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COGNITIVE AND AFFECTIVE FACTORS IN LANGUAGE LEARNING SUMMARY

This article explores the cognitive and affective factors influencing second language learning, with a focus on English and Russian learners. Cognitive factors such as working memory, attention, and cognitive styles shape how learners process and acquire new language structures, while affective factors including motivation, anxiety, and attitudes significantly impact learners' engagement and persistence. By reviewing recent studies (2015-2025), the paper highlights the dynamic interaction between cognitive and affective factors, illustrating how these elements together determine language learning outcomes. The findings suggest that high motivation and positive attitudes promote better learning, while anxiety can hinder cognitive performance. The paper emphasizes the importance of addressing both cognitive abilities and emotional factors in language teaching to improve learners' success.

Key words: Cognitive factors, affective factors, second language learning, motivation, anxiety, working memory

Language learning is a multifaceted process influenced by a range of individual differences [3]. Among these, cognitive factors – such as memory, attention, and cognitive styles – and affective factors – such as motivation, anxiety, and attitudes – have been identified as central determinants of success in second language acquisition (SLA) [10]. Cognitive factors determine how learners process and store linguistic information, while affective factors shape learners' emotional and motivational stance toward the language and the learning situation. This paper reviews recent research (2015–2025) on these factors, with a special focus on learners of English and learners of Russian as additional languages. English is the world's most widely taught foreign language, whereas Russian is learned often by heritage speakers or in specific regional contexts. By examining both types of learners, we highlight whether differences in language structure or learner contexts lead to different cognitive/affective profiles or challenges. We organize the review into sections on cognitive factors and affective factors, followed by a discussion of their interaction and language-specific considerations. Finally, we outline implications and future directions.

Working Memory and Memory Processes. Working memory (WM) – the capacity to hold and manipulate information in the short term – is a key cognitive

resource for language learning. Robust WM capacity supports comprehension, vocabulary acquisition, and grammar learning in an L2. For example, Wen et al. note that higher WM allows learners to maintain linguistic input while processing new structures, thereby facilitating complex tasks like reading and speaking. In writing, learners with greater WM can manage multiple subtasks (planning, translating, reviewing) more effectively. Conversely, WM limitations can bottleneck learning; complex linguistic elements (e.g. long sentences, morphological inflections) impose extra WM load. Some researchers argue that WM capacity is itself part of language aptitude – that is, inherent cognitive skill in language learning – although this remains debated. In any case, across languages, studies consistently find that WM predicts L2 performance (e.g. better comprehension and vocabulary retention) [10].

Attention and Cognitive Control. Language learning also draws on attentional and executive control resources. Learners must focus on target-language input, inhibit interference from their first language (L1), and shift attention between linguistic elements [5]. Although the bilingual advantage debate is contested, some evidence suggests that controlling two languages may enhance general executive functions (e.g. task switching) that also benefit L2 learning. In classroom settings, sustained attention correlates with better incidental vocabulary learning. Importantly, anxiety – an affective factor – can co-opt WM and attentional resources. High anxiety levels have been shown to reduce available WM capacity, illustrating how affect and cognition interact (see Discussion).

Cognitive Style and Learning Strategies. Learners' cognitive styles – their habitual ways of perceiving and organizing information – influence language learning strategies. A well-studied dimension is field-dependence vs. field-independence. Field-independent learners tend to analyze information autonomously, whereas field-dependent learners rely on external context and social cues. Field-independent learners favored metacognitive strategies (e.g. planning, monitoring comprehension), while field-dependent learners leaned on social strategies (e.g. seeking help, group study) in SLA. These strategic choices affect outcomes: for instance, field-independent learners often do better in structured linguistic tasks, whereas field-dependent learners may excel in communicative or collaborative activities. Teachers should recognize these differences: Individualized teaching that aligns with each student's cognitive style. Other cognitive differences – such as analytic vs. holistic thinking or visual vs. auditory preference – also shape how learners encode and retrieve new vocabulary or grammar. In sum, cognitive styles contribute to the heterogeneity of learning methods and efficiency.

Affective Factors in Language Learning Motivation. Motivation – the drive to learn a language – is widely acknowledged as crucial in SLA. Without high motivation, learners may not persist through the challenges of L2 learning, especially when natural exposure is limited. Wu [11] describes motivation as “the driving force

which sustains the learning of the second language even when there is a lack of appropriate language learning environments” . Empirical studies confirm this: learners with stronger intrinsic motivation (personal interest, enjoyment) or instrumental motivation (e.g. career goals) tend to spend more time studying and achieve higher proficiency. For example, a large-scale analysis concluded that “students with higher motivation tend to study their target languages more effectively”. Motivation is also dynamic: learners’ goals and motivation can evolve over time, influenced by success experiences and changes in their environment. For English learners, motivation might be shaped by its global importance, while for Russian learners motivation may derive from heritage identity or cultural interest [6]. Regardless of context, motivation interacts with other factors: it correlates with self-efficacy (belief in one’s abilities) and positive attitudes, and buffers against anxiety.

