

## Effects of Language Learning Strategies on Teaching Toponyms and Folk Geography Terms in Kazakh and Nogai Languages

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**Abstract:** The study investigates the effect of language learning strategies in teaching toponyms in Kazakh and Nogai languages on students' achievement and attitudes. The study was conducted at a university's literature faculty in Astana, Kazakhstan, during the academic year 2023-2024, using an experimental research model. The experimental and control groups of the study consisted of 69 students studying in the 2nd grade at the Kazakh Literature Department in Astana, Kazakhstan. In the experimental group, Kazakh and Nogai toponyms were taught using language learning strategies, while the control group was taught using the lecture method. Experimental implementations lasted for six weeks in both groups. The data was collected using the Kazakh Toponymy Achievement Test, the Nogai Toponymy Achievement Test, and the Attitude Towards Activities Scale. The results showed that the experimental group students achieved higher levels of success in Kazakh and Nogai toponyms and developed positive attitudes towards the activities compared to their peers in the control group. Consequently, two recommendations emerged from the findings. First, teaching programs should be developed for effective language learning strategies in literature and language classes. Second, guidebooks and worksheets that exemplify language learning strategies in Kazakh and Nogai toponym subjects, in particular, and in literature courses, in general, should be created.

**Keywords:** Kazakh language, Nogai language, toponyms, language learning strategies.

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Language studies related to the Turkic World, such as Kazakhs and Nogais, have gained significant momentum today, but the transfer of toponymic terms outside of language studies is essential for recognizing these cultures. Geographical terms in Kazakh and Nogai languages can generally be classified as separate categories of natural and human geography. Geographical terms in Kazakh and Nogai languages have a common and rich linguistic structure for expressing different aspects and features of natural and human geography. These terms help to understand geographical locations and features based on the language use of these two Central Asian communities (Freeman, 1985; Kurmanbekkyzy & Kaldybekovna, 2015). For linguists, toponymy is an important area of study. Studying and teaching toponyms is crucial, particularly when teaching language and literature, as it helps one get an understanding of a language's structural characteristics, word origins, and historical background (Poenu, 2013). Studies of toponyms offer a comprehensive understanding of a region's language, culture, geography, and history. Therefore, the study and teaching of toponyms in the Kazakh and Nogai languages is an important step towards preserving, understanding, and passing on the heritage of these communities to future generations (Tóth, 2021). The teaching of toponyms in Kazakh and Nogai will help students comprehend and grasp the structural elements of these languages. Language teaching fails when it remains simple vocabulary teaching (Egorov, 2020; Matbek et al., 2015). Today's language learning strategies encourage teaching the language with materials that reflect environmental elements, geographical location, and culture (Hajar, 2020; Hiver et al., 2024; Mather, 2020; Zhang & Zou, 2020). This study aims to contribute significantly to the literature on language learning strategies for learning toponyms in Kazakh and Nogai. It is thought that effective language learning strategies, which have an important place in the spread of student-centered education in literature education, will effectively teach students toponyms of different languages, ensuring learning retention and positive attitudes.

### **Toponymy in the Relationship between Language and Geography**

Although the relationship and interaction between language, culture, and geography has evolved and passed through three significant stages, this relationship has retained much of its value and meaning. While the influence of a narrow area was predominant in the beginning, the level of contribution of other geographies has gradually increased. Although scientific and technological developments have resulted in major changes in the relationship between language, culture, and geography, they have not eliminated or made this relationship irrelevant. The transformation occurred by reshaping their connections (Siebenhütter, 2021; Urban, 2021).

The location or geographical position that answers the author's question of "where" is privileged in literature and contributes to constructing a "sense of place." In analyzing the "event" being studied and any place itself, it is necessary to know the "place" first and foremost. In addition, when the interactions of human beings with the natural environment are analyzed, a "geographical environment" can be mentioned (Radding & Western, 2010; Woodman, 2014). All branches of art, sciences, languages, beliefs, and cultures, including literature, were born and developed here. At this point, as Pocock says, the works of writers in creative literature have a special importance for geography, which explores the critical concept of space (Pocock, 1981). Therefore, it is valuable to consider countries, cities, villages, seas, deserted corners of nature, roads, different civilizations, and ways of living based on different cultures from the literature perspective. Geography, like literature, is inextricably linked to history and civilization.

Place names are also an indication of the richness and taste of humankind when naming the land. Place names are evidence of how a geography is transformed into a homeland. Place names are a broad and important subject concerning all science branches. The relationships among the branches of science bring the study of place names closer to linguistics, geography, history, archaeology, folklore, anthropology, sociology, ethnography, and other disciplines. Toponymy is the branch of science that examines how place names are given, their meaning, and the changes they have undergone (Emelia & Hasibuan, 2021; Giraut, 2020).

In addition to linguistics, the science of place names also benefits from the methods of all other disciplines with which it is in contact. Toponymy considered the intersection of linguistics, geography, and history, benefits from other disciplines and their sub-disciplines when examining naming. Toponymy covers studies based on a region, city, town, village, or more specific name. Thus, it studies the significance of place naming, its reasons, and the order in which naming occurs (Bachelard, 2014). In comparing thousands of place names that seem almost unrelated, the logic of these names is also revealed. It explains to us how people comprehend the geography in which they live. Every naming of living and inanimate objects shows the richness of language's sense, thinking, and elegance.

Determining the source of the naming right away is difficult. Naming, on the other hand, is a dynamic process rather than a static state. Because the world is constantly changing, naming has evolved and updated to reflect the emergence of new occurrences. The motivation behind the naming is unknown, but the factors are known. Naming is, in some ways, the first step towards taming geography. Every state of nature has been influential here. According to Arifoğlu (2020), each nation labels places and spaces based on its language. With the Central Asian steppes becoming their homeland, the Kazakh and Nogai people tried to identify the areas where they lived in their native languages.

### **Toponymy in Kazakh and Nogai Languages**

Language studies in the Turkic World have gained great momentum lately, but transferring toponymy terms outside of language studies is critical for recognizing these cultures. When language teaching is reduced to simply vocabulary instruction, it is ineffective. Today's language teaching approaches favor using materials representing environmental variables, geographical location, and culture (Aimukhambet et al., 2023; Turayevich, 2021).

