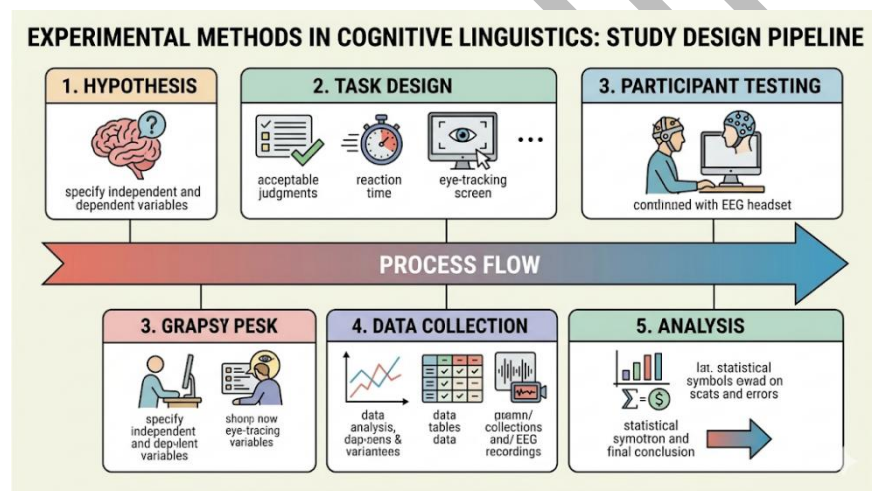


Figure 4.2: Steps in designing a cognitive linguistic experiment

4.2.2 Methods for studying language processing

Psycholinguistic methods focus on how language is processed in real time. Common techniques include eye-tracking, which records where and how long participants look at words, and priming experiments, which test how exposure to one word influences the processing of another. These methods reveal how meaning is accessed, how ambiguity is resolved, and how constructions are understood during communication. They provide insights into the cognitive mechanisms underlying language use.



Fill in the blank: Eye-tracking records where and how long participants _____ at words during reading.

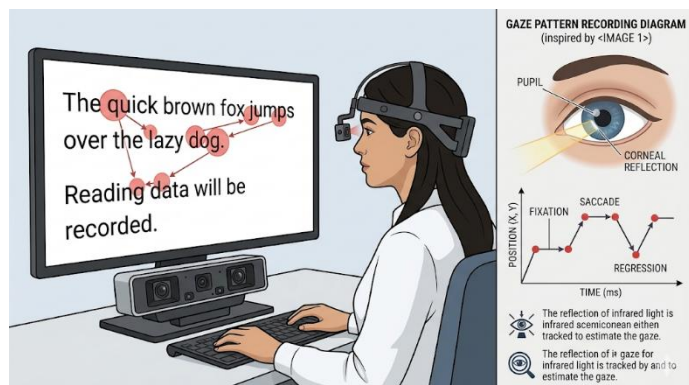


Plate 4.2: Eye-tracking in psycholinguistic research

4.2.3 Applications of psycholinguistic evidence

Psycholinguistic evidence has important applications in cognitive linguistics. It helps validate theoretical claims by showing how constructions and meanings are processed in real time. For example, experiments on metaphor comprehension demonstrate that figurative language is not processed more slowly than literal language, supporting the claim that metaphor is central to cognition. Similarly, evidence from priming studies shows how constructions are stored and accessed as meaningful units. These applications strengthen the empirical basis of cognitive linguistic theories.

Fill in the blank: Experiments on metaphor comprehension show that figurative language is not processed more slowly than _____ language.

Conceptual Claim (Cognitive Linguistics)	Psycholinguistic Method	Application of Evidence
Metaphor is not just poetic; it is fundamental to thought.	Metaphor Comprehension Studies	Shows that figuratively motivated language (e.g., "Time is Money") is processed efficiently and automatically, just like literal language, supporting its foundational role in our conceptual system.
Grammar consists of a continuum of meaning-bearing units (constructions).	Priming Studies	Demonstrates that activating one part of a construction (e.g., "The [Noun] is [Adjective]") facilitates the processing of other sentences with the same structure , providing evidence that abstract patterns are stored and accessed as meaningful wholes in the mental lexicon.



Conceptual Claim (Cognitive Linguistics)	Psycholinguistic Method	Application of Evidence
Meaning is built dynamically, and ambiguity is resolved in real-time.	Eye-Tracking Experiments	Uses gaze patterns (fixations, saccades, regressions) while reading or viewing scenes to pinpoint exactly how, where, and when a speaker resolves structural or lexical ambiguity. This provides data on how conceptual context and world knowledge constrain interpretation on-line.

Box 4.2: Applications of psycholinguistic evidence

Pilot questions 4.2

1. What are experimental methods in cognitive linguistics used for?
2. Name two measures commonly used in experiments.
3. What does eye-tracking reveal about language processing?
4. Give one example of how psycholinguistic evidence supports cognitive linguistic theory.
5. Why are experimental and psycholinguistic methods important in cognitive linguistics?

4.3 Computational And Modelling Approaches

4.3.1 Computational tools for cognitive linguistics

Computational tools are increasingly used in cognitive linguistics to analyse large datasets and model linguistic phenomena. These tools include software for corpus analysis, statistical modelling, and natural language processing (NLP). They allow researchers to identify patterns that would be impossible to detect manually, such as collocations, semantic networks, or construction frequencies. Computational approaches also make it possible to test hypotheses on vast amounts of data, providing stronger empirical support for cognitive linguistic theories.

Fill in the blank: Computational tools in cognitive linguistics include software for corpus analysis, statistical modelling, and _____.



COMPUTATIONAL TOOLS IN COGNITIVE LINGUISTICS: DATA & APPLICATION FLOW

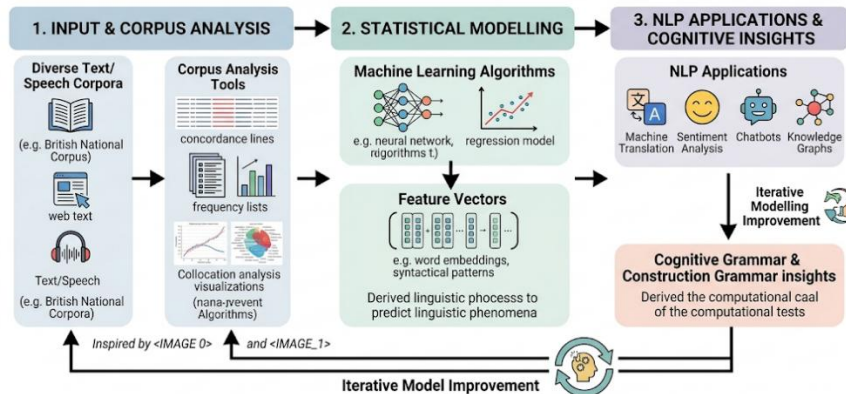


Figure 4.3: Computational tools in cognitive linguistics

4.3.2 Conceptual modelling and simulations

Conceptual modelling involves creating simplified representations of linguistic phenomena to understand how they work. In cognitive linguistics, models may simulate how constructions are stored, accessed, and processed, or how metaphors structure thought. Simulations can be computational, using algorithms to mimic cognitive processes, or conceptual, using diagrams and frameworks to represent relationships. These models help researchers visualise abstract ideas and test predictions about language and cognition.

Fill in the blank: Conceptual modelling involves creating simplified representations of linguistic _____ to understand how they work.

