LEGE ARTIS

Language yesterday, today, tomorrow

Vol. XI. No 1 2026

SEMANTIC MEMORY AND CONCEPT REPRESENTATION IN THE HUMAN BRAIN: A BEHAVIOURAL PERSPECTIVE

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Received: 10.02.2026 **Reviewed:** 23.02.2026 and 25.02.2026

Similarity Index: 0%

Bibliographic description: Asgarova, M. & Aliyeva, N. (2026). Semantic memory and concept representation in the human brain: A behavioural perspective. In *Lege artis. Language yesterday, today, tomorrow.* Trnava: University of SS Cyril and Methodius in Trnava, XI (1), p. 2-18. ISSN 2453-8035 DOI: https://doi.org/10.34135/lartis.26.11.1.01

Abstract: The paper examines semantic memory and concept representations at the behavioural level using semi-structured interview. It has been found that participants made sense of concrete and abstract concepts experientially, emotionally, and contextually. Therefore, abstract concepts are more subjective and context-sensitive, while concrete ones are more autonomous and sensory. The results have an implication that semantic knowledge is not a fixed but dynamic system and is continually re-constituted through experience, emotion, and language.

Keywords: semantic memory, concept representation, bilingualism, abstract concepts, behavioural cognition.

1. Introduction

Semantic memory occupies an important place in the information system of the human mind and is defined as the type of memory in which general information about words, concepts, objects, and phenomena is stored. In this respect, semantic memory forms the basis of human cognitive processes such as using language, problem solving, and abstract thinking. Concept representation, on the other hand, tries to explain how this information is organised and represented in the mind. Within the context of this paper, concept representation can be defined as the cognitive processes by which conceptual knowledge is formulated, encoded, and stored in the mind on linguistic, perceptual, and emotional levels. It has been found that the representation of concepts occurs not only in the form of

the symbols of a language but also in the form of visual, motor, and emotional elements (Yee et al. 2018). This reveals that conceptual knowledge has a multidimensional structure.

Behavioural research into semantic memory and concept representation is indispensable in analyzing the world of meaning of the human mind. The discoveries in this field have illuminated some of the basic questions of not only cognitive psychology but also neuroscience. How meanings are represented in the human brain and how conceptual knowledge is organised is one of the most fundamental and controversial questions of cognitive sciences. Semantic memory enables the individual to make sense of the world around him/her, to use language effectively, and to make inferences based on knowledge. Still, it is not completely understood how this system works, how information is represented in the brain, and how concepts form relations with one another.

Neuropsychological and neuroimaging studies conducted in the past have shown that semantic memory is associated with certain regions of the brain – especially the temporal and parietal lobes (Riessman 2008). But the purely biological explanations are not sufficient to give a complete account of the dynamic and context-sensitive character of conceptual representations. Thus, behavioural strategies are complementary in cognition and reveal how people process and package conceptual knowledge (Mar 2011).

Therefore, the main problem of this research is to reveal how semantic memory and concept representations function at the behavioural level, how individuals structure their meaning knowledge, and what the role of these structures in cognitive processes consists in. This issue is meant to address a severe gap in the comprehension of the intellectual operations of the human mind.

The main purpose of this research is to examine how semantic memory and concept representations function at the behavioural level in the human brain. In this regard, the study is supposed to discover that meaning is not only a structure of language, but also a multidimensional mental image that is underpinned by perceptual, motor, and emotional elements. Semantic memory as a complex cognitive system of conceptual organisation is the object-matter of the research. The subject-matter of the research is behavioural interplay between semantic memory and concept representations, with concrete and abstract concepts being differentiated. The content of the study is comprised of qualitative information gathered by means of semi-structured interviews of bilingual adult respondents. The data to be obtained by methods such as reaction times, word associations, and categorical classification tasks will be used to explain the way semantic information is structured. In general, this research aims to contribute to the fields of cognitive psychology and neuroscience by

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revealing the functional role of semantic memory and concept representations in the human mind through behavioural data.

