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ACHIEVEMENTS OF BILINGUISMIC PRACTICE IN TEACHING BIOLOGY AND PROBLEMS SEEKING SOLUTIONS

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ABSTRACT:
This article provides information about the relevance of teaching natural sciences, the formation of students' natural-scientific literacy based on the practice of bilingualism in teaching biology, pedagogical experiments based on the CLIL method and their results.

Keywords: Bilingualism, CLIL, knowledge, skills, competence, integration, innovation, coherence, consistency, experience-testing.

Introduction

The head of our country has been paying special attention to school education for the past six years. Education is a matter of life and death. At the video meeting chaired by President Shavkat Mirziyoyev on October 30, issues of improving the education system in our country and accelerating the development of science were widely discussed. In particular, ensuring mutual harmony of school education and higher education was designated as one of the main goals. Each higher education institution, based on its priority areas, paid close attention to close assistance in improving the qualifications of school teachers. In order to ensure the implementation of these tasks, the faculty of "Natural Sciences" of Chirchik State Pedagogical University has been providing scientific and methodical support to teachers of chemistry, biology and geography of general education schools of Tashkent region, as well as pedagogical staff. This cooperation will greatly contribute to the further development of public education in the Tashkent region and increase the coverage of students in higher education.

At all the last meetings held by the President, the great task of creating the foundations of the third renaissance in our country was set. As they noted, it is the honorable duty of all citizens, including us pedagogues, to turn into a nationwide movement and realize their noble idea that the threshold of the new Uzbekistan begins at school. Also, improving the quality of education is one of the most important tasks today. In his speech, the head of state emphasized the need to create a methodology in schools that encourages students not only to memorize, but also to think. In this regard, the experience of Singapore was given as an example. This country is one of the most advanced in the world in natural sciences and mathematics. "The quality, content, and atmosphere of education will not change if the teaching methodology in the school does not change," said Shavkat Mirziyoyev.

The problem in schools is the low quality of education, the material and technical base, and at the same time, the training of specialists who have graduated from higher education is not up to the required level. Now the system of higher education, pre-school and school education works harmoniously.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan, Resolution No. PQ-5117 dated 19.01.2022 "On measures to bring the activities of popularization of foreign language learning in the Republic of Uzbekistan to a new level in terms of quality", Resolution of the President of the Republic of Uzbekistan Decision No. PQ-4805 of August 21, 2020 "On measures to increase the quality of continuous education and the effectiveness of science in the fields of chemistry and biology" gradually establishes specialized schools for in-depth teaching of chemistry and biology in our republic, develops professional educational institutions tasks such as connecting production enterprises, improving the quality of chemistry and biology education were set [1,2].

Theoretical analysis of these data allows to choose the strategy of formation of bilingual competence. In the context of this study, bilingualism is a systematic practice with the main goal of developing students' knowledge, skills and competences in biology and a foreign language in the organization of the educational process in a school environment where the language of instruction is not English.

When developing lessons, we followed the principles of interactive teaching methods, which served as an additional form of activation of educational activities. In order to achieve success as a result of students' cognitive activities, it is necessary to create a brief vocabulary of biological terms in English. In the future, the dictionary can be used for independent training of the student on a bilingual basis.

Pre-experimental preparation steps include:

1. Analysis of existing concepts on the formation of technical knowledge.
2. Study of comprehensive schools.
3. Development of the most optimal model of formation of students' knowledge and skills in biology classes in secondary schools.
4. Choosing methods of organizing classes with students.
5. Planning the use of information and electronic technologies during the experiment.
6. Analysis of opinions about the need for integrated education in teaching biology in secondary schools [5].

Research Method and Object

The object of research is the process of formation of students' biological knowledge and language competence in schools where the language of instruction is not English. The following were determined as research methods:

Theoretical-problematic-comparative analysis of philosophical, psychological-pedagogical, cultural, methodological literature on research problems;

Analysis of previously completed dissertation studies, theoretical modeling, personal analysis of the problem;

Analysis of results of experimental work

Empirical survey, survey, interview, test, self-esteem, expert assessment.

In order to fully understand the content of personality formation and development in the educational process, it is first necessary to have information about the main concepts such as personality, individual, formation, development, interactive and cooperative teaching and analyze them from a social, pedagogical-psychological and methodological point of view.

The obtained results and its analysis. Today, in the field of pedagogy, several teaching methods aimed at increasing the activity of students in the educational process have been developed: problem-based teaching, games representing work performance, role-playing games, thematic teaching, etc. But it cannot be said that they are widely used in our continuous education system. The reason for this is that the preparation for each exercise requires pedagogical research, high professional knowledge and skills, a creative approach to work, and a lot of time. Because each training development is unique and unrepeatable [4].

