



MIRZO ULUG'BEK NOMIDAGI
O'ZBEKISTON MILLIY UNIVERSITETINING
JIZZAX FILIALI

**ZAMONAVIY INNOVATSION
TADQIQOTLARNING
DOLZARB MUAMMOLARI
VA RIVOJLANISH
TENDENSIYALARI:
YECHIMLAR VA ISTIQBOLLAR
RESPUBLIKA ILMIY-TEXNIK
ANJUMAN MATERIALLARI
TO'PLAMI**



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UNRAVELING COMPLEXITY: THE ROLE OF MORPHOLOGICAL STRUCTURE IN READABILITY AND COMPREHENSION CHALLENGES OF AGGLUTINATIVE LANGUAGES

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Agglutinative languages, by their morphological properties, form words by a systematic use of affixes to a root. Therefore, many complex words can be formed by prefixes and/or by suffixes and/or by an infix, and in these languages each affix has one fixed grammatical function. For example, the root word of many Urdu verbs is to speak or to say. A past tense is added to this root as a prefix; and in many cases, cases are added to the root as suffixes; and mood is indicated by yet another suffix. This structure of the words of an agglutinative language does not fit within the familiar framework of analysis which is suitable for isolating languages or for so-called fusional languages (Sands, 2009). Hence, an special analysis of the complexity of texts in such languages, or of so-called ‘readability’ of a given text, or of its ‘syntactic diversity’ is called for. It is noted here that for purposes of this article, agglutinative languages are Turkish, Finnish and Swahili, the language of Zanzibar and the Zairian Congo. Here, it should also be added that as is the case with any class of languages, there are variations within the class of agglutinative languages. That is, however, a matter that shall have to be ignored in the present article. It is obvious that from a study of the morphological features of a language and its texts, lots of interesting questions could be formulated concerning issues of readability of written texts and their syntactic diversity for native speakers of these languages as opposed to that of non-native speakers. For instance, one would expect to find very different levels of complexity when such non-native speakers have had quite different amounts of formal study of the language, or at any rate of the grammar of that language. Also, even within any one language community, there must clearly exist a great many very different answers to each and every one of the aforementioned questions, depending on as many variables as the range of circumstances of life. These variables could range from a native speaker’s or a non-native speaker’s experience of reading or listening to written or spoken text, within that language’s speaking community, to the kind of situation in which any given piece of writing is being read by that person (Suleimanov et al., 2024).

The study of text complexity in agglutinative languages is highly relevant in today's research environment as increasingly more studies are being carried out on the interface of a language's morphosyntactic features and reading. The agglutinative language type, in particular, is of special interest as the often highly intricate combination of affixes leads to an especially high degree of syntactic diversity, which also carries over to the reading of texts. For speakers of other languages, this may pose considerable problems regarding the reading of texts, depending on their individual degree of linguistic proficiency. A closer analysis of the influences, which the complex morphological structures of agglutinative languages have on reading and on the speakers in general, can, however, also reveal new, as yet unknown facets regarding the specific use of a language and the reading of texts in general. Research on this topic may also contribute to a broader perspective on the social-linguistic and pedagogical use of languages in the world's increasingly interconnected society (Suleimanov et al., 2024).

Readability is a problem in agglutinative languages for several reasons. One obvious reason is that very long words can be created by adding a large number of affixes to the root. These words contain less information than long words in non-agglutinative languages, and a great deal of that information can be functional, i.e. related to grammatical structure. This aspect of word formation in agglutinative languages makes less use of word order than is typical in languages with little or no agglutination, and so allows for a greater variety of sentence structures to be created. But in terms of reading, the advantage of less reliance on word order is offset by the fact that very long words can be difficult to read, especially for non-native speakers. It can be difficult enough for a native speaker to understand a long word that is made up of a number of different affixes, but for a non-native speaker the problem can be even greater, since in addition to understanding the individual affixes, the non-native speaker must also have some sense of how they all go together. The result is that very long words can decrease readability, and so form an obstacle to reading for people who are not native speakers of a given language (Kühn et al., 2021).