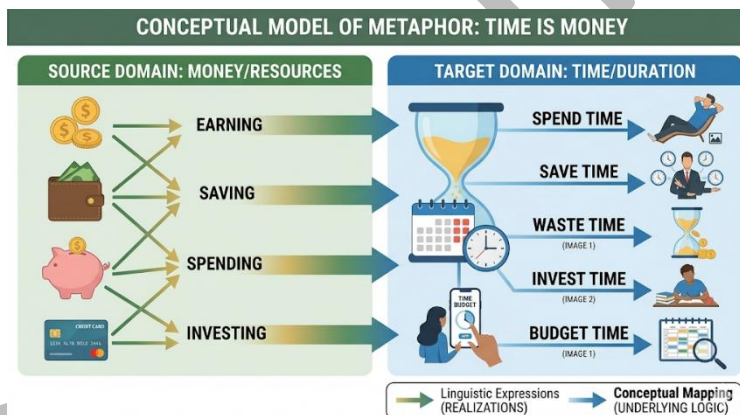


Plate 4.3: Conceptual modelling of metaphor

4.3.3 Challenges and opportunities in computational approaches

While computational approaches offer powerful tools, they also present **challenges**. One challenge is the difficulty of modelling the richness of human cognition, which often goes beyond what algorithms can capture. Another is the risk of over-reliance on frequency data without considering context or meaning. However, there are also significant **opportunities**, such as integrating computational methods with corpus and experimental approaches, and applying



them to interdisciplinary fields like artificial intelligence and cognitive science. These opportunities make computational approaches a vital part of modern cognitive linguistics.

Fill in the blank: One challenge of computational approaches is the risk of over-reliance on _____ data without considering context or meaning.

Category	Key Items	Description
Challenges	Modelling Cognition	It is difficult to bridge the gap between statistical probability (frequency) and actual mental representation (conceptualization).
	Data Sparsity	Many complex constructions or specific metaphorical usages are rare in even the largest corpora, making them hard to model reliably.
	Semantic Nuance	Machines struggle with "embodied" meaning—the physical, real-world experience that CL argues underpins all language.
Opportunities	Methodological Triangulation	Combining corpus data (usage), experimental data (processing), and computational models (prediction) creates more robust theories.
	Large-Scale Validation	AI and NLP tools can verify cognitive claims (like the "Time is Money" metaphor) across millions of sentences and dozens of languages simultaneously.
	Practical NLP	Insights from Frame Semantics and Construction Grammar can improve machine translation and sentiment analysis by providing better context.

Box 4.3: Challenges and opportunities in computational approaches

Pilot questions 4.3

1. What are computational tools in cognitive linguistics used for?
2. Name two examples of computational tools.
3. What is conceptual modelling, and why is it important?
4. Give one example of a conceptual model in cognitive linguistics.
5. What are some challenges and opportunities in computational approaches?



4.4 Integrative Methodological Perspectives

4.4.1 Combining corpus, experimental, and computational methods

In cognitive linguistics, no single method can capture the full complexity of language and cognition. **Integrative approaches** combine corpus, experimental, and computational methods to provide a more comprehensive picture. For example, corpus data can reveal frequency and usage patterns, experiments can test how those patterns are processed in real time, and computational tools can model them across large datasets. By combining these methods, researchers can cross-validate findings and strengthen theoretical claims.

Fill in the blank: Corpus data reveal usage patterns, experiments test processing, and computational tools _____ them across large datasets.

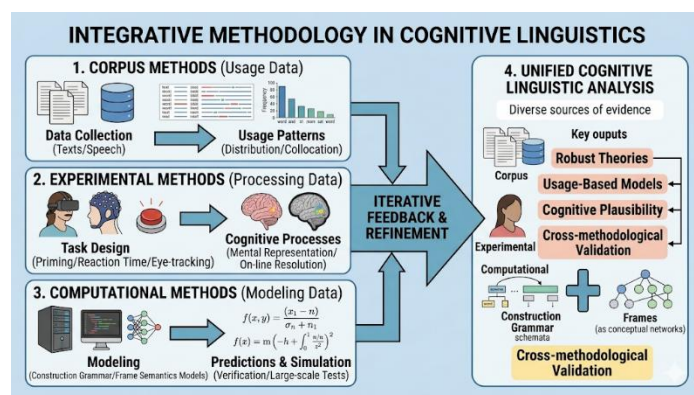


Figure 4.4: Integrative methodological approaches in cognitive linguistics

4.4.2 Evaluating strengths and limitations of methodological approaches

Each methodological approach has its **strengths and limitations**. Corpus methods provide authentic data but may lack experimental control. Experimental methods offer precision but sometimes oversimplify natural language use. Computational approaches handle large datasets but may struggle to capture the richness of human cognition. Evaluating these strengths and limitations helps learners appreciate why integration is necessary and how different methods complement one another.

Fill in the blank: Experimental methods offer precision but sometimes oversimplify _____ language use.

Method	Key Strengths	Limitations & Risks
Corpus Methods	Authenticity: Provides evidence of how people actually use language in natural contexts. Captures rare constructions and dialectal variation.	Limited Control: It is difficult to isolate specific variables or determine the "why" behind a speaker's choice based on text alone.



Method	Key Strengths	Limitations & Risks
Experimental Methods	Precision: Allows for the isolation of specific cognitive variables (e.g., reaction time, gaze duration) under strictly controlled laboratory conditions.	Artificiality: The "lab effect" or simplified tasks may not reflect the complexity of real-world, spontaneous communication.
Computational Methods	Scalability: Can process billions of words and identify patterns (like semantic shifts) that are invisible to human researchers.	Cognitive Gap: High-frequency statistical patterns do not always equate to human mental representations or "meaning."

Box 4.4: Strengths and limitations of methodological approaches

4.4.3 Future directions in cognitive linguistic methodology

The future of cognitive linguistic methodology lies in **interdisciplinary collaboration** and technological innovation. Advances in artificial intelligence, big data, and neurocognitive tools are opening new possibilities for studying language. For instance, machine learning can detect subtle patterns in metaphor use, while neuroimaging can reveal how constructions are processed in the brain. These developments suggest that cognitive linguistics will increasingly rely on integrative, technology-driven approaches to deepen our understanding of language and cognition.

Fill in the blank: Machine learning can detect subtle patterns in _____ use, while neuroimaging reveals how constructions are processed in the brain.

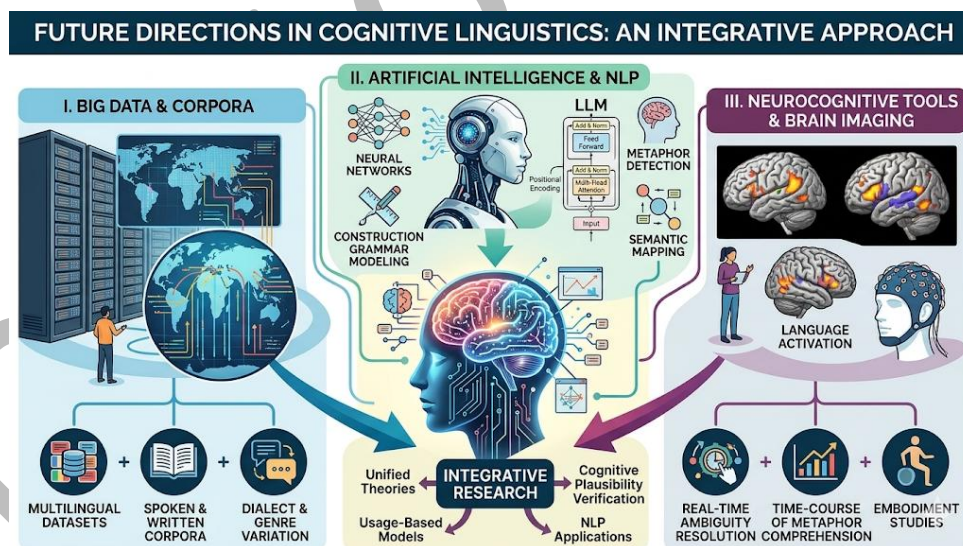


Plate 4.4: Future directions in cognitive linguistic methodology



Pilot questions 4.4

1. Why is it important to combine corpus, experimental, and computational methods?
2. What are the strengths of corpus methods?
3. What is one limitation of experimental methods?
4. How do computational approaches complement other methods?
5. What future directions are emerging in cognitive linguistic methodology?

Series Summary

In this Series, we examined the **tools and methods in cognitive linguistics**, moving from theoretical foundations into practical approaches for studying language empirically. The Series highlighted how corpus, experimental, computational, and integrative methods provide complementary perspectives, enabling researchers to investigate meaning, usage, and cognition with greater precision.

