

# Problems of Studying the Urbanization Process for Students of the Educational Program “Geography” in Kazakhstan

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**Abstract.** The study of the urbanization process by students of the educational program “Geography” in Kazakhstan is topical in the context of rapid urban development and evolutions in the geographical space of the country. Various key problems were revealed in the process of the studies such as the need for in-depth research of the theoretical foundations of urbanization, limited access to current data and no work experience on modern methods of data processing and analysis. An online survey was conducted on the basis of the Google Forms and the survey questions were worked out to have the further study of urbanization processes and update knowledge in this field. The study applied a data analysis method using the SPSS Base software package. This method provided the opportunities to structure and process the survey results among 331 teachers and master’s students. The approach ensured an accurate analysis and interpretation of the data which enabled to identify key trends and consistent patterns in respondents’ answers. The results point to both positive and negative conclusions based on the data. The conclusions were made on having evaluated the results with the help of SWOT analysis.

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## 1. Introduction

The development of democratic processes which are in process in all the areas of Kazakh society has brought about the reorientation of goals and reformation of the content of the higher education system. Modern society has determined a new social order for geographical education - to implement a comprehensive vision of the urban geography based on acquired knowledge and skills and either on the ways of students’ independent activity, to develop their initiative, the striving for creative solutions of educational problems, tolerance and the ability of successful socialization in society.

The expansion of the “urbanism” concept in teacher education encloses the study of the urbanization impact on educational processes and the environment just as the development of teaching methods and strategies adjusted to the urban environment and the interests of urbanized societies (Matsko & Hammerness, 2014). It also means to be aware of the significance of urban aspects in forming the competencies of future teachers involving the understanding of urban culture, social problems and the local contexts of working with students from various socio-cultural environments. This approach contributes to the development of students’ pedagogical programs with more advanced and deeper insight into the modern urban environment and their work efficiency in it (Mitchell & Hare, 2018; Puttick, 2022).

Teaching global urban geography is focused on developing students’ thorough understanding of the complex interdependencies and problems specific to urban environments and their role in the modern world. It covers teaching the analysis of urban transformations, international

trends in urbanization, consideration of cultural and social differences between cities of different countries and regions as well as to study the issues of urban management and planning. An essential part of teaching is to focus attention on the current problems which modern cities face such as overpopulation, urbanization immigrants, infrastructure problems, environmental challenges, urban sustainability and other aspects affecting the quality of life in cities throughout the world (Kenna, 2017; Aladağ, 2019; Gatti, 2019; Buckley et al., 2019; Martinez, 2019; Narayanan, 2022).

The study of population geography in universities concentrates on teaching students the basic features and patterns of population dynamics, composition and distribution, key demographic processes, territorial diversities and the causes of their occurrence, as well as their effects and management. An important aspect of this study is the commitment to the practical application of knowledge. It suggests the development of students’ demographic analysis skills and their practical use in professional life (Robertson & Burston, 2015).

However, practical studies on population geography often have the form of presenting by students prepared reference papers on the main issues of the course, discussing their content and performing tasks on the analysis of statistical and cartographic materials selected by the teacher. This form of education does not involve the educational and research potential of the population geography, does not reveal the significance of the discipline in the public management, the participation in solving essential problems of demographic development (Pozdnyakova, 2021). Therefore, tasks having

creative, project and problematic character and aimed at teaching students the methods of collecting, processing, analyzing, interpreting and presenting geodemographic information, identifying patterns of population dynamics based on it are able to diversify the methodology of conducting practical studies on population geography (Chichkanova, 2014). So the skills being formed in the process of practical studies on the population geography will open the way to recognizing the applied value of the acquired knowledge which in future may contribute to getting professional identity in the scientific specialization of students, to further progress in their own scientific research.

The use of satellite imagery is critical in teaching urban geography and is of great help for students to explore and analyze various aspects of urban environments. Satellite images can be used to visualize geographical concepts such as the territorial organization of cities, spatial structure, dynamics of urban growth and development and many others (Martínez-Vega et. al., 2015; Martínez-Hernández et. al., 2022).

Field-based experimental geography education is turning into a powerful tool to discover and reinterpret urban environmental issues and opportunities and also to get students involved in the actual issues of their own community (MacKay et. al., 2021; Malandrakis et.al., 2021; Kowalewski et. al., 2021). This educative process in Kazakhstan has a poor development.

Urbanization, which is as known to present the process of urban extension, growing the number and share of urban population, the increasing role of cities in society and the wide prevalence of urban lifestyle, is one of the key social and geographical processes of the modern era having an ever-growing impact on all the aspects of modern society. Within this context the formation of a complete geographical picture of the world is impossible without understanding the form and content of urbanization processes in the world as a whole and in one's country (Karadeniz et al., 2021).

Addressing urbanization as a global process of modern age and the future, its tempo, level and spatial and temporal differences, forms of its expression in the countries of the world, students could trace the development of urbanization processes in the regions of Kazakhstan or countries of the world. With this aim the level of urbanization and the growth rate of the urban population were calculated based on the selected statistical data referring to the dynamics of the urban population; with the use of cartographic materials the basic framework of settlement of the region under discussion was identified and described; the forecast of the growth of the country's urban population was presented using the method of analytic and graphical extrapolation (Bulanov et al., 2021).

