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## THE IMPORTANCE OF DEVELOPING RESEARCH SKILLS FOR FUTURE BIOLOGY TEACHERS: ANALYSIS OF UNIVERSITY EXPERIENCE AND ITS IMPACT ON CAREER

### Abstract

The work is devoted to the study of the role of field practice in the preparation of biology teachers and the formation of research competence. The purpose of the work is to assess the importance of field practice in the preparation of future biology teachers for the formation of research competence. The work has data on the state of teachers of biology, the relationship between the achievement of teachers and students with elements of the preparation of future teachers. In the course of the work, methods of analyzing scientific data, conducting a survey and subsequent processing of the results were used. Data were obtained on experience, place of work, level of education and qualifications, achievements of teachers and students, as well as views on the field practice of biology teachers of the Republic of Kazakhstan. The data obtained allowed us to conclude that the research competencies of biology teachers are formed directly in the course of field training and laboratory work while studying at the university. Further achievements of teachers and students trained by these teachers are largely related to the competencies of teachers. The results and conclusions of this work can be used to update biology teacher training programs at universities, develop advanced training courses, and contain recommendations for improving the research competence of biology teachers.

**Keywords:** Research competence, field practice, biology teachers, qualifications, university, school.

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## ВАЖНОСТЬ РАЗВИТИЯ ИССЛЕДОВАТЕЛЬСКИХ НАВЫКОВ У БУДУЩИХ УЧИТЕЛЕЙ БИОЛОГИИ: АНАЛИЗ УНИВЕРСИТЕТСКОГО ОПЫТА И ЕГО ВЛИЯНИЕ НА КАРЬЕРУ

### Аннотация

Работа посвящена изучению роли учебно-полевой практики при подготовке учителей биологии и формировании исследовательских компетенции. Цель работы – оценить значение учебно-полевой практики при подготовке будущих учителей биологии для формирования исследовательских компетенции. Работа имеет данные об учителях биологии, связи достижении учителей и учащихся с методами подготовки будущих учителей. В ходе выполнения работы использовались методы анализа научных данных, проведение опроса и последующая обработка полученных результатов. Получены данные об опыте, месте работы, уровня образования и квалификации, достижениях учителей и учащихся а так же взгляды на учебно-полевую практику педагогов биологии Республики Казахстан. Полученные данные позволили сделать вывод о том что исследовательские компетенции учителей биологии формируются непосредственно в ходе

прохождения учебно-полевых практик и лабораторных работ при обучении в университете. Дальнейшие достижения педагогов и учащихся подготовленных данными учителями во многом связаны с компетенциями учителей. Итоги и выводы данной работы могут использоваться при обновлении программ по подготовке учителей биологии в университетах, составлении курсов повышения квалификации и содержат рекомендации для повышения исследовательских компетенции учителей биологии.

**Ключевые слова:** исследовательская компетентность, полевая практика, учителя биологии, квалификация, вуз, школа.

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## **БОЛАШАҚ БИОЛОГИЯ МҰҒАЛІМДЕРІНДЕ ЗЕРТТЕУ ДАҒДЫЛАРЫН ДАМУДЫҢ МАҢЫЗДЫЛЫҒЫ: УНИВЕРСИТЕТ ТӘЖІРИБЕСІН ТАЛДАУ ЖӘНЕ ОНЫҢ МАНСАПҚА ӘСЕРІ**

*Аңдатпа*

Зерттеу жұмысы биология мұғалімдерін даярлаудағы және зерттеу құзыреттілігін қалыптастырудағы оқу-далалық тәжірибенің ролін зерттеуге арналған. Жұмыстың мақсаты – зерттеу құзыреттілігін қалыптастыру үшін болашақ биология мұғалімдерін даярлаудағы далалық тәжірибенің маңыздылығын бағалау. Жұмыста биология мұғалімдері туралы, мұғалімдер мен оқушылардың жетістіктерінің педагогтерді даярлаудағы әдістері мен байланысы туралы мәліметтер бар. Жұмысты орындау барысында ғылыми деректерді талдау, сауалнама жүргізу және алынған нәтижелерді өңдеу әдістері қолданылды. Жұмыс барысында мұғалімдер мен оқушылардың тәжірибесі, жұмыс орны, білім деңгейі мен біліктілігі, жетістіктері туралы деректер және Қазақстан Республикасы биология педагогтерінің оқу-далалық тәжірибеге пікірлері алынды. Алынған мәліметтерге сүйенсек биология мұғалімдерінің зерттеушілік құзыреттілігі университетте білім алған кезіндегі оқу-далалық тәжірибелер мен зертханалық жұмыстардан өту барысында тікелей қалыптасады деген қорытынды жасауға мүмкіндік берді. Мұғалімдердің жеке жетістіктері мен осы ұстаздар дайындаған оқушылардың жетістіктері көбінесе мұғалімдердің зерттеушілік құзыреттілігімен байланысты. Бұл жұмыстың қорытындылары университеттерде биология мұғалімдерін даярлау, біліктілікті арттыру курстарын құру бойынша бағдарламаларды жаңарту кезінде пайдаланылуы мүмкін және биология мұғалімдерінің зерттеушілік құзыреттілігін арттыруға арналған ұсыныстарды қамтиды.

