

# Selecting Khazoyin ulMaoni Kulliyot for the Corpus of Alisher Navoi's Works

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**Keywords:** Corpus, Innovative, Text Structure, Idiostyle, Devan, Byte, Semantic Tag.


**Abstract:** This article provides information on creating Alisher Navoi's author corpus, using the "Khazoyin ulmaoni" collection as a base, and the educational value of the corpus. Causal connections between statements create a logical flow of information. The article aims to help experts and researchers in special linguistics understand the explanatory words found in ghazals according to artistic and scientific criteria. The language used is clear, concise, and objective, with a formal register and precise word choice. The article follows conventional academic structure and formatting, adhering to style guides and consistent citation.

## 1 INTRODUCTION

Bringing Alisher Navoi's invaluable spiritual heritage closer to the people is a significant task. Navoi's work has a tremendous impact on the formation of the spiritual world of mankind in a national and humanitarian spirit. It serves as a guideline for understanding the laws of formation and development of our classical literature. Navoi's creative heritage consists of over 26.000 unique words – Davlatov [2021], showcasing his philosophical observations. To fully comprehend Navoi's work, one must possess the ability to delve into the world of Immaculate Conception. However, given the semantic changes in our current linguistics and the time period in which Navoi lived, this may not be entirely feasible. Today, not only the younger generation, but also specialists working in the field of linguistics find it difficult to fully appreciate Navoi's creativity in accordance with the criteria of artistry and science. Navoi's works, written in both lyrical and prose, may be challenging to comprehend without the aid of explanatory dictionaries. This is due to the fact that many of the words found in classical sources are no longer in common use today, either due to their archaic or historical nature. In our study, we have identified words that require specialist, annotated dictionaries,

or other auxiliary resources to understand as 'annotated words'. In the preface of the devan 'Garayib us-sigar', Alisher Navoi found the meanings of all explanatory words for his works, including his four devans: "Garayib us-sigar" ("The strangeness of youth"), "Navodir us-shabab" ("Rarities of youth"), Commenting on the Naming of "Badoye' ul-vasat" ("Arts of middle age"), and "Favoyid ul-kibar" ("Benefits of old age"). "Tufuliyyat avonikim, yettisekkiz yoshdin yigirma yoshqacha chinasa bo'lg'aykim, umr fusulining navbahori va hayot gulshanining shukufavu gulzoridur, aning madhida "G'aroyib us-sig'ar" bila sarf qildim. Shabob zamonikim, yigirmadin o'ttuz beshgacha desa bo'lg'aykim, ham bu fusulning yozidururkim, yigitlik chashmasorining hayotbaxshlig'ining og'ozidur, aning vasfida "Navodir ush-shabob" bila kechurdim. Va kuhulat ayyomikim, o'ttuz beshdin qirq beshga degincha qiyos qilsa bo'lg'aykim, bu fusulning xazonidurkim, tiriklik bog'ining bargrezining nishonidur, aning ta'rifida "Badoye' ul-vasat" bila o'tkardim. Va qirq beshdin-oltmish yaqinig'achakim ta'yin qilsa bo'lg'aykim, bu fusulning qishidurkim, kishining xam qad bila adam yo'lig'a kirib, zamon ahli bila xayrbod qilishidur, aning duosida "Favoyid ul-kibar" bila nihoyatqa yetkurdum" – Navoi [1987]. This prose text contains 103 words, 68 of which are annotated. Without the use of special explanatory