How do semantic memory and concept representations interact at the behavioural level and what is the difference between concrete and abstract concepts based on the multidimensionality of semantic knowledge?

2. Literature review

2.1 Theoretical foundations of semantic memory investigation

Semantic memory is one of the basic cognitive systems in which the individual stores general information about the world and uses this information in language, thinking, and problem-solving processes. The nature, structure, and functioning of this memory have long been one of the main areas of discussion in cognitive psychology and neuroscience. Semantic memory is explained by different theoretical models and those feature-based, connective, and distributive approaches offer different assumptions about the organization of memory (Kumar 2021). It is emphasized that semantic memory is not only a passive structure in which information is stored, but also a dynamic system in which conceptual relations are constantly updated (Murphy 2004). Similarly, Yee & Thompson-Schill (2016) have shown in their current study that semantic memory has a multi-layered architecture both cognitively and neurally, and that information representations can be reorganised according to context. In particular, connectivity models suggest that conceptual information is stored in the form of a network and activated according to its associative power. On the other hand, this system cannot be reduced to a single brain region by focusing on the neurobiological foundations of semantic memory. Semantic information is represented in a distributed form in sensory and motor systems along with temporal and parietal regions (Binder & Desai 2011).

Episodic and semantic memory are closely related systems without clear-cut boundaries; the two systems interact in the processes of information acquisition and recall (Greenberg & Verfaellie 2010). Simultaneously, network-based and dispersive models might be used to explain this interaction and explain the dynamic and context-specific aspects of semantic structure (Kumar et al. 2022). Consequently, the existing theories are able to characterize semantic memory not as a fixed repository of information, but as a multidimensional, contextually reconstructed cognitive system distributed across the brain. Based on the interdisciplinary viewpoint, contemporary studies also define meaning construction as a process that is socially embedded and identity-focused, noting that conceptual systems are also developed in linguistic and cultural positioning (Islamli & Aliyeva 2025).

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2.2 Conceptual representational models: a cognitive science perspective

Concept representation is one of the central issues of cognitive science, which tries to explain how people mentally construct objects, events, and abstract phenomena. Theoretical models in this field suggest different assumptions regarding the nature, form, and organization of representations in the brain. Conceptual representations are not only composed of symbolic structures independent of amodal, that is, sensory systems, but also organised in the form of multimodal networks distributed to visual, auditory, and motor systems (Kiefer & Pulvermüller 2012). The concept of amodal representation is interpreted in this study as being a symbolic and modality-free conceptual encoding that is not directly connected with sensory or motor experience. This strategy posits that meaning is not detachable from sensory experiences. In addition, the understanding of abstract concepts is explained by the combination of small units of meaning called meaning components (Khatin-Zadeh & Farsani 2022). People have varying representations of concepts in their brains, with the largest divergence observed in the regions that are linked with social knowledge (Visconti et al. 2025). This strategy contends that an ability to abstract meaning from sensory experiences is incompatible with embodied cognition hypotheses.

In neuroimaging, studies on the representation of abstract concepts showed that three basic dimensions are activated in the areas of the brain, associated with linguistic, social, and internal processes (Vargas & Just 2020). This finding supports that abstract meaning also has a distributed and multidimensional structure. On the other hand, the flexible representation model explains concept representations by suggesting that they are not static but flexibly restructured depending on context and task (Truman & Kutas 2024).

Finally, according to the comparison of distributed semantics with fMRI data, concept representations can be predicted by brain activation patterns (Kaiser et al. 2022). The method is known as computational approaches that integrate symbolic and connectionist models to explore the way conceptual representations are manifested in the activity of the brain. This method enables the state of cognitive representation to be analyzed at the computational level through the integration of symbolic and connective models. It assists researchers to employ computational models to connect the representations of theoretical concepts and the brain activity patterns. Overall, in the existing literature, concept representations are not taken as one, but as multi-layered constructs, which result from the interaction between sensory, amodal, contextual, and distributed processes.