One might wonder how the landforms that occupied the areas that the people of the region had adopted as their homeland, known as "il tutsik yer," received their names. These, of course, were not offered randomly. The names given to mountains, plateaus, villages, and cities by our people are remarkable. These are the products of long-lasting observations and experiences. While onomastics studies have come a long way internationally, studies conducted in Kazakhstan are very few. However, the number of legends and themes related to land-water, mountain-stone, homeland, and river-lake is quite high in Kazakhs and Nogais. The communities who spend their whole lives in nature want to know the world surrounding them and have created many narratives about this world (Egorov, 2020; Matbek et al., 2015; Qasqabasov, 2002).

From an ethnic and cultural perspective, the Nogai people are not a "Caucasian people," despite being densely populated in the North Caucasus and being identified as such today. Nogais, whose homeland is east of the Idyll River, are one of the peoples brought and settled in the Caucasus in the last 200 years (Gimbatova & Zineeva, 2020). According to the 2010 census, the population of Nogais in the Russian Federation is around 103.000, and today, they continue to exist in many countries, including Kazakhstan, Russia, Uzbekistan,

and Azerbaijan. In this respect, Nogais have spread from the Russian Federation to Romania (Bulayeva et al., 2006; Wielecki, 2021).

Nogai is included in the Northwestern group of the Turkic language family, also called the Kipchak group, and forms the southern subgroup of this group together with Kazakh, Karakalpak, Kyrgyz, and Kipchak Uzbek (Johanson 1998). The southern subgroup of the Kipchak group is also known as the Aral-Caspian group in the linguistic literature (Meirambekova & Dautova, 2021). The Nogais are constantly confronted with the phenomenon of multilingualism. Living in the North Caucasus in various autonomous republics and scattered among different peoples, they have experience with the languages of their immediate neighbors, the Kazakhs and Caucasian peoples, and Russian, which is their *lingua franca*. The situation gets more complicated when we consider their interactions with other nearby Turkic peoples. Their social interaction with Central Asian societies is significant (Johanson, 2006).

While Kazakh and Nogai have similarities, language differences and dialect variations exist. Nomadism, an important phenomenon of Central Asia from past to present, daily life rituals and interactions of cultural and ethnic groups have shaped the use and development of these languages. Geographical terms in Kazakh and Nogai languages can generally be classified as separate categories of natural and human geography. Geographical terms in Kazakh and Nogai languages have a common and rich linguistic structure for expressing different aspects and features of natural and human geography. These terms help to understand geographical locations and features based on the language use of these two Central Asian communities (Freeman, 1985; Kurmanbekkyzy & Kaldybekovna, 2015). In addition to the fact that Kazakhs and Nogais speak different languages, political, social, and commercial factors have all impacted naming. In this regard, these two communities are influenced mainly by Chinese, Iranian, and Central Asian communities. Every nation gives a place or space a name that makes sense to them or modifies existing names to fit their language.

Kazakhs and Nogais have similar ethnic identities and a common language structure. Cultural and linguistic similarities facilitated communication, especially toponymic similarities that contributed to forming a common terminology (Shamatov & Sainazarov, 2010). Kazakh and Nogai have a rich structure of folk geography terms related to land and geography. These terms have developed following the Kazakh and Nogai peoples' traditions, daily lifestyles, settlements, and other environmental factors. These terms contain traces of activities such as nomadic life, animal husbandry, agriculture, trade, and others that geography has shaped. The richness of similar and different terms in both languages reflects the geographical diversity of the region (Capra et al., 2016; Donada & Reinoso, 2014). Table 1 presents examples of land-related folk geography terms in Kazakh and Nogai languages:

**Table 1**  
*Examples of Toponymy Terms in Kazakh and Nogai*

Toponyms	Kazakh	Nogai
Regions and Settlements	Ақжар — Шығыс Қазақстан облысы Тарбағатай ауданындағы ауыл, Тарбағатай ауданының және Ақжар ауылдық округінің орталығы.	Ак яр – скалистый правый берег реки Кубань к северо-востоку от поселка Эркин-Шахар в Адыге-Хабарском муниципальном районе, Карачаево-Черкесской Республики.
	Akzhar is a village in the Tarbagatai district of the East Kazakhstan region, the center of which is the Akzhar rural district.	Ak Yar is the rocky area on the right bank of the Kuban River, northeast of the village of Erkin-Shakhar in the Adyge-Khabar municipal region,