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dictionaries, it may be difficult to understand the valuable information about the names of the devans in the “Khazayin ul-maoni” collection. It is crucial to maintain a clear and concise writing style with a logical flow of information and causal connections between statements. The language used should be formal, objective, and value-neutral, avoiding biased, emotional, figurative, or ornamental language. Technical terms should be explained when first used, and subject-specific vocabulary should be used when it conveys the meaning more precisely than a similar non-technical term. The text should be free from grammatical mistakes, spelling mistakes, and punctuation mistakes. The content of the improved text must be as close as possible to the source text, and the addition of further aspects must be avoided at all costs. The importance of existing explanatory dictionaries in the semantic analysis of Navoi's works and their potential use today became clear during the work process. The term “chinasa” used in the text refers to the language of “Navoi's works, as described” in P.Shamsiyev and S. Ibrohimov's book – Shamsiev [1972] and the 4-volume “Annotated dictionary of the language of Alisher Navoi's works” edited by E. Fazilov [1983]. Unfortunately, this information is not readily available on internet sources, making it difficult for the average reader to find. Consulting experts may be necessary, but this is not always feasible for the general reader. Interactive innovative tools can be a solution to the problem presented. The Alisher Navoi author corpus, referred to as MK, serves as an example of such a system.

## 2 RESEARCH METHODOLOGY

The work on this corpus started by semantically tagging 650 ghazals from the 2020 “Badoye ul-vasat” library. A total of 39 hours were dedicated to Navoi's life and work in general education schools, with 9 hours specifically allocated to the study of Navoi's lyrics. The study focused on 5 of the poet's 16 lyrical genres, namely ghazal, rubai, tuyuq, qasida, and fards. The study analysed ghazals, verses, and verses from the “Badoye ul-vasat” devan in school textbooks, highlighting the need for scientific research of the divan. To facilitate the study of Navoi's work in the educational process, the work began with the third devan. An initial prototype of Alisher Navoi MK was created based on the semantic tagging of 650 ghazals, providing contextual meaning of the words in the verses - Abjalova et al., [2022]. Considering the corpus' educational, social, spiritual, historical, and linguistic significance, the research

continued by semantically tagging 1950 ghazals in the remaining three devans of the “Khazayin ul-maoni” collection.

In the digital age, Navoi's literary works, both lyrical and prose, can be presented to the public with grammatical and semantic tagging of the lexical units. This ensures that Navoi's works are comprehensible and readable to a wider audience, including those on the global network.

The Alisher Navoi MK provides information on the renewal of modern language from the 15th century, cases of words becoming obsolete, activation and passivation in contemporary social life, statistics on the usage and frequency of certain words in Navoi's works, and poetic numbers used in ghazals. The text also highlights the quick, accurate, and comprehensive learning of horses. The reliability of the corpus is guaranteed by the fact that the semantic analyses in the author's corpus are based on reliable scientific sources. The corpus fully reflects the entire spectrum of linguistic phenomena, allowing for a comprehensive and objective study of the necessary information.

“Badoyi ul-bidoya” (“The beginning of art”) is Navoi's first devan after Husayn Boykara's accession to the throne. In the preface, the poet discusses the process of organizing the devan and highlights its key features. “Avval budurkim, har kishikim devon tartib qilibdurur, o'ttiz ikki harfdinki, xaloyiq iboratida voqi'durur va ulus kitobatida shoyi', to'rt harfg'a taarruz qilmaydururlar. Chun so'z arusi nazm haririning matbu' kisvatin va mavzun xil'atin kiyib, jilva og'oz qilsa, huqqayi yoquti dog'i o'ttuz ikkita gavhardin qachonkim to'rtig'a nuqsun voqi' bo'lsa, muqarrardurkim, jamolig'a andin qusur va kalomig'a andin futur voqi' bo'lg'usidurur. The divan by Alisher Navoi begins with ghazals, consisting of 32 letters including جيم – chim, جي – je, جوف – gof and ألف – lom – lom-alif. It is important to note that the information provided consists of 56 words, 36 of which are no longer in use and require semantic explanation for the ordinary reader to understand the content. It is important to identify the explanatory words in Navoi's prose sources using special ID codes and enter their contextual understanding into the MK database through semantic tagging. This ensures clarity and precision in the interpretation of Navoi's work.

