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LINGUISTIC, COGNITIVE, AND PEDAGOGICAL PERSPECTIVES ON TEMPORAL WORDS IN ESL LEARNING

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Abstract: This article examines the pedagogical implications of teaching temporal words to ESL learners by integrating theoretical insights from second language acquisition research with evidence-based classroom practices.

Key words: Temporal Words, ESL (English as a Second Language), Temporal Adverbials, Language Pedagogy, Cognitive Development, Cross-Linguistic Influence, Discourse Coherence, Time Conceptualization, Sequencing Connectors

Аннотация: В данной статье анализируются педагогические аспекты обучения студентов ESL (изучающих английский как второй язык) словам, обозначающим время, на основе теоретических исследований в области изучения второго языка и проверенных на практике методик обучения.

Ключевые слова: словам, обозначающие время, ESL (английский язык как второй язык), показатели времени (темпоральные наречия), языковая педагогика, когнитивное развитие, межъязыковое влияние, связность речи, концепт времени, связки последовательности.

Annotatsiya: Ushbu maqolada ESL (ingliz tilini ikkinchi til sifatida oʻrganuvchi) talabalarga vaqt bildiruvchi soʻzlarni oʻrgatishning pedagogik jihatlari ikkinchi tilni oʻrganish boʻyicha nazariy tadqiqotlar va sinovdan oʻtgan amaliy mashgʻulot metodlari asosida tahlil qilinadi.

Kalit soʻzlar: vaqt bildiruvchi soʻzlar, ESL (Ingliz tili ikkinchi til sifatida), vaqt koʻrsatkichlari (Temporal Adverbials), til pedagogikasi, kognitiv rivojlanish, tillardagi oʻzaro taʼsir, nutqning muvofiqligi, vaqt tushunchasi, ketma-ketlik bogʻlovchilari

Introduction. The use of temporal expressions - words and phrases that indicate the sequence or timing of events - is essential for coherent communication in English. These include terms such as before, after, then, while, and finally, which enable speakers to describe events in chronological order and signal transitions in discourse. For ESL learners, mastering temporal words is crucial not only for narrative and academic writing but also for everyday spoken communication. However, despite their utility, temporal words present unique challenges, especially when learners' first languages conceptualize time differently or use different grammatical structures.

This paper explores the intersection of linguistic structure, cognitive processing, and pedagogical practice in the acquisition of temporal expressions. In particular, it highlights the challenges faced by Uzbek-speaking learners due to the structural and cultural differences between English and Uzbek temporal systems.

Methods. This study takes a theoretical and applied linguistic approach rather than an experimental one. The methodology consists of:

Literature review: Synthesizing findings from second language acquisition (SLA), cognitive linguistics, and language pedagogy related to temporal expressions.

Comparative linguistic analysis: Examining structural and functional differences in expressing temporality in English and Uzbek.

Pedagogical case design: Illustrating strategies such as chunking, visualization, repetition, and explicit form-focused instruction through classroom-based examples and activities.

Cross-linguistic influence analysis: Evaluating common learner errors and transfer phenomena observed in Uzbek-speaking ESL learners.

Results

The analysis revealed several key findings regarding the acquisition of temporal words: Temporal words function at both the sentence level (e.g., adverbial modifiers) and the discourse level (e.g., signaling event sequence and coherence). These connectors support various text types, including narratives, procedural texts, and expository writing.

Temporal expressions require cognitive abilities such as:

Mental time travel: Projecting oneself backward or forward in time.

Working memory engagement: Maintaining and manipulating multiple event relationships.

Conceptual understanding: Mapping abstract time concepts onto linguistic forms.

- For Uzbek speakers: Temporal markers are often implied rather than explicitly stated.

Sentence structure tends to be subject-object-verb (SOV), which differs from English's SVO pattern.

Errors include omission of connectors, overuse of basic words like then, and word-order errors.