		Karachay-Cherkess Republic.	
		Қызыл көпір - (2017 жылға дейін — Шаян) — Қазақстан Республикасы, Түркістан облысы Арыс қалалық әкімдігіне қарасты Дермене ауылдық округі құрамындағы ауыл.	Кызыл Копир/Кызыл кепир (Красный мост) – мост через реку Кубань к северо-западу от аула Эркин-Халк в Адыге-Хабальском муниципальным районе, Карачаево-Черкесской Республики.
		Kyzyl Kopir (Red Bridge) - (until 2017 — Shayan) — a village in the Dermene rural district under the Arys City Administration, Turkestan Region, Republic of Kazakhstan.	Kyzyl Kopir/Kyzyl kepir is a bridge over the Kuban River, northwest of the village of Erkin-Khalk in the Adyge-Khabalsky municipal region, Karachay-Cherkess Republic.
		Қызылқұм – Қазақстан Республикасы, Түркістан облысы Жетісай, Шардара ауданындағы ауылды аймақтар.	Кызыл-қум – местность к северо – западу от аула Эркин-Халк в Адыге-Хабальском муниципальным районе, Карачаево-Черкесской Республики.
		Kyzylkum (Red sand) - rural areas of Zhetysay, Shardara regions of the Republic of Kazakhstan, Turkestan region.	Kyzyl-Kum is an area in the northwest of the village of Erkin-Khalk in the Adyga-Khabal municipal district, Karachay-Cherkess Republic.
Land Types, Geographical Places, and Directions		Күлтөбе – Қазақстан Республикасы, Түркістан облысы, Түркістан қаласында орналасқан ежелгі бекіністі қоныс және археологиялық ескерткіш.	Куьл тобе – курган к северу от аула Эркин – Юрт в Адыге – Хабальском муниципальным районе, Карачаево-Черкесской Республики.
		Kultobe(Ash Hill) is an ancient fortified settlement and archaeological monument located in the city of Turkestan, Turkestan region, Republic of Kazakhstan.	Kul Tobe is a mound in the north of the village of Erkin-Yurt in the Adyga-Khabal municipal region, Karachay-Cherkess Republic.
		Тастобé (каз. Тастөбе) — село в Жамбылском районе Жамбылской области Казахстана, административный центр Колькайнарского сельского округа.	Тас тоьбе (Таслы тебе) - курган, местность северо-западнее аула Бораншы в Ногайском районе. Букв. «Каменистый курган».
		Tastobe (Stone Hill) is a village in the Zhambyl district of the Zhambyl region of Kazakhstan, the administrative center of the Kolkainar rural district.	Tas tobe (Tasly tebe) is a mound northwest of the village of Boranshy in the Nogai region. Lit. «Rocky mound».
		Шілік — Қазақстан Республикасы, Түркістан облысы Отырар ауданындағы ауыл, Шілік ауылдық округі орталығы. Шілік сулы жерде өсетін өсімдік атауы.	Шилик – хребет и высокогорное пастбище Чилик, боковой отрог хребта Абишира – Ахуба, Карачаево-Черкесия — горная республика на Северном Кавказе.

		На плоской вершине хребта отменные выпаса. Шилик в ногайском языке «лозняк».
	Shilik is a village in the Otyrar district of the Republic of Kazakhstan, Turkestan region, the center of the Shilik rural district.	Shilik - Chilik ridge and alpine pasture, a side spur of the Abishir - Ahuba ridge, Karachay-Cherkessia - a mountainous republic in the North Caucasus. There is excellent grazing on the flat top of the ridge. Shilik means «willow» in Nogai language.
Plains, Lakes, and Rivers, etc	Қызылсу – Қазақстан Республикасы, Ертіс алабындағы өзен. Абай облысы Жарма және Шығыс Қазақстан облысы Ұлан аудандары жерімен ағады.	Кызыл сув/Кызыл су – ручей, правый приток реки Малый Зеленчук, впадает западнее аула Бавуко в Хабезском муниципальном районе, Карачаево-Черкесской Республики.
	Kyzylsu (Red water) is a river in the Irtysh basin in the Republic of Kazakhstan. It flows through the territory of the Zharma region and Ulan districts of the East Kazakhstan region.	Kyzyl suv/Kyzyl su is a stream, the right tributary of the Maly Zelenchuk River, west of the village of Bavuko in the Khabez municipal district, Karachay-Cherkess Republic.
	Қапшағай – Қазақстан Республикасы, Іле өзені бойында, Алматы облысы Қонаев қалалық әкімдігі аумағы және Талғар, Еңбекшіқазақ аудандары жерін қамтитын бөген/су қоймасы.	Қапшағай – урочище к югу от аула Кубина в Усть-Джегутинском районе, на правом берегу реки Байтал-Шапкан, Карачаево-Черкесской Республики.
	Kapshagai is a dam/reservoir covering the territory of Konaev City Administration of Almaty Region and Talgar, Enbekshikazak Districts, along the Ile River, Republic of Kazakhstan.	Kapshagai is an area south of the village of Kubina in the Ust-Dzhegutinsky district, on the right bank of the Baital-Shapkan River, Karachay-Cherkess Republic.
	Терісаққан – Қазақстан Республикасы, Есіл алабындағы өзен. Ақмола, Қостанай, Ұлытау облыстары жерімен ағып өтеді.	Терсакан – (река, текущая в обратную сторону) ручей, левый приток реки Кума. Впадает юго-западнее аула Красный Восток в Малокарачаевском районе, Карачаево-Черкесской Республики.
	Terisakkan (a river flowing in the opposite direction) is a river in the Esil Basin, Republic of Kazakhstan. It flows through Akmola, Kostanay, and Ulytau regions.	Tersakan – stream, the left tributary of the Kuma River. It flows through the southwest of the village of Krasny Vostok. (Red east) in the Malokarachaevsky district, Karachay-Cherkess Republic.

As the regions in Central Asia became Kazakh and Nogai homelands, the communities tried to name the region according to their languages. From this perspective, we tried to create a planned learning environment with language learning strategies by reviewing studies about place names to facilitate place-name studies in Kazakh and Nogai languages and provide them to students.

### **Language Learning Strategies**

Language learning strategies help a learner to process and permanently store information. Language learning strategies are learning processes consciously chosen by learners (Cohen, 2003; Cook, 1996). Students facilitate their learning by using language strategies. Students who encounter language learning strategies through effective teaching methods can improve themselves in using language learning strategies and producing new strategies, increase their autonomous learning, and take steps towards taking responsibility for learning (Montano-Gonzales, 2017). These strategies support students in the language learning process. Students are involved in the internal and external processes with the strategies they use. Language learning strategies enable students to be motivated, recognize themselves, and evaluate themselves while learning a language, contributing to easier learning and remembering (Oxford & Nyikos, 1989).

Many studies focus on language learning strategies (Hajar, 2020; Hiver et al., 2024; Liyanage & Bartlett, 2012; Mather, 2020; Oxford, 1990; Zhang & Zou, 2020). However, most studies aim at teaching English as a foreign language. In these studies, language learning strategies are classified differently (O'Malley & Chamot, 1990; Oxford, 1990; Stern, 1992), but the common goal of all these strategies is to make the language learning process faster, easier, and more systematic. Research has shown that successful language learning is related to the importance given to cognitive, metacognitive, and communicative dimensions. Stern (1983) stated that successful individuals in language learning use four basic strategies. These are planning, social, emotional, and specific strategies determined for the target time language system.

