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EFL UNIVERSITET TALABALARI TOMONIDAN VAQT BILAN CHEKLANGAN AKADEMIK INSHO YOZISHDA KOGNITIV YUKLAMA VA G'OYALAR YARATISH

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Annotatsiya

Ushbu tadqiqot vaqt cheklovlari natijasida yuzaga keladigan kognitiv yuklamaning EFL (ingliz tili xorijiy til sifatida) o'quvchilarining akademik yozuvdagi g'oya yaratish jarayoni va umumiy yozma ish sifatira qanday ta'sir qilishini o'rganadi. Tadqiqotda universitet talabalarining vaqt bilan cheklangan va vaqt cheklanmagan esse topshiriqlarida matnning izchilligi, leksik xilma-xilligi va mazmunni rivojlantirish darajasi qanday farqlanishi tahlil qilinadi hamda vaqt cheklovlarining yozuvning yuqori darajadagi kognitiv jarayonlariga ta'siri haqida muhim xulosalar beriladi.

Kalit so'zlar: vaqt bilan cheklangan yozuv, kognitiv yuklama, akademik yozuv, EFL o'rganuvchilar, O'zbekiston universitet talabalari, yozma ish sifati, IELTS uslubidagi baholash.

КОГНИТИВНАЯ НАГРУЗКА И ГЕНЕРАЦИЯ ИДЕЙ ПРИ НАПИСАНИИ АКАДЕМИЧЕСКОГО ЭССЕ С ОГРАНИЧЕНИЕМ ПО ВРЕМЕНИ СТУДЕНТАМИ EFL

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Аннотация

Данное исследование направлено на изучение влияния когнитивной нагрузки, возникающей в условиях ограничения времени, на процесс генерации идей и общее качество академического письма у студентов, изучающих английский язык как иностранный (EFL). В работе анализируются различия в связности текста, лексическом разнообразии и уровне раскрытия содержания при выполнении эссе с ограничением и без ограничения времени. Особое внимание уделяется воздействию временных ограничений на высшие когнитивные процессы, задействованные в письменной деятельности, и формулируются значимые выводы относительно их влияния на качество письменной работы.

Ключевые слова: письмо с ограничением времени, когнитивная нагрузка, академическое письмо, обучающиеся EFL, студенты вузов Узбекистана, качество письменной работы, оценивание в формате IELTS.

COGNITIVE LOAD AND IDEA GENERATION IN TIMED ACADEMIC ESSAY WRITING BY EFL UNIVERSITY STUDENTS

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Abstract

This study investigates the impact of cognitive load induced by time constraints on idea generation and the overall quality of academic writing among EFL (English as a Foreign

Language) learners. It analyzes differences in textual coherence, lexical diversity, and the level of content development in timed and untimed essay tasks completed by university students. The research also provides important conclusions regarding the influence of time limitations on higher-order cognitive processes involved in writing.

Keywords: timed writing, cognitive load, academic writing, EFL learners, university students in Uzbekistan, writing quality, IELTS-style assessment.

It is commonly acknowledged that one of the most cognitively taxing abilities for college students is academic writing in English as a Foreign Language (EFL) contexts. This difficulty is exacerbated for Uzbek students by their limited exposure to English outside of the classroom and the exam-driven nature of writing instruction which frequently puts speed ahead of critical thinking. IELTS-style exams and midterm tests at many universities require students to write essays under tight time constraints, but little focus is placed on how this pressure affects the generation and organization of ideas.

From a cognitive standpoint, writing is a problem-solving process that calls for the coordination of several mental processes, such as planning, putting ideas into words and editing. [1] These processes have to fight for a limited amount of working memory when students are required to write in a short amount of time. According to the Cognitive Load Theory, learners' higher-order thinking skills—like formulating arguments or assessing evidence—tend to suffer when they are subjected to excessive demands at once. [2] As a result, rather than coming up with unique and well-developed answers, students might rely on formulaic concepts, simplified vocabulary or memorized structures.

Empirical research on the cognitive and textual effects of time-limited writing is still lacking despite the fact that it is frequently used in EFL assessments particularly in countries like Uzbekistan where high-stakes exams predominate in academic life. The majority of research that is currently available concentrates on test scores or grammatical accuracy rather than how time constraints affect coherence, lexical richness and idea development. Comprehending these impacts is essential since academic achievement relies not only on speed but also on meaningful writing.

Thus this study looks into how time constraints affect cognitive load and writing quality among EFL students at Uzbek universities. It aims to provide evidence-based insights into whether current assessment practices accurately reflect students' academic writing abilities or just their capacity to manage cognitive stress by contrasting timed and untimed essay performances.