**Түйін сөздер:** зерттеу құзыреттілігі, далалық практика, биология мұғалімдері, біліктілік, ЖОО, мектеп.

**Main provisions.** The main idea of this article is the formation and development of research competence among biology teachers. Biology teachers should not only transfer knowledge, but also develop students' research skills. Research competence includes the ability to conduct laboratory work, perform research tasks during field practice, analyze results and conduct research with the participation of students. An important role in the development of research competence is given to practical exercises and the use of field research, however, innovative methods are not used in this work, we must formulate methodological recommendations using new methods for the development of research competence through field practice.

**Introduction.** Currently, teachers and professors who hold teaching positions in all modern educational organizations are tasked with the educational process, along with deep academic

knowledge, to engage in research work and form certain ordinary competencies in students. The professional standard of the teacher sets out the issues of studying the educational process by a school teacher and increasing the motivation of students for discipline in the formation of an individual educational program, the application of new teaching technologies [1]. In this regard, along with the use of modern methods and techniques in teaching natural sciences, in particular biology, in laboratory work and demonstrations in the classroom, modeling, the teacher forms research competencies in students using their research abilities.

First of all, let's consider the analysis of information presented in dictionaries to determine the essence of the concepts of competence and research. Competence is a set of rights and obligations transferred to a specific person through the law, and research is the conduct of scientific work, revision is a word of the Kazakh literary language [2]. Therefore, research competence is a set of knowledge, skills and abilities used in the process of research work. And the research competence formed in the subject of biology will be very extensive, since within the framework of the discipline the teacher will consider the most necessary and basic knowledge from different areas of biological science.

Students should not only reproduce the knowledge gained, but also be able to independently apply them in new conditions. It is this study, since it creates the need to deepen and update the student's knowledge.

The concept of "competence" is considered in pedagogical dictionaries as follows: "competence is the level of readiness for action in a particular area, the degree of knowledge management, the necessary policy for making correct and effective decisions"; "competence is the ability (readiness) of a person to solve life problems based on experience, the experience of the student, his values. Competence-belongs to the right) - to have a competence, knowledge that allows you to evaluate something; a set of necessary personal qualities that allow a professional and effective approach to the relevant field of knowledge, scientific and practical problems.

Research competence is the ability to consciously and deliberately set and solve cognitive tasks related to the assimilation of reality, describe phenomena and facts that reflect its content, the laws of their interaction, norms and rules that ensure the solution of the problem posed.

Thus, it can be concluded that the research competence of biology teachers is related to the ability to perform laboratory work, study individual biological processes, correctly process the results and conduct research with students, thereby developing the skills of searching, generalizing and analyzing the information received.

Research competence can be considered an integral part of the necessary skills of a biology teacher in professional qualification, since the requirements for teachers include not only general competence, but also specific competencies and abilities in subject orientation.

Various educational institutions use field practice as the last step in conducting disciplines and improving acquired skills, skills and abilities. Often, the training of future biology teachers is closely related to research in fundamental fields such as botany and zoology, so field practice takes place in a botanical, Zoological or mixed direction.

A particularly important role is given to the formation of a scientific outlook and the development of practical skills in the lessons of the natural and mathematical cycle. Biology occupies a separate place among them, because it is in biology lessons that students look at all forms of manifestation of life through the prism of science and study the world around them, themselves and all life processes. Biology has sections with static information and at the same time, sections studying dynamic processes. Therefore, the lessons can take place in the format of a lesson-lecture, independent work, a lesson-conversation, laboratory classes and a lesson-excursion.

Mastering the methodology of field research in nature will allow students to conduct scientific research in biological disciplines in the future.

During the field practice, students have the opportunity to get acquainted with the nature of regions that are different in landscape and geographical terms, consolidate the knowledge gained in lectures and

during laboratory work, get acquainted with the methods of collecting collection material, and also learn to identify the nature of the interaction between the environment and plants.

Field practice in botany undoubtedly contributes to the acquisition by students of the skills of naturalistic and natural history work, expands and deepens the knowledge gained during the passage of lectures and laboratory courses in various botanical disciplines. By consolidating the acquired knowledge, field practice forms the norms of correct behavior, respect for nature and the ability to appreciate not only the beauty, but the fragility of the entire ecological system, to which the person himself belongs [3].

During the internship in vertebrate zoology, students must master the skills of stationary and field studies of animals, visual and acoustic identification of animals in nature, identification of animals by traces of vital activity ; skills in selecting material for analysis in the laboratory; the skills of determining and processing the material in the laboratory, the primary skills of taxidermy; the skills of working with the determinants of vertebrates and other zoological literature [4].

After analyzing the goals of field practices and comparing them with the goals of laboratory work in biology at the secondary school level, we can say that the continuity of skills being formed is very important for the development of research skills and competence (Table 1). For the correct teaching of biology at school, the teacher himself, first of all, must possess not only theoretical material, but also practical skills for working with natural objects.