Various factors, including the learners' viewpoints, motivations, attitudes, and the grammatical structure of their language, influence language learning in literature classes. Self-directed learning is crucial for learning the target language in the language-learning process when the negative effects of these factors are seen (Bekteshi & Xhaferi, 2020; Lehman & Welch, 2020). The students' ability to find solutions to problems in language learning in Kazakh and Nogai toponyms using strategies will boost their self-confidence, motivation, and success. As a result, the ability of the students to apply language learning strategies in the field of toponyms, as well as knowledge of the level of effectiveness of language learning strategies, will benefit students and language teachers in terms of organizing the language learning process.

Compared to other disciplines, language teaching requires using effective learning strategies and methods based on cultural, social, and spatial contexts. According to Daniel Coste (1996), learning a language is only effective if the behavior and lifestyles of the language's speakers, as well as the environmental contexts in which they live, are taken into account. Many studies on the use of effective learning strategies in language teaching have concluded that they significantly affect learning (Alahmadi & Foltz, 2020; Fathi et al., 2020; Guo & Bai, 2022; Jaekel, 2020; Tai & Zhao, 2024).

However, no related research has been conducted to determine the relationship between language learning strategies, toponyms, and the acquisition of Kazakh and Nogai words. This study aims to contribute significantly to the literature on students' language learning strategies for learning Kazakh and Nogai toponyms. Furthermore, it is expected that

effective use of language learning strategies, which play an essential role in the spread of student-centered education, in literature education will be effective in teaching toponyms of various languages, ensuring learning retention and positive attitudes. This study investigated the effect of language learning strategies in literature lessons to teach toponyms in Kazakh and Nogai languages on students' learning outcomes. Therefore, answers to the following three questions related to the aim of the study were sought:

1. To what extent does using language learning strategies in teaching toponyms in Kazakh and Nogai affect student success?
2. To what extent does applying language learning strategies in teaching toponyms in Kazakh and Nogai languages affect students' learning retention?
3. To what extent does applying language learning strategies in teaching toponyms in Kazakh and Nogai languages affect students' attitudes?

## Method

The study was conducted on students in the second year of the literature faculty of a university in Astana, Kazakhstan, in the 2023-2024 academic year. The experimental and control groups of the study consisted of 69 students studying in the 2<sup>nd</sup> year Kazakh Literature Department in Astana, Kazakhstan. Convenience sampling was used. The participants were randomly assigned to the experimental and control groups. One group was assigned to an experimental group and one to a control group. The experimental group comprised 35 students, and the control group comprised 34. Nineteen of the students in the experimental group were female, and 16 were male; 18 of the students in the control group were female, and 17 were male. Before the experiment, Levene's Test was used to determine whether the experimental and control groups' Kazakh and Nogai academic achievements were equal. The results of Levene's Test indicated that data distribution was normal, and independent samples t-test analyses were performed. The findings revealed that the experimental and control groups' Kazakh and Nogai achievement levels were comparable before the study.

**Table 2**  
*Research Design*

Group	Pre-Test	Experimental Procedure	Post-Test	Retention Test
Experimental	Kazakh Toponyms Achievement Test Nogai Toponyms Achievement Test Attitude Scale	The use of language learning strategies in teaching Kazakh and Nogai toponyms	Kazakh Toponyms Achievement Test Nogai Toponyms Achievement Test Attitude Scale	Kazakh Toponyms Achievement Test Nogai Toponyms Achievement Test
Control	Kazakh Toponyms Achievement Test Nogai Toponyms Achievement Test Attitude Scale	Application of the current program in teaching Kazakh and Nogai Toponyms (Lecture Method)	Kazakh Toponyms Achievement Test Nogai Toponyms Achievement Test Attitude Scale	Kazakh Toponyms Achievement Test Nogai Toponyms Achievement Test



## **Procedures Carried Out in the Experimental Group**

The procedures in the experimental group lasted for six weeks. In the beginning, the Kazakh and Nogai achievement tests and attitude scales were applied to the students in the experimental group to obtain pre-test data. In this process, Kazakh and Nogai toponyms were taught according to the activities carried out by the researchers using language learning strategies. The course topics were those in the textbook that the students in the control group followed to measure the same outcome. These are toponyms in Kazakh and Nogai, etymological analysis, classification of toponyms, linguistic features and analysis of place names in Kazakh-Nogai languages, morphemic structure analysis of toponyms in two languages, phonological features of toponyms and etymological analysis. In the experimental process, memory, cognitive, and compensatory strategies were used, which are included in direct strategies in Oxford's (1990) classification of language learning strategies. The experimental implementation was conducted according to the implementation template of language learning strategies, which included introduction, development, and evaluation.

### **Introductory Activities**

#### ***Drawing Attention***

At the beginning of the lesson, students were asked to guess how they could have a conversation about the places they live in, the geographical conditions of the places in their environment, and the origin of their names (Strategy of Association), and volunteer students were asked to make a short animation (Strategy of Physical Reaction or Using Senses). After the dialogue samples were taken from the students, a film segment was shown about the processes of Kazakhstan and Nogai peoples' adoption of the geography they are in (Strategy of Using Images).

#### ***Motivation***

Discussions about the anecdotes used in the film, the story shown, and the dialogues (Strategy of Using Audio and Writing System) were initiated. Students were asked to take notes on Kazakh and Nogai toponyms.

#### ***Development***

The instructor then distributed worksheets containing Kazakh and Nogai place names in the film, and the students were asked to group the toponyms in the worksheets according to their categories and language structures. After the students grouped the toponyms, they were given information on linguistic features, morphemic structures, phonological features, and etymological analysis. Then, for each toponym, question-and-answer sessions were held. Following the students' responses, it was demonstrated through examples that the lesson would cover structures with toponyms in two languages and how to express all of the place names seen in the film. The students were then given sample Kazakh and Nogai worksheets and asked to analyze the sentences with toponyms. The meanings, similarities, and differences between toponyms in both languages were then discussed (Highlighting Strategy).