The study of the urban population system and urbanization as a global social and economic process under the "Population settlement" topic provided broad options to apply practical tasks of research character. On getting the knowledge of the concepts of settlement systems, types of settlements, their interrelation with the natural conditions of the local area and the territorial organization of the economy, the problems of settlement management, the geography of urban settlements, students could use them to draw up a diagram to classify the cities of their locality per various criteria (population, topographic position, planning forms, genesis, functions) and identify the specific features of the local rural settlement systems; to develop and present the diagram for local cities' classification according to various criteria (Robertson, 2018).

It helped them to systematize theoretical knowledge and confirm it on the pattern of regional information.

The value of the studying the urbanization process by students of the educational program "Geography" in Kazakhstan is formed by a number of factors:

1. Kazakhstan is experiencing explosive growth of urban population and urban development thus the study of urbanization gets especially significant to understand the transformation processes of geographical space;
2. The expansion of the urban environment has an effect on the landscapes, biodiversity and ecology of the regions. The comprehension of these changes is essential to identify and manage the urbanization process;
3. Urbanization has significant social and economic outcomes such as changes in lifestyle, labor market and service availability. The study of urbanization enables to comprehend the process and develop effective urban development strategies;
4. The commitment to sustainable urban development expects a comprehensive understanding of the factors having an impact on urbanization processes and the development of appropriate strategies and policies.

The study of urbanization is of importance for students of a geographical specialty to be trained as qualified specialists who are competent to analyze and work on the processes of urbanization with due regard to geographical and environmental aspects.

The current study of the urbanization process issues by students of the educational program "Geography" in Kazakhstan involves the following aspects:

- Today's world has various geoinformation technologies (GIS), statistical packages and data analysis methods that can be applied to study urbanization. Research studies can assess changes in the urban environment using satellite imagery and also make statistical analysis of demographic and socio-economic data;
- Modern research studies on urbanization should take in consideration not only physical changes in the urban environment but also their impact on social and environmental processes. It may imply an analysis of public transport availability, air quality, the condition of green areas and other factors;
- Modern research may extend to the active involvement of students into the research process which provides them the opportunities to acquire practical skills and the experience of working with data in real-life environment;
- Research studies on urbanization include an interdisciplinary approach that integrates knowledge and methods from various scientific branches such as geography, economics, sociology, ecology and others;
- In view of the challenges of climate change and resource sustainability modern research studies on urbanization can focus on creating sustainable urban development strategies that facilitate economic growth, social justice and environmental protection.

The ground to analyze the problems of the urbanization process study by students of the educational program "Geography" in Kazakhstan is the need to improve the educational process and the training of future specialists. The main reasons are as follows:

- Knowledge of urbanization processes and skills in working with urban space data can be of help for students' future careers in the field of geography, urban planning, sustainable development and other ones;
- Students' participation in research studies gives them the opportunity to acquire practical skills in working with data, analyzing information and developing problem-solving strategies;
- The research study can be conducted pursuant to the feedback from students or teachers who have exposed the need to set forward the educational process and make more profound the study of topics on the geography of cities;
- The research study can be of help to elicit problems and gaps in the educational process and suggest recommendations to eliminate them which will result in rising the quality of education in the field of urban geography and urbanization processes.

The problems faced by the students of the educational program "Geography" in Kazakhstan in studies of the urbanization process:

1. No access to reliable and latest data on the urban environment and urbanization processes can make it difficult to study and analyze trends in urban development;
2. Non-availability of opportunities to participate in practical on-site activities and carry out field research can make it difficult to penetrate into the real processes of urbanization.

The solution of the problems may be found in obtaining more access to data and resources, in the organization of practical in-situ training and development of work skills on operating with data and analysis methods.

The goal of the study is to identify and analyze various problems related to the teaching of urbanization processes in educational programs on training Geography teachers in Kazakhstan. The analysis of these problems will be helpful to develop recommendations to advance educational programs in the future that assists to more effectiveness and meeting the modern requirements.

## 2. Methodology

The research is based on the method of comparative analysis. In addition the quantitative research method: For the presentation of the detailed perspective of studying the process of urbanization in geographical education the work-out (development) of the method consisted of two stages. The first

stage includes the analysis of standards and scientific articles on the topic of the research. The analysis of standards and scientific articles on the topic of the study is a significant stage to get insight into the current state of the research field and to specify the main trends, problems and challenges related to the topic of urbanization. The use of the method of reviewing documents and scientific literature enables researchers to get a general idea of existing theories, methodologies and the results of previous studies.

An analysis of urbanization processes in the education of Kazakhstan was also carried out. The updated program introduced in 2016 has caused much difficulty to school teachers. The strong points, weak points, opportunities and threats of the curriculum were analyzed applying SWOT analysis. The changes in the content of urbanization processes in the education of Kazakhstan curriculum were analyzed.

At the second stage of the study there was a survey held with geography teachers and master's students online. For that purpose an electronic questionnaire was created using the Google Forms tool. This tool provides an opportunity to create surveys for free and provides convenient distribution of the questionnaire through social networks or placing on websites. This approach gives the opportunity to get feedback from a wide range of participants and makes the collecting of data for research rather easy.

The first stage of the preparatory work was the creation of a separate file where the title and description of the study were presented and also the questions and answers for the survey were worked out. The topics and issues specified in the context of the study are based on extensive literature and information received from the participants of the study. The participation of several researchers in the process of the study is an important factor to ensure the descriptive validity of the study as it opens the way to take into account different points of view and to provide more knowledge of the problem under consideration.

Our study applied Data Mining methods when processing the results of the survey which enabled to implement an alternative approach to data analysis which consists in the transition from original variables to variables measured in an absolute scale. The package SPSS Base of social sciences data analysis was used as a tool set. The amount of the sampled population made up 331 teachers and master's students.