*Table 1. Correlation between disciplines studied at the university and topics taught in the subject of Biology at school*

<b>The studied discipline at the university</b>	<b>Formed skills and competencies</b>	<b>Topics of laboratory work carried out at school</b>
Botany	The structure of a plant cell, features of plant tissues, anatomical structure of plant organs; Morphological structure of vegetative and generative organs of angiosperms; The process of studying the discipline is aimed at the formation of the following competencies – possess knowledge in the field of anatomy and morphology of plants; – to possess knowledge in the field of plant anatomy and morphology; – possess knowledge about the diversity of morphological forms of higher plants; -possess knowledge of the diversity of morphological forms of higher plants;	Laboratory work "Study of the internal structure of the stem." Laboratory work "Research of root zones". Laboratory work "Classification of plant tissues". Laboratory work "Determination of the distinguishing features of plant divisions: algae , bryophytes, ferns, gymnosperms and angiosperms" Laboratory work "Investigation of the characteristics of classes of monocotyledonous and dicotyledonous plants." Laboratory work "Methods of vegetative propagation of plants." Modeling "Comparison of terrestrial and aquatic ecosystems".
Zoology	–formation and students of a science-based system of knowledge about invertebrates; formation of skills and abilities to define , analyze and summarize facts; - Independently conduct excursions, observe animals in natural and laboratory conditions, set up	Modeling "Structure of nervous tissue". Laboratory work " Identification of plant and animal species (local region) using determinants." Laboratory work " The study of modification variability, the construction of a variation series and a curve." Laboratory work "Describing the main

	experiments. – know the location, relative position and projection of internal organs on the surface of the body; – basic techniques for studying each system, organs separately; – possess anatomical and morphological studies;	components of cells using photomicrographs"
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Thus, it can be concluded that the basic subject and research competencies formed in the process of studying fundamental disciplines will be used at school for providing laboratory work, modeling and writing scientific projects under the guidance of a biology teacher.

Among the biological expeditions, visits to plants are the most common. Since in most cases objects are developed in a specific location, they are known for their structural stability, ability to compare, and ability to conduct simple experiments and observations. While preparing for the visit, the teacher explores the area and finds suitable plants, which he can hope that during the trip, students will understand the physical and morphological characteristics and natural environment of this object.

Visiting plants was easier and more impressive for students, as there were many plant samples in a particular area, which allowed them to test and study the subjects each student encountered.

In parallel with classroom classes, excursions allow you to study in more depth and detail the diversity of environmental characteristics and objects, understand this diversity and establish the relationship of organisms with each other and with the environment.

For example, after visiting a tree, forest or park, students can understand the biological properties of plants at different levels, as well as the complex nature of the moving chain of tree species. Only in nature, students can see all objects and aspects in their totality, in a single whole, in development.

But this is possible only if the teacher carefully prepares for the trip, thinks over its content, offers accessible questions to students of the appropriate age, and selects objects that amaze with their biological characteristics. The trip was also important. Travel not only enriches students with new knowledge, but also develops the skills of independent work.

The visit should not turn into an introductory statement-the comments should be short, the conversation should be accompanied by a description of the relevant topics. This makes it easier for other students to ask questions.

There are many types of plant excursions, but acquaintance with the plant world begins with regular trips to the park, forest or garden. When students visit plant communities-forests, forests, lakes, forests, etc. through the continuous interaction between plant organisms and the environment, they gain a clear understanding of individual plants, how they view the environment and the plant world.

It is useful to give students an action plan before the trip, which will allow students to prepare specific tasks.

Each trip must be coordinated with the students with subsequent study in the classroom. During the trip, in a short time, students will get acquainted with a large number of materials that can be learned and added to the topic of the lesson.

When touring and collecting materials, follow the following rules:

1. work without a plan
2. check the correct execution, registration of payments and accounts
3. protect the environment without collecting many samples of plants
4. record the control results there
5. save all settings

The implementation of these rules will help the high efficiency of the tour and the use of resources in the educational process .

The updated educational content on the topic " biology " includes basic subjects in the form of exhibitions or laboratory classes, which can be held as excursions or combined with additional activities. The table below presents the basic principles of laboratory work on crop production in the curriculum of the faculty of biology.

Laboratory work and plant modeling in the school of biological sciences:

1. Laboratory work "Study of the local ecosystem (according to the model of the school territory)"
2. Laboratory work "Study of the internal structure of the stem".
3. Laboratory work " Classification of plant tissues ".
4. Laboratory work " Determination of the specific characteristics of plant sections: algae, hairy, Ferns, gymnosperms and angiosperms"
5. Laboratory work "Study of the characteristics of classes of monocotyledonous and dicotyledonous plants".
6. Laboratory work "Identifying plant and animal species (local area) through decision-making tools".
7. Laboratory work "Study of external factors: temperature, humidity and water pressure, air humidity, air movement in the stream".
8. Laboratory work "Study of internal processes: the location of the flow surface and the ratio of this surface to the volume of plants (cuticles, stomata) in the process of transpiration"
9. Laboratory work "Study of the content of photographic flowers in cells of various plants"
10. Laboratory work "Study of the effect of auxin on plants "
11. Laboratory work "Methods of plant nutrition " was carried out.
12. Laboratory work "Study of the structure of male and female germ cells" [5].

From the table above, we can see that most of the work was done in the first and fourth quarters, which makes it possible to identify objects in the environment during strong growth. By studying natural objects, a person is able to connect the acquired knowledge with real life and develop skills that are used in everyday life.

