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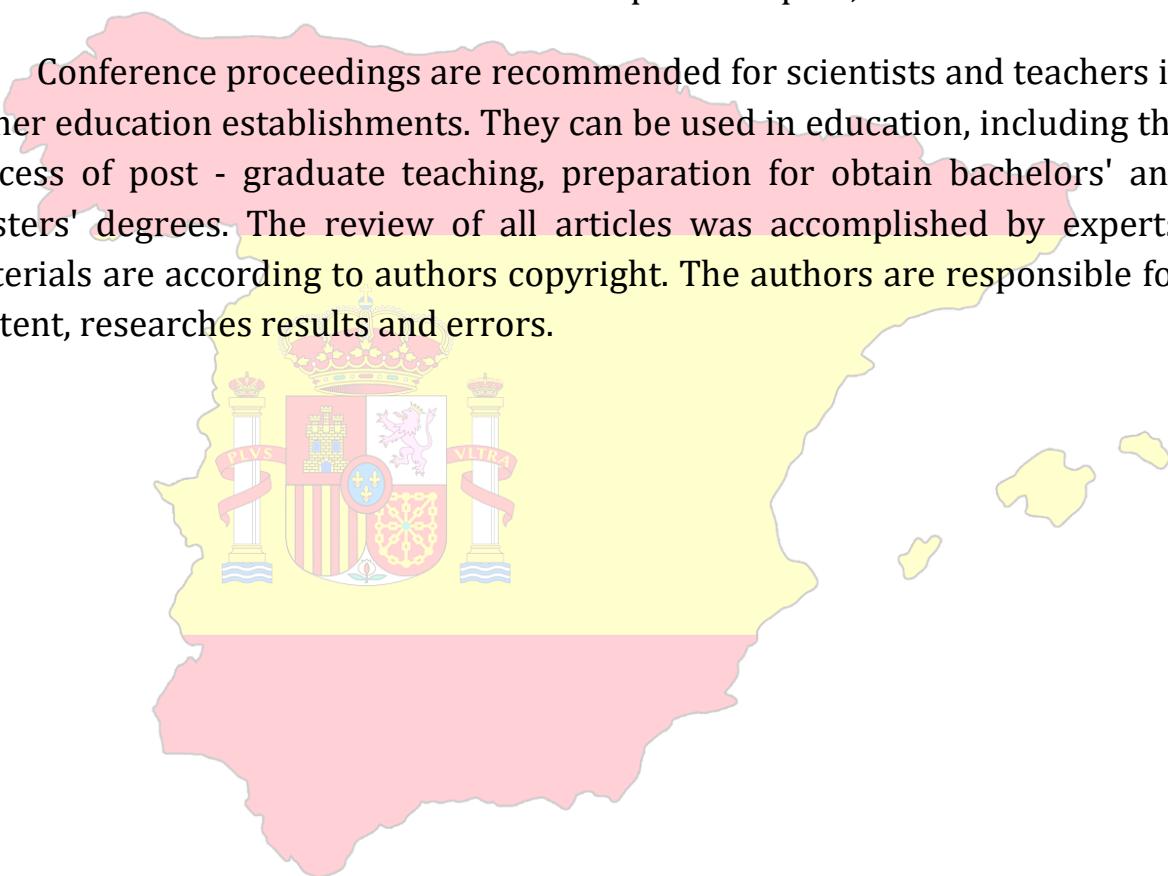


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Complexity of the Text: Story of a patient by A.Kakhkhor

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Abstract: The concept of text complexity has been one of the most significant subjects of investigation in linguistics, discourse analysis, and educational studies. It explores the interplay of linguistic structure, semantic depth, and cognitive processing that determines how difficult a text is to read and understand. This paper examines text complexity from the perspectives of Douglas Biber (1988), Michael Halliday (1994), and Timothy Shanahan (2012). Each of these scholars contributes a unique framework for understanding the linguistic and cognitive dimensions of textual difficulty. The study highlights the multidimensional nature of complexity, including lexical, syntactic, semantic, and pragmatic aspects, and discusses its implications for language learning and pedagogy. In this research, Abdulla Qahhar's short story "Patient (Between the Devil and the Deep Sea)" is analyzed through the Flesch-Kincaid readability formula to determine its linguistic complexity and readability level.