Although Navoi named the divans in his kulliyat by comparing human life to four metaphorical seasons, the ghazals included in them are not proportional to the corresponding age periods. For instance, in “Garayib us-sigar”:

Yoshing ellik bo'ldi, yuz qo'yg'il fano tufrog'ig'a

Kim, shabob ayyomi aysh-u beadablig‘ chog‘i bas. (240-g‘azal)

In “Navodir ush-shabob”

Ey Navoiy, huzn ila o‘tkar qarilig‘ mehnatin,

Chun yigitlik bordi aysh-u ishrat ayyomi bila. (548-g‘azal)

Yoshim ellik bo‘ldi yuz hasrat yesamkim sudi yo‘q,

O‘zni maydin hush tutay chun o‘tti umrum xushrog‘i. (586-g‘azal)

“Favoyid ul-kibar” is a collection of ghazals that reflect the vitality of youth. No changes in content were made. The poet created a commotion among the young audience and took away their peace and decision-making ability. The collection is a celebration of youthfulness and its energy.

Mast o‘lub bir dam shabob ayyomini tut mug‘tanam

Kim, yigitlik dam-badam o‘tmakdatur ayyom aro. (19-g‘azal)

Or

Ishq ajab dard emish, dardqadur chora sabr,

Vahki, Navoiy base oshiq-u bechoradur. (146-g‘azal)

Undoubtedly, “Khazayin ul-maoni” is a significant discovery of Navoi. This book contains almost all uzbek poems belonging to the 16 different lyrical genres created by the great poet throughout his life.

The poet spent over six years (1492-1498) organizing this collection in its current state,

arranging its internal structure in a robust manner and categorising the 16 types of lyrical genres into four devans. “Khazayin ul-maoni” preface includes poems in six genres, with a total of 45,000 verses. The genres are ghazal (2600), rubai (133), muhammas (10), mustazad (4), musaddas (5), tarje‘band (4), and qit‘a (210), as well as lug‘z-chistan (10), muammo (52), tuyuq (13), fard (86), masnavi (1), and qasida (1).

The way in which the devan is ordered demonstrates Alisher Navoi’s keen observation and logical thinking. As a result, his devans have become a unique and exceptional artistic event in the history of Turkish poetry. Navoi’s works, including his devans, quickly gained popularity among literary, artistic, and scientific communities. Due to the increasing popularity of Navoi’s devans, they were frequently copied by renowned calligraphers including Sultan Ali Mashhadi, Abduljalil Katib, Darvesh Muhammad Taqi, Muhammad bin Nur, and Sultan Muhammad Hamdan during the 15th century. These kulliyat manuscripts, which consist of four devans, are Navoi’s most widely copied works.

Table 1.

T/r	Lyrical genres created by Navoi	The number of poems in genres	“Garoyib us-sigar”	“Navodir ush-shabab”	“Badoye ul-vasat”	“Favoyid ul-kibar”
1	Ghazal	2600	650	650	650	650
2	Mustazod	4	1	1	1	1
3	Muhammas	10	3	3	2	2
4	Musaddas	5	1	1	2	1
5	Musamman	1				1
6	Tarji‘band	4	1	1	1	1
7	Tarkibband	1		1		
8	Masnaviy	1				1
9	Qasida	1			1	
10	Soqiynoma	1				1
11	Qit‘a	210	50	50	60	50
12	Rubaiy	133	133			
13	Muammo	52		52		
14	Lug‘z	10			10	
15	Tuyuq	13			13	
16	Fard	86				86

In 1838, Muhammad Ali Khan, the Khan of Kokand, issued a decree entrusting Muhammad Siddiq Tunqatar with the task of copying 300 copies of Alisher Navoi's "Chor Divan" using the best calligraphers of the khanate. At the same time, hundreds of hattots copied Navoi's works. The scribes considered it an honour to copy these blessed works of Navoi and were proud to record their experiences under the influence of this work. As Navoi's divans are passed down through the centuries and from book to book, various changes are made to their structure, order, size, and text. Hamid Sulaymanov compared the books of "Khazayin ul-maoni" with rare copies copied in the 15th-16th centuries and many manuscripts kept in the libraries and museums of Tashkent, Leningrad, Dushanbe, Baku, Paris, London, and other cities. He prepared the current version of "Khazayin ul-maoni" for publication. The collection was later published by several publishers, based on it. In 2013, the "Gafur Gulam" publishing house released a 10-volume collection of Alisher Navoi's complete works. The first book of the renowned "Garayib us-sigar" was included in volume 1. In 2011, the "Tamaddun" publishing house conducted a comparative analysis with the ghazals published by other publishers. For instance, the 67th verse of the "Garayib us-sigar" devan begins with "Go'yiga boshimni yozin yetkurub chavgonin o'p" the verse begins with the words go'yida in one devan and ko'yida in the second devan (2-table). At the same time, the explanatory words in explanatory dictionaries can have different meanings. The meaning of the word used by the poet in this stanza can be deduced from its content. "Goyida" refers to a small wooden ball used in the game of 'chavgon' played on horseback, while "ko'yida" is played on the street or road. The fourth verse of the