Teacher training has always been an urgent problem due to various changes, and changes occur due to the updating and addition of the school curriculum. The approaches used in biology teaching methods are directly related to the competencies and skills of future biology teachers, therefore, in order for a teacher to be qualified and prepared, it is necessary to pay more attention to the preparation of students during training and the formation of the necessary competencies. Field training exercises were also considered, since in practice students consolidate the acquired skills and develop the research abilities necessary for successful teaching at school. An important issue in the training of biology teachers is the concept of competence as a person's practicality, based on the need to develop research competence. After analyzing the curriculum of the school biology curriculum, write developed recommendations for the study of modules or academic topics directly related to the learning objectives required in laboratory work, modeling and school research projects under the guidance of a teacher. The adopted model of spiral learning, associated with the updating of educational material, contributes to the development of skills and functional literacy of students, paying special attention to the study of subjects such as cytology, ecology, botany, zoology, human anatomy and biochemistry.

An indicator of the quality of teachers is the ratio of teachers of the highest and first qualification categories to the total number of teachers of public full-time schools. The academic program helps to improve academic learning and provides a new influx of young professionals. Biology teachers should have the skills and competencies necessary to apply innovative teaching methods and evaluation methods in the educational process, perform standard laboratory procedures and use equipment to observe living organisms, demonstrate their properties, and apply biological

knowledge to solve qualitative and quantitative problems. They know the structure and functions of cells, types of tissues, organs, organ systems, features of reproduction and development of living organisms, they know the systematic theories of microorganisms, plants, animals. Have knowledge about their adaptation to environmental conditions, diversity and basic patterns of distribution, have knowledge about physiological processes in plants, animals, humans, biophysical and neurophysiological processes in the body, about types of phytopathology and preventive measures, as well as analyze the current state of the main modes of the most important evolutionary theories, concepts of natural science, assumptions and mechanisms microorganisms-macroeolution.

**Methods and materials.** In carrying out this research work, methods of analyzing a number of sources and legal acts were used. The content of the curricula of secondary education in the subject of biology was studied in the updated content of education [5]. The object of the study is teachers of the subject of biology in secondary educational organizations.

The following goal was formulated - to study how the acquired research competencies in the course of field practice while studying at the university helped in the future teaching career and achievements of both teachers and students. Presumably, those teachers who have effectively acquired the skills of scientific work or conducting experiments and visual demonstrations have more students' achievements and results at various scientific seminars, conferences, olympiads and competitions. However, the length of service, place of work and type of educational organization should be taken into account. In this case, since we are studying the research competence of teachers in our country, the place of study was not considered.

"Research ability" is one of the main categories. It includes such concepts as "science", "research" and "competence". As you know, this is still possible today. Effective use of the results of human creative activity for the further promotion of scientific and technological progress. because it is the driving force behind the development of the economy, technology, science, politics and society as a whole. Undoubtedly, the development of research skills is the key to success in any scientific field. [6] The ability for scientific research is realized only when the student works, it conducts and develops his research skills. Practical use of acquired knowledge, skills and abilities in the process of creating something new. [7]

**Result and discussion.** The survey involved 82 biology teachers from 335 schools of Zhetusy region. Of the bottom, more than 60% are teachers in secondary schools, 19 % are teachers in lyceums and gymnasiums, and 14% are teachers in private schools. In terms of seniority, 30 % of teachers with 20 or more years of experience and approximately the same percentage of teachers have less than 5 years of experience (Fig. 1).

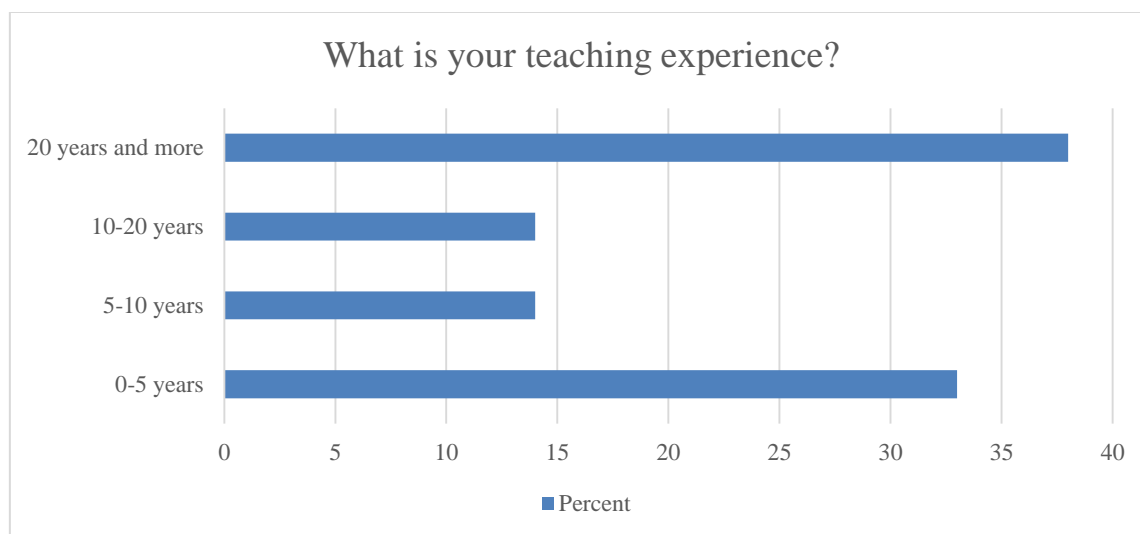


Figure 1. The indicator of work experience of the interviewed teachers

And also 15 % have experience from 5 to 10 years and the same number from 10 to 20 years, therefore, the share of young and more experienced teachers is the same and the smallest indicator in terms of the number of teachers with experience up to 20 years. According to the qualification level, 28 % are "teacher", more than 30 % have the category "teacher-moderator", 14 % of teachers are "teacher-researcher" and the smallest indicator is more than 1% "teacher-master". To assess the level of achievement of teachers, we asked to indicate the highest achievements over the past five years, therefore, this helped us assess the level of activity and participation in various competitions and olympiads. Every fifth teacher (20%) participated only in intra-school events, 24% have already competed at the city level in various competitions, 24 % and 33% participated in the regional and republican stages of various competitions, respectively (Figure 2).