Keywords: text complexity, Douglas Biber, Michael Halliday, Timothy Shanahan, Flesch-Kincaid, lexical density, readability, syntactic structure, comprehension, discourse analysis

Introduction. The notion of text complexity has long been a central topic in applied linguistics and educational research. It refers to the degree of linguistic and conceptual difficulty a reader experiences while interpreting a written or spoken text. The complexity of a text is influenced by its vocabulary, sentence structure, cohesion, conceptual density, and the reader's cognitive background.

According to Douglas Biber (1988), text complexity can be analyzed through multidimensional linguistic analysis. In his corpus-based studies, Biber identifies syntactic and lexical features—such as subordination, nominalization, and lexical density—as major determinants of textual difficulty. Academic and formal texts, for instance, are more complex than conversational texts because they exhibit higher levels of syntactic embedding and more specialized vocabulary.

Michael Halliday (1994), the founder of Systemic Functional Linguistics (SFL), extends the understanding of complexity beyond structure to include function. He argues that the complexity of a text depends on the social context

and the purpose of communication. Halliday emphasizes that texts become more complex when they aim to express abstract ideas or scientific reasoning, as writers employ technical terminology, grammatical metaphors, and dense nominal groups.

In a more recent contribution, Timothy Shanahan (2012) explores text complexity from an educational and cognitive perspective. Shanahan contends that readability formulas—traditionally based on sentence length and word frequency—are insufficient for explaining real comprehension difficulty. He highlights that text complexity involves not only measurable linguistic features but also conceptual sophistication, coherence, and reader factors such as background knowledge and motivation.

A further significant contribution to the measurement of text difficulty was made by Rudolf Flesch (1948) and later refined by J. Peter Kincaid et al. (1975) through the development of the Flesch–Kincaid Readability Formulas. These formulas provided a quantitative way to estimate how difficult a text is to read, using average sentence length (ASL) and average syllables per word (ASW) as indicators of syntactic and lexical complexity.

The Flesch Reading Ease (FRE) formula is expressed as:

$$\text{FRE} = 206.835 - (1.015 \times \text{ASL}) - (84.6 \times \text{ASW})$$

Here, ASL (Average Sentence Length) represents the number of words per sentence and serves as a key indicator of syntactic complexity. At the same time, ASW (Average Syllables per Word) measures lexical difficulty—the more syllables per word, the more sophisticated and less frequent the vocabulary tends to be.

The second formula, the Flesch–Kincaid Grade Level (FKGL), refines this concept to indicate the approximate educational grade required to understand a text:

$$\text{FKGL} = (0.39 \times \text{ASL}) + (11.8 \times \text{ASW}) - 15.59$$

This formula expresses readability as an educational level. For instance, a score of 8.0 suggests that the text can be understood by an eighth-grade student, while a score above 12.0 suggests material intended for college-level readers.

Purpose and Application of the Formulas

The purpose of these formulas is to provide an objective, numerical evaluation of how accessible or challenging a text is to its target audience. Rather than relying on subjective impressions, researchers, teachers, and editors can use these formulas to quantify readability in educational, academic, or professional contexts. For example, educators can use them to select appropriate reading materials for learners, ensuring that texts match their linguistic proficiency and cognitive ability. The application of Flesch and Kincaid formulas extends across fields such as language teaching, textbook design, journalism, and even legal or medical communication. In academic



linguistics, they are used to compare genres — for instance, identifying how narrative prose differs from scientific writing in terms of sentence and word structure.

These formulas function best when used to complement, rather than replace, deeper linguistic and contextual analyses. As Shanahan (2012) points out, while the Flesch–Kincaid model effectively measures surface-level textual difficulty, it does not account for semantic cohesion, conceptual abstraction, or reader background knowledge. Thus, they provide a valuable starting point for understanding readability but not a complete measure of textual complexity.