Students were given a worksheet and asked to write sentences using Kazakh and Nogai toponyms. Using the example, the lecturer asked different students questions about the similarities and differences between Nogai and Kazakh toponyms. During the lesson, students were required to say sample Kazakh and Nogai toponyms with gestures (Strategy of Using Mime and Gesture). Finally, they were asked to say sample toponyms and form sentences.

## ***Assessment***

The assessment phase started after ensuring the subject was understood using Kazakh and Nogai sample toponyms. An assessment sheet in Kazakh and Nogai was distributed to the students, and they were asked to analyze the toponyms and fill in the blanks. Then, the instructor evaluated the students' worksheets, and the lesson was finished with the necessary feedback.

After six weeks, the same measurement tools were re-applied to the experimental group of students, and post-test data were collected. The achievement tests were re-applied 21 days after the post-tests were administered to obtain retention data, and the procedures carried out in the experimental group were completed.

## **Procedures Carried Out in the Control Group**

The lessons with the students in the Kazakh literature department and assigned as the control group lasted six weeks. In this process, the researcher carried out the subject of toponyms in Kazakh and Nogai according to the program followed by the department and the activities in the textbook. The activities were carried out based on teaching through lecture methods according to the principles of the current curriculum. The course activities were carried out simultaneously with the experimental group. At the beginning of the application, the Kazakh and Nogai achievement tests and attitude scales were applied to the students in the control group to obtain pre-test data. After six weeks, the same measurement tools were re-applied to the students to obtain post-test data. The achievement tests were re-applied 21 days after the post-tests were administered to obtain retention data, and the procedures used in the control group were completed.

## **Data Collection Tools**

The study used the Kazakh Toponym Achievement Test, Nogai Toponym Achievement Test, and Attitude Towards Activities Scale to obtain pre-test, post-test, and retention measurements. Permissions were obtained from the relevant institutions for the application of the scales in the study. Additionally, consents were obtained from all participating students. The Attitude Scale for Kazakh and Nogai Toponym Teaching Activities is presented in Appendix A. Kazakh Toponym Achievement Test Question samples are presented in Appendix B. Nogai Toponym Achievement Test Question samples are presented in Appendix C.

## ***Kazakh Toponym Achievement Test***

The Kazakh Toponym Achievement Test consists of 22 items and five multiple-choice questions. The researcher developed this test within the Literature Course Curriculum's Kazakh and Nogai Toponyms learning area. This learning area comprised four sub-headings: *linguistic features and analysis of Kazakh toponyms, morphemic structure analysis of toponyms, phonological features of toponyms, and etymological analysis*. While developing the data collection tool, the learning outcomes of the relevant learning area and sub-topics were first determined. Two questions measuring each learning outcome were prepared, and a five-choice multiple-choice test consisting of 26 questions was prepared.

While preparing the multiple-choice questions, the opinions of five experts, including two instructors from Kazakh Literature, three educational scientists, and a faculty member in measurement and evaluation, were consulted. As a result of their comments, the number of test questions remained unchanged, but their cognitive characteristics were changed.

In the pilot test, the achievement test was administered to 90 literature department students who had previously taken this course, and its validity and reliability were investigated. In the answers given to the multiple-choice test questions, correct answers were coded as 1 and incorrect answers as 0. As a result of the analysis, four inappropriate questions were removed. The Kuder-Richardson 20 (KR-20) value of 0.84 for the remaining 22 questions provided the reliability of the test scores.

### **Nogai Toponym Achievement Test**

The Nogai Toponym Achievement Test is a 22-item, 5-choice multiple-choice measurement tool. The researcher developed this test using expert opinions. The achievement test was developed within the Kazakh and Nogai Toponyms learning area in the Literature Course Curriculum. This learning area consists of four sub-headings: linguistic features and analysis of place names in the Nogai language, morphemic structure analysis of toponyms, phonological features of toponyms, and *etymological analysis*. While developing the data collection tool, the learning outcomes of the relevant learning area and sub-topics were determined. Questions measuring each learning outcome were prepared, and a five-choice multiple-choice test consisting of 25 questions was prepared.

While preparing the multiple-choice questions, the opinions of six experts, including two lecturers with a doctorate in the field of Nogai language, two lecturers in Kazakh literature, and three educational scientists and lecturers in measurement and evaluation, were consulted. The number of questions on the test remained unchanged, but grammatical errors were corrected.

A pilot achievement test was applied to 90 students from the literature department who had previously taken this course, and its validity and reliability were analyzed. In the answers given to the multiple-choice test questions, correct answers were coded as 1, and incorrect answers were coded as 0. The Kuder-Richardson 20 (KR-20) value of 0.87 for the remaining 22 questions ensured the reliability of the test scores.

### **Attitude Towards Kazakh and Nogai Toponym Teaching Activities Scale**

The researcher also developed the Attitude Towards Kazakh and Nogai Toponym Teaching Activities Scale. The scale was designed to determine the attitudes of students studying in Kazakh Literature departments on 'Kazakh and Nogai Toponymy'. While developing the scale, a literature review was conducted on scales on similar topics, and an item pool was created based on expert opinions (two Kazakh and two Nogai, as well as measurement and evaluation experts). There are 12 items on the scale. Of these 12 items, 8 were positive, and 4 were negative. A 5-point Likert-type scale was used with responses ranging from "Completely Agree," "Agree," "Partially Agree," "Disagree," to "Strongly Disagree" to determine the student's level of agreement with these items.

The developed measurement tool was applied to 90 students who had previously taken this course. Exploratory factor analysis and Cronbach's alpha analyses were performed on the application data. The analyses found that the scale had a unidimensional structure. Cronbach's alpha coefficient of the attitude scale was 0.88. The mean scores were obtained by dividing the total scores that students might obtain on the scale by the number of items. A high mean

score was interpreted as indicating that the student had a positive attitude towards Kazakh and Nogai toponyms, whereas a low mean score indicated a negative attitude.