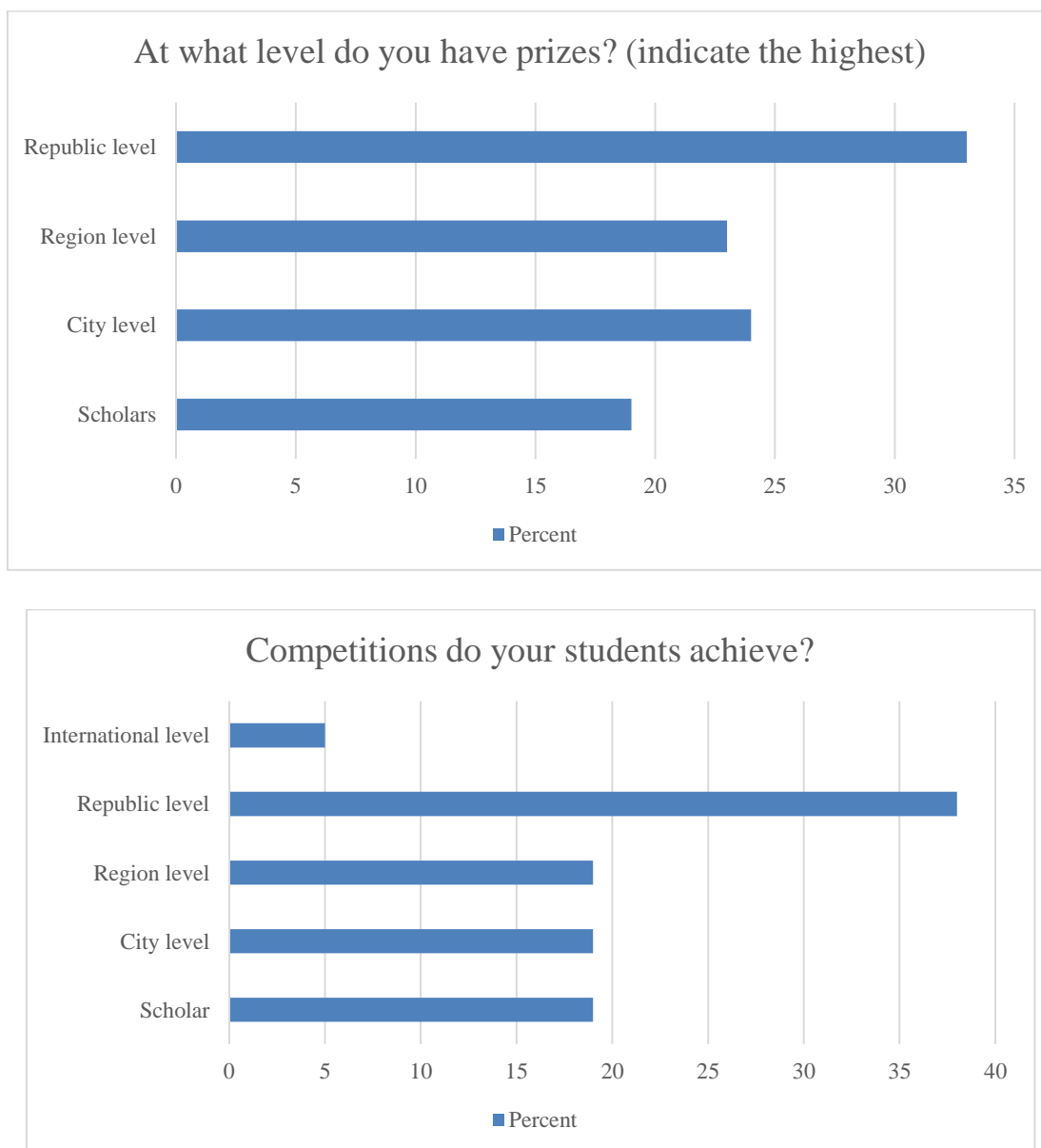


Figure 2. Teacher and student achievement levels

Further, in order to find out the level of preparation of students who were taught by biology teachers, we asked to indicate the highest level of olympiads, competitions and conferences in which the students of the interviewed teachers participated. Similarly to teachers, every fifth student participated only in the intra-school stage (20%), about 19% participated in district and regional



stages, 38 % of students participated in the republican level and less than 4% of students performed at the republican level. To the question “Have fieldwork practices and laboratory studies at the university been useful during your career?” more than 60% answered positively, about 30% indicated that it was a little, and only the remaining 10% answered that it was negative (Fig. 3). In terms of education, more than 60% have higher education at the bachelor's or specialist level, but the remaining 40% have a master's degree, there were no doctors or candidates among the respondents.