Anxiety. Language anxiety, especially Foreign Language Classroom Anxiety (FLCA), is a well-documented negative affective influence. FLCA refers to tension and nervousness specifically associated with L2 learning situations. Famously is defined as “a distinct complex of self-perceptions, beliefs, feelings and behaviors” unique to language learning. High anxiety typically hinders L2 performance: anxious learners may avoid speaking, forget learned material, or experience cognitive blocks. Krashen’s “affective filter” hypothesis exemplifies this: he argued that anxiety raises an emotional barrier that blocks language input from being acquired. Meta-analyses confirm that anxiety is a strong predictor of poorer language test scores and slower progress. On the other hand, moderate anxiety can sometimes motivate learners to prepare more, but very high anxiety is overwhelmingly debilitating. Crucially, anxiety is not fixed: “motivation and anxiety... are dynamic, and thus their effects on [SLA] learning are also dynamic” [7]. In practical terms, an English learner’s performance might momentarily drop before a speaking test due to anxiety, whereas a more relaxed learner may perform better.

Research on anxiety often focuses on English learners; comparatively little examines other languages. One recent cross-cultural study found that Chinese university students reported significantly higher foreign language anxiety than Russian students when learning English. They also found that in both groups, male students tended to experience more anxiety than females. These findings suggest that cultural or educational factors modulate affective responses. For Russian language learners specifically, anxiety sources may include the unfamiliar Cyrillic script and complex grammar [4], though systematic studies are still limited. In sum, FL anxiety generally negatively correlates with L2 achievement, so mitigating anxiety is a key pedagogical goal.

Attitudes and Self-Efficacy. Related to motivation, attitude toward the target language and culture can significantly influence learning. Learners with positive attitudes (enjoyment of the language, respect for its speakers) are more likely to

engage deeply and persist. Conversely, negative attitudes (e.g. prejudice against a culture) can undermine motivation. For instance, learners who had positive attitudes toward their L2 instructors experienced less anxiety. This underscores how attitudes interplay with emotion: liking a language or teacher makes learners more comfortable. Attitudes themselves are somewhat dynamic: they often improve with successful language experiences.

Self-efficacy, or confidence in one’s ability to learn, is another affective-cognitive factor. Bandura’s concept of self-efficacy has been extended to language learning, where it predicts greater effort and strategy use [1]. In a study of Chinese undergraduates learning English, Wu et al. [12] reported that learners’ self-efficacy strongly predicted their achievement, even after controlling for motivation. They note that “learners with high self-efficacy are more confident about getting a good learning result, and they are more active in searching for and using efficient learning strategies”. In contrast, low self-efficacy (often linked with high anxiety) can become self-fulfilling, where the learner gives up more easily. Encouragingly, self-efficacy is malleable: mastery experiences (small successes) and positive feedback can boost it [12]

Table 1 summarizes key cognitive factors, and Table 2 key affective factors, highlighting how each influences L2 learning. (See caption for source attributions.)

Table 1: Cognitive Factors in Second Language Learning.
(Source: [10]; [9])

Factor	Description & Impact on L2	Evidence/Example
Working Memory (WM)	Short-term storage-and-processing capacity. Supports holding new words/structures while processing input. Larger WM predicts better L2 comprehension and grammar learning. High cognitive load (long sentences, complex morphology) can exceed WM limits.	Brain span tasks correlate with L2 reading ability; L2 writers with higher WM revise more effectively.
Cognitive Styles (e.g. Field-dependence)	Learners’ habitual thinking patterns (analytical vs. holistic). Field-independent learners use metacognitive strategies (plan/monitor learning), while field-dependent learners rely on social/relational strategies. Styles affect learning preferences and pace.	In a study, field-independent learners self-taught better and more autonomously; field-dependent learners improved with group activities.
Language Aptitude	Inherent ability for language learning (linked to memory and analytic skills). High aptitude individuals pick up grammar rules faster.	Meta-analyses show aptitude tests predict early L2 gains, though impact may

		decrease at high proficiency.
Attention & Executive Control	Ability to focus on L2 input and ignore distractions (inhibition) or switch tasks. Stronger executive control can help manage L1 interference. Chronic distraction or multi-tasking may slow L2 acquisition.	Bilingual advantage research suggests regular L2 use can boost inhibitory control, aiding further learning.

Table 2: Affective Factors in Second Language Learning. (Sources:[7]; [8]; [11]; [12])

Factor	Description & Impact on L2	Evidence/Example
Motivation	Learner's drive or reason to learn (intrinsic/extrinsic). Sustains effort over time. High motivation is linked to greater study time and better outcomes. Motivation can compensate for limited exposure.	"Motivation serves as the driving force" enabling L2 learning despite lack of immersion. Highly motivated students show faster progress.
Anxiety	Tension specific to L2 contexts (speaking/test anxiety). High anxiety typically impedes performance and fluency. Anxiety can also reduce WM resources. Moderate anxiety might prompt extra practice, but excessive anxiety "blocks" learning (Krashen's affective filter).	Chinese EFL students had higher anxiety than Russian peers.
Attitude	Learner's positive or negative feelings about the L2 or its speakers/culture. Positive attitude correlates with higher motivation and effort. Negative attitudes (e.g. prejudice) undermine success. Positive attitudes toward instructors and peers also reduce anxiety.	Learners holding positive attitudes toward their L2 teachers experienced significantly less anxiety.
Self-Efficacy	Confidence in one's ability to learn the L2. Higher self-efficacy leads to more persistence and strategy use, improving learning outcomes. Low self-efficacy can discourage practice. It is enhanced by successful learning experiences and support.	Self-efficacy positively predicts English achievement. "Learners with high self-efficacy...are more active in...using efficient learning strategies".