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2.3 Behavioural strategies in semantic memory

The study of semantic memory at the behavioural level is an important approach to understanding how individuals access, organise, and use conceptual knowledge. Behavioural approaches disclose not only the neurological basis of semantic memory, but also its functionality in cognitive processes. In this regard, behavioural strategies denote particular experimental activities and visible performance to examine semantic memory, including word association, semantic priming, and verbal fluency tasks. Badre and Wagner (2002) divided semantic access processes into two groups, i.e. automatic and controlled, and suggested that these processes are especially related to the anterior frontal cortex. In their opinion, the fast and independent access mediates processes in the word association or decision-making tasks of automatic memory; the slower and attention-oriented processes are those of controlled memory. Semantic memory is not only a passive store of information, but also a dynamic system that has a strong relationship with executive control (Joordens & Becker 1997). Additionally, the semantic priming tasks shorten the reaction time of meaning-related word pairs and are, therefore, sensitive to the relationship strength of memory (Perea & Rosa 2002). Moreover, Whiteside et al. (2016) showed that category-based (e.g. animal names) and letter-based fluency tasks reflect different cognitive components and that demographic variables such as age and education level in particular affect performance. Demographic variables (especially age and education level) significantly affect verbal fluency and category-based semantic fluency task performance (Hoffman 2018).

Finally, Shao et al. (2012) examined the interaction of semantic access and executive control during word production and revealed that semantic memory is closely related to attention processes with response time and accuracy rate measurements. These results indicate that semantic memory is not a rigid repository of knowledge, but rather a dynamic process that changes depending on the situation, task requirements, and personal variables.

2.4 Neurocognitive correlations in semantic processing

Semantic processing is also a complicated process in cognition that occurs via the combined effort of the language, memory, and perception systems of the brain. Neuroimaging and neuropsychological experiments have demonstrated that semantic memory cannot be localized in one part of the brain; it is rather upheld by a vast complex of brain parts. Based on functional magnetic resonance imaging (fMRI) studies, the anterior and lower regions of the temporal lobe and the inferior parietal cortex are said to be central to semantic representation (Binder & Desai 2011). The integration of linguistic and perceptual information is possible with the help of this network. Based on the neuroimaging findings, scientists discovered that semantic processing does not merely occur in the anterior temporal lobe but also in diffuse networks, which are located in the left hemisphere, such as the inferior frontal gyrus,

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angular gyrus, and ventral temporal cortex (Kurada 2024). Patterson et al. (2007), on the other hand, stated that the anterior temporal lobe forms the amodal nucleus of conceptual knowledge and that information from different modalities is integrated inside. This perspective favours the strategy of the so-called hub-and-spoke paradigm, which implies the idea of the organization of conceptual knowledge integrated within and between modalities.

In his research of semantic control operations, Jefferies (2013) demonstrated that the inferior frontal gyrus and posterior temporal areas should be seen as extremely important in the flexible application of semantic information (such as in an ambiguous or out-of-context meaning). These control mechanisms ensure that information is selected in accordance with the task request. Semantic control processes according to lesion and imaging findings involve specifically the left inferior frontal gyrus and posterior middle temporal gyrus as an apparent means of meaningful selection-control (Ergin 2025). In addition, Ralph et al. (2017) combined neurocognitive modelling and neuroimaging data to show that semantic processing works in tandem with both an amodal core and modality-specific representation domains. For example, comprehension of a metaphor such as *time is a river* demands the executive control and integration of linguistic knowledge to select the context-appropriate meaning and creates the perceptual imagery of a flowing river. These results indicate that semantic processing is achieved with the aid of a dynamic neural network and motivated by the holistic connection of language, perception, and executive control systems.

2.5 Multidimensionality of conceptual knowledge

Barsalou (2008) suggested that, within the framework of embodied cognition theory, concepts are re-simulated with activities in sensory and motor systems, and meaning derives directly from perceptual experiences. Emotional valuation and sensory-motor simulation processes have been found to play an active role in the formation and access to conceptual knowledge (Saxbe et al. 2013). These views hold that the mental representation of meaning is based on experiential rather than abstract foundations. In addition, the recent philological theories state that conceptual meaning is indistinguishably coupled with identity making, and it makes sense to consider that linguistic structures are the result of not only mental processes but also identity-making (Asgarova 2025b).