We began with **corpus-based methods**, where you learned how corpora are compiled, how they reveal meaning and usage patterns, and how case studies demonstrate their application in metaphor and construction analysis. We then explored **experimental and psycholinguistic methods**, focusing on how experiments are designed, how language processing is studied through techniques such as eye-tracking and priming, and how psycholinguistic evidence supports cognitive linguistic theories. Following that, we turned to **computational and modelling approaches**, where we discussed computational tools, conceptual modelling, and the challenges and opportunities of applying algorithms to linguistic data. Finally, we concluded with **integrative methodological perspectives**, emphasising the importance of combining corpus, experimental, and computational methods, evaluating their strengths and limitations, and considering future directions such as AI and neurocognitive tools.

By completing this Series, you should now be able to define corpus linguistics and demonstrate its applications (SLOs 4.1–4.3), design and explain experimental and psycholinguistic methods (SLOs 4.4–4.6), describe and construct computational and modelling approaches (SLOs 4.7–4.9), and integrate, assess, and propose methodological perspectives for cognitive linguistics (SLOs 4.10–4.12). These outcomes ensure that you are equipped not only with theoretical knowledge but also with practical tools to investigate language scientifically, preparing you for advanced applications and interdisciplinary research in subsequent Series.

Glossary Of Terms [Series 4]

- **Corpus linguistics:** The study of language through large collections of texts (corpora), used to observe patterns of usage, frequency, and meaning.
- **Corpus:** A systematically compiled database of written or spoken language, often used for empirical research in linguistics.



- **Polysemy:** The phenomenon where a single word has multiple related meanings, revealed through corpus analysis (e.g., “run” meaning physical movement, managing something, or functioning).
- **Experimental methods:** Controlled approaches in cognitive linguistics designed to test hypotheses about language and cognition, often measuring reaction times, accuracy, or decision-making.
- **Psycholinguistics:** The study of how language is processed in real time, focusing on cognitive mechanisms underlying comprehension and production.
- **Eye-tracking:** A psycholinguistic method that records where and how long participants look at words during reading, revealing real-time processing.
- **Priming:** An experimental technique where exposure to one word influences the processing of another, used to study how constructions and meanings are stored.
- **Metaphor comprehension:** The study of how figurative language is processed, often showing that metaphors are central to cognition and not slower to process than literal language.
- **Computational tools:** Software and algorithms used in cognitive linguistics for corpus analysis, statistical modelling, and natural language processing (NLP).
- **Conceptual modelling:** The creation of simplified representations of linguistic phenomena to visualise and test predictions about language and cognition.
- **Simulation:** A computational or conceptual representation that mimics cognitive processes, such as how constructions are stored or metaphors structure thought.
- **Integrative approaches:** Methodological strategies that combine corpus, experimental, and computational methods to provide a more comprehensive analysis of language.
- **Strengths and limitations:** The evaluation of what each method contributes and where it falls short, e.g., corpus methods provide authentic data but lack control, while computational methods handle large datasets but may oversimplify cognition.
- **Interdisciplinary collaboration:** The integration of methods and insights from fields such as artificial intelligence, big data, and neurocognitive science to advance cognitive linguistic research.

Concept Check Questions [Series 4]

Objective Questions

1. Corpus linguistics studies language through large collections of _____. (Linked to SLO 4.1)
2. A corpus is a systematically compiled database of written or _____ language. (Linked to SLO 4.1)
3. Eye-tracking records where and how long participants _____ at words. (Linked to SLO 4.5)



4. Computational tools in cognitive linguistics include corpus analysis, statistical modelling, and _____. (Linked to SLO 4.7)
5. Conceptual modelling involves creating simplified representations of linguistic _____. (Linked to SLO 4.8)
6. Corpus methods provide authentic data but may lack experimental _____. (Linked to SLO 4.11)

Short-Answer Questions

7. Define corpus linguistics and explain its importance in cognitive linguistics. (Linked to SLO 4.1)
8. Demonstrate how corpora can be used to study meaning and usage with one example. (Linked to SLO 4.2)
9. Analyse one case study of corpus-based cognitive linguistic research. (Linked to SLO 4.3)
10. Design a simple experimental approach to test metaphor comprehension. (Linked to SLO 4.4)
11. Explain how psycholinguistic methods such as priming reveal how constructions are stored. (Linked to SLO 4.5)
12. Apply psycholinguistic evidence to support the claim that metaphor is central to cognition. (Linked to SLO 4.6)
13. Describe one computational tool relevant to cognitive linguistics. (Linked to SLO 4.7)
14. Construct a basic conceptual model of the metaphor “time is money.” (Linked to SLO 4.8)
15. Evaluate one challenge and one opportunity in computational approaches. (Linked to SLO 4.9)
16. Integrate corpus and experimental methods in analysing a construction. (Linked to SLO 4.10)
17. Assess the strengths and limitations of experimental methods. (Linked to SLO 4.11)
18. Propose one future direction for cognitive linguistic methodology. (Linked to SLO 4.12)

Long-Answer Questions

19. Analyse corpus-based methods in cognitive linguistics, focusing on how they reveal meaning and usage. (Linked to SLOs 4.1–4.3)
20. Evaluate experimental and psycholinguistic methods, discussing their design, techniques, and applications. (Linked to SLOs 4.4–4.6)
21. Discuss computational and modelling approaches, highlighting tools, conceptual models, and challenges. (Linked to SLOs 4.7–4.9)



22. Critically assess integrative methodological perspectives, explaining why combining methods is important and what future directions are emerging. (Linked to SLOs 4.10–4.12)

Answers to Concept Check Questions [Series 4]

Objective Questions

1. Texts
2. Spoken
3. Look
4. Natural language processing (NLP)
5. Phenomena
6. Control

Short-Answer Questions

7. Corpus linguistics is the study of language through large collections of texts, important because it provides empirical evidence of usage and meaning.
8. Example: Analysing the word “run” in corpora shows meanings such as physical movement, managing something, or functioning.
9. Case study: Corpus analysis of metaphor “time is money” reveals expressions like “spend time” and “save time.”
10. Design: Present participants with literal and metaphorical sentences, measure reaction times and accuracy.
11. Priming shows that exposure to one construction facilitates processing of another, indicating constructions are stored as meaningful units.
12. Evidence shows figurative language is processed as efficiently as literal language, supporting metaphor’s centrality in cognition.
13. Computational tool: AntConc software for corpus analysis.
14. Model: “time is money” with arrows linking “spend time,” “save time,” “waste time.”
15. Challenge: Over-reliance on frequency data. Opportunity: Integration with experimental methods.
16. Example: Corpus shows frequency of “What’s X doing Y?” construction; experiment tests how quickly participants process it.
17. Strength: Precision in measuring responses. Limitation: Oversimplification of natural language use.
18. Future direction: Use of AI and neurocognitive tools to study language.

Long-Answer Questions

19. **Basic response:** Corpus-based methods reveal meaning and usage by analysing authentic data, showing polysemy and frequency patterns. **Value-added response:** They also highlight



genre differences, register variation, and provide evidence for construction grammar and metaphor theory.

20. **Basic response:** Experimental methods test hypotheses, psycholinguistic techniques like eye-tracking and priming reveal processing. **Value-added response:** They also demonstrate how ambiguity is resolved, how figurative language is processed, and how constructions are accessed in real time.

21. **Basic response:** Computational approaches use tools like corpus software and conceptual models to study linguistic phenomena. **Value-added response:** They also integrate with AI, simulate cognitive processes, and highlight interdisciplinary opportunities in cognitive science.

22. **Basic response:** Integrative perspectives combine corpus, experimental, and computational methods to provide comprehensive analysis. **Value-added response:** They also anticipate future directions such as machine learning, neuroimaging, and interdisciplinary collaboration, strengthening the empirical basis of cognitive linguistics.

Answers to Pilot Questions [Series 4]

Part 4.1: Corpus-based methods in cognitive linguistics

1. Corpus linguistics is the study of language through large collections of texts, important because it provides empirical evidence of usage and meaning.
2. A corpus is a systematically compiled database of written or spoken language, e.g., the British National Corpus.
3. Corpora can be used to study meaning and usage by analysing how words occur in different contexts, revealing polysemy and frequency patterns.
4. Example: The word “run” shows meanings such as physical movement, managing something, or functioning.
5. Corpus-based case studies provide evidence for theoretical claims in cognitive linguistics, such as metaphor use or construction frequency.

