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Assessing "implicit difficulty" in second language acquisition: a case study of the Kazakh auxiliary verb system

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Abstract. The acquisition of auxiliary verbs in Kazakh poses a significant challenge for native Chinese speakers. Traditional research has predominantly focused on the morphological complexity of these verbs as an "explicit difficulty", but there has been a lack of systematic explanation for the deeper cognitive and conceptual roots of the acquisition challenges. From the perspectives of second language acquisition theory and linguistic typology, this study proposes an "implicit difficulty" assessment framework, using the Kazakh auxiliary verb system as a case study to analyze the underlying causes of acquisition difficulties. The research adopts a method combining theoretical construction and illustrative analysis, targeting native Chinese speakers learning Kazakh at the zero-beginner and elementary levels. Data are drawn from a secondary analysis of error corpora and statistical results from existing empirical studies, as well as a systematic review of linguistic facts from authoritative linguistic literature. The study found that acquisition difficulties exist not only at the surface level of forms but are also rooted in three implicit dimensions: (1) high cognitive processing complexity, manifested as ambiguous form–function mapping, low perceptual salience, and extended processing chains; (2) significant conceptual–typological conflict, arising from fundamental differences between Chinese and Kazakh in the grammaticalization of aspect and the packaging of concepts; (3) subtle negative transfer from the first language, including interference from "false friends" and analytical thinking patterns. The constructed three-dimensional framework systematically reveals these underlying obstacles. The findings suggest that instruction should shift from "error correction" to "cognitive construction" by strengthening conceptual comparisons between Chinese and Kazakh, optimizing input for form–meaning mapping, and deepening output-based tasks so as to effectively promote acquisition.

Keywords: implicit difficulty, second language acquisition, Kazakh auxiliary verbs, cognitive processing, conceptual transfer

1. Introduction

The Kazakh auxiliary verb is a functional word (grammatical particle) derived from a verb and homonymous with its source verb. It follows a main verb with a converb suffix to express grammatical meanings such as aspect and mood [1]. It plays a crucial role in grammar and expression, capable of conveying subtle nuances of

action, activity, and state [2]. However, for native Chinese learners, its acquisition process is often characterized by three main types of errors: substitution, omission, and overgeneralization, with error rates as high as 70%, 68%, and 36%, respectively [2]. For instance, learners frequently confuse *"al-"* and *"qoj-"* [2], or omit the continuous aspect auxiliary *"dʒatar"* when trying to express "I am reading a book", resulting in the incorrect *"men kitap oqodom"* [2]. Existing research mostly focuses on describing these error types and their "explicit difficulty" but fails to delve into the cognitive and conceptual roots of "why it is difficult". This paper aims to introduce the concept of "implicit difficulty", construct an assessment framework from dimensions such as cognitive processing, conceptual systems, and first language transfer, and use the Kazakh auxiliary verb system as a case study to reveal the deeper mechanisms underlying its acquisition challenges.

2. Literature review

2.1. Evolution of difficulty theories in second language acquisition

Traditional Contrastive Analysis emphasized the "explicit difficulty" arising from formal differences between languages, positing that systematic comparison of the native language (L1) and target language (L2) could predict learning challenges [3, 4]. In contrast, the Interlanguage Theory focused on the dynamic development of the learner's internal linguistic system, viewing errors as systematic developmental features [2]. In recent years, the research focus has shifted toward cognitive and conceptual depths.

Cognitive Perspective: For instance, VanPatten's Input Processing Theory suggests that learners, constrained by processing capacity, prioritize meaning over form. This leads to the neglect of certain grammatical forms, such as auxiliary verbs in sentence-final positions [5].

Conceptual Transfer Perspective: The Conceptual Transfer Theory proposed by Jarvis & Pavlenko argues that the conceptual categorization system of the L1 profoundly influences how concepts are formed in the L2. When the "packaging" of concepts differs between the two languages, deep-seated acquisition difficulties arise [6, 7]. Together, these theories indicate that acquisition challenges often stem from the cognitive load associated with form–meaning mapping and the typological conflict in conceptual categorization, thereby providing interdisciplinary support for the introduction of the concept of "implicit difficulty".