This approach made it possible to analyze the data obtained and also to specify patterns and trends in the answers of respondents.

Teachers on geography and master's students from 14 regions and major cities of Kazakhstan took an active participation in the survey (Table 1). The questionnaire was

Table 1. The data on the surveyed participants

	Age	Length of work
The whole number of participants	331	
Mean	41,5347	17,1088
Median	40,0000	15,0000
Mode	30,00	,00
Range	49,00	48,00
Minimum	20,00	,00
Maximum	69,00	48,00
Sum	13748,00	5663,00

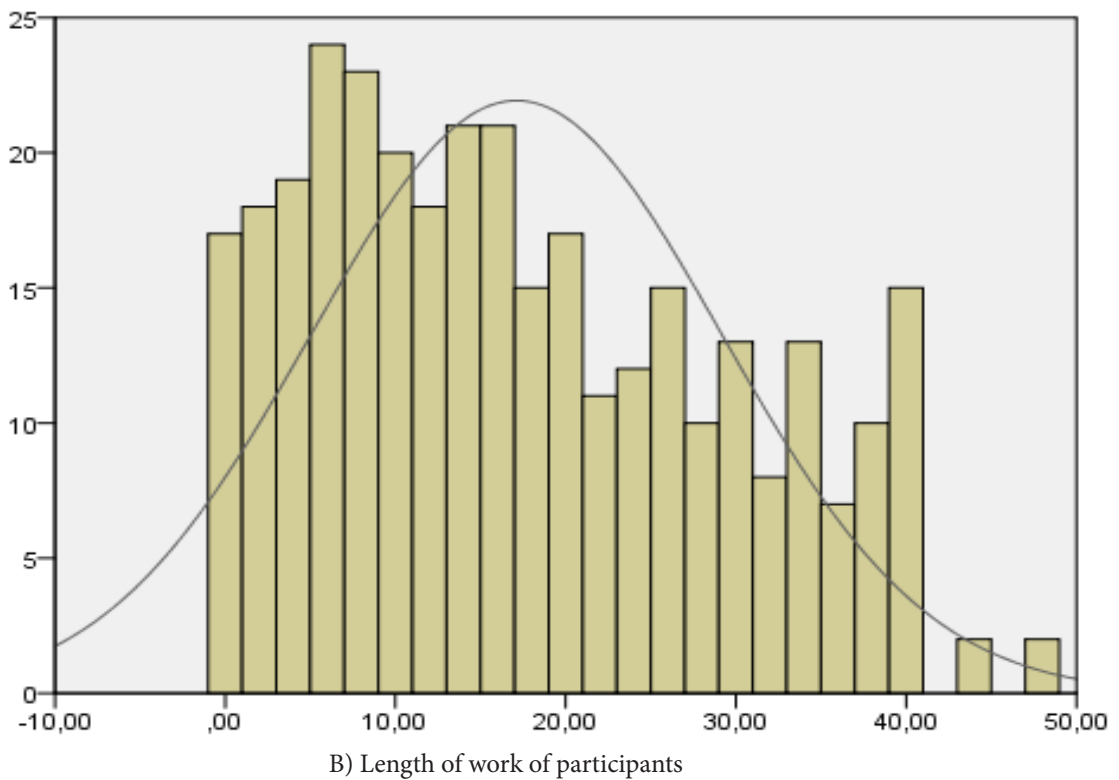
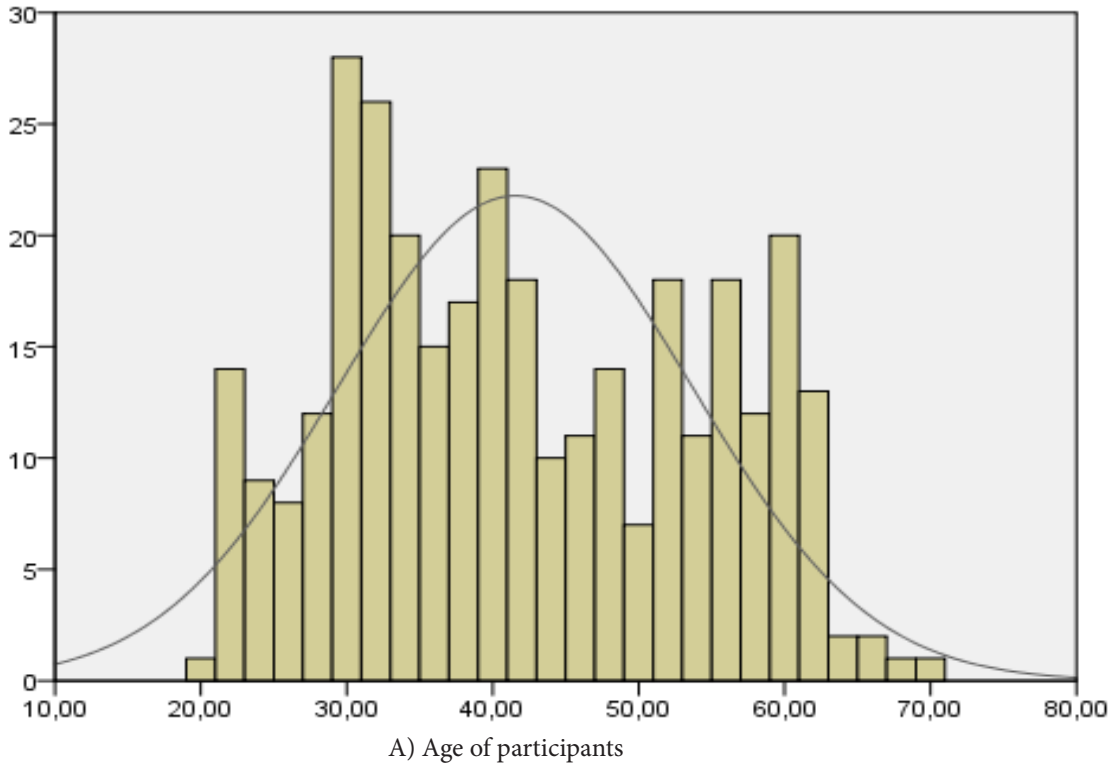