Part 4.2: Experimental and psycholinguistic methods

1. Experimental methods are used to test hypotheses about how language reflects cognition under controlled conditions.
2. Common measures include reaction times and accuracy rates.
3. Eye-tracking reveals how readers process text in real time, showing where and how long they look at words.
4. Example: Psycholinguistic evidence shows that figurative language is processed as efficiently as literal language, supporting metaphor theory.
5. These methods are important because they validate theoretical claims with empirical evidence about language processing.

Part 4.3: Computational and modelling approaches

1. Computational tools are used to analyse large datasets and model linguistic phenomena.



2. Examples include corpus analysis software and natural language processing (NLP) tools.
3. Conceptual modelling is the creation of simplified representations of linguistic phenomena to visualise and test predictions.
4. Example: A conceptual model of the metaphor “time is money” links expressions like “spend time,” “save time,” and “waste time.”
5. Challenges include modelling the richness of cognition, while opportunities include integration with corpus and experimental methods.

Part 4.4: Integrative methodological perspectives

1. Combining methods is important because no single approach captures the full complexity of language and cognition.
2. Corpus methods provide authentic data about usage patterns.
3. One limitation of experimental methods is that they may oversimplify natural language use.
4. Computational approaches complement other methods by handling large datasets and modelling patterns.
5. Future directions include the use of AI, big data, and neurocognitive tools in cognitive linguistic research.

References and Attributions [Series 4]

This section consolidates references and illustration attributions for **Series 4: Tools and Methods in Cognitive Linguistics**, presented in APA style.

Scholarly References

- Biber, D., Conrad, S., & Reppen, R. (1998). *Corpus linguistics: Investigating language structure and use*. Cambridge: Cambridge University Press.
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Illustration Attributions



- **Figure 4.1: Structure of a corpus in linguistic research** AI-generated suggestion. Prompt: “Create a diagram showing the structure of a corpus: texts feeding into a database, leading to analysis of frequency and meaning.” Suggested OER search string: “corpus linguistics structure diagram OER”.
- **Box 4.1: Examples of corpus-based meaning variation** AI-generated suggestion. Prompt: “Create a text box listing examples of corpus-based meaning variation for the word ‘run’.” Suggested OER search string: “corpus linguistics word sense variation run OER”.
- **Plate 4.1: Corpus evidence of metaphorical language** AI-generated suggestion. Prompt: “Create an image showing examples of metaphorical expressions from corpora, such as ‘spend time,’ ‘save time,’ ‘waste time.’” Suggested OER search string: “corpus linguistics metaphor time is money examples OER”.
- **Figure 4.2: Steps in designing a cognitive linguistic experiment** AI-generated suggestion. Prompt: “Create a diagram showing the steps in designing a cognitive linguistic experiment: hypothesis, task design, participant testing, data collection, analysis.” Suggested OER search string: “experimental methods cognitive linguistics diagram OER”.
- **Plate 4.2: Eye-tracking in psycholinguistic research** AI-generated suggestion. Prompt: “Create an image showing an eye-tracking setup with a participant reading text on a screen while gaze patterns are recorded.” Suggested OER search string: “eye-tracking psycholinguistics experiment OER”.
- **Box 4.2: Applications of psycholinguistic evidence** AI-generated suggestion. Prompt: “Create a text box listing applications of psycholinguistic evidence in cognitive linguistics, including metaphor comprehension, priming studies, and eye-tracking.” Suggested OER search string: “psycholinguistic evidence cognitive linguistics applications OER”.
- **Figure 4.3: Computational tools in cognitive linguistics** AI-generated suggestion. Prompt: “Create a diagram showing computational tools in cognitive linguistics: corpus analysis, statistical modelling, NLP applications.” Suggested OER search string: “computational tools cognitive linguistics diagram OER”.
- **Plate 4.3: Conceptual modelling of metaphor** AI-generated suggestion. Prompt: “Create an image showing a conceptual model of metaphor ‘time is money’ with arrows linking expressions like ‘spend time,’ ‘save time,’ ‘waste time.’” Suggested OER search string: “conceptual modelling metaphor cognitive linguistics OER”.
- **Box 4.3: Challenges and opportunities in computational approaches** AI-generated suggestion. Prompt: “Create a text box listing challenges and opportunities in computational approaches to cognitive linguistics.” Suggested OER search string: “computational approaches cognitive linguistics challenges opportunities OER”.
- **Figure 4.4: Integrative methodological approaches in cognitive linguistics** AI-generated suggestion. Prompt: “Create a diagram showing integration of corpus,



experimental, and computational methods feeding into a unified analysis.” Suggested OER search string: “integrative methods cognitive linguistics diagram OER”.

- **Box 4.4: Strengths and limitations of methodological approaches** AI-generated suggestion. Prompt: “Create a text box listing strengths and limitations of corpus, experimental, and computational methods in cognitive linguistics.” Suggested OER search string: “strengths limitations corpus experimental computational methods OER”.
- **Plate 4.4: Future directions in cognitive linguistic methodology** AI-generated suggestion. Prompt: “Create an image showing future directions in cognitive linguistics: AI, big data, and neurocognitive tools applied to language research.” Suggested OER search string: “future directions cognitive linguistics AI neurocognitive tools OER”.

Course code: LIN 308

Course title: Cognitive Linguistics

Course credit load: 2 Units

Series 1: Foundations of Cognitive Linguistics

Series 2: Core Theoretical Concepts in Cognitive Linguistics

Series 3: Cognitive Schools and Frameworks

Series 4: Tools and Methods in Cognitive Linguistics

Series 5: Applications and Research Practices in Cognitive Linguistics

Proposed Outline Series for 5

Part 5.1: Applications of cognitive linguistics in real-world contexts

- Sub-Part 5.1.1: Language teaching and pedagogy
- Sub-Part 5.1.2: Translation and intercultural communication
- Sub-Part 5.1.3: Discourse analysis and media studies

Part 5.2: Research practices in cognitive linguistics

- Sub-Part 5.2.1: Designing cognitive linguistic research projects
- Sub-Part 5.2.2: Data collection and analysis strategies
- Sub-Part 5.2.3: Ethical considerations in linguistic research

Part 5.3: Interdisciplinary applications and innovations

- Sub-Part 5.3.1: Cognitive linguistics in artificial intelligence and NLP



- Sub-Part 5.3.2: Cognitive linguistics in psychology and cognitive science
- Sub-Part 5.3.3: Emerging trends and future directions

Part 5.4: Evaluating contributions and limitations of applied research

- Sub-Part 5.4.1: Strengths of applied cognitive linguistic research
- Sub-Part 5.4.2: Limitations and challenges in application
- Sub-Part 5.4.3: Towards integrative and impactful research practices

Introduction

In the last Series, we explored the tools and methods that make cognitive linguistics empirical, including corpus-based, experimental, and computational approaches. Having acquired these methodological foundations, it is now time to consider how cognitive linguistics is applied in real-world contexts and how research practices are developed. This Series will help you connect theory and method with practice, showing how cognitive linguistics contributes to language teaching, translation, discourse analysis, and interdisciplinary fields.

The aim of this Series is to equip you with the knowledge and skills to apply cognitive linguistic insights in practical domains and to design, evaluate, and refine research practices that advance the discipline.

We shall commence this Series by examining applications of cognitive linguistics in real-world contexts, including pedagogy, translation, and discourse analysis. Next, we will explore research practices, focusing on project design, data collection, and ethical considerations. Following that, we will move on to interdisciplinary applications and innovations, where cognitive linguistics intersects with artificial intelligence, psychology, and cognitive science. Finally, we will wrap up by evaluating the contributions and limitations of applied research, considering how integrative practices can make cognitive linguistics more impactful in both academic and professional settings.