- Four effective classroom practices emerged:

Chunking: Teaching temporal expressions in meaningful groups.

Visualization: Using timelines and story maps to make abstract concepts concrete.

Repetition: Reinforcing temporal structures through retelling and transformation tasks.

Explicit focus on form: Directing learners' attention to structure and usage in context.

Discussion

Temporal words, also known as temporal adverbials or sequencing connectors, are linguistic tools that establish chronological relationships between events or actions. These expressions are critical in structuring coherent discourse, particularly in narrative, procedural and expository texts. They serve not only to indicate time relationships (e.g., before, after, while) but also to signal logical sequencing (then, next), simultaneity (meanwhile, at the same time), and conclusion (finally, in the end). Their mastery enables learners to produce and comprehend temporally organized texts, which is essential for both everyday communication and academic success.

From a linguistic point of view, temporal expressions operate at multiple levels of discourse. On the sentence level, they often function as adverbials modifying the verb phrase (e.g., He ate lunch before he went to class). On the discourse level, they contribute to text cohesion and coherence by marking transitions between events or ideas. Their frequent use in narratives, instructions and explanations makes them indispensable in both spoken and written communication.

Cognitively, the acquisition of temporal expressions involves the integration of linguistic form, semantic understanding, and conceptual development of time. Young learners and second language learners alike must develop the ability to mentally represent sequences of events and relate them to linguistic forms. This process is influenced by the learner's age, cognitive maturity, and familiarity with time-related concepts. Temporal words are inherently abstract, often requiring learners to engage in inferential thinking and mental time travel - the ability to mentally project oneself backward or forward in time [4]. These cognitive demands can be particularly taxing for L2 learners who are simultaneously acquiring vocabulary, syntax, and discourse skills.

Moreover, the acquisition of temporal expressions cannot be isolated from contextual usage. Learners benefit from encountering these words in meaningful contexts where time relationships are made explicit through narrative structure, visual sequencing or multimodal cues. Incidental exposure to temporal words in authentic input (e.g., stories, classroom instructions, videos) contributes to the development of implicit knowledge, while explicit instruction facilitates conscious understanding of their functions and proper usage [2].

The acquisition and use of temporal expressions in English is often influenced by a learner's first language (L1), both in terms of grammatical structure and conceptualization of time. These cross-linguistic differences can either facilitate or hinder the development of temporal language in English, depending on the degree of similarity between the L1 and English temporal systems. Linguistically, languages differ in how they encode time. Some languages - such as English - tend

to rely heavily on tense and aspect markers along with explicit temporal adverbials (e.g., yesterday, soon, before, after). Others may rely more on contextual inference, verb aspect or discourse markers without consistently using separate lexical items to indicate temporal sequencing.

Beyond grammatical differences, cultural and cognitive conceptualizations of time can also influence temporal language use. Theory of "thinking for speaking" suggests that speakers of different languages are trained to attend to different elements of events when encoding them linguistically. For example, speakers of English are often taught to explicitly sequence and label events, which aligns with the communicative expectations of English-speaking contexts. In contrast, learners from cultures that rely more on holistic or event-based narratives may initially find this linear sequencing unnatural or overly rigid. These cross-linguistic influences can lead to various difficulties for ESL learners:

Underuse or avoidance of temporal connectors

Incorrect literal translations of L1 structures

Overgeneralization of a few temporal words (e.g., overusing then in all situations)

Confusion between similar temporal terms (e.g., while vs. during, after vs. later)

Similarly, for Uzbek speakers, temporal relationships are typically inferred from context and verb tense, with less reliance on explicit temporal connectors. In Uzbek, temporal adverbs like keyin (then or after that) and oldin (before) are used, but often the sequence is understood without multiple linking devices. For instance, a learner might produce an English sentence like "I woke up, I ate, I went school" without using any connectors, reflecting a structure that would be acceptable or even natural in Uzbek. Additionally, the flexible word order in Uzbek can lead to errors in English, such as "After school he homework did" due to subject-object-verb (SOV) transfer patterns. Such cross-linguistic influence may lead to both underuse of temporal adverbials and misordered sentence structure, especially in written discourse [5].