8th ghazal from the book "Favoyid ul-kibar" begins with "Chu derlar insonni mushtak o'ldi nisyondin". In one devan, nisyon- means forgetting, while in the second devan isyon- it means rebellion. This inconsistency in translation hinders the correct understanding of the ghazal's meaning, making the poet's purpose unclear. In ghazals, one can observe numerous such instances. In the "Kotiblar zikrida" section of the work "Mahbub ul-qulub" [18], Navoi writes in the seventeenth chapter that "A good writer brings peace to the word and the speaker" It is well-known that dots play a crucial role in the Arabic alphabet. As a poet once said, a single careless mistake by a scribe can alter the original meaning of a word. For example, "Ulki, bejo nuqta bila "habib" (do'st)ni "habis" (yaramas) qilg'ay va "muhabbat"ni "mehnat" – aningdek habisi mehnatzadag'a yuz la'nat" said. Such mistakes can mislead the reader, causing a misunderstanding of the essence of the letter and negatively affecting their mood.

Navoi arranged the 650 ghazals in each of the divans of the "Khazayin ul-maoni" collection strictly in the Arabic alphabet according to their rhymes and quantity. The ghazals ending with the letter 'alif' are present in all four devans. There are 39 ghazals ending with the letter "be" and 2 ghazals ending with the letter "pe".

Table 2: In the editions of "Gafur Gulam" and "Tamaddun" publishing houses, different copied words in the divans.

G'azal raqami	Published by "Gafur Gulam" publishing house	Published by "Tamaddun"
	"G'aroyib us-sig'ar"	"G'aroyib us-sig'ar"
29	Er tutar ko'nglumda gardundin judo bo'lg'an balo	Yor tutar ko'nglumda gardundin judo bo'lg'an balo
36	Bir sari qulog'ingda gavharmu ekin yoxud	Har sari qulog'ingda gavharmu ekin yoxud
36	Bir jonibida oyning axtarmu ekin oyo?	Har jonibida oyning axtarmu ekin oyo?
67	Go'yiga boshimni yozin yetkurub chavgonin o'p	Ko'yiga boshimni yozin yetkurub chavgonin o'p
Favoyid ul-kibar		
3	Makkadin xorij qilib, mulkidin aylab benasib	Makkadin xorij qilib, mulkidin aylab nasib
3	Voliy aylab olam otlig' kulbai ahzon aro	Voliy aylab olam otlig' kulbai ehzon aro
4	Asreki, zikringni aylab hudiy	Asreki, zikringni aylab hudoya
8	Chu derlar insonni mushtaq o'ldi nisyondi	Chu derlar insonni mushtaq o'ldi isyondin
14	Ichirsa jomi hidoyat, navo tuzub Jomiy	Ichirsa jomi hidoyat, navo tuzub jome
21	Ki chug'd bo'lma bu vayronai muhaqqar aro	Ki chug'z bo'lma bu vayronai muhaqqar aro