Vigliocco et al. (2009) showed that linguistic, perceptual, and emotional knowledge contribute to concept representations at different levels. While perceptual discrimination capacity decreases with age, the level of conceptual knowledge has been shown to be increasingly decisive in making sense of concepts (Huang et al. 2025). In particular, it has been stated that emotional associations play a critical role in the understanding of abstract concepts and such concepts are often supported by

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linguistic cues. Research on identity formation in language-different individuals also reveals that conceptual processing is closely intertwined with self-perception and emotional self-construction, which further supports the opinion that the relation of meaning is formed through experience in personal narrative (Asgarova 2025a).

According to Lynott and Connell (2013), the concept is manifested at varying intensities across the modalities of sensation (visual, auditory, tactile, etc.); this pattern forms the perception signature of each idea. Throughout the perceptual modalities (visual, au ditory, tactile), the representation densities of the concepts were found to be measurable, and this finding provides new criteria for the multiple sensory structures of conceptual knowledge (Castro et al. 2015). In this way, conceptual knowledge is based on sensory knowledge and has become measurable in systematic ways. Kousta et al. (2011), on the other hand, showed that the dimensions of emotional valence and arousal affect semantic access speed; notably, words with positive emotional content can be processed faster. Based on the theoretical and empirical literature reviewed above, a behavioural model of semantic memory and concept representation was developed to guide the present study (see Fig. 1).

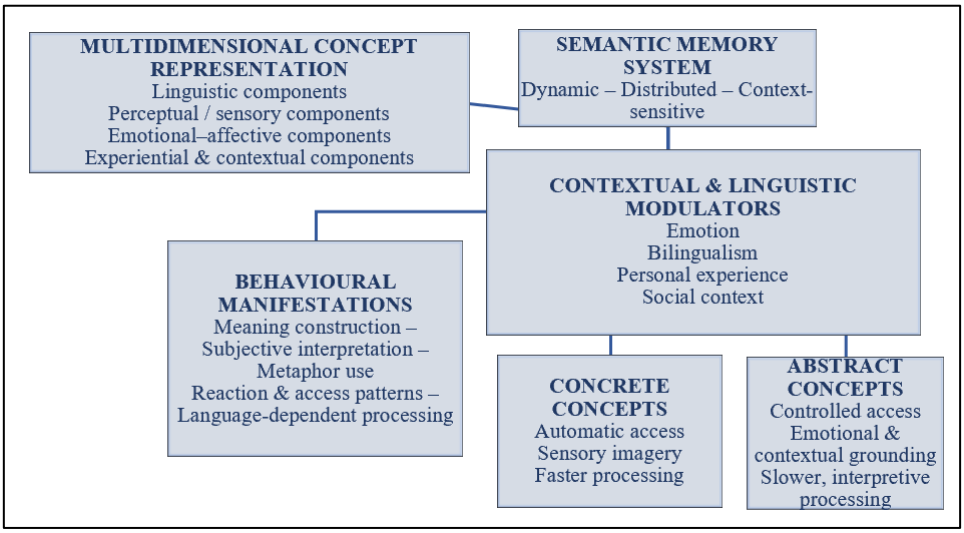

Figure 1. Behavioural model of semantic memory and concept representation. Source: Own processing

3. Methodology

3.1 Research design

This study was designed as a qualitative study examining how semantic memory and concept representations are structured at the behavioural level. The research was conducted within the framework of the phenomenological approach to examining conceptual representation as it aims to reveal how individuals organise semantic knowledge and especially how they form concrete and

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abstract concepts. Semi-structured interviews were applied for the data collection. This method facilitates the systematic collection of data concerned with conceptual themes, which are partially predetermined, and assists participants in expressing their subjective experiences on semantic representations in a detailed version. This qualitative research pattern aims to examine the multidimensional and context-sensitive structure of semantic memory in depth on the basis of participatory narratives.