Figure 1. Participants' age and length of work

presented in Kazakh and Russian. 10 questions were put in the questionnaire of which two questions related to age and length of work in the system of secondary education (Figure 1).

### 3. Results and Discussion

The analysis of scientific geographical literature has revealed that the term “urbanization” widely used in science does not have a clear and single-valued definition. But most scientists tend to consider that the term can be treated in a narrower and broader respect. In a narrower way urbanization

means the growth of cities and the increasing role of the urban population, in a broader sense it means a historical process of increasing the role of cities and urban lifestyle in the development of society. The definition of urbanization is closely linked up to the work-out of issues regarding the stages of this process, the development of urbanization “in size” (due to the development of new locations) and “in depth” (due to the complexity of forms and systems of settlement), i.e., respectively, extensive and intensive ways, the urbanization factors (social, economic, demographic,

Table 2. The content of teaching the population geography in typical school curriculum

Grades	Was in 1991-2016	Since 2016 - currently
7	Physical geography of continents and oceans (Peoples of the world - general overview)	Language families and groups of peoples of the world; Religious composition of the world population.
8	Physical geography of Kazakhstan (topics on the population geography are not provided)	Population census; types of population reproduction; Demographic parameters and demographic situation; demographic problems; Demographic policy.
9	Economic and social geography of Kazakhstan (Population growth; population reproduction; age and gender structure; Ethnic composition; population migration; urban and rural population; labor resources and their use)	Ethnic and religious composition of the population of Kazakhstan; Migration of the population in the world and in Kazakhstan; Quantitative and qualitative composition of labor resources; Classification of settlements; The process of urbanization; Evaluation of the urbanization process in Kazakhstan
10	Economic and social geography of the world (The number and constant growth of the world population; age and gender composition of the population. Labor resources; racial and ethnic composition of the population; language composition of the population. Advancement of religions; population density, features of settlement; the urbanization process)	Global environmental problems of cities; Environmental problems of the cities of Kazakhstan; Geographical aspects of global problems of cities.
11	The modern world of geography (Nations of world regions: Issues of big cities)	The quality of the city's environment; Geo-ecological design of cities; Geo-economic strategy for the development of cities in Kazakhstan.

environmental, architectural and planning), the types of urbanization corresponding to different types of countries, the city networks, its general features as a global process as well (Guo et al., 2018).

In 1991-2016 issues directly related to urbanization were studied in schools of the Republic of Kazakhstan in geography lessons of the 9th grade (course of economic and social geography of Kazakhstan), 10th and 11th grades (course of economic and social geography of the world) and since 2016 there is the study of demographic and urbanization processes from 7th grade (Table 2) (Methodical recommendations for the study of the academic subject "Geography" (grades 7-9) within the framework of updating the content of education, 2017).

In the course of economic and social geography of Kazakhstan of the 9th grade the topic "Settlements" introduced to pupils the ideas about the differences between urban and rural settlements, about the specifications of the occupations of their residents and the functional separation of urban and rural settlements. The formation of a system of concepts and ideas about modern urbanization processes was consistently continued during the study of the course "Economic and social geography of the world" in grades 10-11. The chapter "World Population" of the given course included the topic "Urbanization of the countries of the world" for the study. While studying this topic pupils got the idea of the essence of the urbanization process, its social and economic and industrial-technical causality (Mazbayev et al., 2020). With that there was the formation of the concept regarding the share of city residents in the total population of the country as the most significant criterion of the level of urbanization, to the rating of the world countries into high, medium and low urbanized in relation to the share of the urban population. Therefore the sufficient place was allotted to the issues of modern urbanization of the world, individual regions and

countries in the process of teaching geography in grades 9-11 of secondary schools in Kazakhstan (Typical curriculum on the subject Geography for grades 7-9, 2017; Typical curriculum for the academic subject Geography for grades 10-11, 2022.)

Since 2018 changes have been introduced into the program of higher educational institutions in Kazakhstan concerning the teaching according to the updated program. The process of urbanization previously taught on the basis of the subject "Population geography" is now studied within several courses. That does not give an opportunity to students to gain a full knowledge about the process of urbanization (Sergeyeva et al., 2023). It causes hardship to teachers to teach urban ecological problems studied in grades 10-11, to have pupils comprehend the topic. According to the educational programs on the training "Geography" teachers in universities of Kazakhstan the elements of urban geography are studied only in the subjects "economic, social and political geography of the world", "economic and social geography of Kazakhstan", "introduction to social, economic and political geography" (Table 3). As table 3 shows there are two subjects regularly held in all higher educational institutions of Kazakhstan in training teachers on geography. The contribution of the population geography to the content of these two disciplines is shown in Figure 2.