**(2- drawing) Arrangement of ghazals in the Arabic alphabet in “Khazayin ul-maoni” collection**

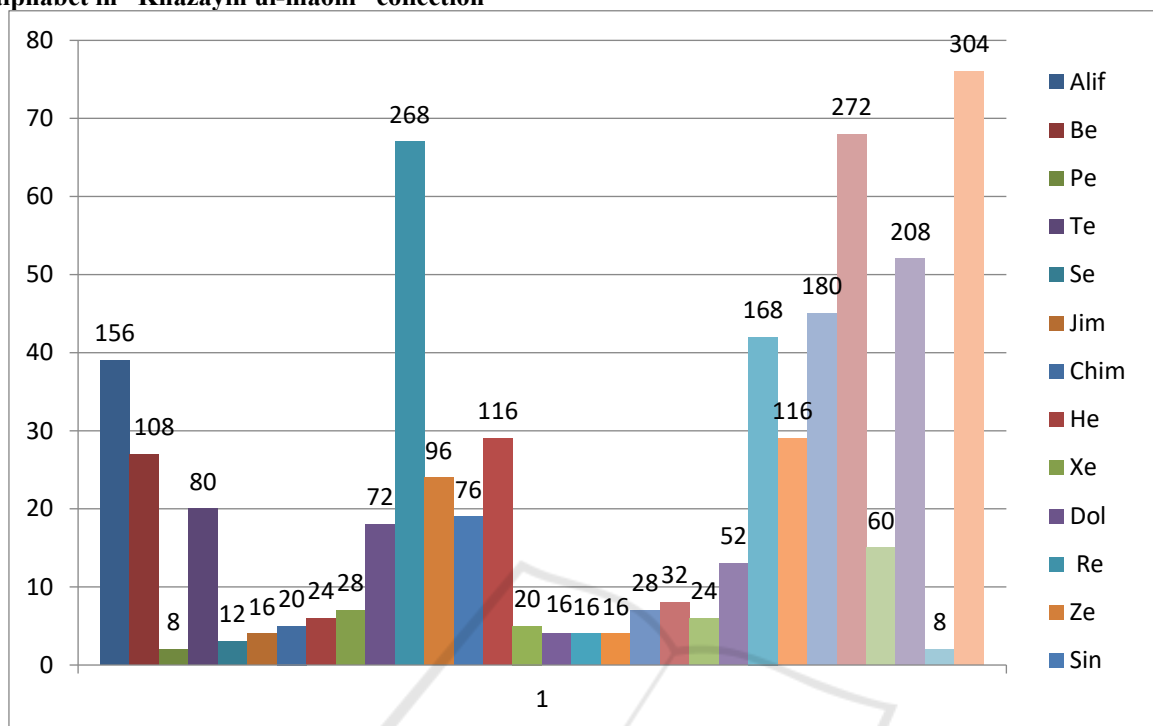


Figure 1: Based on the rhyming of the ghazals in the four chapters of the “Khazayin ul-maoni” collection, they are arranged in the same quantity according to the Arabic alphabet.

It is said that Navoi put titles like the letter “pe” “Parivashlarning parvozi” or the letter “se” “Samin gavharlarning samarasi” which indicates that Navoi skillfully used the art of alliteration/tarze in literary studies. When arranging the collection, the thinker placed great importance on having an equal number of ghazals with the same radif in each devan. The “Khazayin ul-maoni” collection contains a total of 12 ghazals with the radif “Manga”, which are divided equally into three devans and placed in the 8th, 9th, and 10th positions of each devan. The collection includes a total of 20 ghazals with the “Manga” radif, five in each devan (11-12-13-14-15), and 8 ghazals with the “Sanga” radif, with each devan containing two (16-17 places). Additionally, there are five ghazals with the “Aro” radif, making a total of 20 (18-19-20-21-22 places). The presentation of the ghazals in such a proportion is a testament to the logical thinking of the great thinker. Including these analyses in the corpus enhances its educational value and demonstrates Navoi’s genius. The analyses show that Navoi’s works in the “Khazayin ul-maoni” collection are exceptional, which is why the collection was chosen as the first object for the corpus. The size of the database changes as other works by Navoi are

added, making the corpus a dynamic system. A database is a set of interconnected and ordered objects that reflect the nature, state, and relationships within a given field.