3.2 Participants

A total of 12 adult individuals voluntarily participated in the study. The ages of the participants ranged from 22 to 40. The sample consisted of 6 female and 6 male participants. The native language of the participants is Azerbaijani, and their second language is English (according to the Common European Framework of Reference for Languages (CEFR), their language proficiency levels were intermediate). The participants were selected from individuals living in the Azerbaijani cities of Baku, Khirdalan and Sumgayit. In the study, individuals with a cognitive or neurological disorder were excluded from the sample. The interviews were conducted on a voluntary basis, the participants were informed about the purpose of the research, and the identity information of the participants was kept confidential in line with ethical principles. The data obtained were used only for scientific purposes.

3.3 Data collection

The study data were collected through semi-structured interviews. While this method allows systematic data collection within the framework of predetermined basic questions, it allows participants to express their opinions in detail. The interviews were conducted individually and each interview lasted about 20-30 minutes. No audio recordings were made during the interviews, and the answers given by the participants were noted by the researcher simultaneously. Verbal consent was obtained from the participants before starting the interviews. The interview questions prepared in advance focused on semantic memory and concept representations, aiming specifically to obtain data on how concrete and abstract concepts are perceived and structured.

3.4 Data analysis

The data obtained within the scope of the research were analyzed within the framework of a qualitative data analysis approach and in line with Interpretive Phenomenological Analysis (IPA) principles. This approach aims to examine in depth the experiences of the participants and the meanings they attribute to these experiences. The written notes taken during the interviews were edited and read many times before the analysis process. In the first stage, the participants' statements were subjected to open coding; thus, meaningful expressions were determined. Then, themes were

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created by combining the similar codes. In the analysis process, the subjective perceptions of the participants about concrete and abstract concepts, how they make sense of these concepts, and how they structure the relations between the concepts were handled from an interpretive perspective. The themes obtained were evaluated in the context of semantic memory and concept representations and interpreted within the framework of the research question.

4. Results

The participants' statements showed that semantic knowledge is structured not only by verbal descriptions but largely by personal experiences. For instance, in the case of concrete concepts, the participants tended to define meaning through visual and sensory images. As an example, one of the participants responded, '*When I say "table", I imagine a table in the house first, the word itself comes later.'* These remarks show that semantic memory is dynamically formulated on experiential elements. When it comes to abstract concepts, it has been observed that the interpretation process is more personal and context-sensitive. One participant stated that abstract concepts were structured with emotional and experiential connotations by saying, '*When I think of the word "justice", there is no clear picture, but the injustices I experience come to mind.'* This fact suggests that semantic representation is created based on personal experiences, not based on a predetermined structure.

The interviews also demonstrated sharp disparities between the mental conceptions of concrete and abstract concepts. While most of the participants defined concrete concepts quickly and automatically, they made longer explanations for abstract concepts. As an example, one of the respondents gave the answer, '*When I talk about an apple, I unconsciously imagine something red, when I talk about freedom, I can only stutter and be afraid to imagine.'* It is noteworthy that metaphors are frequently used in the definition of abstract concepts. Another participant demonstrated that it is through concrete experience that one conceptualizes abstract meanings, and she added, *'Freedom is like breathing to me*.' This suggests that abstract concepts are represented in an indirect and multilayered way, not symbolically. The findings reveal that abstract concepts are structured by the interaction of linguistic, emotional, and social components.

According to the participants' responses, emotions have a decisive role in semantic representations. It has been observed that emotional associations facilitate access to meaning, especially in abstract concepts. Another participant insisted on the importance of emotion in semantic access and said, *'In this case, when I think of the word "happiness", my affective response supersedes the lexical item itself.'* Some respondents reported very long intervals in defining the concepts attributed to negative emotions. For example, a participant who said, *'the word "loss" is a little difficult because it is a*

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personal thing,' stated that emotional load affects cognitive processing. These findings indicate that semantic memory is not only a cognitive system but also an emotional regulation process. It has become clear that meaning cannot be considered independent of emotional experiences.