2.2. The three-dimensional assessment framework for "implicit difficulty"

Building upon an integration of the aforementioned theories, this paper constructs the following three-dimensional assessment model: (1) Cognitive Processing Complexity: This includes factors such as the transparency of form–function mapping, the perceptual salience of syntactic positions, and working memory load, which relate to input processing and information-handling mechanisms [5]. This dimension explains why seemingly simple rules can be challenging to apply in practice. (2) Conceptual–Typological Conflict: This involves issues such as the absence or misalignment of grammatical categories and differences in how concepts are "packaged", closely associated with conceptual transfer and linguistic typology [6, 8]. This dimension reveals fundamental comprehension barriers stemming from differences in cognitive patterns. (3) Subtlety of L1 Transfer: This includes less noticeable types of interference, such as "false-friend" transfer and cognitive pattern transfer, which are related to the directionality and complexity of transfer [7, 9]. This dimension demonstrates that the influence of the native language is not always overt but can subtly affect cognitive processes.

3. Analysis of implicit difficulty in the Kazakh auxiliary verb system

3.1. High cognitive processing complexity

Ambiguity in Form–Function Mapping: Kazakh auxiliary verbs exhibit significant polysemy and synonymy. For example, while both *"al-"* and *"qoj-"* can express "completion", *"al-"* emphasizes completion for the benefit or purpose of the agent (*e.g., men bul magalan kö[irip] aldom.* "I copied down this article."), whereas *"qoj-"* emphasizes a one-time, resultative completion (*e.g., ol düre almaj artta qalap qojdo.* "He fell behind because he couldn't keep up.") [2, 10]. Such subtle distinctions lack clear one-to-one mapping rules, posing significant challenges to learners' ability to generalize and differentiate.

Low Perceptual Salience of Syntactic Position: Auxiliary verbs consistently follow converbs (*e.g., "oqap dʒatarman"*), occupy unstressed positions in the speech stream, and often fuse with person suffixes, resulting in extremely low perceptual salience. According to Input Processing Theory, learners tend to overlook such low-information functional words, preventing effective association between form and meaning.

Extended Processing Chain: To correctly produce a predicate containing an auxiliary verb, learners must sequentially process in real time: the main verb root → selecting the correct converb suffix (*-p/-a*) → selecting the semantically appropriate auxiliary verb → adding person, tense, and negation suffixes to the auxiliary verb. This lengthy processing chain imposes a heavy burden on working memory, making errors highly likely at any stage [5].

3.2. Significant conceptual–typological conflict

Absence of Categories and Recategorization: Chinese is an analytic language in which categories such as tense, aspect, and modality are primarily expressed through lexical means (*e.g., zhe, le, guò, kě néng*) or contextual cues, lacking grammaticalized categories like the "attemptive aspect" or "incidental aspect". In contrast, Kazakh is an agglutinative language that highly grammaticalizes aspectual categories through auxiliary verbs. For instance, *"-p kör-"* expresses the attemptive aspect (*e.g., jep kör "try eating"*), while *"-a sal-"* expresses the incidental aspect (*e.g., sala sal "send incidentally"*) [11]. Native Chinese speakers must construct these grammatical categories anew in their cognitive systems, a process that involves fundamental conceptual restructuring [6].

Differences in Conceptual Packaging: Chinese tends to use a single synthetic lexical item to express a complete event, whereas Kazakh habitually "deconstructs" events into components such as "manner + result/direction" and encodes them using the "converb + auxiliary verb" structure. For example, the Chinese expression *"sǐ diào le"* (died) is a single lexical unit, while in Kazakh it is deconstructed into *"ölip qaldo"* (*öl-* *"die"* + *-p "converb"* + *qal-* auxiliary verb expressing resultative aspect) [8]. This fundamental difference in event conceptualization and packaging requires learners to reshape their cognitive patterns for expressing events.

3.3. Subtle negative transfer from the first language

"False Friend" Transfer: Many Kazakh auxiliary verbs are grammaticalized from their original lexical verbs, such as *"al-"* (originally meaning "to take") and *"ber-"* (originally meaning "to give"). Learners are highly susceptible to interference from the lexical meanings of their native language, simplistically equating the auxiliary usage of *"al-"* with extended meanings of the Chinese word "to take", leading to substitution or overuse errors [2]. This type of transfer is particularly covert because it appears superficially motivated, making it difficult for learners to self-detect [7].

Interference from Analytic Thinking: Chinese sentence construction emphasizes parataxis, where grammatical elements—especially function words—are often flexible as long as the intended meaning is conveyed. Influenced by this, learners unconsciously omit auxiliary verbs they perceive as "non-essential to meaning" when speaking Kazakh, resulting in omission errors. For example, they may say *"men kitap oqodom"* instead of the correct *"men kitap oqap dʒatarman"* ("I am reading a book") [9]. This essentially reflects the transfer of Chinese syntactic thinking habits into Kazakh, a language with strict morphological requirements.