### Data Analysis Techniques

IBM SPSS Statistics 26 was used to analyze the data collected from the participants in this study. Skewness and kurtosis values were taken as basis in determining the distribution. According to Tabachnick and Fidell (2007), the fact that these values are within the range of  $\pm 1.5$  indicates that the data do not deviate excessively from the normal distribution. The analyses showed that the Nogai toponym achievement test had a skewness coefficient of 0.32 and a kurtosis coefficient of -0.92, the Kazakh toponym achievement test had a skewness coefficient of 0.82 and a kurtosis coefficient of 0.27, and the attitude scale had a skewness coefficient of 0.24 and a kurtosis coefficient of -1.21. The values obtained in this study showed that the achievement and attitude scores followed a normal distribution.

Descriptive statistics of the tests and attitude scales included mean, standard deviation, and minimum and maximum values. Because skewness and kurtosis values showed that the data distribution was normal, parametric tests were used to examine the research questions. An independent sample t-test was used for pre-test difference analyses, post-test measurements of the Kazakh Toponyms Achievement Test, and attitude scale. Because the pre-test results of the Nogai Toponyms achievement test had significant differences, an analysis of covariance was used to compare the post-test data of this measurement tool. According to Forknall et al. (2023), if pre-test scores differ in experimental research, covariance analysis should be used when comparing post-test scores.

### Findings

Table 3 shows the independent samples t-test results on the pre-test scores of the experimental and control groups' achievement scores in Kazakh and Nogai Toponymy. The analyses found no significant differences between the pre-test mean scores of the Kazakh Toponymy Achievement Test ( $p > 0.05$ ). However, a significant difference was found in the experimental and control groups' pre-test measurements of Nogai Toponym Achievement. The control group had the higher mean scores in the Nogai Toponym Pre-test scores before the research. In this respect, at the beginning of the experimental applications, the achievements of the groups in Kazakh Toponymy subjects showed equivalence, but it was seen that the groups differed in the pre-test achievement of Nogai Toponymy subjects. Therefore, covariance analysis was used to compare the post-test and retention scores of the Nogai toponym achievement test.

**Table 3**

*Independent Samples T-test Results for the Pre-Test Scores on Toponyms in Kazakh and Nogai Languages by Groups*

Pre-Test	Group	N	$\bar{X}$	Std. Deviation	-t-	p
Kazakh Achievement (Toponyms)	Language Experimental	35	10.71	2.308	-0.555	0.581
	Control	34	11.06	2.828		
Nogai Achievement (Toponyms)	Language Experimental	35	7.63	3.317	-2.078	0.042
	Control	34	9.21	2.972		

Table 4 shows the pre-test attitude scores of the experimental and control groups toward teaching Kazakh and Nogai toponyms. The analyses showed no significant difference between the two groups' pre-test attitude scores ( $p > 0.05$ ).

**Table 4**

*Independent Samples T-test Results from the Pre-Test Scores on Attitudes Towards Kazakh and Nogai Toponymy Activities by Groups*

	Groups	N	$\bar{X}$	Std. Deviation	-t-	p
Pre-test Attitude	Experimental	35	2.86	0.95	-0.237	0.814
	Control	34	2.91	0.97		

Table 5 shows independent samples t-test results for the post-test scores on the experimental and control groups' achievements in Kazakh toponymy. The mean post-test Kazakh toponymy score in the experimental group was  $\bar{X}=17.97$ , while in the control group, it was  $\bar{X}=14.18$ . After comparing post-test mean scores, the experimental group outperformed the control group significantly ( $t(67) = 7.40$ ;  $p < 0.05$ ). According to this finding, activities involving language learning strategies significantly increased learners' achievement in the experimental group on Kazakh toponymy compared to learners in the control group, where the traditional teaching method was maintained.

**Table 5**

*Independent Samples T-test Results for Post-Test Scores on Toponyms in Kazakh Language by Groups*

	Groups	N	$\bar{X}$	Std. Deviation	-t-	p
Kazakh Language Post-test (Toponyms)	Experimental	35	17.97	1.505	7.400	0.000
	Control	34	14.18	2.622		

Table 6 displays the t-test results for independent samples for the retention test scores of the experimental and control groups in Kazakh Toponymy. According to the results, the experimental group's mean retention test score for Kazakh toponymy was  $\bar{X}=17.20$ , while the control group's was  $\bar{X}=12.85$ . The experimental group significantly outperformed the control group in terms of retention test mean scores ( $t(67) = 6.76$ ;  $p < 0.05$ ). This finding indicates that learners in the experimental group who participated in activities including language learning strategies had significantly higher learning retention than learners in the control group who received the lecture teaching method.

**Table 6**

*Independent Samples t-Test Results for Retention Test Scores on Toponyms in Kazakh Language by Groups*

	Groups	N	$\bar{X}$	Std. Deviation	-t-	P
Kazakh Retention test (Toponyms)	Experimental	35	17.20	2.34	6.760	0.000
	Control	34	12.85	2.98		

Table 7a shows the descriptive statistics findings related to the post-test scores of the Nogai toponym achievement test. The analyses revealed that the adjusted post-test mean score of the experimental group was 15.20, while the adjusted mean score of the control group was 11.21.

**Table 7a**

*Post-Test Corrected Achievement Scores of Experimental and Control Groups on Toponyms in Nogai Language*

	$\bar{X}$	Std. Deviation	Adjusted Mean
Experimental	15.26	1.46	15.20
Control	11.21	1.95	11.26

The ANCOVA data analysis in Table 7b shows a significant difference between the achievement scores of the Nogai Language Toponym Achievement Test conducted before the application (pre-test) and the achievement scores of the Nogai Language Toponym Achievement Test conducted after the corrected application (post-test) ( $F=85.07$ ;  $p=0.000$ ). The Eta square value, the effect size index, was 0.56. The independent variable explains only 56 percent of the total variance in the dependent variable. The Eta squared value of 0.56 is interpreted as a large effect size. According to Levine and Hullett (2002), in Eta ( $\eta^2$ ) value, .02 is considered as small effect size, .13 as medium effect size, .26 and above as large effect size. This result demonstrates a significant difference in post-test achievement in Nogai language toponym subjects between the experimental group that used language learning strategies and the control group that just received lecture teaching,

**Table 7b**

*ANCOVA Results Related to Post-Test Adjusted Achievement Scores of Experimental and Control Groups on Toponyms in Nogai Language*

Source	Type III Sum of Squares	df	MS	F	p	Partial Eta Squared
Corrected Model	286.68	2	143.34	48.61	.000	0.596
Intercept	1586.87	1	1586.89	538.14	.000	0.891
Pre-Test Nogai Language Toponym	3.62	1	3.62	1.23	.272	0.018
Experimental/Control Groups	250.87	1	250.87	85.07	.000	0.563
Error	194.62	66	2.95			
Total	12615.00	69				
Corrected Total	481.30	68				

Table 8a displays the descriptive findings for the Nogai toponym retention test scores. The analysis revealed that the experimental group had an adjusted mean retention test score of 14.15, while the control group had an adjusted mean of 10.99.