Comparison of temporal constructions in English and Uzbek

Function/ concept	English temporal words	Uzbek temporal words	Example (English)	Example (Uzbek)
Before	Before, prior to	oldin	She arrived before the meeting	U yig'ilishdan oldin keldi
After	After, later	keyin	He went to the store after school	U maktabdan keyin do'konga bordi
Simultaneity	While, at the same time	Bir vaqtda	He was reading while she was cooking	Bola o'qiyotgan paytda, qiz ovqat pishirayotgan edi
Then	Then, next	keyin	I will finish my work, then go home	Men ishni tugataman, keyin uyga ketaman
Finally	Finally, in the end	Oxir oqibat	Finally, we reached the destination	Oxir oqibat biz manzilga yetib keldik.
During	during	davomida	We wet during the conference	Biz konferensiya davomida uchrashdik

This table compares how temporal relationships are expressed in English versus Uzbek, noting

key differences in adverbial use and sentence structure. For Uzbek speakers, the flexibility of word order and use of fewer explicit temporal connectors can cause errors in English, especially in complex sentences that require clear sequencing of events.

Before/After: In English, before and after are often used with clear temporal markers, whereas in Uzbek, these relationships are commonly conveyed using verbs or auxiliary phrases and sometimes implied by context.

Simultaneity: English has a wide range of temporal markers (e.g., while, at the same time), while in Uzbek, the temporal concept is conveyed using a singular phrase (e.g., bir vaqtda).

Flexibility in Word Order: Unlike English, which typically follows a Subject-Verb-Object (SVO) order, Uzbek allows greater flexibility (SOV), which can result in errors like word order inversion in English.

The acquisition of temporal language in ESL learners is not solely a matter of linguistic input; it is also deeply intertwined with cognitive development and the learners' ability to conceptualize time. Temporal expressions - such as those indicating sequence, simultaneity, or result -require learners to engage in mental time travel, a cognitive ability that involves manipulating mental representations of past, present, and future events [4]. The cognitive complexity involved in understanding and using these expressions means that age, cognitive maturity and proficiency in both the first and second languages play significant roles in determining how easily learners can master temporal language.

The process of learning and using temporal words also places demands on working memory, the cognitive system responsible for holding and manipulating information over short periods of time. Temporal words often operate in complex sentence structures, requiring learners to track multiple events or actions and their interrelationships. This can be particularly challenging for lower proficiency learners, who may already be stretched in terms of their working memory capacity when processing vocabulary, grammar, and discourse simultaneously.

Furthermore, as learners progress in their L2 proficiency, they are able to handle more complex temporal structures. However, beginner learners might find it difficult to juggle multiple temporal markers within one sentence. For example, a sentence like "After she finished reading the book, she went for a walk" involves two events and two temporal relationships, requiring learners to track the sequence (finish reading → go for a walk) while maintaining other syntactic and lexical elements.

Cognitive development in language acquisition is often conceptualized in terms of implicit versus explicit knowledge. Implicit knowledge refers to an intuitive understanding of language rules that learners acquire through exposure, while explicit knowledge involves conscious awareness and understanding of those rules, often gained through formal instruction. Temporal expressions are particularly complex in that they require both implicit and explicit learning: learners need to encounter temporal words in real-world contexts (implicit) and also learn their formal rules (explicit) in a classroom setting. In the case of temporal adverbials, a learner might first grasp the meanings of basic words like before and after through exposure to simplified texts or oral storytelling, but it is through explicit instruction that learners master the more nuanced uses of temporal words, such as when to use while versus during or how to order events in complex narratives [3].