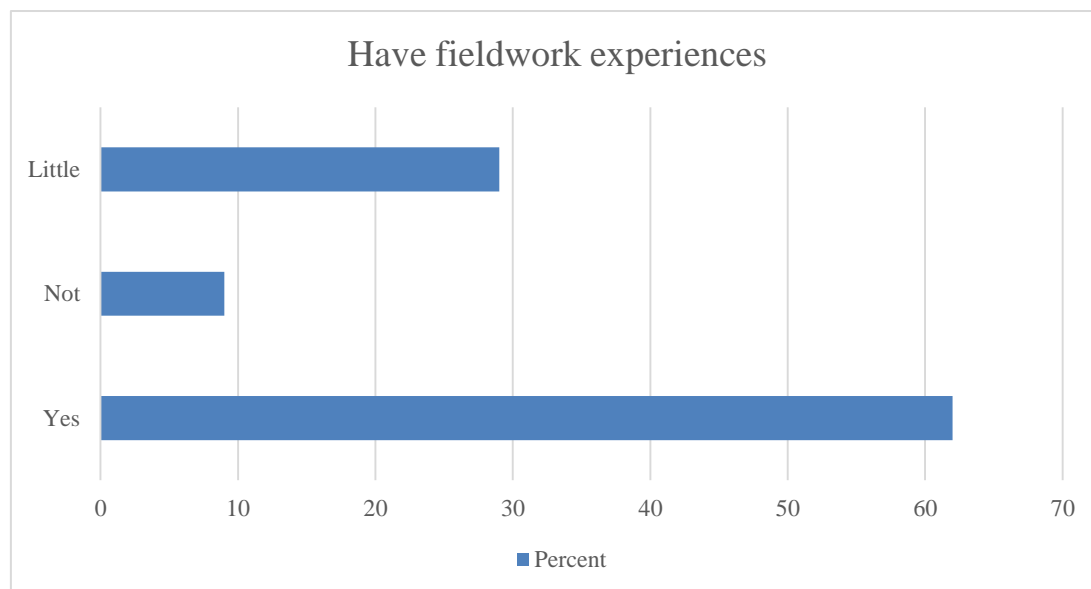


Figure 3. Evaluation by biology teachers of fieldwork and laboratory work

In the end, the teachers noted that they would like to take advanced training courses related to laboratory work, preparing students for the Olympiad and scientific conferences, and mastering lesson and action research methods.

In the formation of research or other competencies, the importance of the teacher and teaching methods in their works was noted by Aidarkhanova I.I. and KudaibergenovZh.M [8]. The importance of laboratory work in the formation of research competence and methods for assessing the knowledge of students are well described in the work of BostanovA.M. , Sattarbayeva A.T. [9], which is partly identical to the results of our work.

When analyzing the latest publications on the research topic, it was found that higher pedagogical education in Finland will give a special role to the methodology of teaching pedagogical and special disciplines at universities and recommends changing the content of education to meet the requirements of the market [10].

The benefits of many academic and methodologies in the field of practice can generally indicate that specialization in the area of practice is encouraged contributes to the development of studies of natural phenomena and research methods \_ it is very important for the teacher to run classes not only in classrooms, excursions and tourist school, but also in the activities of teachers of local history .

Specializing in field research methodology in nature will allow students to conduct scientific research in future biological subjects .

During field practice, students have the opportunity to get acquainted with the nature of different areas from the landscape and geographical point of view, combine knowledge gained during lectures and laboratory work, get acquainted with methods of collecting materials for collection, as well as learn to determine the nature of the interaction between the environment and plants.

Botanical field practice undoubtedly contributes to the acquisition of skills in natural and Natural History work, expanding and deepening the knowledge gained during lectures and laboratory courses in various botanical disciplines. By consolidating the knowledge gained, field practice forms the principle of correct behavior, respect for nature and the ability not only to appreciate beauty, but also the fragility of the entire ecosystem to which the person himself belongs.

During an internship in vertebral zoology, students receive stationary and field animal research, visual and auditory identification of animals in nature, identification of animals with traces of vital activity; material selection skills for analysis in the laboratory; material identification and processing skills in the laboratory, basic taxidermy skills; skills for working with animals.

After analyzing the goals of field practice and comparing them with the goals of laboratory work in biology at the high school level, we can say that the sequence of formed skills is very important for the development of research skills and qualifications. For the correct training in the school of biology itself, teachers must have not only theoretical materials, but also practical skills for working with natural objects .

Many articles and publications have been published on the passage of educational field practices in biological and biology-related sciences, however, I would like to note the works of Tyumaseva Z.I., Orekhova I.L. An integrated approach to organizing and conducting ecological and biological field practice of students [11] ,Eralieva M.Zh. The role of field practice in the formation of professional competencies among students of the specialty biology [12] , Myrzabekova S.S. Field practice in botany [13] , Shalamova T.V.,Miklyaeva M.A., Okolelov A.U. Improving the profess-sional and pedagogical orientation during the passage of educational introductory practice (in biology) [14] and Protasova E. S. Features of conducting educational and introductory practice (in biology) [15] which describe field practice from different angles and evaluate its role in the formation of research competence at a high level.