The statements of the bilingual participants showed that semantic representations can vary depending on the language. The participants stated that they thought of some concepts more naturally and faster in their mother tongue. One participant added, *'Certain words happen to be more neutral in English, compared to my mother tongue.'* With regard to specifically abstract concepts, the statements that second language reduces emotional load have attracted attention. Language does produce semantic distance, for instance, one of the respondents noted, *'When I imagine "justice" in English, it does sound more academic.'*

This result shows that semantic memory is not closed to language context and that conceptual representations can be reorganised during bilingual interaction, demonstrating a linguistically context-sensitive and flexible structure. The responses of the participants clearly revealed that semantic representations can vary according to context. It has been stated that the same concept evokes different meanings in different situations. One of the interviewees declared, *'The word "family" seems different at work and at home.'* Semantic information is, therefore, reconstituted in contextual form and not stored in a predetermined repository. The participants stated that they often interpret concepts according to their emotional and social situation. Contextual flexibility was further exhibited by a participant who said, *'The word "stress" has a different meaning in the exam situation compared to the work situation.'* Contextual flexibility is the capacity of a concept meaning to vary depending on the social, emotional, or situational context. Therefore, the participants reported that *stress* feels different during exams than at work, and *family* carries distinct connotations at home versus in professional settings. These findings reveal that, in addition to its context-sensitive nature, semantic memory is a functional and dynamic system. Table 1 presents the main behavioural differences in participants' responses to concrete and abstract concepts, which emerged from the interview results.

Table 1. Distinction of concrete and abstract concepts. Source: Own processing

Aspect	Concrete concepts	Abstract concepts
Processing	Fast, automatic	Slow, reflective
Representation	Sensory, visual	Emotional, experiential
Context	More stable	Highly context-dependent

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5. Discussion

The semi-structured interview findings of this study reveal that semantic knowledge is largely structured by the participants on the basis of personal experiences. The statements of the participants such as *'what I experienced before thinking about the word comes to my mind'*, *'some concepts are like memories for me'*, and *'meaning for me is more a memory than a definition'* show that semantic representation is an experience-based process rather than a dictionary-based structure. These findings coincide with the embodied cognition approach, which argues that conceptual knowledge is based on perceptual and experiential foundations (Barsalou 2008).

In the literature, it is emphasized that semantic memory is a distributed and multidimensional system (Binder & Desai 2011; Kiefer & Pulvermüller 2012). The narratives of the participants demonstrate the mechanisms how this multidimensionality works at a subjective level. Particularly, the fact that one of the respondents uses the statement *'the same word may evoke something entirely different in me than in someone else'* justifies the view by Murphy (2004) that semantic memory is a specific dynamic and personal system. However, while common representations come to the fore in the current literature, it is seen that individual life plays a more pivotal role in semantic structuring, according to this study. In this respect, the findings show that semantic memory is not only a cognitive but also a subjective structure.

The accounts of the participants indicated that mental images of concrete concepts developed faster and unconsciously, whereas abstract concepts were demanding in terms of cognitive effort and elaboration. The expressions such as *'I do not stop when I say table, but I have to make a sentence when I say freedom'* and *'I try to express myself in abstract words'* clearly reflect this difference. The findings are consistent with the models that distinguish between automated and controlled semantic access processes (Badre & Wagner 2002).

In the literature, it is suggested that abstract concepts are mostly represented through linguistic networks (Vargas & Just 2020). However, in this study, the participants' explanations of abstract concepts with metaphors (e.g., *'Freedom is like breathing for me'*; *'Justice is a sense of balance'*) and emotional descriptions are remarkable. This is aligned with the model of flexible representation that postulates that conceptual representations are restructured flexibly depending on context and experience (Truman & Kutas 2024). The results of the findings are that there are multi-layered representations of abstract concepts that are supported by not only symbolic representations, but also experience and emotional representations.

