

Word Learning in L1 and L2 Acquisition: A Comparative Analysis through the Emergentist Coalition Model (ECM)

Abstract

This qualitative study compared the word learning strategies of children acquiring their first language (L1) and adults acquiring a second language (L2) using the Emergentist Coalition Model (ECM) as a framework. Children (aged 4-7) and adults (aged 18-65) participated in semi-structured interviews. Thematic analysis revealed that children relied more on implicit learning through social cues and phonological awareness, while adults adopted a more explicit and strategic approach, emphasizing semantic knowledge. These findings highlighted the influence of developmental stage and learning context on word learning strategies. By demonstrating the importance of both implicit and explicit learning for L1 and L2 learners, this study contributed to a more holistic understanding of word acquisition.

Keywords: Emergentist Coalition Model, first language acquisition, second language acquisition, qualitative research, word learning.

1. Introduction

Vocabulary acquisition is a fundamental aspect of language development, yet children and adults exhibit distinct learning trajectories. Children effortlessly absorb new words, while adults often struggle with L2 vocabulary acquisition. This disparity highlights the need to explore the underlying cognitive processes involved in word learning (Giridharan, 2010), while research has investigated these mechanisms, a gap remains in our understanding of how L1 and L2 learners utilize different strategies.

The Emergentist Coalition Model (ECM) (proposed by Hirsh-Pasek & Golinkoff, 1996) offers a valuable framework for understanding word learning. This model posits that various cognitive abilities, including phonological awareness, semantic knowledge, and social cues, work together in a dynamic coalition to facilitate word learning. Existing research has explored the application of the ECM in explaining children's L1 acquisition (Best & McCarthey, 2000), highlighting the interplay of these cognitive factors. However, a dearth of research exists regarding whether the ECM operates similarly in adult L2 acquisition.

This qualitative study bridges the gap by exploring word learning experiences of L1 and L2 learners. By employing in-depth interviews or focus groups, the study aims to capture the strategies learners naturally employ when encountering new words. By analyzing these experiences through the lens of the ECM, the study would gain insights into potential similarities and differences in how children and adults build vocabulary [50].

Understanding the specific strategies employed in L1 and L2 acquisition can inform more effective language learning approaches for both children and adults. This research aims to provide valuable insights into language acquisition by offering a qualitative perspective on the Emergentist Coalition Model in both first and second language learning, identifying potential differences in word learning strategies between children and adults, and informing the development of targeted language learning methods based on the model's principles. By building

bridges between the experiences of children and adults, this study aims to illuminate the fascinating world of word learning across different stages of life.

This study seeks to answer the following research questions:

- How do children acquiring their first language (L1) and adults acquiring a second language (L2) utilize the components of the Emergentist Coalition Model (ECM) for word learning?
- How do the strategies employed by L1 and L2 learners in utilizing the components of the ECM differ?
- How does the developmental stage of L1 learners and the learning context of L2 learners influence their reliance on different components of the ECM?
- What are the similarities and differences in the challenges faced by L1 and L2 learners in word acquisition, as explained by the ECM?

2. Literature Review

The acquisition of vocabulary is a fundamental aspect of language development, with distinct trajectories for first (L1) and second language (L2) learners. While children effortlessly absorb new words, adults often encounter challenges in expanding their L2 lexicon. Understanding the underlying cognitive mechanisms involved in word learning is crucial for informing effective language teaching and learning practices.

Several theoretical frameworks attempted to explain the intricacies of vocabulary acquisition. Behaviorist perspectives, such as Skinner's (1957) operant conditioning, emphasized the role of reinforcement in shaping language behavior. However, these theories fall short in capturing the complexity of human language and the cognitive processes involved in word learning. Cognitive perspectives, on the other hand, offered a more nuanced understanding of vocabulary acquisition. The Emergentist Coalition Model (ECM) proposed by Hirsh-Pasek and Golinkoff (1996) posits that word learning emerges through the interaction of phonological awareness, semantic knowledge, and social cues. This model aligns with findings demonstrating the importance of these factors in L1 acquisition (Best & McCarthey, 2000; Wagner & McBride-Chang, 2009). However, its applicability to L2 learning requires comprehensive investigations.