Systematic teaching of urbanization processes in universities enables future teachers to master several methods. For example, the design method can be used to specify the geographical location of the city, to evaluate it in the economic and geographical context, to work with the general plan of the city, to analyze urban environmental issues. There was regular study of the disciplines "population geography", "urban geography", "Geo-urban studies" in teaching the problems of urbanization in educational institutions of Kazakhstan from 1980 to 2018. Since 2019 they have been held as elective subjects, elective disciplines. Now due to the reduction in



■ Other sections of the economic, social and political geography of the world  
 ■ including the population geography

■ Other sections of the economic and social geography of Kazakhstan  
 ■ including the population geography

A) Economic, social and political geography of the world

B) Economic and social geography of Kazakhstan

Figure 2. The share of the population of geography in main subjects studied in universities of Kazakhstan

Table 3. Teaching courses containing the study of urbanization processes in higher educational institutions of Kazakhstan

№	Higher education institutions	Geoecology	Economic, social and political geography of the world	Introduction to social, economic and political geography	Economic and social geography of Kazakhstan	Population geography	Geourbanistics
1	Abai Kazakh National Pedagogical University	+	+	-	+	+	+
2	Kh. Dosmukhamedov Atyrau university	-	+	-	+	+	-
3	Margulan Pavlodar pedagogical university	-	+	-	+	-	-
4	M. Kozybayev North Kazakhstan University	+	+	+	+	+	
5	Kazakh National Women's Teacher Training University	+	+	-	+	-	+
6	M. Utemisov West Kazakhstan University	-	+	+	+	+	-
7	K. Zhubanov Aktobe Regional University	-	+	+	+	-	-
8	A. Baitursynov Kostanay Regional University	-	+	+	+	-	-
9	Zhetysu University named after I. Zhansugurov	-	+	-	+	+	-
10	S. Amanzholov East Kazakhstan University	-	+	-	+	+	-
11	Shakarim University	-	+	-	+	-	-
12	Caspian University of Technology and Engineering named after Sh.Yessenov	+	+	+	+	-	-
13	South Kazakhstan State Pedagogical University	-	+	-	+	+	-
14	Karaganda Buketov University	+	+	+	+	+	
15	Ualikhanov Kokshetau University	-	+	-	+	-	-
16	Arkalyk Pedagogical Institute named after I. Altynsarin	-	+	-	+	-	-
17	M. Auezov South Kazakhstan University	-	+	-	+	+	-
18	Korkyt Ata Kyzylorda university	-	+	-	+	+	-
19	Taraz Regional University named after M.Kh.Dulaty	-	+	+	+	+	-

the number of course credits these disciplines are not taught in some educational institutions. Now in some educational institutions courses in human geography have been reduced as many course credits in educational programs in the field of “geography” teacher training fall to the share of pedagogical disciplines.

Very few subjects in urban environmental education are taught at the university Nowadays the process of ecological refocusing is on which consists in transferring the study of environmental problems to all fields of science, the integration of scientific knowledge, interdisciplinary research and ecologization of all scientific disciplines is in progress.

Geocological problems of the urban environment are specified in the State Educational Standard as the problems of creating a favorable environment for human life which is necessary to provide favorable conditions and for all who live in the city. The scientific information about the mutual relations of the urban and natural environment, about the role of man will help in solving geocological problems and environmental issues (Waluya *et al.*, 2023). However the issues of the urban environment as the environment where people live are not given much insight in the school geography course, the interrelationship of the urban and natural environment and the impact of man in causing environmental problems are not exposed. The interconnected problems - waste, transport, industrial pollution - are considered as separate ones.

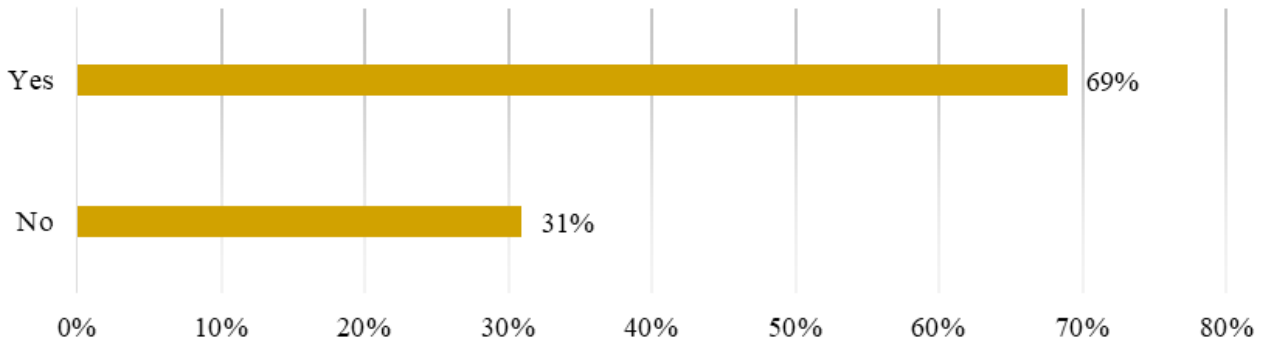
The practice of teaching geography at school reveals that it is difficult for schoolchildren to evaluate the significance of various natural and social and economic factors in the formation of the qualities of the urban environment as the schoolchildren have prevalence of consumer and pragmatic stereotypes in relation to individual components of the environment. Urban environmental problems are addressed component-by-component and that does not create an overall picture of the processes taking place in the urban environment and of their interconnections (Valliere, 2022). The study of the urban environment requires an integrated approach to solving environmental problems. Such integrated approach is specific to a new direction of geographical science - geoecology.