**Table 8a**

*Toponymy in Nogai Language Retention Test Corrected Scores of Experimental and Control Groups*

	$\bar{X}$	S. Deviation	Adjusted Mean
Experimental	14.34	1.85	14.15
Control	10.79	2.47	10.99

The results of ANCOVA data analysis in Table 8b indicate a significant difference between the achievement scores of the Nogai Language Toponymy achievement test administered before the application (pre-test) and the achievement scores of the post-application (retention test) ( $F=38.58$ ;  $p=0.000$ ). The Eta square value, the effect size index, was 0.369. The independent variable explains only 36.9 percent of the total variance in the dependent variable. The Eta squared value of 0.37 is interpreted as a large effect size (Levine & Hullett, 2002). This result shows that a significant difference existed between the experimental group in which language learning strategies were applied and the control group in which only the lecture method was used in terms of achievement in the retention test for the Nogai language toponym.

**Table 8b**

*ANCOVA Results of the Experimental and Control Groups' Nogai Language Toponym Retention Test-Corrected Achievement Scores*

Source	Type III Sum of Squares	Df	Mean Square	F	P	Partial Eta Squared
Corrected Model	259.14	2	129.57	31.040	.000	.485
Intercept	1782.50	1	1782.50	427.021	.000	.866
Nogai Language Group	41.94	1	41.94	10.048	.002	.132
Error	161.05	1	161.05	38.583	.000	.369
Total	275.50	66	4.17			
Corrected Total	11479.00	69				
	534,64	68				

Table 9 shows the post-test attitude score results for teaching Kazakh and Nogai toponyms. The results indicate that the mean post-test attitude score was  $\bar{X}=3.57$  in the experimental group and  $\bar{X}=3.09$  in the control group. When the mean post-test attitude scores of the groups were compared, it was found that there was a significant difference in favor of the experimental group ( $t(67) = 2.63$ ;  $p < 0.05$ ). The findings show that the activities carried out with language learning strategies significantly increased the attitudes of the experimental group towards the teaching of Kazakh and Nogai Toponyms compared to the learners in the control group, where the traditional teaching continued.

**Table 9**

*Independent Samples t-Test Results for the Post-test on Attitudes Towards Kazakh and Nogai Toponym Activities by Groups*

	Groups	N	$\bar{X}$	Std. Deviation	-t	p
Post-test Attitude	Experimental	35	3.57	0.81	2.63	0.011
	Control	34	3.09	0.72		

## Discussion

The results revealed the effect of language learning strategies on achievement and attitudes towards Kazakh and Nogai toponyms. These were obtained by applying the achievement and attitude scales as pre-test, post-test, and retention tests and comparing the mean scores. The findings showed a significant increase in the achievement of the students in

the experimental group on Kazakh-Nogai toponyms compared to the control group. As a result of the quantitative findings, it was determined that language learning strategies-based activities significantly improved students' achievement in Kazakh and Nogai toponyms. When the literature is reviewed, it can be argued that there is a relationship between language learning strategies and achievement in literature and language courses (August & Shanahan, 2017; Cohen et al., 2013; Lestari & Wahyudin, 2020). Esmaeili-Fard (2010) found that language learning strategies used in language classes affect students' structural language development. The systematic and planned application of language learning strategies in literature and language classes affects students' language-related gains on a cognitive and metacognitive basis.

The retention test on Kazakh-Nogai toponymy topics was administered 20 days after the post-test and was aimed to understand whether the lesson taught with language learning strategies influenced retention. The results showed that students in the experimental group retained significantly more knowledge of Kazakh-Nogai toponyms than students in the control group. Thus, using the information gathered from the quantitative findings, activities including language learning strategies maintained and enhanced the students' learning retention of Kazakh and Nogai toponyms. Related to this finding, Politzer and McGroarty (1985) investigated the relationship between language learning strategies and grammar achievement and proficiency and found a high correlation between some strategies and grammar achievement and learning retention. These strategies include learning vocabulary through lists or cards, devoting extra time to utilizing the term or structure, and speaking using the word or structure. Adopting long-term language learning strategies in literature and language programs enhances students' achievement and grammatical and vocabulary competency over time.

The last finding of the study shows a significant increase in the attitudes of the students in the experimental group towards Kazakh-Nogai toponyms compared to the control group. The quantitative data revealed that activities involving language learning strategies had positive effects and increased students' attitudes towards Kazakh and Nogai toponyms. While the students used appropriate cognitive language learning strategies in learning toponyms of two languages, Kazakh and Nogai, they showed positive affective characteristics regarding motivation and attitude in achieving learning goals. Indeed, as revealed by Abraham and Vann (1987), Anggarista and Wahyudin (2022), Hong and Ganapathy (2017), and Kuntz (1996), students' beliefs and self-confidence developed within the framework of language learning strategies guide the learning of specific subject contexts, and the approach has a direct impact on the degree of achievement and affective aspects of learning language elements.

## **Conclusion and Recommendations**

The quantitative findings lead to the conclusion that the activities carried out with language learning strategies increased students' achievement in Kazakh and Nogai toponymy, provided learning retention in toponym terms in these two languages, and positively affected student attitudes. Language learning strategies include practical applications that can only be used consciously by the individual. From this point of view, we can say that planned language learning strategies applications reveal the targeted cognitive and affective learning products in teaching Kazakh and Nogai literature.