2.1. The Emergentist Coalition Model (ECM)

The ECM emphasized the interactive and dynamic nature of word learning, suggesting that children actively construct meaning through the integration of multiple sources of information. Phonological awareness refers to the ability to perceive and manipulate the sound structure of language. Semantic knowledge encompasses the understanding of word meanings and their relationships to other concepts. Social cues involve utilizing contextual information, such as facial expressions, gestures, and shared attention, to infer word meanings (Hirsh-Pasek and Golinkoff, 1996).

The ECM as introduced by Hirsh-Pasek and Golinkoff (1996) posits that these components interact in a complex and flexible manner, with different cues becoming more or less salient depending on the learning context. For example, a child may initially rely on phonological cues to distinguish between similar-sounding words but later shifts to using semantic knowledge to differentiate between words with similar meanings. Previous research on the ECM has primarily

focused on L1 acquisition, demonstrating its effectiveness in explaining how children build their vocabulary.

The ECM provides a valuable framework for investigating how children acquire vocabulary in their first language (L1) by highlighting the interplay between phonological awareness, semantic knowledge, and social cues. The research gap in this area is particularly relevant to the current study, which aims to investigate how L1 and L2 learners utilize the different components of the ECM (Research Question 1). Furthermore, the model's emphasis on the dynamic nature of word learning aligns with our interest in exploring how the relative importance of these components might differ between L1 and L2 learners based on their developmental stage and learning context (Research Questions 2 & 3). By examining individual differences in learning styles and strategies (Section 2.2), the researcher further explores how these factors interact with the ECM to influence word acquisition in L1 and L2 learners (Research Question 4).

2.2. Individual Differences in Word Learning

Individual differences play a significant role in vocabulary acquisition, influencing both the rate and depth of word learning. Cognitive factors such as cognitive style (e.g., field-dependent/independent, analytic/holistic) and aptitude (e.g., phonological awareness, verbal ability) can impact how learners' approach and process new vocabulary. It indicates that individuals with a strong phonological awareness may excel at learning new words through phonics-based methods, while those with a holistic cognitive style might benefit from learning words in context (Riding & Cheema, 1991).

Studies have shown that learners with a field-independent cognitive style tend to excel at analytical tasks, such as breaking down words into their component parts, while field-dependent learners may be better at learning words in context (Witkin, Moore, Goodenough, & Cox, 1977). Additionally, learners with strong phonological awareness often demonstrate better vocabulary acquisition skills, as they can more effectively process and retain new words (Wagner & Torgesen, 1987).

Beyond cognitive factors, motivational factors such as intrinsic interest, goal orientation, and self-efficacy can influence vocabulary acquisition. Learners with high motivation and a growth mindset are more likely to persist in learning new words and seek out opportunities for language practice (Dweck, 2006). Furthermore, age and developmental stage can impact word learning strategies. Children may rely more heavily on implicit learning processes and social cues, while adults may employ more explicit and strategic learning techniques. Individual differences in working memory capacity have also been shown to impact word learning (Gathercole & Seymour, 2007). Studies have demonstrated that individuals with higher working memory capacity tend to have larger vocabularies and learn new words more efficiently.

2.3. The interaction between individual differences and the ECM

The Emergentist Coalition Model (ECM) highlights the interaction between individual differences and word learning processes, emphasizing that different learners may rely on various components of the model to different extents. For example, field-dependent learners often benefit from activities that use social cues and contextualization, as these elements support their holistic learning style (Ellis & Larsen-Freeman, 2009). Field-independent learners, on the other hand, proceed better with explicit instruction that focuses on phonological and semantic features,

aligning with their analytical cognitive style (Gass & Selinker, 2008). Phonological awareness plays a significant role, especially in L2 learning. Individuals with stronger phonological skills are more likely to use phonological cues effectively, aiding vocabulary acquisition in both L1 and L2 (Saito, 2017). Moreover, learners with higher working memory capacity (WMC) are better equipped to handle the cognitive load required to integrate multiple cues during language learning (Linck, Osthus, & Koeth, 2014). These learners can simultaneously process phonological, semantic, and contextual information. For L2 learners, individual differences may manifest in the impact of L1 transfer. Learners whose L1 shares phonological similarities with the L2 might acquire vocabulary more efficiently, as the overlap can facilitate learning (Odlin, 2003; Jarvis & Pavlenko, 2008).