According to the updated curriculum urban issues will be studied from the 9th grade by a spiral method. Pupils get to know the problems of settlements, issues of assessing the process of urbanization in grade 9 and in grades 10-11 they become familiar with urban ecological processes. For this reason it is critical to give future teachers the profound knowledge about the ecological state of cities.

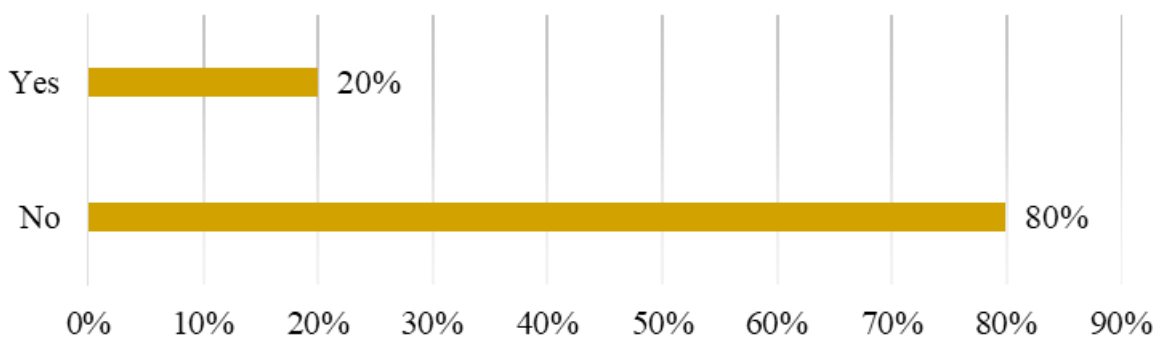
The study displays that there are certain problems in the modern study of the urbanization process in education. When teaching urban geography teachers are aware of the complexity of educational goals (16%) and the extent of the topical content (23%). (Figure 3., Table 4.

The main survey questions

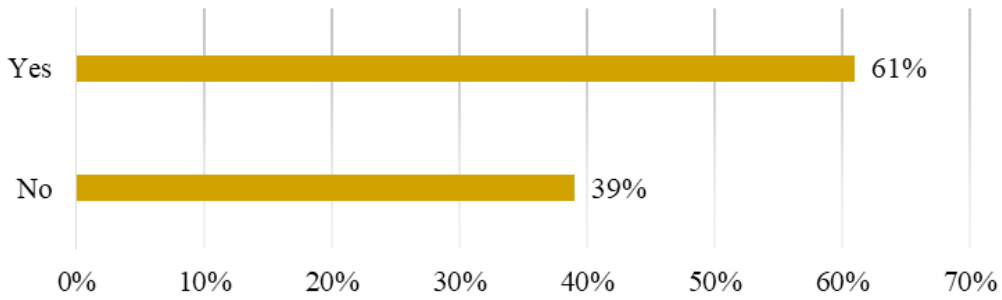
1. Can the teaching goals set in the section “Population geography” form functional literacy? (A)



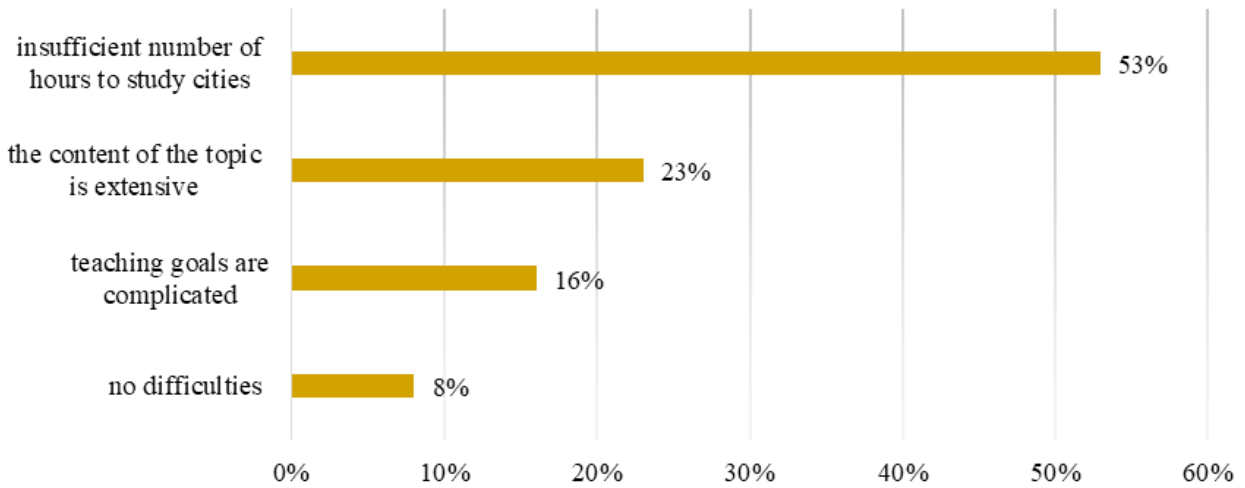
2. Are you satisfied with the number of hours for teaching cities in the updated education content on geography? (B)