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Other statements by the participants reveal that emotions are central and positive in the process of semantic representations. The answers such as *'It is difficult to even say some words'*, *'I get stuck on words with heavy emotions'*, and *'Meaning starts with feeling'* suggest that emotional components do not only accompany but also establish the meaning. This correlates with the previous research that emotional value and arousal influence semantic access (Kousta et al. 2011).

However, the findings of this study show that emotions determine not only the speed of processing, but also the content of meaning. The participants' hesitations, especially in concepts such as *loss*, *justice*, and *happiness*, support the executive control and semantic access interaction (emphasized by Shao et al. (2012)) at a qualitative level. One of the phrases of the participants, *'everyone understands this word, but it is different with me'*, gives the impression that emotions personalize semantic representation. In this context, the findings strongly suggest that semantic memory is not only a cognitive but also an emotional structure (Vigliocco et al. 2009).

These narratives of the bilingual participants showed that the representations of semantics were language context-dependent. The statements such as *'When I think in English, the word does not belong to me'*, *'I feel more in my mother tongue'*, and *'Words in the second language are colder'* show that the second language creates emotional distance. This observation can be linked to the literature arguing that language is able to establish emotional and semantic distances (Greenberg & Verfaellie 2010; Shokrkon & Nicoladis 2022).

In addition, the statements of the participants such as *'The same word sounds different in a different environment'* and *'The meaning changes according to the context'* show that semantic memory has a context-sensitive and flexible structure. Context in this work appeared not only as a cognitive but also as a social and emotional structure. Thus, it has been shown that semantic memory is constantly reconstructed with the individual's life and linguistic positioning. The statements of the participants such as *'one and the same word is not the same for everyone'*, *'when someone else hears a word, they may feel different things'*, and *'the meaning I understand may not suit someone else'* provide a critical perspective on the treatment of meaning as a universal and fixed structure.

These results indicate that semantic representation may vary depending on the experiences of individual background. In the literature, it is assumed that semantic memory may be widely organised as common conceptual networks (Murphy 2004; Kumar 2021). However, the qualitative findings of this study show that participants construct meaning on the basis of personal experiences, emotions, and contexts.

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This implies that, at the inter-individual level, semantic representations can be more subjective and flexible. To a certain degree, this variability can be attributed to the context-sensitive semantic restructuring models (Yee & Thompson-Schill 2016). However, the individual differences revealed in this study indicate that context has not only a situational but also a biographical and experiential dimension. Therefore, the findings make an original contribution to cognitive science by revealing that semantic memory is a dynamic structure that is constantly reshaped by the individual's life experiences rather than a fixed and common system. Table 2 illustrates how the literature review correlates with the participants' answers.

Table 2. Dialogue between theoretical and participatory voice. Source: Own processing

Participant voice (illustrative)	Literature anchor	Interpretation
'When I say table, I imagine the object first.'	Barsalou (2008)	Concrete concepts are grounded in perceptual experience.
'Justice has no picture; it reminds me of what I lived through.'	Kousta et al. (2011)	Abstract concepts are emotionally and experientially grounded.
'The same word feels different in different situations.'	Yee & Thompson-Schill (2016)	Semantic representations are context-dependent.

5.1 Limitations and future research

This study is based on a qualitative design and was conducted with a limited number of participants. Even though the findings are quite insightful, it is limited in its generalisability. The fact that the data, which is based only on the self-reports, may have increased the subjective nature of the participant comments. Although the given examples demonstrate particular cases, a wider scope of contexts would be more insightful to investigate. In addition, the behavioural measures were not supported by the neuroimaging data. Future studies can be conducted with larger and culturally diverse samples. The presentation of quantitative results using experimental and neuroscientific techniques will help to fill in the gaps of the whole picture of semantic representation processes.