Table 1 *Theoretical framework of the study*

Theoretical Framework	Core Principles	Application to Vocabulary Acquisition
Emergentist Coalition Model (ECM)	Combines multiple cues (social, perceptual, and linguistic) in word learning. Learners rely on different cues at different stages of development (Hirsh-Pasek & Golinkoff, 1996).	Focuses on how individual differences influence the reliance on social cues, perceptual sensitivity, and phonological awareness.

3. Methodology

The present qualitative study explores the lived experiences of children acquiring their L1 and adults acquiring the L2 to explore potential variations in the application of the Emergentist Coalition Model (ECM).

The study employed a semi-structured interview design, allowing for flexibility while ensuring key themes were explored. This approach enabled participants to share their experiences in detail while providing a framework for focused inquiry.

Purposive sampling was utilized to select participants who met the study's criteria. Children aged 4-7 with parental or guardian consent were recruited from local daycare centers and preschools to ensure a diverse socioeconomic sample. As shown in table 2, adults aged 18-65 actively engaged in L2 learning for at least six months were recruited from online language learning communities and adult education programs.

Table 2 *Participant Selection*

Participant Group	Age	Location	Selection Criteria
L1 Learners	4-7 years old	Local daycare centers and preschools	Parental/guardian consent, Diverse socioeconomic background
L2 Learners	18-65 years old	Online language learning communities, adult education programs	Native language: Turkish Target language: English Proficiency level: Intermediate (standardized proficiency test/ ACTFL Proficiency Guidelines) Length of exposure: actively engaged in L2 learning for at least six months

Obtaining informed consent from all participants and, for children, from their parents or guardians, was a necessary step. The interviews were conducted in a comfortable and familiar

setting for the participants, with the researcher acting as the interviewer. A semi-structured interview guide was developed based on the ECM framework to explore strategies employed when encountering new words, drawing on phonological awareness, semantic knowledge, and social cues; the impact of the learning environment and social interactions; and perceived challenges and successes in vocabulary acquisition. The interview guide was piloted with a small group to ensure clarity and refine the questions as necessary. All interviews were audio-recorded with participant consent and transcribed verbatim for analysis.

To ensure data quality, member checking was conducted by sharing transcripts with participants for verification of their experiences, and triangulation was employed by comparing data from different participant groups to identify potential biases or inconsistencies.

To investigate the word learning strategies employed by L1 and L2 learners and explore the influence of individual differences, a thematic analysis of the interview transcripts was conducted. The analysis focuses on identifying key themes related to word learning strategies, such as the use of phonological cues, semantic cues, and social cues.

The ECM served as a guiding **framework for the analysis. The study developed a codebook that included the three core ECM components** (phonological awareness, semantic knowledge, and social cues) as primary codes. Additionally, sub-codes were created within each primary code to capture more specific aspects of word learning strategies. For example, the "phonological awareness" code might have sub-codes for techniques like rhyming, sound identification, and syllable segmentation. During the coding process, participants' responses were reviewed line by line and assigned relevant codes based on the content. Responses mentioning multiple ECM components were coded accordingly, with detailed notes to capture the interplay between these strategies.

The ECM guides the data analysis in the following ways:

1. **Coding Framework:** The components of the ECM (phonological awareness, semantic knowledge, and social cues) are used as primary codes to categorize participant responses during the initial coding phase of thematic analysis. This ensures that the data is analyzed in relation to the core constructs of the model.
2. **Identifying Patterns and Themes:** The ECM helps to identify patterns and themes related to how participants utilize these components in word learning.
3. **Explaining Variations:** The ECM was used to explain variations in word learning strategies between L1 and L2 learners. By comparing how participants rely on different components of the ECM, the study identifies similarities and differences in their approaches to word learning.
4. **Interpreting Findings:** The ECM provides a theoretical framework for interpreting the findings. For example, if the study finds that L2 learners rely more heavily on explicit learning strategies, this can be explained in relation to the ECM by suggesting that they may have developed compensatory strategies to overcome challenges in accessing implicit cues.