Because it necessitates simultaneous attention to content, linguistic form and rhetorical organization, academic writing in a second language is widely acknowledged as a cognitively demanding task. [1] [3] This difficulty is made more difficult for EFL students by their lack of exposure to real academic English, their reliance on learned structures and the requirement to strike a balance between accuracy and idea development. Time constraints make these problems worse by raising cognitive load which can lower the complexity and quality of written output. [4]

According to the Cognitive Load Theory, learners prioritize simpler and more automatic processes over higher-order thinking when working memory is overloaded. [4] In the context of academic writing, this means that students may prioritize surface-level vocabulary and grammar over organization coherence and content development when under time constraints. This theoretical framework explains why timed writing particularly for intermediate learners frequently results in shorter simpler essays. [5]

Numerous studies have looked empirically at how time constraints affect EFL writing.

According to Ong and Zhangs (2010), research students who had to finish essays in a short amount of time produced texts with less vocabulary variety, less elaboration and fewer supporting details. According to Barkaoui (2015), timed assignments frequently underestimate students' actual writing proficiency because they do not give them much time to prepare or edit. These studies demonstrate how time constraints may make it difficult to distinguish between exam-taking skills and writing proficiency.

Research points to additional difficulties for Uzbek EFL learners. Karimov and Yusupova (2021) claim that many students have high levels of anxiety when completing timed writing assignments which exacerbates cognitive load and interferes with higher-order functions like organization and idea generation. According to Rakhimova (2025), Uzbek students frequently use formulaic essay structures and memorized phrases in timed tests which restricts lexical diversity and overall essay quality. Additionally, Rustamova (2025) draws attention to recurring mistakes in coherence and sentence structure particularly when time is of the essence raising the possibility that present teaching methods may not sufficiently prepare students for timed academic assignments.

Some academics contend that mild time constraints can promote fluency and avoid overthinking despite the fact that the majority of the literature emphasizes the detrimental effects of time pressure. [6] Nevertheless, this effect seems to be restricted to advanced students who have attained a certain level of vocabulary and grammar automaticity. The majority of Uzbek university students are intermediate or lower-level learners, and time constraints are more likely to worsen rather than improve performance.

Timed writing also interacts with cognitive linguistic and affective factors according to research. The model developed by Flower and Hayes (1981) highlights that writing is a recursive process that includes planning, translating and reviewing. Time constraints limit students' ability to engage recursively which results in linear and superficial drafts. According to Wen and Zhang (2020) high cognitive load in conjunction with affective factors like anxiety can further lower writing quality in time-sensitive situations.

The effects of timed writing on idea generation coherence and lexical diversity particularly among Uzbek EFL learners are still poorly understood despite an increase in global research. The majority of local research concentrates on grammar and error analysis rather than the interaction between higher-order writing skills, time constraints and cognitive load. [7] [8] In order to close this gap, this study compares writing performance under timed and untimed conditions, offering empirical data that is pertinent to Uzbekistan's teaching methods and assessment procedures.

In summary, research shows that time constraints have a substantial impact on the lexical variety coherence and idea development of EFL academic writing. Uzbek EFL students are especially susceptible to these effects because of their limited exposure to English and exam-focused instruction. Examining how time constraints affect this situation will yield important information for creating more efficient writing instruction and evaluation procedures.

In order to investigate how time constraints affect academic writing quality among Uzbek EFL learners this study used a quasi-experimental research design. Sixty undergraduate students (ages 18 to 22) enrolled in English-medium programs at two Tashkent universities participated in the study. Based on institutional placement tests all participants' English proficiency ranged from intermediate to upper-intermediate.

The students were divided into two groups of equal size. *Group A* completed an academic essay under *timed conditions*(40 minutes), similar to IELTS Writing Task 2. *Group B* wrote the same essay topic under *untimed conditions*, with 90 minutes and access to planning and revision time. The essay prompt required students to argue whether technology improves

or harms students' learning.

To ensure reliability, all essays were scored by two trained raters using an *IELTS-based analytic rubric*, focusing on *coherence and cohesion, lexical resource, grammatical accuracy, and task response*. Inter-rater reliability was confirmed using correlation analysis, which showed strong agreement (r = .87).

In addition, a short *post-writing questionnaire* was administered to collect students' perceptions of difficulty, stress, and idea generation during the task. This helped link writing performance to cognitive load and emotional factors.

Quantitative data were analyzed using descriptive statistics and independent-samples t-tests to compare the two groups. Qualitative observations from students' comments were used to support the numerical results. This mixed-methods approach allowed a deeper understanding of how time pressure affects Uzbek EFL learners' academic writing.

The analysis revealed clear differences between the *timed* and *untimed* writing groups. Students in the untimed condition produced significantly higher-quality essays across all scoring criteria. The *mean overall score* for Group B (untimed) was *6.9,* compared to *5.8* for Group A (timed), showing a statistically significant difference (t = 4.12, p < .01).

In terms of *coherence and cohesion*, untimed writers scored an average of *7.1*, while timed writers scored *5.9*. Many timed essays lacked clear paragraph structure and logical progression of ideas. Lexical diversity was also higher in the untimed group, with an average type–token ratio of *0.53*, compared to *0.41* in the timed group, indicating more varied vocabulary use.