Statistical analysis of ghazal text is related to natural language processing (NLP), and Ziff’s law can be used to calculate the frequency of each word in large texts and their repetition rate. This law can help determine the number of words in the text and the amount of their repetition. For example, Ziff’s law was applied to analyze American writer Mark Twain’s “The adventures of Tom Sawyer”. The work contains a total of 71,370 characters and 8,018 unique word types. The average word frequency is 8.9, indicating that words are repeated approximately 9 times. However, not all words have equal usage in the text. Some words are repeated up to 700 times, while others only occur once. These words are known as hapax legomena, and they make up about half of the work. The Ziff’s law was used to determine the number of words in the kulliyat devans. The ghazals in the “Garayib us-sigar” devan have a total of 4975 verses, which is equivalent to 9950 words (the total number of words in the devan is 75,350, and in the ghazals, it is 66,954). Similarly, in the “Navodir ush-

shabob" devan, there are 4998 verses, which is equivalent to 9996 words (the total number of words in the devan is 71,527, and in the ghazals, it is 66,596). Finally, in the "Badoye' ul-vasat" devan, there are 5001 verses, which is equivalent to 10002 words (the total number of words in the devan is...) The "Favoyid ul-kibar" devan contains 5029 to 10058 verses (75,911 words in total, with 66,722 ghazals). "Khazayin ul-maoni" has 2600 ghazals with a total of 294,368 words (forms), 266,811 of which are in

ghazals. The ghazals in kulliyat use some words more than 1000 times, while others are used only once. Ziff's law defines the most frequently used word in the text (occurring more than a thousand times) as  $r=1$ , the second most frequently used word (occurring between one and a thousand times) as  $r=2$ , and the third most frequently used word (occurring less than five hundred times) as  $r=3$ . Additionally, the poet's skill in word usage can be determined by analyzing the range of words found in ghazals (3-table).

Table 3: The indicator of determining the number of words in ghazals according to the law of Zif.

So'z	Chastota	Zif qonuniga ko'ra, so'zlar miqdorini aniqlash
ko'z	2000	$r = 1$
ishq	1988	$r = 1$
la'l	727	$r = 2$
sarv	529	$r = 2$
dahr	276	$r = 3$
soqiy	262	$r = 3$
jonon	187	$r = 3$
ko'zgu	169	$r = 3$
miqroz	4	$r = 3$
ig'moz	3	$r = 3$
bag'lan	2	$r = 3$
mahofat	1	$r = 3$

The statistical composition of a text is crucial in determining the author's style. This can be achieved through statistical analysis of the corpus. The statistical structure of a text is commonly defined as the relationship between the number of unique words and their frequency of occurrence.

Linguostatistical analysis determines the idiostyle of the creator, which refers to their unique writing style and skill in using language units such as nouns, adjectives, verbs, grammatical forms, and sentence structure. This analysis allows for the determination of the text's content, the period of writing, and, if necessary, the authorship. A comparative analysis was conducted on the subject construction and text structure of the works of writers such as F. Dostoyevsky, L. Tolstoy, and M. Sholokhov. The term "statistics" is derived from the Latin word "status" and refers to the state of events. By statistically analysing Navoi's 2600 ghazals written in turkish, it is possible to determine the author's proficiency in word usage, creative style, and frequency of word usage. Each period and nation's literature has its own distinct style. Navoi's vocabulary created a unique and innovative style in Turkish literature.

Uzbek literature features numerous ghazals with 5-10 verses. However, in "Khazayin ul-maoni", the size of ghazals ranges from 5 to 13 verses.

Specifically, there are 2 ghazals with 5 verses, 5 with 6 verses, 1747 with 7 verses, 58 with 8 verses, 695 with 9 verses, 19 with 10 verses, 69 with 11 verses, 1 with 12 verses, and 5 with 13 verses. Therefore, Navoi's lyrics contain many ghazals with 7 to 9 verses. This statistical analysis of Alisher Navoi MK is important as it provides a clear account and demonstrates the scope of work on the database. Studying the poet's ghazals based on linguistic and linguopoetic criteria allows for a clear conclusion to be drawn about the historical development of the Uzbek literary language. Studying Navoi's ghazals has significant educational value due to the use of historical figures and ethnic places to enhance the meaningfulness and effectiveness of the ghazal, vividly expressing the feelings of the lyrical hero. This practice is also common in general education schools and can be found in history and geography textbooks. From a literary studies perspective, these are typical examples of the poetic art of talmeh. Talmeh is studied in the field of science and art, and it involves the integration of sciences in modern education. Integration (lat 'integration') refers to the joining of information from various sources based on a certain purpose. The importance of interdisciplinarity in enhancing the quality of education cannot be overstated. It provides students with the opportunity to gain a deeper understanding