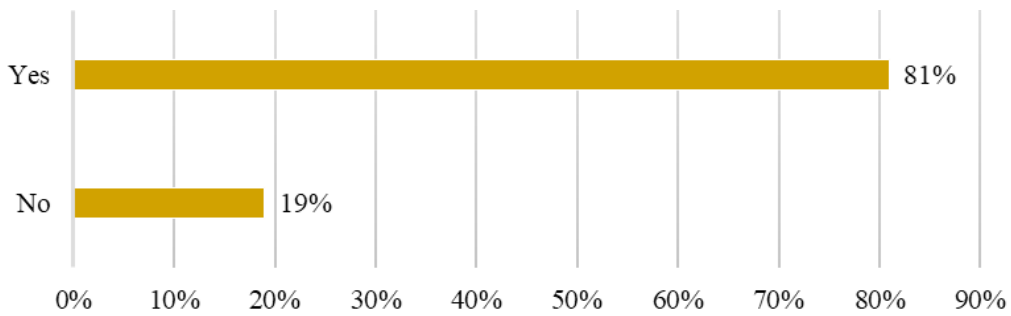
3. Is it effective to teach the world urban geography and Kazakhstan urban geography by the spiral method on a simple to complex basis? (C)



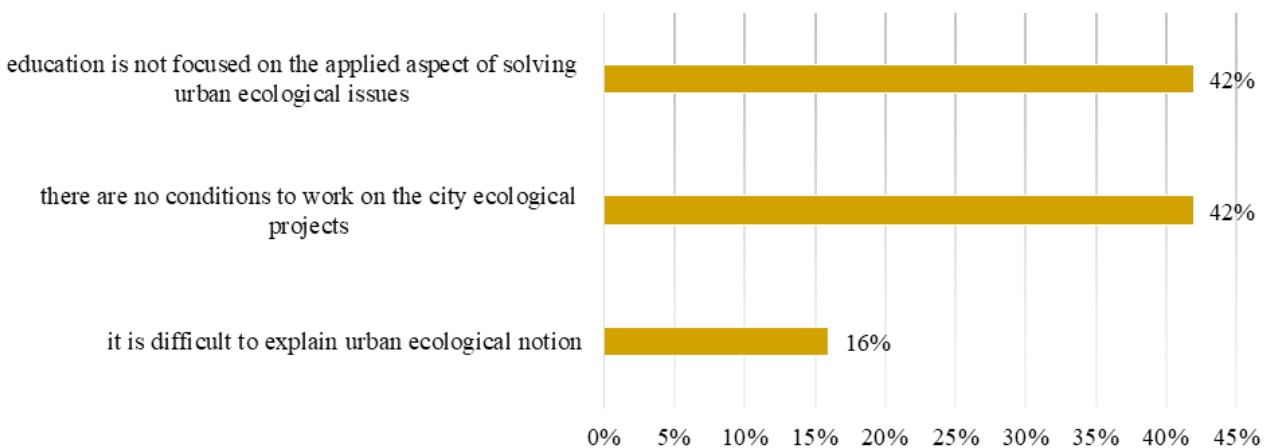
4. What difficulties do students face in the study of urbanization processes? (D)



5. Will the knowledge gained at the university on the urban geography be of use at schools or needs deeper insight? (E)

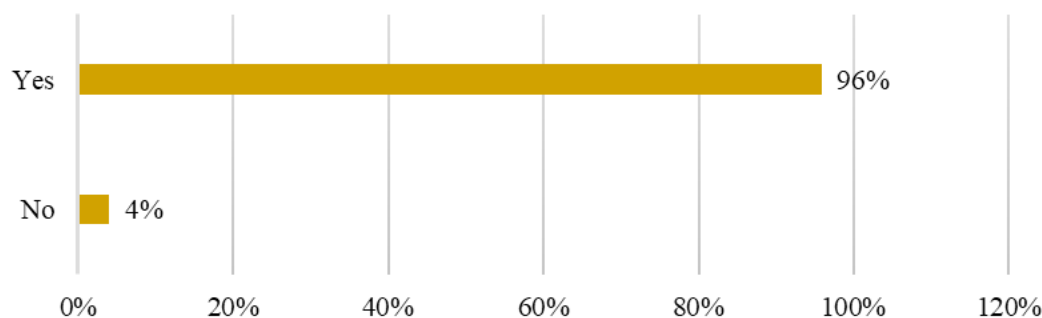


6. What difficulties arise in urban environmental education at school? (F)





7. Do you think it necessary to study the environmental problems of the city? (G)



8. Do you think the study of geoecological problems of the city is be based on a local history approach? (H)

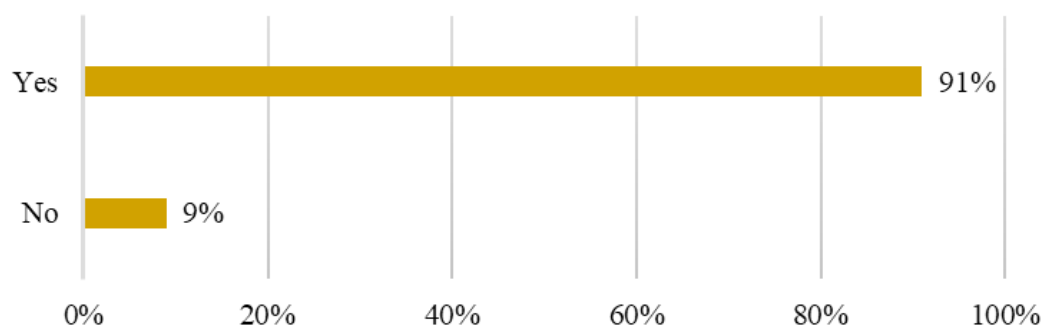


Figure 3. Basic questions and results of the survey  
Worked out by authors on the basis of online Google format surveys