For *task response*, untimed students developed their arguments more fully, averaging 7.0, whereas timed writers often gave brief, underdeveloped ideas, averaging 5.7. Questionnaire results showed that 78% of timed writers reported difficulty organizing ideas, and 65% reported high stress during the task. In contrast, only 29% of untimed writers reported similar stress.

These results suggest that time pressure substantially limits Uzbek EFL learners' ability to plan, elaborate, and express academic ideas effectively.

The results of this study provide strong empirical support for the theoretical and empirical claims reviewed in the literature. The significantly lower writing scores of students under timed conditions confirm that *time pressure increases cognitive load*, which limits learners' ability to engage in higher-order writing processes such as planning, monitoring, and revising. According to *Sweller's (2011) Cognitive Load Theory*, when working memory is overloaded, learners revert to simpler strategies. This explains why the timed group relied on basic sentence structures and repetitive vocabulary, as shown by their lower lexical diversity.

The findings also closely reflect *Flower and Hayes' (1981)* cognitive model of writing, which emphasizes that effective writing is a recursive process involving constant movement between idea generation, organization, and revision. In the timed condition, Uzbek learners were forced into a linear drafting process, with little opportunity to rethink or restructure their arguments. As a result, their essays showed weaker coherence and underdeveloped ideas, which mirrors *Ong and Zhang's (2010)* observation that time limits restrict conceptual planning in EFL writers.

Importantly, the emotional responses reported by students help explain these cognitive effects. The high levels of stress and anxiety among timed writers support *Karimov and Yusupova's (2021)* claim that Uzbek students experience exam-related writing anxiety. This anxiety likely consumed additional cognitive resources, leaving even less capacity for idea development. As *Barkaoui (2015)* argues, timed writing tasks often underestimate learners' true abilities because they confound writing skill with test-taking pressure.

While *Byrnes and Manchón (2014)* suggested that moderate time pressure may promote fluency, the present study shows that this benefit does not extend to overall writing quality in the Uzbek context. Many Uzbek learners are still developing automatic control of English grammar and vocabulary; therefore, time pressure forces them to focus on form rather than meaning. This results in grammatically acceptable but conceptually weak texts.

Overall, the findings indicate that *timed academic writing tasks do not provide a fully valid picture of Uzbek EFL students' academic writing ability*. They disproportionately measure speed and stress tolerance rather than genuine academic communication. This has serious implications for both classroom assessment and high-stakes testing, suggesting a need for more balanced and cognitively fair writing practices.

Based on the findings and discussion, the following recommendations are proposed to improve academic writing instruction and assessment for Uzbek EFL learners:

1.   Incorporate Untimed and Extended-Time Writing Tasks

Teachers should provide students with regular opportunities to write essays without strict time constraints. Untimed tasks allow learners to fully engage in higher-order processes such as planning, organizing, and revising ideas. This approach encourages deeper cognitive engagement, resulting in more coherent, well-developed, and lexically rich essays, as shown by the superior performance of the untimed group in this study.

2. Integrate Time-Management and Writing Strategy Training

Since timed writing cannot be entirely eliminated in exam contexts like IELTS, students need explicit training in time management. Teachers should instruct learners on how to plan essay structure, allocate time to drafting and revising, and prioritize key ideas under pressure. Teaching such strategies can reduce cognitive load, decrease stress, and allow students to maintain writing quality even in time-limited tasks.

3. Emphasize Formative and Peer-Assisted Assessment

Classroom assessment should move beyond solely evaluating timed essays. Incorporating peer review, iterative drafts, and teacher feedback helps students identify and correct errors while developing higher-level writing skills. Peer-assisted activities also foster autonomy, encourage reflective thinking, and reduce reliance on teacher correction, which aligns with the findings of Min (2006) and Hyland & Hyland (2006).

4.   Balance   Fluency   with   Accuracy   in   Exam   Preparation
Exam preparation should not focus only on writing quickly. Students should practice producing ideas, supporting arguments, and structuring essays under semi-timed conditions, gradually improving both fluency and accuracy. Scaffolded activities, such as pre-writing outlines, brainstorming sessions, and short drafting exercises, can help learners develop both speed and cognitive control.

5. Provide Support to Reduce Writing Anxiety

High stress and anxiety, particularly in timed writing tasks, were shown to negatively affect idea generation and essay quality. Teachers should implement classroom strategies to reduce anxiety, such as collaborative writing activities, low-stakes practice essays, and encouraging a growth mindset. Reducing affective barriers can free cognitive resources, allowing students to focus on content development and language accuracy.

6. Encourage Long-Term Research and Monitoring

Further studies should track the impact of timed and untimed writing interventions over a longer period to understand how these strategies influence overall writing development. Institutions may consider pilot programs integrating both timed and untimed tasks and monitoring progress to refine teaching practices for Uzbek EFL learners. By implementing these recommendations, Uzbek universities can create a *more balanced, cognitively fair, and*

learner-centered approach to academic writing instruction, improving both the immediate writing performance and long-term academic development of EFL students.

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