4. The impact mechanism of implicit difficulty on acquisition

The aforementioned implicit difficulties directly lead to three typical acquisition outcomes:

(1) Overgeneralization of Rules: To reduce cognitive load, learners tend to simplify and excessively extend limited, ambiguous rules. For example, once they learn that *"al-"* expresses "completion", they may generalize its use to all completive contexts, substituting *"qoj-"* or *"ket-"*, resulting in systematic substitution errors [5].

(2) Avoidance Strategies: When unable to accurately distinguish complex rules within a short time, learners adopt avoidance strategies, opting for simpler and safer expressions. For instance, they may entirely avoid using *"-p kör-"* (attemptive aspect) or *"-a sal-"* (incidental aspect), relying solely on base verbs, which leads to monotonous and non-idiomatic language output [10].

(3) Fossilization: Due to implicit cognitive conflicts—such as conceptual misalignment and thinking interference—not being identified and addressed during the elementary instructional stage, related errors become entrenched with continued language use. These errors persist and are difficult to correct even at intermediate or advanced stages, resulting in fossilization [2]. A typical example is the persistent confusion between the directional meanings of *"bar-"* (centrifugal) and *"kel-"* (centripetal).

5. Implications for Kazakh language teaching and materials development

Instruction should emphasize cognitive contrast and enhance metalinguistic awareness: Teaching should not be limited to explaining grammatical rules. Instead, it should employ visual comparisons between Chinese and Kazakh conceptual systems to reveal their underlying differences. For example, using diagrams to contrast the semantic network of the Chinese concept of "completion" with that of Kazakh *"al- / qoj- / ket-"* can guide students in metalinguistic reflection, helping them understand "why these differences exist" [6, 12].

Input design should strengthen form–meaning mapping and enhance input quality: Teaching materials and classroom input should intentionally increase the perceptual salience of target auxiliary verbs. Structured input activities can be employed, such as having learners listen to sentences to determine whether an action was "intentional" (practising the distinction between *"al-"* and *"qoj-"*), thereby compelling them to notice and process the auxiliary verb forms [5].

Practice should focus on deep processing to facilitate conceptual restructuring: When designing output tasks, contexts should be created that necessitate the use of specific auxiliary verbs to convey meaning accurately. For example, designing a task to "report someone else's request", which requires the use of *"-p ber-"* (doing something for someone), or describing an "unintended consequence," which necessitates the use of *"-p qal-"*. Through contextualized and functional output, learners are driven to engage in deep processing, internalize distinctive features, and ultimately achieve the restructuring of their conceptual system.

6. Conclusion

The difficulty in acquiring Kazakh auxiliary verbs fundamentally stems from the implicit cognitive and conceptual conflicts faced by native Chinese speakers. The "implicit difficulty" assessment framework proposed in this study systematically uncovers the underlying mechanisms of these acquisition challenges by integrating three dimensions—cognitive processing, conceptual transfer, and linguistic typology—thereby transcending the limitations of traditional error analysis. This framework explains the learning difficulties at three levels: the cognitive processing dimension reveals the processing load caused by ambiguous form–function mapping; the conceptual transfer dimension elucidates the fundamental differences in how aspectual categories are conceptualized in Chinese and Kazakh; and the typological dimension highlights the structural conflicts between analytic and agglutinative languages. This multidimensional perspective provides a new theoretical paradigm for understanding the acquisition of grammar in agglutinative languages.

Future research could advance in two directions: first, employing microgenetic methods to trace the dynamic evolution of implicit difficulty; second, introducing cognitive experimental techniques for empirical validation, such as using eye-tracking to examine processing strategies or employing event-related potentials to investigate neural processing characteristics, thereby providing objective evidence for implicit cognitive load. In teaching practice, a shift from a "form correction" approach to a "cognitive construction" paradigm is essential. This can be achieved by strengthening metalinguistic awareness through Chinese–Kazakh conceptual comparisons, designing structured input to promote form–meaning associations, and creating authentic tasks to facilitate deep processing. In-depth experimental research will provide a scientific basis for pedagogy—for instance, EEG technology can reveal the temporal dynamics of processing, while near-infrared spectroscopy can localize activation in relevant brain regions.

In summary, the implicit difficulty perspective opens a new pathway for research on Kazakh language teaching. The integration of theory and empirical evidence, particularly through the application of cognitive neuroscience methods, will propel this field toward a more scientific and precise direction.

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