**Conclusion.** As we can see from the survey results, most teachers work in public schools and have experience of more than 20 years or up to 5 years, respectively, from this we can conclude that young and experienced teachers are found in schools in equal numbers, and teachers with little experience are less common, this may be due to the fact that many young teachers change their profession or go on maternity leave, and experienced teachers have been working in schools since the Soviet Union. According to the level of qualification , it turned out that the higher categories have fewer teachers than the lower qualification categories, therefore, not all experienced teachers have passed or are postponing the certification of teachers. According to the level of participation in the competitions of teachers and students themselves, the results turned out to be similar, therefore, if the teacher himself participates in various competitions, then he will be able to prepare students for participation in similar stages of the Olympiads and competitions, with the exception of teachers with experience up to 5 years – they themselves participated in Republican competitions and conferences, but students were mostly able to b brought only to the level of a city or district, this may be due to a lack of experience and knowledge of the methodology of teaching the subject. Then we noticed a pattern that those teachers who themselves participated in various top-level competitions and prepared students for regional and republican competitions agreed that the skills acquired during training in field practice and laboratory work turned out to be useful and necessary in their future careers. This may be due to the fact that research competencies and knowledge consolidated in practice were more often used and helped teachers achieve such results. In this case, practical experience has nothing to do with achievements , but the level of qualification is higher for those teachers who used the competencies and skills acquired during field practices and laboratory work turned out to be higher because the achievements of teachers and students turned out to be high. In conclusion, it can be said that field practice and laboratory work are very important in the formation of research competence among biology teachers, since the requirements for teachers are growing , it is recommended to pay great attention to field practice when compiling the curriculum at universities that train teachers.

Reference:

1. "Педагог" кәсіптік стандартын бекіту туралы. Қазақстан Республикасы Оқу-ағарту министрінің м.а. 2022 жылғы 15 желтоқсандағы № 500 бұйрығы.
2. Қазақ әдеби тілінің сөздігі. Он бес томдық. 10-том. / Құраст.: М.Малбақов, Н.Оңғарбаева, А.Үдербаев және т.б. – Алматы «Арыс» баспасы, 2009.
3. Хуторской А. В. Дидактическая эвристика. Теория и технология креативного обучения. — М.: Изд-во МГУ, 2003. — 416 с.
4. Воробьева А.В. Исследовательские компетенции современного школьника: сущность и содержание // Дискуссия. 2013. №3 (33). URL: <https://cyberleninka.ru/article/n/issledovatelskie-kompetentsii-sovremennogo-shkolnika-suschnost-i-soderzhanie> (дата обращения: 08.12.2022).
5. О внесении изменений в приказ Министра просвещения Республики Казахстан от 16 сентября 2022 года № 399 "Об утверждении типовых учебных программ по общеобразовательным предметам и курсам по выбору уровней начального, основного среднего и общего среднего образования"
6. Мукашева Д.М., Жексембиев Р.Қ., Кішібаев Е.А. «Зерттеу құзыреттілігі» ұғымының теориялық мазмұны. //Абай атындағы Қазақ ұлттық педагогикалық университетінің хабаршысы. «Педагогика ғылымдары» сериясы, №4(64), 2019 ж.
7. Ширишова И.А. Исследовательская компетентность как составляющая профессиональной деятельности современного педагога. //Научный Вестник Крыма, №2(7), 2017.
8. Aidarkhanova I.I., Kudaibergenova Zh.M. (2022) Sposoby i sredstva formirovaniya i razvitiya kompetentnosti u pedagogov iobuchayushchikhsya [Methods and means of formation and development of competence among teachers and students]. Pedagogicheskii zhurnal [Pedagogical Journal], 12 (3A), pp. 137-144. DOI: 10.34670/AR.2022.16.21.009
9. Бостанова А. М., Саттарбаева А. Т. Студенттерге ғылыми-зерттеу жұмыстарын жүргізу әдістемесін үйретудің педагогикалық негіздері (зоология пәні мысалында) //Іасауі ұниверситетінің хабаршысы. – 2022. – Т. 3. – №. 125. – С. 188-199.
10. Katarzyna Kärkkäinen, Päivikki Jääskelä, Päivi Tynjälä, How does university teachers' pedagogical training meet topical challenges raised by educational research? A case study from Finland, Teaching and Teacher Education, Volume 1 <https://doi.org/10.1016/j.tate.2023.104088>. (<https://www.sciencedirect.com/science/article/pii/S0742051X23000768>)28, 2023, 104088, ISSN 0742-051X,
11. Тюмасева З.И., Орехова И.Л. Комплексный подход в организации и проведении эколого-биологической полевой практики обучающихся //Вестник ВЭГУ. – 2018. – №. 3. – С. 115-124.
12. Ералиева М. Ж. Роль учебно-полевой практики в формировании профессиональных компетенций у студентов специальности биология //Вестник Казахского национального женского педагогического университета. – 2021. – №. 4. – С. 8-13.
13. Мырзабекова С.С. Прохождение учебно-полевой практики по ботанике //Приоритеты современной науки: актуальные исследования и направления. – 2021. – С. 407-413.
14. Шаламова Т.В., Микляева М.А., Околелов А.Ю. Совершенствование профессионально-педагогической направленности при прохождении учебной ознакомительной практики (по биологии) //Наука и образование. – 2022. – Т. 5. – №. 1. – С. 170.
15. Протасова Е. С. Особенности проведения учебно-ознакомительной практики (по биологии) //Наука и Образование. – 2020. – Т. 3. – №. 3.