There are several cognitive strategies that can aid in the acquisition of temporal words, particularly for younger learners or those with limited working memory capacity:

Chunking: Grouping words or concepts together (e.g., grouping before and after with other temporal markers like first and next) to simplify processing. A teacher can introduce a set of basic temporal connectors (e.g., before, after, then, next) by presenting them together in a sequence that mimics a daily routine. This allows learners to easily remember and apply these words in context.

Example Activity:

Step 1: Write a list of common temporal words on the board: first, then, next, after, finally.

Provide learners with a story or sequence of events, and ask them to chunk the words and phrases into a coherent timeline:

"First, I wake up. Then, I eat breakfast. Next, I go to school. After school, I go home. Finally, I go to bed."

Step 2: Encourage learners to practice telling a similar story, using the same chunks in their sentences. This way, learners are able to group these words into chunks they can more easily recall and apply to other contexts.

Visualization: Using visual aids such as timelines, graphic organizers, or story maps to illustrate temporal relationships. Using a timeline helps students visualize the order of events, which is particularly helpful when working with complex sentences or narratives.

Example Activity:

Provide students with a timeline graphic that has a horizontal line with markers representing past, present, and future. Ask them to place different temporal words (e.g., before, after, during, next) at the appropriate points on the timeline.Then, have them use the timeline to describe a sequence of events in their life or a narrative: "Before I went to school, I ate breakfast. After school, I went to the park." This visual representation of time makes abstract temporal concepts more concrete for learners.

Repetition: Repeated exposure to temporal words in different contexts (e.g., retelling stories, completing sequencing tasks) helps solidify their use in the learner's cognitive framework.

Example Activity:

Step 1: Give students a list of sentences with temporal expressions:

"I ate breakfast before I went to school."

"She finished her homework after dinner."

"He played soccer while I watched TV."

Step 2: Ask students to repeat each sentence, first in pairs and then in front of the class, focusing on the temporal connectors.

Step 3: Have learners change the subjects or actions in the sentences while keeping the temporal structures intact:

The more learners repeat these structures in varying contexts, the better they will internalize the temporal words and their appropriate usage.

4. Explicit Focus on Form. This strategy involves directing learners' attention to specific forms or structures (in this case, temporal markers) within authentic contexts, helping them to notice and understand their usage in a conscious manner. When working with complex sentences involving multiple temporal words, learners should be taught how to analyze and produce such sentences consciously.

Example Activity:

Step 1: Select a story or passage that uses multiple temporal expressions (e.g., first, then, before, after). For instance, a short narrative like:

«First, I went to the store. Then, I went home. After that, I made dinner.»

Step 2: Ask students to underline the temporal markers in the text.

Step 3: Engage students in a discussion on why the temporal words were used in specific positions and how they influence the meaning of the sentence. "Why is then used after first?" "What would happen if we swapped before and after in this sentence?"

Step 4: After the discussion, have students rewrite the story, changing the order of events while using the same temporal connectors correctly.

By focusing learners` attention on the structure of temporal words and their usage in context, they become more aware of how to apply them in their own speech and writing.

Conclusion

The effective acquisition and use of temporal words are vital for English language learners as

they support the ability to structure coherent discourse, convey chronological relationships and engage in meaningful communication across both academic and everyday contexts. As this article has shown, teaching temporal expressions to ESL learners - particularly those whose first languages conceptualize time differently, such as Uzbek - requires a multidimensional approach grounded in both linguistic theory and cognitive development. Challenges stem from cross-linguistic differences, cognitive demands such as mental time travel and working memory limitations, and the abstract nature of temporal language itself.

Addressing these challenges demands intentional pedagogy that balances implicit and explicit learning strategies. Classroom practices such as chunking, visualization, repetition and explicit focus on form can support learners in internalizing temporal markers and applying them with increasing accuracy and flexibility. Moreover, tailoring instruction to reflect learners` linguistic backgrounds, as in the case of Uzbek speakers, helps bridge gaps caused by L1 transfer and fosters greater metalinguistic awareness.

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