Series Learning Outcomes

Upon completing this Series, you should be able to:

- **SLO 5.1** apply cognitive linguistic principles to language teaching and pedagogy,
- **SLO 5.2** demonstrate how cognitive linguistics informs translation and intercultural communication,
- **SLO 5.3** analyse discourse and media using cognitive linguistic frameworks,
- **SLO 5.4** design a basic cognitive linguistic research project,



- **SLO 5.5** explain strategies for data collection and analysis in cognitive linguistic research,
- **SLO 5.6** evaluate ethical considerations in conducting linguistic research,
- **SLO 5.7** describe interdisciplinary applications of cognitive linguistics in artificial intelligence and natural language processing,
- **SLO 5.8** apply cognitive linguistic insights to psychology and cognitive science contexts,
- **SLO 5.9** assess emerging trends and innovations in cognitive linguistic research,
- **SLO 5.10** evaluate the strengths of applied cognitive linguistic research,
- **SLO 5.11** identify limitations and challenges in applying cognitive linguistic research, and
- **SLO 5.12** propose integrative practices that enhance the impact of cognitive linguistic research.

5.1 Applications Of Cognitive Linguistics In Real-World Contexts

5.1.1 Language teaching and pedagogy

Language teaching benefits greatly from cognitive linguistics because it emphasises meaning, conceptualisation, and usage rather than rote memorisation. Learners are encouraged to see grammar as a system of meaningful constructions rather than arbitrary rules. For example, teaching phrasal verbs through image schemas (such as “up” representing increase or completion) helps learners grasp their conceptual basis. This approach makes language learning more intuitive and memorable.

Fill in the blank: Teaching phrasal verbs through image schemas helps learners grasp their _____ basis.

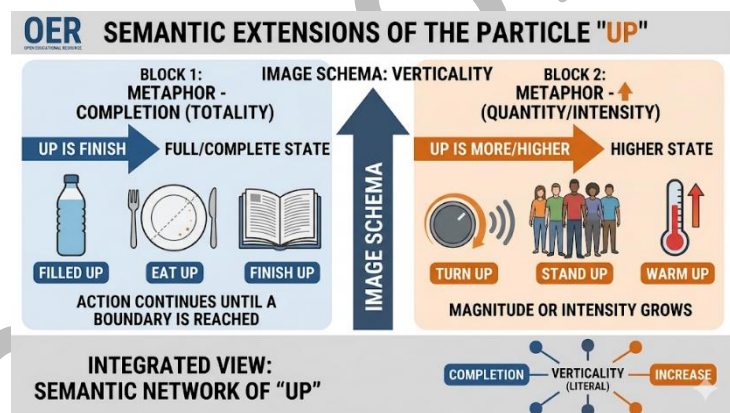


Figure 5.1: Image schema approach to phrasal verbs

5.1.2 Translation and intercultural communication

Translation and intercultural communication are enriched by cognitive linguistics because they highlight how meaning is shaped by conceptual metaphors and cultural frames. Translators must recognise that metaphors such as “time is money” may not have direct equivalents in other



languages. Cognitive linguistics provides tools to identify underlying conceptual structures, enabling more accurate and culturally sensitive translations. In intercultural communication, awareness of these differences helps avoid misunderstandings and fosters clearer dialogue.

Fill in the blank: Translators must recognise that metaphors such as “time is money” may not have direct _____ in other languages.

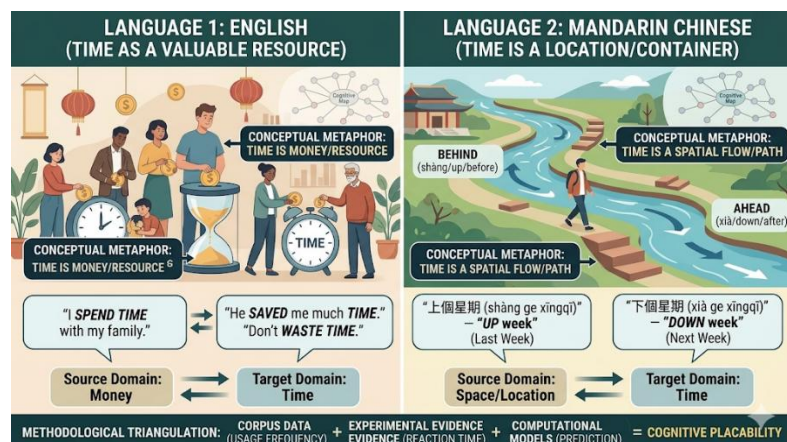


Plate 5.1: Metaphorical variation across languages

5.1.3 Discourse analysis and media studies

Discourse analysis in cognitive linguistics examines how language reflects thought and ideology in texts such as news articles, advertisements, and political speeches. By identifying metaphors, frames, and constructions, researchers uncover how meaning is shaped and how audiences are influenced. In media studies, this approach reveals how narratives are constructed to persuade or inform. For example, metaphors of war in health campaigns (“fight cancer”) frame illness in a particular way that affects public perception.

Fill in the blank: Metaphors of war in health campaigns, such as “fight cancer,” frame illness in a particular way that affects _____ perception.

Media Domain	Linguistic Strategy	Cognitive Impact
Health Campaigns	War Metaphors (e.g., "Battle with cancer," "Fight the virus")	Frames the patient as a "soldier" and the disease as an "enemy." While this can increase a sense of urgency and agency, it can also lead to feelings of failure if the "battle" is lost.
Political Speeches	Conceptual Framing (e.g., "Tax relief," "Building a wall")	"Tax relief" frames taxation as an affliction that must be removed, while "Building a wall" uses a concrete Container Schema to simplify complex national security and immigration issues.



Media Domain	Linguistic Strategy	Cognitive Impact
Advertisements	Persuasive Constructions (e.g., "Get the glow," "Just do it")	Uses imperative constructions and metaphorical associations (e.g., Light = Health/Beauty) to create mental shortcuts that link products directly to desirable emotional states or identities.

Box 5.1: Applications of discourse analysis in media

Pilot questions 5.1

1. How does cognitive linguistics make language teaching more intuitive?
2. What role do image schemas play in teaching phrasal verbs?
3. Why is cognitive linguistics important in translation and intercultural communication?
4. Give one example of metaphorical variation across languages.
5. How does discourse analysis in cognitive linguistics reveal ideology in media texts?

5.2 Research Practices In Cognitive Linguistics

5.2.1 Designing cognitive linguistic research projects

Research design in cognitive linguistics involves planning a study that addresses a clear question about language and cognition. This includes identifying the research problem, formulating hypotheses, and selecting appropriate methods such as corpus analysis, experiments, or computational modelling. A well-designed project ensures that data collected will be relevant and interpretable. For example, a study on metaphor use in political speeches must specify which metaphors will be analysed, how they will be identified, and what conclusions are expected.

Fill in the blank: A well-designed project ensures that data collected will be relevant and _____.



Figure 5.2: Stages of cognitive linguistic research design



5.2.2 Data collection and analysis strategies

Data collection in cognitive linguistics can involve compiling corpora, conducting experiments, or using computational tools. The choice depends on the research question. For example, studying metaphor in everyday speech may require recording conversations, while analysing construction frequency may involve corpus searches. **Data analysis** refers to the systematic examination of collected data to identify patterns, test hypotheses, and draw conclusions. Techniques include frequency counts, statistical tests, and qualitative coding.

Fill in the blank: Studying metaphor in everyday speech may require recording _____, while analysing construction frequency may involve corpus searches.

Strategy	Collection Method	Primary Analysis Focus
Corpus Compilation	Gathering large-scale, authentic text or speech samples from digital archives, social media, or literature.	Frequency & Distribution: Identifying how often specific words or constructions appear and their concordance patterns (the "company they keep") to reveal semantic shifts.
Experimental Tasks	Controlled lab settings using techniques like priming, self-paced reading, or eye-tracking.	Processing Metrics: Measuring reaction times (in milliseconds) and accuracy rates to determine the cognitive effort required to understand specific linguistic structures.
Computational Modelling	Utilizing algorithms, neural networks, and statistical software (like R or Python).	Simulations: Building artificial models to see if they can mimic human language learning patterns or predict future linguistic behavior based on existing data.