In conclusion, using language learning strategies in literature teaching is essential due to their effectiveness. Language learning strategies have a special place in literature teaching due to their positive features, such as better transferring the lesson's content to students, making comparative meanings of two languages, attracting attention, and motivating them.



These findings lead to two recommendations. First, teaching programs should be developed for effective language learning strategies in literature and language classes. Second, guidebooks and worksheets that exemplify language learning strategies in Kazakh and Nogai toponym subjects, in particular, and in literature courses, in general, should be created.

There are almost no studies on the comparative teaching of Kazakh and Nogai toponyms. This study is limited to 2nd-year university students. Similar studies could be conducted with larger samples. Another limitation of this study is that only a quantitative research design was used in examining teaching Kazakh and Nogai toponyms. In the future, it is recommended to conduct qualitative or mixed model studies on similar topics in which research techniques such as document and content analysis are employed. Future studies could conduct qualitative and mixed-model research to reveal students' and instructors' perceptions of implementing language learning strategies in Kazakh and Nogai languages.

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## Appendix A

### *The Attitude Scale for Kazakh and Nogai Toponym Teaching Activities*

When expressing your opinions about the sentences in the attitude scale, tick A if you completely agree with the sentence, B if you agree, C if you are undecided, D if you disagree and E if you strongly disagree.

Items	A	B	C	D	E
1. I am not interested in Kazakh and Nogai toponyms.	( )	( )	( )	( )	( )
2. I constantly monitor publications on Kazakh and Nogai toponymys.	( )	( )	( )	( )	( )
3. Apart from textbooks, I do not study Kazakh and Nogai toponyms.	( )	( )	( )	( )	( )
4. If I didn't have to, I wouldn't study Kazakh and Nogai toponyms.	( )	( )	( )	( )	( )
6. I am interested in Kazakh and Nogai toponym activities and topics.	( )	( )	( )	( )	( )
7. Apart from doing my homework, I study Kazakh and Nogai toponyms in my free time.	( )	( )	( )	( )	( )
8. I get bored when I study Kazakh and Nogai toponyms.	( )	( )	( )	( )	( )
9. To be a well-read individual, we need to learn Kazakh and Nogai toponyms.	( )	( )	( )	( )	( )
10. I enjoy discussing Kazakh and Nogai toponyms with my friends.	( )	( )	( )	( )	( )
11. I think Kazakh and Nogai toponyms should be included more in the curriculum.	( )	( )	( )	( )	( )
12. I have always had a negative impression of Kazakh and Nogai toponyms.	( )	( )	( )	( )	( )

## Appendix B

### *Kazakh Toponym Achievement Test Sample Questions*

1. «Сығыр-сығыр арба келер, Сыр бойынан...» Жоғарыда көрсетілген ноғай әнінің тармақтарында бейнеленген өзеннің толық атауы.

- A. Сырдария
- B. Сарыарқа
- C. Сава
- D. Сырлы
- E. Сыра

2. 30-жылдары өз бастамасымен орфографиялық, терминологиялық толықтырулар жүргізу мақсатында ноғай алфавитін жүйелеген ғалым.

- A. Н.А.Баскаков
- B. С.А.Калмыкова
- C. Д.М. Шихмурзаева
- D. М.А.Булгарова
- E. И.Г.Буткова

**3. Ноғай тіліндегі «ой» сөзінің мағынасы - .**

- A. Шұңқыр
- B. Пікір
- C. Тесу
- D. Одағай сөз
- E. Тұжырым

**4. Ноғай тіліндегі «Белдегеси – Бес-тоьбе, Куьнбатыры – Кубарнат» деген тармақтардағы «белдегеси», «куьнбатыры» сөздерінің қазақша мағынасы.**

- A. Орталығы, Батысы
- B. Солтүстігі, Батысы
- C. Батысы, Шығысы
- D. Орталығы, Солтүстігі
- E. Шығысы, Оңтүстігі

**5. Қазақ және ноғай тілдерінде кездесетін «Қапшағай» географиялық терминінің қазақ тіліндегі мағынасы.**

- A. Зор, еңселі
- B. Кең, ауқымды
- C. Қалыпты, жүйелі
- D. Өткір, ежет, пысық
- E. Епті, оңтайлы

**6. Қазақ және ноғай тілдерінде кездесетін «Қапшағай» географиялық терминінің ноғай тіліндегі мағынасы.**

- A. Шатқал
- B. Арық
- C. Қойма
- D. Тоған
- E. Жазық

## Appendix C

### *Nogai Toponym Achievement Test Sample Questions*

**1. «Өзен» соьздинь ногайша дурыс язылганы.**

- A. Йылга
- B. Жылга
- C. Джылга
- D. Джилга
- E. Цылга

**2. Ногай тилинде оронимикалык гурппаларны, географиялык жерлерне, аумақтың ландшафтларын тасвирлаган топонимикалык терминдәрдә эн куп келген аффикслар**

- A. - лар, - лер
- B. - дар, - дер
- C. - тар, - тер

- D. - лав, - лев
- E. - дык; -дик

**3. Ногай тилиндеги кесер топонимлар.**

- A. Ажгала
- B. Кумлы
- C. Ыыланлы
- D. Кайкы
- E. Шокырак

**4. Иккенчи компоненттен тураган ногай тилиндеги антропо-топоним.**

- A. Амит-аьжи шокырак
- B. Ногъай туппур
- C. Абаза куйы
- D. Ак мезар
- E. Йиннинъ казаны авган ер

**5. Ногай тилиндеги глаголлардан турылган топонимларда келген аффикслар.**

- A. ма, - ме
- B. сыл, - сил
- C. шык, - шик
- D. лав, - лев
- E. шы; - ши

**6. Ногай тилинде ат мен сыпат топонимларда эн куп кулланылган аффикслар.**

- A. - лык, - лик
- B. - тар, - тер
- C. - лав, - лев
- D. - дык; -дик
- E. - тыл; тил