Table 4. Statistic data of the survey to teach urbanization process

	Statistics							
	A	B	C	D	E	F	G	H
Mean	1,3082	1,7976	1,3988	2,4502	1,1903	2,2296	1,0393	1,0272
Median	1,0000	2,0000	1,0000	3,0000	1,0000	2,0000	1,0000	1,0000
Mode	1,00	2,00	1,00	3,00	1,00	2,00	1,00	1,00
Range	1,00	1,00	1,00	3,00	1,00	32,00	1,00	1,00
Minimum	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Maximum	2,00	2,00	2,00	4,00	2,00	33,00	2,00	2,00
Sum	433,00	595,00	463,00	811,00	394,00	738,00	344,00	340,00

As the first inquiry shows 70% of respondents point that the teaching goals set in the section “Population geography” form functional literacy. So it means that students can effectively apply the knowledge gained at school in practice. According to the second inquiry 81% of the survey participants are of the opinion that the number of hours allocated to study cities in teaching the updated content of geography does not provide opportunities for students to obtain a sufficient level of knowledge in this area. The third question determines the effectiveness of teaching the urban geography by a spiral method on a simple to complex basis as per the answers of 61% of respondents. The remaining 39% of participants consider teaching based on spiral method to be ineffective. As the vast majority of teachers surveyed are over 40 years old the answers testify that they are not yet able to adapt to the updated teaching. 83% of teachers consider it necessary to deepen their knowledge of the urban geography. The difficulties in teaching urbanization processes stress the fact that in cities there are

no conditions for working with environmental projects (42%) and education is not focused on the applied aspect in solving urban-ecological problems (42%). The survey respondents understand that the creation of a healthy and sustainable living environment requires the most active measures and innovative approaches contributing to advancing the life quality in cities, to forming a sustainable lifestyle as well as to improving the health and well-being of city citizens. In this regard the study of geoecological problems of the city (97%) and the conduct of surveys based on the local history approach (91%) are clearly demonstrated in the questionnaire. Based on the survey results a SWOT analysis was held (Table 5).

The analysis of the survey held among geography teachers represents that most of them choose to increase the number of hours for the study of urban processes. A significant part of teachers as a rule use traditional lessons and traditional teaching tools not applying in their work active methods and forms of teaching, modern ICT technologies. Many teachers

Table 5. SWOT-analysis of the results on teaching geography of cities

Strengths		Weaknesses	
1. Evaluation of the urbanization process in Kazakhstan;		1. The weakness of integrated learning;	
2. Graphics presentation of the rating of world's cities per different criteria;		2. The complexity of educational goals in studying the urban geography;	
3. Learning the elements of cartographic modeling;		3. The extensiveness of the topic content;	
4. Teaching the urban geography by spiral method.		4. Insufficient number of hours;	
		5. No conditions to work on city ecological projects.	
Threats		Opportunities	
1. No due regard to age-specific aspects in the curriculum and textbooks;		1. The presence of a research focus in teaching the urban geography;	
2. Presentation of a textbook in a scientific language;		2. Intensification of the environmental knowledge of teachers;	
3. Abundance and universality of information;		3. Functional zoning of the city.	
4. No focus to the educational applied aspects in solving urban ecological problems.			

are not ready to solve new scientific and methodological challenges of modern school geography: to design and organize the educational process, to develop universal educational activities, to promote the country-specific approach in geography.

The process of analyzing the scientific and methodological literature revealed the methodological immaturity of the issues on studying geoecological problems reflecting the specifications of the city. The latter calls for the need to develop a system of geoecological education in the course of geography of secondary schools and universities.

A new direction – geoecology, which studies altered anthropogenic landscapes – steps forward. The urban environment is a typical anthropogenic landscape where the confrontation in the man-nature-society system is most vividly exposed. The study of geoecological problems is required to provide favourable conditions for the life of city citizens and to preserve the created ecosystem. But the methodological immaturity of the study of geoecological problems of the city has been found out and that results in the need to find effective ways of their study. The revealed mutual connection of geoecology with geography as branches provided opportunities to determine effective ways of studying geoecological problems of cities in the course of geography. In the process of the research it was determined that the study of geoecological problems of a city is based on a local history approach. It ensures that geoecological problems over the entire basic course of geography will be studied from the specific territory of your environment (house, district) up to the entire ecosystem of the city.

#### 4. Conclusion

The use of Data Mining methods in the analysis of survey results has expanded our understanding of the data structure which contributed to finding out significant patterns and trends. It enabled to identify key trends in the answers of respondents which in return allowed for a significant analysis of the information acquired. The use of the SPSS Base data analysis package has ensured the reliability and efficiency of the analysis and also increased the opportunities to visualize and interpret the results. Broad scope of sampled population, including 331 teachers and master's students, opened the way to obtain representative data and ensure the validity of the conclusions. The results of the study introduce a valuable contribution to understanding the problems of teaching the

urbanization processes in educational programs on geography in Kazakhstan. They may be used to raise the quality of education and develop teaching methods in this field. The results of the study may give occasion to have further research in this area, to study the efficiency of educational programs and to develop new teaching methods. A high degree of variability and dynamism poses new challenges of all kinds for higher educational institutions thus pressing them to find solutions which are focused to advance the manageability, efficiency and outcome of the educational process, making them renovate the educational process. For these reasons there is a need for most of higher educational institutions in Kazakhstan to transfer to project activities to teach students in accordance with the new realities and to approach the university closer to the demands of the economic branch and real professional practice in urban education.

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