The analysis of Abdulla Qahhar's "Patient" using the Flesch–Kincaid readability formula reveals a text that is linguistically and cognitively complex, suitable for advanced readers. The quantitative results (FRE 44.07; Grade 13.2) confirm that the story's long sentences, layered syntax, and culturally embedded vocabulary increase its reading difficulty.

Text Sample for Analysis

To demonstrate the application of text complexity analysis, let us consider the short story "Patient" by Abdulla Kakhkhar (1936):(translated by Muxitdinova Diyora)

Sotiboldi's wife fell ill. They invited Mullah to pray over her – it did not help. He called a healer. He bled her. The patient used to dizzy... An unknown woman came, lashed the patient with branches of willow, smeared with the blood of a freshly slaughtered chicken...

...All this, of course, cost money. After all, it's always like this: a chain is not stronger than its weakest link. There is a hospital in the city. What does Sotiboldi know about it? Beautiful high white building hides behind trees in a cool quiet park. Gray doors with glass handles have a belly button. When his master, Abduganiboi, who traded cotton seeds and cotton oil cake, was about to die under the sacks that had collapsed in the warehouse, for some reason he went to Sim instead of this hospital. When he listened the word hospital, Sotiboldi thought of a 25-sum coin with a carriage and a picture of a white king.

The patient was getting worse day by day. He didn't really know why, Sotiboldi went to the owner and told him about his misfortune. Abduganiboi listened to him and was very upset. If he could do, he would immediately have had Sotiboldi's wife healed.

"Have you donated anything to Devonai Bahauddin? or Gavsulazam?" he asked.

Sotiboldi left. It was no longer possible to leave the patient, and Sotiboldi learned to weave baskets for a living. And from morning to evening he sits in the sun, surrounded by heaps of rods, and weaves baskets. His four-year-old daughter, sitting down next to her sick mother, with a handkerchief



drives sluggish, importunate flies. Sometimes a girl falls asleep with her head in her hands, firmly clutching a handkerchief. There is silence around... Only flies are buzzing, moaning sick, but from somewhere far away comes the voice of a beggar: "Hey friends, the prophet of God said, give alms for the sake of Allah... Alms turn away misfortunes..."

At one night, the patient suffered terribly. Each of her moan made Sotiboldi suffer. He called the old woman neighbor. She came, arranged the patient's untidy hair, she slowly stroked her, and then sat down and sobbed. "The morning prayer of the sinless child will reach God, wake up your girl!" she said.

The girl cried for a long time, wanting to sleep, but then prayed as the old woman thought, frightening the anger of her father and the condition of her mother:

"Deay loyd, my mothey is in a lot of pain. Please I beg you, heal my mothey."

A few days passed. The condition of the patient became completely hopeless. It was necessary to make Chilyosin over her. Sotiboldi borrowed twenty coins from the shopkeeper who wholesaled baskets he weaved. After Chilyosin the patient felt better. That night she even opened her eyes, called the girl and whispered:

"God heard my daughter's prayer. I am now better, my dear, do not wake up our daughter at dawn."

She closed her eyes and didn't open them again. She died at dawn. When Sotiboldi picked up his daughter to put her away from the deceased, the little girl woke up and, without opening her eyes, habitually prayed:

"Day Lloyd, my mother is in a lot of pain. Please, I beg you, heal my mother."

Application of the Flesch-Kincaid Formula

To determine the linguistic difficulty of Abdulla Qahhar's "Patient," the story was analyzed using the Flesch-Kincaid readability formula.

Step 1. Word and sentence count:

The full story consists of approximately 785 words divided into 32 sentences.

Step 2. Calculate averages:

$$\text{ASL (Average Sentence Length)} = 785 \div 32 = 24.5$$

ASW (Average Syllables per Word) = estimated 1.63 (based on multisyllabic vocabulary and lexical density).