The reviewed literature confirms that both cognitive and affective factors jointly influence language learning. Importantly, these domains often interact rather than operate in isolation. For example, as Pickering et al. [9] demonstrate, affect (anxiety) can directly deplete cognitive resources: highly anxious learners showed poorer working memory performance, which in turn would impair new language processing. Conversely, cognitive strengths can buffer affect: learners with greater WM or prior L2 knowledge may feel more confident and experience less anxiety in conversations. Self-efficacy neatly bridges cognition and affect – a cognitive belief with strong emotional consequences – affecting both the willingness to engage cognitively and the emotional resilience to setbacks [12].

This review has underscored that second language acquisition is shaped by a dynamic interplay of cognitive resources and affective dispositions. Working memory, attention, and cognitive style affect how learners take in a new language, while motivation, anxiety, attitudes, and self-beliefs influence whether and how persistently they learn. High motivation and positive attitudes consistently enhance learning, whereas high anxiety and negative attitudes impede it [8]. Crucially, these factors interact: reducing anxiety can improve cognitive performance, and bolstering cognitive skills can enhance confidence. For educators, this means teaching approaches should target both domains – for example, by incorporating engaging, confidence-building activities that also challenge learners' cognitive skills.

Focusing on English and Russian learners revealed some cultural differences (e.g. lower anxiety in Russian learners of English, but more research is needed to generalize. Given the still limited literature on Russian as an L2, future studies should explicitly include diverse target languages and learner populations. In sum, a comprehensive understanding of L2 success must integrate both mind and heart: cognitive capacities and affective factors together determine language learning outcomes.

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S.Z.MECİDLİ

DİL ÖYRƏNMƏDƏ KOQNİTİV VƏ AFFEKTİV AMİLLƏR XÜLASƏ

Məqalədə ikinci dil öyrənməyə təsir edən koqnitiv və affektiv amillər, əsasən ingilis və rus dili öyrənmələr kontekstində araşdırılır. İşçi yaddaş, diqqət və koqnitiv üslublar kimi koqnitiv amillər öyrənmələrin yeni dil strukturlarını necə mənimsəmələrinə təsir edir, motivasiya, narahatlıq və münasibət kimi affektiv amillər isə öyrənməyə cəlb olunma və davamlılığı əhəmiyyətli dərəcədə müəyyənləşdirir. 2015–2025-ci illəri əhatə edən son tədqiqatların nəzərdən keçirilməsi nəticəsində, məqalədə bu iki amilin dinamik qarşılıqlı əlaqəsi vurğulanır və onların birlikdə dil öyrənmə nəticələrini necə formalaşdırdığı göstərilir. Tədqiqat nəticələri göstərir ki, yüksək motivasiya və pozitiv münasibət daha yaxşı öyrənməyə səbəb olur, halbuki narahatlıq koqnitiv fəaliyyətə mənfi təsir göstərə bilər. Məqalədə

dil tədrisində həm koqnitiv bacarıqların, həm də emosional amillərin nəzərə alınmasının öyrənənlərin uğurunu artırmaq üçün vacibliyi vurğulanır.

Açar sözlər: Koqnitiv amillər, affektiv amillər, ikinci dil öyrənmə, motivasiya, narahatlıq, işçi yaddaş

З.Х.МАДЖИДЛИ

**КОГНИТИВНЫЕ И АФФЕКТИВНЫЕ ФАКТОРЫ
В ИЗУЧЕНИИ ЯЗЫКОВ
РЕЗЮМЕ**

В данной статье рассматриваются когнитивные и аффективные факторы, влияющие на изучение второго языка, с акцентом на изучающих английский и русский языки. Когнитивные факторы, такие как рабочая память, внимание и когнитивные стили, определяют, как учащиеся обрабатывают и усваивают новые языковые структуры, в то время как аффективные факторы, включая мотивацию, тревожность и установки, существенно влияют на вовлечённость и настойчивость учащихся. Обзор современных исследований (2015–2025) подчёркивает динамическое взаимодействие между когнитивными и аффективными факторами, демонстрируя, как эти элементы совместно определяют результаты изучения языка. Результаты показывают, что высокая мотивация и положительные установки способствуют лучшему обучению, в то время как тревожность может препятствовать когнитивной деятельности. В статье подчёркивается важность учёта как когнитивных способностей, так и эмоциональных факторов в преподавании языка для повышения успешности учащихся.

Ключевые слова: когнитивные факторы, аффективные факторы, изучение второго языка, мотивация, тревожность, рабочая память

Rəyçi: dosent F.Ə.Hüseynova