6. Conclusion

This research was intended to uncover the representative variations involving concrete and abstract concepts through analyzing how semantic memory and concept representations are organised at the behavioural level. The qualitative findings obtained in line with the research question showed that semantic knowledge is a multidimensional system that is not only constantly reconstructed experientially, emotionally, and contextually, but also supported by neurocognitive networks, rather than a fixed, universal, and exclusively language-based structure in the human mind. These interpretations rely on the narratives of the participants and thus should be interpreted in the framework of qualitative behavioural evidence.

The participants consider the use of semantic memory to be fast, automatic, and sensory-based, particularly in concrete concepts, but abstract concepts involve slower, controlled, and affective processing. This outcome justifies the difference between the automated semantic access and executive control processes developed at the behavioural level and addressed throughout neurocognitive literature. In this respect, the present findings are consistent with, rather than demonstrative of, the mechanisms proposed in neurocognitive models. In response to the research question, it can be said that the behavioural functioning of semantic memory differs depending on the type of concept, and this difference is based on the interaction between distributed semantic networks and control mechanisms.

Therefore, emotional components play a constructive role in semantic representation. The fact that the participants refer to their own emotional experiences, especially in their explanations of abstract concepts, suggests that semantic memory works in a holistic interaction between the processes and semantic networks associated with the limbic system. This implies that semantic memory is not merely a cognitive system but also a neurocognitive one that is integrated with emotional regulation processes.

The results retrieved within the framework of bilingualism show that language serves as a neurocognitive filter of semantic representations. The more neutral and distant perceptions of the concepts in a second language by the participants indicate that the reorganization of semantic representations depends on the linguistic context and can be facilitated by various patterns of neural activation. From a neurocognitive perspective, this result also confirms the flexible and context-sensitive structure of semantic memory. However, such neurocognitive interpretations remain theoretical extensions grounded in existing literature rather than direct empirical measurements within this study.

This study, consequently, indicates that concept representation in semantic memory is a dynamic system at the behavioural level, and this interaction phenomenon between experience, emotion, and language is supported by distributed neurocognitive networks. The results offer a peculiar and comprehensive contribution to cognitive science, which demonstrates that semantic knowledge is the system that is continuously reorganised under the impact of personal experience as well as neurocognitive regulation operations, but not an authoritative structure of representations.

 ISSN 2453-80351

Abbreviations

fMRI – Functional Magnetic Resonance Imaging

IPA – Interpretive Phenomenological Analysis

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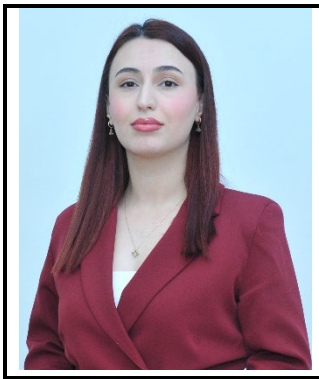	*name:* *academic title / rank:* *department:* *institution:* *e-mail:* *fields of interest:*	**Munavvar Asgarova** MA in Linguistics Lecturer Department of Foreign Languages Baku Engineering University Hasan Aliyev str., 120, Khirdalan, AZ0102, Azerbaijan muasgarova@beu.edu.az Cognitive linguistics, neurolinguistics, psycholinguistics.

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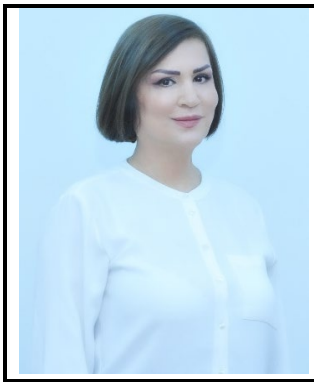	*name:* *academic title / rank:* *department:* *institution:* *e-mail:* *fields of interest:*	**Narmina Aliyeva** PhD. in Linguistics Associate Professor / Head of Department Department of Foreign Languages Baku Engineering University Hasan Aliyev str., 120, Khirdalan, AZ0102, Azerbaijan neliyeva@beu.edu.az Discourse analysis, sociolinguistics, pragmatics, semantics.