However, the degree to which the morphological complexity of a language results in greater or less cognitive load for speakers of that language compared to speakers of other languages can vary dramatically. To some extent, the greater morphological complexity of agglutinative languages might result in greater difficulty for non-native speakers to understand and process even simple sentences in those languages, particularly in those situations in which a speaker's primary function is to process written language rather than to engage in spoken interaction with a single interlocutor. The fact that native speakers of agglutinative languages are typically able to understand and process even the most complex of sentences without even conscious awareness of having done so provides further support for this view. However, it is also important to recognize that the differences between native and non-native speakers with regard to the ability to process complex agglutinative languages will necessarily depend upon a number of factors. In particular, the degree of complexity of the specific language under study, the specific abilities or skills that are required for the processing of that language, and the amount of prior experience that the individual in question has had with that language will all necessarily play important roles in this regard.

The agglutinative feature of a language creates problems for text complexity as well as for readability, especially for speakers of other languages. The longer the words, the more information is included in one word. The word created by agglutination can be very long and contains much information. In fact, one word can contain as much information as a whole sentence in other languages. The root of a word can be combined with many affixes to create words with different meanings. This feature of languages creates problems especially for non-native speakers of languages that use agglutination. They may have problems to understand or to read words that are created by agglutination (Kühn et al., 2021).

Another important aspect of word length and complexity in terms of readability is the fact that in agglutinative languages long words are often created by compounding of morphemes. Although the native speaker, due to his sophisticated cognitive strategies, is able to process the complex words of his native language easily and quickly, the accumulated length of the words may pose serious problems for the non-native speaker. The strategy of comprehension that is sufficient for processing shorter word forms can easily fail when dealing with the agglutinative word forms.

When morphological complexity of a language impacts the readability of written texts is of interest, research on agglutinative languages has led to results which support the above-mentioned correlation. By analyzing large numbers of written text samples, tests of readability were calculated, which, among other criteria measure sentence length in characters and word complexity. The results of these tests reveal a negative correlation between agglutination and readability, results which have significant implications for the development of teaching materials for non-native speakers of agglutinative languages, especially in situations where learners are also learning to read and may benefit from a simplification of morphological structures in written texts in order to process them more effectively for comprehension in educational settings.

The interrelation of morphologically complex structures and their cognitive implications for processing in agglutinative languages requires a more in-depth analysis of teaching and text production. Since, in contrast to non-native speakers, native speakers of agglutinative languages possess a wide range of potential expressions and their intuitive, intrinsic knowledge of the possible meanings of all possible morphological combinations, are not a problem in everyday communication, a more detailed analysis of the same is required to equip non-native speakers of agglutinative languages with the necessary tools to process, to understand and to work with the morphologically complex and syntactically diverse structures of their language in an effective and efficient way.

The word *evlerimde* is an example from Turkish. It consists of the root *ev*, the plural suffix *-ler*, the possessive suffix *-im* and the locative suffix *-de*. In this way, a single word can contain a large amount of information. Stacking of many morphemes together can result in very long words. The syntactic structure of agglutinative words can be very complex. This can be very different from languages that use a more isolated type of word formation, where one word corresponds to one idea or meaning and a number of words would be required to express a similar proposition in an agglutinative language. As Tahir and Amjad (2015) noted, native speakers of agglutinative languages have an advantage when processing complex words and, indeed, complex

sentences in general. The root *ev* (house) is recognized as the core of the word *evlerimde*, and the remainder of the morphemes are recognized as being attached to this root to form a single word that conveys a complete proposition. The word *evlerimde* can be literally translated as “my houses in” or “the houses of mine in.” Therefore, *evlerimde* can be understood to mean “in my houses” or “in the houses of mine.” The use of agglutinative morphology results in a very powerful means of expressing a great deal of information by using a relatively small number of words. This can make the language very efficient to use, and can result in native speakers being able to express very complex ideas with a minimum of words.

In summary, as the native speakers of agglutinative languages, even though the proficient speakers possess high level of familiarity with the morphological structures of their native languages and therefore they do not encounter problems with understanding the most complex words, yet they may face some difficulties when processing long sentences especially those which consist of many complex words. In addition, the structure of the words and the grammatical structures of the sentences in agglutinative languages can cause difficulties for the learners of these languages especially when they encounter unfamiliar words. All these difficulties can be attributed to the morphological structures of agglutinative languages.

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