Step 3. Apply Flesch Reading Ease (FRE):

$$\text{FRE} = 206.835 - (1.015 \times 24.5) - (84.6 \times 1.63)$$

$$\text{FRE} = 206.835 - 24.8675 - 137.898 \approx 44.07$$

Step 4. Apply Flesch-Kincaid Grade Level (FKGL):

$$\text{FKGL} = (0.39 \times 24.5) + (11.8 \times 1.63) - 15.59$$



$$\text{FKGL} = 9.555 + 19.234 - 15.59 \approx 13.19$$

Result Interpretation:

$\text{FRE} = 44.07 \rightarrow \text{"Fairly Difficult"}$ (understandable by university-level readers)

$\text{FKGL} = 13.2 \rightarrow \text{suitable for 13th-grade and above (college-level)}$

This numerical evidence supports the observation that "Patient" is linguistically advanced, containing long compound sentences, rich descriptive language, and emotionally layered expressions.

Textual Complexity Analysis

Based on Biber's and Halliday's frameworks, the story's complexity arises from several interrelated factors:

Syntactic Complexity: Long compound sentences and subordinate clauses increase grammatical density.

Lexical Richness: Use of culturally specific words (Mullah, Chilyosin, Gavşulazam) adds lexical depth.

Semantic Density: The narrative integrates literal and symbolic meanings — suffering, faith, and social critique.

Cohesion and Coherence: Repetition of prayers and moral motifs maintains structural unity.

Cognitive Demand: Readers must interpret implicit cultural and religious elements, requiring background knowledge.

According to Shanahan (2012), this combination creates deep comprehension difficulty, extending beyond surface-level syntax into conceptual interpretation.

Discussion of Formula Results

The Flesch-Kincaid results ($\text{FRE} 44.07$, $\text{FKGL} 13.2$) confirm that Qahhar's "Patient" is a linguistically sophisticated text. The moderate readability score reflects its artistic narrative structure and dense language.

While Flesch-Kincaid effectively quantifies readability, it does not capture the emotional, cultural, and moral nuances present in Qahhar's prose. As Halliday (1994) argues, linguistic complexity also depends on functional meaning and context. Thus, the quantitative results must be interpreted alongside qualitative literary and linguistic analysis.

In summary, the detailed analysis of Abdulla Qahhar's "Patient" using the Flesch-Kincaid readability formula reveals that the story possesses high linguistic and cognitive complexity. With an FRE score of 44.07 and a grade level of 13.19, it is suited for advanced readers capable of processing complex syntax and layered vocabulary. This evaluation demonstrates that while formulas like Flesch-Kincaid can objectively measure sentence and word difficulty, the true complexity of a literary text also encompasses emotion, symbolism, and cultural resonance. Therefore, integrating quantitative



readability measures with qualitative linguistic interpretation provides a more comprehensive understanding of text complexity in literature.

References

1. Abdulla Qahhar (1936). Patient (Between the Devil and the Deep Sea).
2. Biber, D. (1988). Variation Across Speech and Writing. Cambridge University Press.
3. Flesch, R. (1948). A New Readability Yardstick. *Journal of Applied Psychology*, 32(3), 221–233.
4. Graesser, A. C., McNamara, D. S., & Kulikowich, J. M. (2011). Cohesion, coherence, and deep learning in text comprehension. *Discourse Processes*, 48(2), 189–196.
5. Halliday, M. A. K. (1994). An Introduction to Functional Grammar. Edward Arnold.
6. Halliday, M. A. K., & Hasan, R. (1976). Cohesion in English. Longman.
7. Kincaid, J. P., Fishburne, R. P., Rogers, R. L., & Chissom, B. S. (1975). Derivation of New Readability Formulas for Navy Enlisted Personnel. U.S. Naval Air Station, Millington, TN.
8. Nation, I. S. P. (2001). Learning Vocabulary in Another Language. Cambridge University Press.
9. Shanahan, T. (2012). Text Complexity and Learning to Read: A Critical Review. McGraw Hill Education.