Box 5.2: Common data collection and analysis strategies

5.2.3 Ethical considerations in linguistic research

Ethical considerations are essential in cognitive linguistic research to protect participants and ensure integrity. Researchers must obtain informed consent, guarantee confidentiality, and avoid harm. For example, when recording spoken data, participants should be aware of how their contributions will be used and stored. Ethical practice also extends to transparency in reporting results and avoiding bias in interpretation. These considerations uphold the credibility of research and respect for human participants.

Fill in the blank: Researchers must obtain informed consent, guarantee confidentiality, and avoid _____ when conducting linguistic research.





Plate 5.2: Ethical principles in cognitive linguistic research

Pilot questions 5.2

1. What are the key stages in designing a cognitive linguistic research project?
2. Give one example of a research question that could be studied using corpus methods.
3. What is the difference between data collection and data analysis?
4. Name two strategies for collecting data in cognitive linguistics.
5. What ethical principles should guide cognitive linguistic research?

5.3 Interdisciplinary Applications And Innovations

5.3.1 Cognitive linguistics in artificial intelligence and NLP

Artificial intelligence (AI) and **natural language processing (NLP)** increasingly draw on insights from cognitive linguistics. While traditional NLP often relies on statistical models, cognitive linguistics contributes by emphasising meaning, metaphor, and conceptual structures. For example, metaphor analysis can improve machine translation by helping systems recognise figurative language. Similarly, construction grammar can inform language models about how patterns are stored and used. These applications show how cognitive linguistics bridges human cognition and computational systems.

Fill in the blank: Metaphor analysis can improve machine translation by helping systems recognise _____ language.

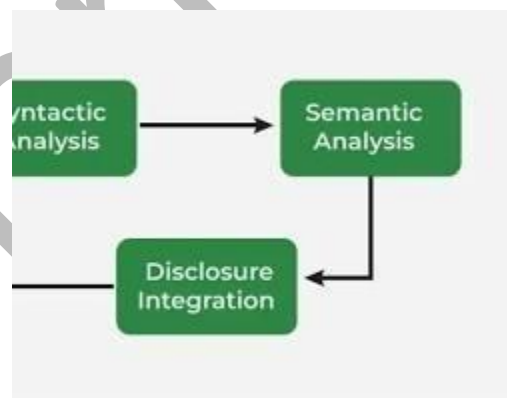


Figure 5.3: Cognitive linguistics contributions to NLP

5.3.2 Cognitive linguistics in psychology and cognitive science

Psychology and **cognitive science** share strong connections with cognitive linguistics because they all study how humans conceptualise and process information. Cognitive linguistics provides frameworks for understanding how metaphors shape thought, how categorisation works, and how constructions reflect mental processes. In psychology, this helps explain phenomena such as framing effects, where the way information is presented influences decision-making. In cognitive science, linguistic evidence supports models of memory, perception, and reasoning.

Fill in the blank: Framing effects occur when the way information is presented influences _____.



Plate 5.3: Framing effects in psychology and language

5.3.3 Emerging trends and future directions

Emerging trends in cognitive linguistics include the integration of big data, machine learning, and neurocognitive tools. Big data allows researchers to analyse vast corpora across multiple languages, while machine learning can detect subtle patterns in metaphor or construction use. Neurocognitive tools, such as brain imaging, provide direct evidence of how language is processed in the brain. These innovations suggest that cognitive linguistics will continue to evolve as a highly interdisciplinary field, combining insights from linguistics, psychology, computer science, and neuroscience.

Fill in the blank: Neurocognitive tools such as brain imaging provide direct evidence of how language is processed in the _____.

Emerging Trend	Technological Catalyst	CL Application
Large-Scale Corpus Analysis	Big Data (billions of words, multimodality)	Moving beyond isolated examples to analyze entire linguistic systems, revealing statistical



Emerging Trend	Technological Catalyst	CL Application
		patterns, collocations , and rare construction variations.
Metaphor and Construction Pattern Detection	Machine Learning & NLP (algorithms, neural networks)	Building automated models that can detect, classify, and predict metaphorical mappings (like the Time is Money frame) and complex, meaning-bearing grammatical structures at scale.
Language Processing Evidence	Neurocognitive Tools (fMRI, EEG, Eye-Tracking)	Providing real-time brain imaging data to show exactly how and where the brain resolves ambiguity, processes figurative language, or activates embodied concepts during language comprehension.

Box 5.3: Emerging trends in cognitive linguistics

Pilot questions 5.3

1. How does cognitive linguistics contribute to artificial intelligence and NLP?
2. What role does metaphor analysis play in machine translation?
3. How does cognitive linguistics connect with psychology and cognitive science?
4. What is an example of a framing effect in language?
5. Name two emerging trends in cognitive linguistics research.

5.4 Evaluating Contributions And Limitations Of Applied Research

5.4.1 Strengths of applied cognitive linguistic research

Applied cognitive linguistic research has several **strengths**. It provides practical insights that can be used in education, translation, media, and interdisciplinary fields. By grounding theory in real-world contexts, it demonstrates the relevance of cognitive linguistics beyond academia. For example, teaching phrasal verbs through image schemas or analysing metaphors in political speeches shows how theory translates into practice. These strengths highlight the discipline's ability to make meaningful contributions to society.

Fill in the blank: Applied cognitive linguistic research demonstrates the relevance of cognitive linguistics beyond _____.



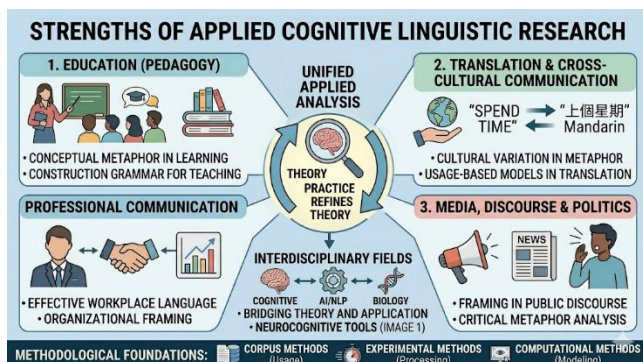


Figure 5.4: Strengths of applied cognitive linguistic research

5.4.2 Limitations and challenges in application

Despite its strengths, applied cognitive linguistic research faces **limitations**. One challenge is the difficulty of generalising findings across cultures and languages, since metaphors and constructions often vary. Another limitation is methodological, as applied studies may lack the experimental control of laboratory research. There is also the risk of oversimplifying complex cognitive processes when adapting them for practical use. Recognising these limitations helps researchers refine their approaches and avoid misinterpretation.

Fill in the blank: One challenge of applied cognitive linguistic research is the difficulty of generalising findings across _____ and languages.

Limitation	Technical Context	Impact on Research
Cultural & Linguistic Variation	Metaphors and image schemas are often rooted in specific cultural experiences (e.g., the "Time is a Spatial Flow" model in Mandarin vs. "Time is Money" in English).	Findings from one language group may not be universal. Applied tools (like translation software or teaching materials) must be localized to avoid conceptual misalignment.
Limited Experimental Control	Real-world discourse (political speeches, health campaigns) is influenced by social, emotional, and environmental "noise."	Unlike lab-based eye-tracking or priming studies , it is difficult to isolate whether a specific linguistic construction caused a behavioral change or if external factors were responsible.
Oversimplification Risk	Reducing complex mental states to single metaphors or frames (e.g., the "War on Cancer").	While framing helps in understanding, it can mask the nuance of cognitive processes. Over-reliance



Limitation	Technical Context	Impact on Research
		on a single frame can lead to "cognitive tunneling," where alternative solutions or interpretations are ignored.

Box 5.4: Limitations of applied cognitive linguistic research

5.4.3 Towards integrative and impactful research practices

The future of applied cognitive linguistic research lies in **integrative practices** that combine multiple methods and perspectives. By drawing on corpus, experimental, and computational approaches, researchers can produce more robust findings. Collaboration with fields such as psychology, AI, and education enhances the impact of research, ensuring that cognitive linguistics contributes to both theory and practice. Integrative practices also encourage innovation, making research more adaptable to diverse contexts and more relevant to societal needs.