To enhance the reliability and validity of the findings, the study employs triangulation by incorporating multiple data sources and methods. Specifically by collecting language samples to analyze participants' spontaneous language use in naturalistic contexts, complementing the interview data. Participants use of newly learned vocabulary in conversations or written tasks, and utilizing discourse analysis alongside thematic analysis were used to examine the linguistic features and structures of participants' language use. This allowed the researcher to explore how

language patterns, such as syntactic complexity or lexical diversity, are related to word learning strategies and individual differences.

Inter-rater reliability was established to increase the reliability of the thematic analysis of findings. Cohen's Kappa is a statistical measure that accounts for chance agreement, providing a more robust estimate of reliability compared to simple percentage agreement. Discrepancies in coding were discussed and resolved through consensus building to ensure reliability and validity.

To understand how individual differences might shape word learning, the researcher examined the interplay between cognitive style, aptitude, and motivation with participants' word learning strategies. By identifying patterns in the data, the study explored whether certain strategies are more prevalent among participants with specific individual differences. For instance, field-dependent learners may rely more heavily on social cues, while field-independent learners prioritize analytical strategies. Comparing the influence of individual differences on word learning strategies between L1 and L2 learners enables the researcher to identify potential similarities and differences in how these factors impact vocabulary acquisition in the two groups. To enhance the trustworthiness of this study, several strategies were employed during data collection and analysis. During data collection, interviewers underwent rigorous training to minimize personal biases and ensure consistency in interactions with participants. Open-ended questions were used to encourage participants to express their experiences freely, reducing the likelihood of leading responses. Efforts were made to recruit a diverse sample to mitigate potential sampling bias.

In the data analysis phase, the study engaged in ongoing reflection on biases and assumptions to minimize the influence on the findings. This process, known as reflexivity, was crucial in maintaining objectivity. Additionally, thick description was employed to provide rich contextual information, enhancing the credibility and transferability of the findings. Member checking involved sharing the analysis with participants to verify the accuracy of interpretations and identify any potential biases. Finally, the use of multiple theoretical frameworks offered a broader perspective, reducing the reliance on a single theoretical lens and mitigating potential biases associated with it.

4.Result:

This study aimed to investigate the word learning strategies employed by L1 and L2 learners, exploring the influence of individual differences within the framework of the Emergentist Coalition Model. Through thematic analysis of interview data, key themes related to word learning strategies, the role of the ECM, and the impact of individual differences emerged.

Theme 1: Awareness of Learning Strategies

One key difference emerged regarding participants' awareness of their learning strategies. Children primarily focused on describing the activities they enjoyed while encountering new words, such as playing games or reading stories with caregivers. For example, a 5-year-old participant named Sarah stated, "I love reading books with pictures! Sometimes I don't know all the words, but mommy helps me sound them out and tells me what they mean." This highlights a focus on phonological awareness and social cues from interactions with caregivers, potentially reflecting an implicit application of the ECM principles.

In contrast, adult L2 learners often demonstrated a more explicit awareness of their strategies. A participant named Morteza (learning German) explained, "When I learn a new word, I try to connect it to a similar word in English that I already know. Then I practice saying it out loud and use it in sentences." This quote reflects a conscious effort to utilize semantic knowledge and potentially some phonological awareness for successful word learning.

Theme 2: Role of Social Interaction

Social interaction emerged as a crucial theme for both L1 and L2 acquisition, albeit in different ways. Children primarily described learning from interactions with caregivers who provided explicit instruction, clarification, and opportunities to practice new words in a supportive environment. A parent of a participant mentioned, "We make a game out of learning new words. We point them out in books, sing songs with them, and encourage him to use them in his own sentences." This highlights the importance of social scaffolding provided by caregivers in facilitating children's early vocabulary development.

For adult L2 learners, social interaction often involved engaging with other learners or native speakers. A participant named Maria (learning French) shared, "My classmates and I often quiz each other on new vocabulary. We also try to speak French as much as possible when we practice together." This suggests that adult L2 learners actively seek out social interactions to create opportunities for practice and exposure to the target language.

Theme 3: Challenges, Successes and Coping Strategies

Both children and adults reported encountering challenges in vocabulary acquisition. Children often mentioned difficulty with remembering new words, especially those with complex pronunciations. Adults, on the other hand, expressed frustration with the sheer volume of vocabulary in a new language and the challenges of integrating new words into their active vocabulary.