of a subject and apply their knowledge in practical settings. Studying the semantically tagged ghazals in Alisher Navoi MK enhances the student's knowledge, skills, and abilities not only in literature but also in history and geography. Teaching examples of Navoi's life and work based on the student's age is also effective in education within the continuous education system. The intended audience for each ghazal was determined based on the complexity of the language used, the scope of vocabulary, and the clarity of the expressed idea. This information is reflected in the metadata provided for each ghazal in Alisher Navoi MK. Metadata is important in the corpus manager, specifically in the search filter. It helps to find and analyze ghazals for 16-year-olds (9th grade) during lessons and complete homework tasks in a meaningful way. Determining the audience age of ghazals through special codes not only benefits the educational system but also facilitates learning and memorization for the general public. To provide the necessary information, it is important to include the author's name, age, and gender. Additionally, include the word count, complexity level, and intended audience of the text. Avoid including personal information such as residential address.

### 3 CONCLUSIONS

In the continuous education system, teaching examples of Navoi's life and work can be effective in educating students of all ages. The audience for each ghazal should be determined based on the complexity of the words used, the scope of the words used, and the possibility of understanding the idea expressed in the ghazal. The metadata provided for each ghazal in Alisher Navoi MK reflects this information. Metadata is also important in the corpus manager, specifically in the search filter. It is useful for finding and analyzing ghazals for students in 9th grade, as well as completing homework tasks in a complete and meaningful way. Determining the audience age of ghazals through special codes not only benefits the educational system but also facilitates learning and memorization for the general public. To provide the necessary information, it is important to include the author's name, age, and gender. In literature classes of general education schools, students study various poetic arts such as mubolag'a, tanosub, iyhom, tazod, talmeh, tazmin, tashbih, istiora, tajohuli orifona, husni ta'lil, tajnis, irsoli masal. The "Khazayin ul-maoni" collection is a crucial resource for studying the poetic arts in the works of our thousand-year literature and for understanding Navoi's social,

political, educational, and philosophical views. The corpus reflects ghazals with semantic tags, providing a foundation for poetic arts that expands users' spiritual and mental thinking, increases their historical knowledge, and develops their ability to read Navoi's works. Alisher Navoi's "Khazayin ul-maoni" series of divans is renowned for its perfection and its collection of poetry. According to, "Khazayin ul-maoni" was created to enrich the corpus base.

### REFERENCES

- Davlatov O. A treasure trove of meanings. – Tashkent: Tamaddun, 2021. – B.5. The indicated work: – B. 6.
- Valikhojhayev B. Poetry of Alisher Navoi. B. Valikhojhayev. Poetry of Alisher Navoi.pdf B. 10.
- Alisher Navoi. Strange cigar. A perfect collection of works. Volume 3. – Tashkent: Science, 1987, – B. 17-18.
- Shamsiev P., Ibrohimov S. Dictionary of Alisher Navoi's works. – Tashkent: Gafur Ghulam, 1972. – 784 p.
- Explanatory dictionary of the language of Alisher Navoi's works. / Fazilov E. under the editorship. 4 volumes. – Tashkent: Science, 1983-1985.
- <https://alishernavoiykorpusi.uz>; Abjalova M., Gulomova N., Rashidov H. Semantic base of ghazals in Navoi's "Badoe' ul-vasat" divan for Alisher Navoi's author corpus. Certificate of authorship, No. BGU 00583. – Tashkent, 2022.; Abjalova M., Gulomova N., Sadullayeva Sh. Author corpus of Alisher Navoi. Certificate of authorship, No. DGU 18544. – Tashkent, 2022.