Fill in the blank: Collaboration with fields such as psychology, AI, and education enhances the _____ of cognitive linguistic research.

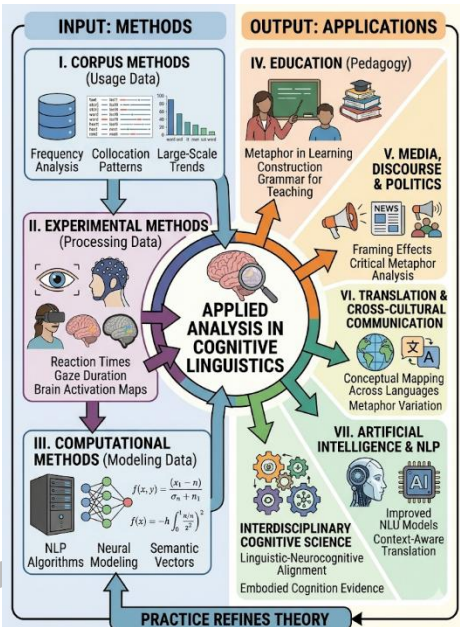


Plate 5.4: Towards integrative and impactful research practices

Pilot questions 5.4

1. What are the strengths of applied cognitive linguistic research?
2. Give one example of how applied research demonstrates relevance beyond academia.
3. What is one limitation of applied cognitive linguistic research?



4. Why is recognising limitations important for researchers?
5. How can integrative practices enhance the impact of cognitive linguistic research?

Series Summary

In this Series, we explored the **applications and research practices in cognitive linguistics**, building on the methodological foundations established in the previous Series. The focus was on how cognitive linguistics moves beyond theory into practical domains, research design, and interdisciplinary innovation.

We began with **applications in real-world contexts**, where you learned how cognitive linguistics informs language teaching, translation, intercultural communication, and discourse analysis in media. We then examined **research practices**, covering project design, data collection and analysis strategies, and ethical considerations that ensure credibility and respect for participants. Following that, we turned to **interdisciplinary applications and innovations**, highlighting contributions to artificial intelligence, natural language processing, psychology, and cognitive science, as well as emerging trends such as big data, machine learning, and neurocognitive tools. Finally, we concluded with **evaluating contributions and limitations of applied research**, where strengths, challenges, and integrative practices were discussed to show how cognitive linguistics can achieve greater impact in both academic and professional settings.

By completing this Series, you should now be able to apply cognitive linguistic principles in teaching, translation, and discourse analysis (SLOs 5.1–5.3), design and explain research practices with attention to ethics (SLOs 5.4–5.6), describe and apply interdisciplinary innovations (SLOs 5.7–5.9), and evaluate contributions, limitations, and integrative practices in applied research (SLOs 5.10–5.12). These outcomes ensure that you are prepared to use cognitive linguistics not only as a theoretical framework but also as a practical and impactful tool in diverse domains.

Glossary Of Terms [Series 5]

- **Language teaching (pedagogy):** The practice of applying cognitive linguistic principles to classroom instruction, emphasising meaning and conceptualisation rather than rote memorisation.
- **Image schema:** A recurring mental pattern derived from bodily experience, used in cognitive linguistics to explain how learners conceptualise grammar and vocabulary (e.g., “up” representing completion or increase).
- **Translation:** The process of rendering meaning from one language into another, enriched by cognitive linguistics through attention to metaphors and cultural frames.
- **Intercultural communication:** The exchange of meaning across cultural contexts, where cognitive linguistics helps identify differences in metaphor and conceptual structures.
- **Discourse analysis:** The study of how language reflects thought, ideology, and persuasion in texts such as media, advertisements, and political speeches.



- **Framing:** A cognitive process where the way information is presented influences perception and decision-making (e.g., “fight cancer” framing illness as a battle).
- **Research design:** The structured planning of a study, including problem identification, hypothesis formulation, method selection, and data collection.
- **Data collection:** The process of gathering linguistic evidence, such as compiling corpora, conducting experiments, or recording speech.
- **Data analysis:** The systematic examination of collected data to identify patterns, test hypotheses, and draw conclusions.
- **Ethical considerations:** Principles guiding research to protect participants, including informed consent, confidentiality, transparency, and avoidance of harm.
- **Artificial intelligence (AI):** Computer systems designed to simulate human intelligence, where cognitive linguistics contributes insights into meaning and metaphor.
- **Natural language processing (NLP):** A field of AI focused on enabling computers to understand and generate human language, enriched by cognitive linguistic frameworks.
- **Psychology:** The study of human behaviour and mental processes, connected to cognitive linguistics through shared interest in categorisation, metaphor, and framing.
- **Cognitive science:** An interdisciplinary field studying cognition, where cognitive linguistics provides evidence about language as a window into thought.
- **Framing effects:** Psychological phenomena where different wording or presentation of information influences perception and decision-making.
- **Big data:** Extremely large datasets that allow researchers to analyse linguistic patterns across multiple languages and contexts.
- **Machine learning:** A computational technique where algorithms learn from data to detect patterns, applied in cognitive linguistics to metaphor and construction analysis.
- **Neurocognitive tools:** Technologies such as brain imaging that provide direct evidence of how language is processed in the brain.
- **Applied research:** Research that connects theory to practice, demonstrating the relevance of cognitive linguistics in real-world contexts.
- **Integrative practices:** Approaches that combine corpus, experimental, and computational methods, often in collaboration with other disciplines, to produce robust and impactful findings.

Concept Check Questions [Series 5]

Objective Questions

1. Cognitive linguistics makes language teaching more intuitive by emphasising _____ rather than rote memorisation. (Linked to SLO 5.1)



2. An image schema is a recurring mental pattern derived from _____ experience. (Linked to SLO 5.1)
3. Translators must recognise that metaphors may not have direct _____ across languages. (Linked to SLO 5.2)
4. Discourse analysis in cognitive linguistics uncovers how language reflects _____ and ideology. (Linked to SLO 5.3)
5. The first stage of research design is identifying the research _____. (Linked to SLO 5.4)
6. Ethical considerations in research include informed consent, confidentiality, and avoiding _____. (Linked to SLO 5.6)
7. Metaphor analysis can improve machine translation by helping systems recognise _____ language. (Linked to SLO 5.7)
8. Framing effects occur when the way information is presented influences _____. (Linked to SLO 5.8)
9. Neurocognitive tools such as brain imaging provide direct evidence of how language is processed in the _____. (Linked to SLO 5.9)

Short-Answer Questions

10. Explain how cognitive linguistics can be applied to language teaching. (Linked to SLO 5.1)
11. Give one example of metaphorical variation across languages. (Linked to SLO 5.2)
12. Analyse how discourse analysis reveals ideology in media texts. (Linked to SLO 5.3)
13. Describe the key stages in designing a cognitive linguistic research project. (Linked to SLO 5.4)
14. Identify two strategies for collecting data in cognitive linguistics. (Linked to SLO 5.5)
15. Explain why ethical considerations are important in linguistic research. (Linked to SLO 5.6)
16. Describe one way cognitive linguistics contributes to NLP. (Linked to SLO 5.7)
17. Apply cognitive linguistic insights to explain framing effects in psychology. (Linked to SLO 5.8)
18. Name two emerging trends in cognitive linguistics research. (Linked to SLO 5.9)
19. Evaluate one strength of applied cognitive linguistic research. (Linked to SLO 5.10)
20. Identify one limitation of applied cognitive linguistic research. (Linked to SLO 5.11)
21. Propose one integrative practice that enhances the impact of cognitive linguistic research. (Linked to SLO 5.12)

Long-Answer Questions



22. Analyse applications of cognitive linguistics in real-world contexts, focusing on teaching, translation, and discourse analysis. (Linked to SLOs 5.1–5.3)
23. Evaluate research practices in cognitive linguistics, discussing project design, data strategies, and ethics. (Linked to SLOs 5.4–5.6)
24. Discuss interdisciplinary applications and innovations, highlighting contributions to AI, psychology, and emerging trends. (Linked to SLOs 5.7–5.9)
25. Critically assess applied research in cognitive linguistics, explaining strengths, limitations, and integrative practices. (Linked to SLOs 5.10–5.12)

Answers to Concept Check Questions [Series 5]

Objective Questions

1. Meaning
2. Bodily
3. Equivalents
4. Thought
5. Problem
6. Harm
7. Figurative
8. Decision-making
9. Brain

Short-Answer Questions

10. It emphasises meaning and conceptualisation, making grammar and vocabulary more intuitive.
11. English “time is money” vs. another language’s metaphor such as “time is a path.”
12. By identifying metaphors and frames, it shows how texts persuade or reflect ideology.
13. Problem identification, hypothesis formulation, method selection, data collection, analysis, conclusion.
14. Corpus compilation and experimental tasks.
15. They protect participants, ensure transparency, and uphold credibility.
16. Metaphor analysis improves machine translation.
17. Wording such as “90% fat-free” vs. “10% fat” influences perception.
18. Big data and neurocognitive tools.
19. It demonstrates relevance in education and translation.