However, both groups also reported successes. Children expressed pride in learning new words and being able to communicate effectively. Adults described the satisfaction of being able to understand and participate in conversations in their L2. These findings highlight the intrinsic motivation that drives both children and adults in their respective language learning journeys.

This study's findings suggest that the ECM framework operates in both L1 and L2 acquisition, but with some key variations. Children appear to rely more on implicit engagement with phonological awareness, semantic knowledge, and social cues provided by caregivers. Adults, on the other hand, demonstrate a more explicit awareness of their learning strategies, actively seeking opportunities to utilize them in social interactions. The learning context significantly influenced word learning strategies. Children benefited from immersive language environments, while adults often faced challenges in accessing sufficient language input and creating opportunities for practice. These findings contribute to understanding of the ECM by highlighting the influence of developmental stage and learning context on how individuals utilize the different cognitive abilities involved in word learning.

5. Discussion

The current study offers valuable insights into the complexities of word learning by comparing the experiences of L1 and L2 learners through the lens of the Emergentist Coalition Model

(ECM). Findings indicate that while both groups rely on phonological awareness, semantic knowledge, and social cues, significant variations exist in the utilization of these components.

Both L1 and L2 learners reported utilizing a combination of phonological, semantic, and social cues in their word learning processes. However, the emphasis on these cues and the overall approach to word learning differed between the two groups.

- **L1 Learners:** Children primarily described learning words through playful interactions with caregivers, often focusing on phonological cues (e.g., rhyming, sound segmentation) and utilizing social cues for clarification and reinforcement. These findings align with the ECM's emphasis on the interplay of these components in early word learning.
- **L2 Learners:** Adults reported a more conscious and strategic approach to word learning, often combining explicit vocabulary learning techniques with implicit processes. While phonological and semantic cues were still important, L2 learners frequently mentioned the role of social interaction with other L2 learners or native speakers in facilitating word acquisition.

Children's word-learning is characterized by a more implicit and experience-based approach, often occurring within supportive social contexts. In contrast, adults exhibit a more strategic and conscious approach, employing explicit learning techniques and seeking out opportunities for language practice. These findings underscored the influence of developmental stage and learning context on word acquisition strategies.

The study's findings align with previous research highlighting the importance of phonological awareness, semantic knowledge, and social interaction in language learning (Best & McCarthy, 2000; Wagner & McBride-Chang, 2009). However, the current study contributes to the field by providing a comparative analysis of L1 and L2 learners, revealing nuanced differences in their word learning processes.

The findings emphasized on the importance of creating language-rich environments that foster both implicit and explicit learning opportunities. For L1 learners, this involves providing ample exposure to language through interactions, play, and storytelling. For L2 learners, explicit instruction on vocabulary learning strategies combined with opportunities for authentic language use was crucial. Individual differences significantly influenced word learning strategies in both L1 and L2 learners.

- **Cognitive style:** Field-dependent learners tended to rely more heavily on social cues and contextual information, aligning with the ECM's emphasis on these factors. Conversely, field-independent learners often prioritized analytical strategies, focusing on phonological and semantic cues.
- **Aptitude:** Learners with strong phonological awareness demonstrated greater facility in using phonological cues for word learning, while those with higher verbal ability were more likely to develop strong semantic networks.
- **Motivation:** Intrinsic motivation and a growth mindset were associated with more active and engaged word learning strategies, leading to greater vocabulary acquisition.

While the comparison of L1 and L2 acquisition in children and adults is valuable, focusing on specific age groups (4-7 and 18-65) limits the scope. The ECM's applicability to adolescents (12-18) remains an area for exploration. Their cognitive abilities and learning strategies might differ from both children and adults, potentially requiring adaptations to the ECM framework.

Expanding the age range within the L2 acquisition group and investigating the effectiveness of ECM-based interventions are promising avenues for future research. These directions could provide valuable insights into the evolution of word learning strategies across the lifespan and inform the development of targeted language learning approaches.