Reference:

1. "Pedagog" kәсіptik standartyn bekіtu turaly. Qazaqstan Respublikasy Oqu-ağartu ministrinіń m.a. 2022 jylğy 15 jeltosandağy № 500 bұıryğy.
2. Qazaq әdebi tilinіń sөzdıgı. On bes tomdyq. 10-tom. / Qұrast.: M.Malbaqov, N.Oñğarbaeva, A.Üderbaev және t.b. – Almaty «Arys» baspasy, 2009.
3. Hutorskoi A.V. Didakticheskaiia evristika. Teoria i tehnologia kreativnogo obuchenia. – M.: İzd-vo MGU, 2003. – 416 s.
4. Voröbeva A. V. İssledovatelskie kompetensii sovremennogo şkolnika: suşnost i sodержanie // Diskussia. 2013. №3 (33). URL: <https://cyberleninka.ru/article/n/issledovatelskie-kompetentsii-sovremennogo-shkolnika-suschnost-i-soderzhanie> (data obraşenia: 08.12.2022).

5. O vnesenii izmeneni v prikaz Ministra prosveshenia Respubliki Kazahstan ot 16 sentäbrä 2022 goda № 399 "Ob utverjdenii tipovyh uchebnyh programm po obşebrazovatelnyim predmetam i kursam po vyboru urovnei nachälnoġo, osnovnogo srednego i obşego srednego obrazovaniia"

6. Mukaşeva D.M., Jeksembiev R.Q., Kırşıbaev E.A. «Zertteu qūzyrettiliġi» űġymynyñ teorialyq mazmūny. //Abai atyndaġy Qazaq űltyq pedagogikalıq universitetiniñ habarşysy. «Pedagogika ġylymdary» seriasy, №4(64), 2019 j.

7. Şırşova İ.A. İssledovatelskaia kompetentnost kak sostavlāiūşaiia professionālnoi deiatelnosti sovremennogo pedagoga. // Nauchnyi Vestnik Kryma, №2(7), 2017.

8. Aidarkhanova I.I., Kudaibergenova Zh.M. (2022) Sposoby i sredstva formirovaniya i razvitiya kompetentnosti u pedagogov i obuchayushchikhsya [Methods and means of formation and development of competence among teachers and students]. Pedagogicheskii zhurnal [Pedagogical Journal], 12 (3A), pp. 137-144. DOI: 10.34670/AR.2022.16.21.009

9. Bostanova A. M., Sattarbaeva A. T. Studentterge ġylymi-zertteu jūmystaryn jūrgizu ādistemesin űiretudiñ pedagogikalıq negizderi (zoologia pāmı mysalynda) //Iasaıy űniversitetiniñ habarshysy. – 2022. – T. 3. – №. 125. – S. 188-199.

10. Katarzyna Kärkkäinen, Päivikki Jääskelä, Päivi Tynjälä, How does university teachers' pedagogical training meet topical challenges raised by educational research? A case study from Finland, Teaching and Teacher Education, Volume 128, 2023, 104088, ISSN 0742-051X, <https://doi.org/10.1016/j.tate.2023.104088>. (<https://www.sciencedirect.com/science/article/pii/S0742051X23000768>)

11. Tūmaseva Z.İ., Orehova İ.L. Kompleksnyi podhod v organizasii i provedenii ekologo-biologicheskoi polevoi praktiki obuchaiūşihsä //Vestnik VEGU. – 2018. – №. 3. – S. 115-124.

12. Eralieva M. J. Röl uchebno-polevoi praktiki v formirovanii professionälnyh kompetensi u studentov spesiälnosti biologia //Vestnik Kazahskogo nasionälnoġo jenskogo pedagogicheskogo universiteta. – 2021. – №. 4. – S. 8-13.

13. Myrzabekova S. S. Prohojdenie uchebno-polevoi praktiki po botanike //Prioritety sovremennoi nauki: aktuälnye issledovaniia i napravleniia. – 2021. – S. 407-413.

14. Şalamova T. V., Mikläeva M. A., Okolelov A. İu. Soverşenstvovanie professionälno-pedagogicheskoi napravlennosti pri prohojdenii uchebnoi oznakomitelnoi praktiki (po biologii) //Nauka i obrazovanie. – 2022. – T. 5. – №. 1. – S. 170.

15. Protasova E. S. Osobennosti provedeniia uchebno-oznakomitelnoi praktiki (po biologii) //Nauka i Obrazovanie. – 2020. – T. 3. – №. 3.

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## ЖОҒАРЫ ОҚУ ОРНЫ БІЛІМгерлері Арасында Салауатты Өмір салты Шкаласын (WHOQOL-BREF-KAZ) Қолданысқа Ендіру

Аңдатпа

Бұл мақалада дене шынықтыру және спорт мамандығы білімгерлеріне Дүниежүзілік денсаулық сақтау ұйымының салауатты өмір салты шкаласының қазақ тіліндегі нұсқасының сенімділігін анықтап, студенттер арасында қолдану мәселесі зерттелген.

WHOQOL-BREF-KAZ шкаласы адамның психологиялық, әлеуметтік, денсаулық, дене жағдайы мен қоғамдық жағдайын анықтайтын 26 сұрақтан тұрады.

Зерттеу жұмысына Қожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университеті, Халықаралық туризм және меймандостық университеті және Қазақ спорт және туризм академиясында оқитын жалпы саны 474 (оның ішінде 290 ер бала, 184 әйел) респондент қатыстырылды.