20. Difficulty in generalising findings across cultures.
21. Combining corpus, experimental, and computational methods.

Long-Answer Questions

22. **Basic response:** Applications include teaching phrasal verbs through image schemas, recognising metaphorical variation in translation, and analysing ideology in media discourse. **Value-added response:** These applications also show how cognitive linguistics enhances intercultural communication, supports pedagogy with conceptual frameworks, and reveals persuasive strategies in political and health campaigns.
23. **Basic response:** Research practices involve designing projects, collecting data through corpora or experiments, and ensuring ethical standards. **Value-added response:** They also highlight the importance of methodological transparency, interdisciplinary collaboration, and balancing experimental control with ecological validity.
24. **Basic response:** Interdisciplinary applications include metaphor analysis in NLP, framing effects in psychology, and emerging trends such as big data. **Value-added response:** They also demonstrate how cognitive linguistics informs AI language models, supports cognitive science theories of categorisation, and integrates neurocognitive evidence of brain processing.
25. **Basic response:** Applied research has strengths in practical relevance, limitations in cultural generalisation, and benefits from integrative practices. **Value-added response:** It also shows how interdisciplinary collaboration enhances impact, how methodological refinement addresses challenges, and how applied research contributes to societal needs in education, health, and technology.

Answers to Pilot Questions [Series 5]

Part 5.1: Applications of cognitive linguistics in real-world contexts

1. It makes language teaching more intuitive by emphasising meaning and conceptualisation rather than rote memorisation.
2. Image schemas provide conceptual patterns, such as “up” representing completion or increase, which help learners understand phrasal verbs.
3. It highlights how metaphors and cultural frames shape meaning, enabling more accurate and culturally sensitive translation and communication.
4. Example: English uses “time is money” (“spend time”), while another language may conceptualise time differently, such as “time is a path.”
5. It reveals ideology by identifying metaphors and frames in texts, showing how language influences perception in media.

Part 5.2: Research practices in cognitive linguistics

1. Key stages include identifying the research problem, formulating hypotheses, selecting methods, collecting data, analysing results, and drawing conclusions.
2. Example: A research question could be “How is metaphor used in political speeches?” studied using corpus methods.



3. Data collection refers to gathering evidence, while data analysis involves examining that evidence to identify patterns and test hypotheses.
4. Strategies include compiling corpora and conducting experimental tasks.
5. Ethical principles include informed consent, confidentiality, transparency, and avoiding harm.

Part 5.3: Interdisciplinary applications and innovations

1. It contributes by emphasising meaning, metaphor, and constructions, improving NLP systems and AI applications.
2. Metaphor analysis helps machine translation systems recognise figurative language.
3. It connects by providing frameworks for categorisation, metaphor, and framing, supporting psychological and cognitive science models.
4. Example: “90% fat-free” vs. “10% fat” shows how wording influences perception.
5. Emerging trends include big data, machine learning, and neurocognitive tools.

Part 5.4: Evaluating contributions and limitations of applied research

1. Strengths include practical relevance in education, translation, media, and interdisciplinary fields.
2. Example: Teaching phrasal verbs through image schemas demonstrates relevance beyond academia.
3. One limitation is the difficulty of generalising findings across cultures and languages.
4. Recognising limitations helps refine approaches and avoid misinterpretation.
5. Integrative practices, such as combining corpus, experimental, and computational methods, enhance impact.

References and Attributions [Series 5]

This section consolidates references and illustration attributions for **Series 5: Applied Research in Cognitive Linguistics**, presented in APA style.

Scholarly References

- Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. Cambridge: Cambridge University Press.
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Illustration Attributions

- **Figure 5.1: Image schema approach to phrasal verbs** AI-generated suggestion. Prompt: “Create a diagram showing how the particle ‘up’ in phrasal verbs relates to the concept of completion or increase.” Suggested OER search string: “cognitive linguistics phrasal verbs image schema OER”.
- **Plate 5.1: Metaphorical variation across languages** AI-generated suggestion. Prompt: “Create an image showing metaphorical variation across languages, e.g., English ‘spend time’ versus another language’s alternative metaphor.” Suggested OER search string: “cognitive linguistics translation metaphor variation OER”.
- **Box 5.1: Applications of discourse analysis in media** AI-generated suggestion. Prompt: “Create a text box listing applications of discourse analysis in media, including health campaigns, political speeches, and advertisements.” Suggested OER search string: “cognitive linguistics discourse analysis media OER”.
- **Figure 5.2: Stages of cognitive linguistic research design** AI-generated suggestion. Prompt: “Create a diagram showing stages of research design in cognitive linguistics: research problem, hypothesis, method selection, data collection, analysis, conclusion.” Suggested OER search string: “cognitive linguistics research design diagram OER”.
- **Box 5.2: Common data collection and analysis strategies** AI-generated suggestion. Prompt: “Create a text box listing common data collection and analysis strategies in cognitive linguistics, including corpus compilation, experimental tasks, and computational modelling.” Suggested OER search string: “cognitive linguistics data collection analysis strategies OER”.
- **Plate 5.2: Ethical principles in cognitive linguistic research** AI-generated suggestion. Prompt: “Create an image showing ethical research principles in cognitive linguistics: informed consent, confidentiality, transparency, respect for participants.” Suggested OER search string: “ethical considerations linguistic research OER”.
- **Figure 5.3: Cognitive linguistics contributions to NLP** AI-generated suggestion. Prompt: “Create a diagram showing integration of cognitive linguistics into NLP: metaphor analysis improves translation, construction grammar improves pattern recognition.” Suggested OER search string: “cognitive linguistics NLP applications diagram OER”.
- **Plate 5.3: Framing effects in psychology and language** AI-generated suggestion. Prompt: “Create an image showing framing effect examples, such as ‘90% fat-free’ vs. ‘10% fat,’ illustrating how wording influences perception.” Suggested OER search string: “framing effects psychology linguistics OER”.



- **Box 5.3: Emerging trends in cognitive linguistics** AI-generated suggestion. Prompt: “Create a text box listing emerging trends in cognitive linguistics, including big data, machine learning, and neurocognitive tools.” Suggested OER search string: “emerging trends cognitive linguistics big data machine learning neurocognitive tools OER”.
- **Figure 5.4: Strengths of applied cognitive linguistic research** AI-generated suggestion. Prompt: “Create a diagram showing strengths of applied cognitive linguistic research: education, translation, media, interdisciplinary fields.” Suggested OER search string: “applied cognitive linguistics strengths diagram OER”.
- **Box 5.4: Limitations of applied cognitive linguistic research** AI-generated suggestion. Prompt: “Create a text box listing limitations of applied cognitive linguistic research, including cultural variation, limited control, and oversimplification.” Suggested OER search string: “applied cognitive linguistics limitations challenges OER”.
- **Plate 5.4: Towards integrative and impactful research practices** AI-generated suggestion. Prompt: “Create an image showing integration of methods and disciplines in cognitive linguistics: linguistics, psychology, AI, education, media.” Suggested OER search string: “integrative research practices cognitive linguistics OER”.