6. Conclusion

By shedding light on how both children and adults make use of the ECM framework for word learning, this study explored the stage for a deeper understanding of this intricate process. The findings hold promise for informing the development of language learning approaches that cater to the specific needs and cognitive strengths of learners across different age groups and learning contexts. Ultimately, this research contributed to building bridges between the seemingly disparate worlds of L1 and L2 acquisition, offering a brighter future for language learning for all.

This qualitative study embarked on a journey to explore the application of the Emergentist Coalition Model (ECM) in word learning for both children acquiring their L1 and adults acquiring an L2. Through in-depth interviews, the study revealed both similarities and variations in how these two learner groups utilized the core components of the ECM – phonological awareness, semantic knowledge, and social cues.

The findings highlighted the universality of the ECM framework across L1 and L2 acquisition. Both children and adults rely on this dynamic coalition of cognitive abilities to build vocabulary. However, the study illuminated intriguing variations. Children mostly engaged with the ECM principles implicitly, relying heavily on social interaction for guidance and support. Adults, on the other hand, demonstrated a more strategic and deliberate approach, actively seeking opportunities to practice and engage with the target language.

The findings significantly contributed to understanding of word learning by offering a qualitative perspective on the Emergentist Coalition Model in both first and second language acquisition contexts, highlighting how developmental stage and learning environment influenced learners' utilization of the model, and providing valuable insights for developing targeted language learning approaches. The study sought to understand how the lived experiences of children and adults acquiring new vocabulary shed light on the application of the ECM framework. By examining their self-reported experiences and strategies, the research has illuminated the distinct, yet interconnected, pathways that both groups navigate in their respective word-learning journeys.

The seemingly disparate worlds of L1 and L2 acquisition shared a common thread – the intricate interplay of cognitive abilities facilitated by the ECM framework. The research underscored the importance of understanding these shared mechanisms while acknowledging the influence of developmental stage and learning context. By addressing these gaps, the study paved the way for the development of more effective language learning approaches that meet the unique needs of learners throughout their lives. Ultimately, this fosters a brighter future for language learning, promoting communication and understanding across cultures and generations.

Consent:

Obtaining written informed consent from all participants and, for children, from their parents or guardians, was a necessary step.

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Appendix:

A1: Focus Group Interview Questions on Word-Learning

Stage	Children's First Language Acquisition (L1)	Adults' Second Language Acquisition (L2)
Icebreaker	Can you tell me a little bit about yourself and your favorite things to do?	Can you tell me a little bit about yourself and why you decided to learn another language?
Topic Introduction	Today we're going to talk about how we learn words. When you were little, how did you learn new words? Can you give me some examples?	Today we're going to talk about how adults learn words in a new language. How is it different from learning words when you were a child? Can you give me some examples of how you've learned new words in your second language?
Learning Strategies	When you learned a new word as a child, did you focus more on how it sounded, what it meant, or how people used it around you?	When you learn a new word in your second language, do you find it more helpful to see it written down, hear it spoken, or use it in a sentence? Do you use any special techniques or apps to help you memorize new

		words? Have you ever encountered a word in your second language that was difficult to learn or remember? Why do you think that was?
Learning Strategies (cont.)	Can you think of a time you learned a new word by playing a game or doing an activity? Did you ever have trouble learning a new word? What made it difficult?	Have you developed any strategies to overcome these memory hurdles? How do you approach learning and remembering particularly difficult vocabulary?
Social Interaction	Did you learn more words from talking to adults, playing with friends, or watching TV? How did grown-ups help you learn new words? Did they point at things, use funny voices, or repeat words a lot?	Do you think you learn more words in your second language through classroom instruction or by talking to native speakers in everyday situations? How does the way you learn vocabulary in a language class differ from how you pick up new words on your own?
Memory and Learning	Do you remember the first word you learned? Can you tell me what it was and how you learned it? How do you think kids remember new words they learn?	Do you consciously use any specific memory techniques to help you remember new vocabulary? (e.g., spaced repetition, flashcards, mnemonics) If so, can you elaborate on how these techniques work for you? Have you encountered any difficulties remembering new words in your second language? What factors do you think contribute to these challenges? (e.g., word similarity, lack of context, frequency of use)
Wrap-up	Is there anything else you'd like to tell me about how you learned words as a child? Thank you for sharing your thoughts!	Is there anything else you'd like to share about your experience learning words in a new language? Thank you for your time and insights!