Experimental comparative studies were conducted on the basis of the 25th general secondary school of the Boka district of the Tashkent region. In accordance with the set of exercises developed for the formation of knowledge and skills at the initial stage of training, it became important to determine language competences and biological knowledge in an integrated manner.

Thus, two classes were selected for the study. Class 8-A was designated as an experimental class, and class 8-B was designated as a control class. At the beginning of the study, control tests were taken and analyzed in order to determine the knowledge indicators of students of these classes. The students of the experimental class were taught the science of man and his health, integrated with the English language, using innovative pedagogical technologies, audio and video lessons, presentations on topics, and handouts.

Methodological and didactic developments on the formation of students' natural-scientific literacy according to the program of experimental tests, as well as teaching-methodical manuals that determine the level of students' knowledge, skills, qualifications and scientific worldviews. it was planned to be evaluated based on the analysis of changes in its indicators. On the basis of theoretical acquaintance with the content of scientific researches, methodological manuals and recommendations created in the field of pedagogy and biology teaching methodology, practical experimental work was organized, the effectiveness of experimental work and mathematical-statistical analysis of the obtained results was developed. .

In the 2021-2022 academic year, 35 students participated in the research. The results of the experimental work in the selected class were compared with the values obtained at the beginning and at the end of the experiment in the experimental and control classes based on the criteria for determining the levels of natural-scientific literacy in students. The levels and quality indicators of natural-scientific literacy among students in the 2021-2022 school year are reflected in the following tables.

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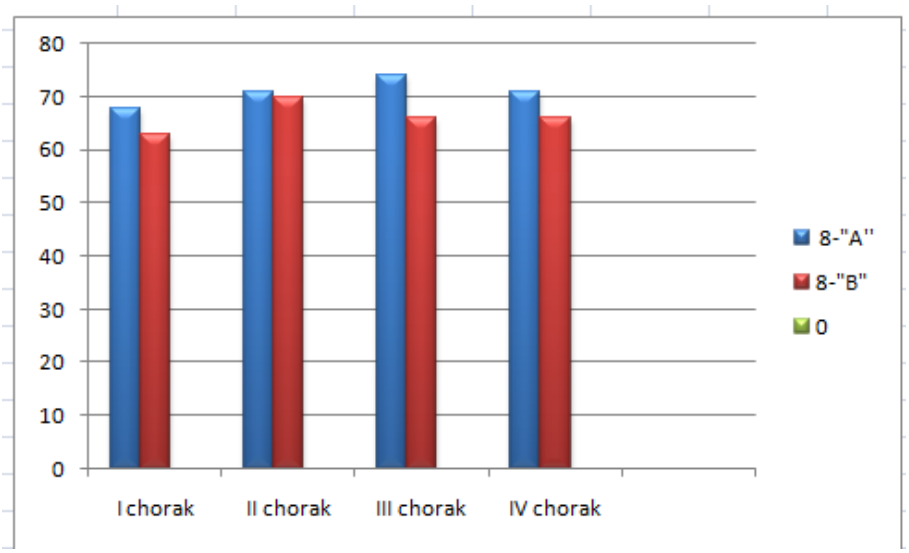
Effectiveness of pedagogical experience-test results

Table 1 Diagram of students' quality indicators in the I-IV quarters of the 2021-2022 academic year

Group criteria, experience first	Experimental group (N=31)				Control group (N=30)			
Level of development	Excellent (5)	Good (4)	Satisfactory (3)	Unsatis fied (2)	Excellent (5)	Good (4)	Satisfactory (3)	Unsatisfied (2)
I quarter	9	12	10	-	6	13	11	-
II quarter	10	12	9	-	7	14	9	-
III quarter	10	13	8	-	7	13	10	-
IV quarter	9	13	9	-	6	14	10	-
Arithmetic average value of degrees	4				3,9			
Efficiency coefficient	1,03							
Selective variance	0,58				0,51			
Mean values are standard errors	0,76				0,71			
Confidence interval of X	$4,76<X_T^*<3,24$				$4,61<X_T^*<3,19$			
Student statistics	T=0,25							
Statistical degree of freedom	K=50							
Criterion summary	H_1 hypothesis is accepted							



In the 2021-2022 academic year, 35 students participated in the research, and the results of the experimental work were based on the formation of research skills in the teaching of biology based on bilingualism in students, at the beginning of the experiment and in the control class. in comparison with the values obtained at the end, it was proven using statistical methods that the efficiency index of the experimental classes is 7% higher than the indicator of the control classes. The generalized results were compared according to the indicators obtained from the experimental and control classes, processed using the method of mathematical statistics (Student) criterion. The results and conclusions obtained during the experimental-testing period were formalized.

By applying the practice of bilingualism in biology lessons, a purposeful cooperation was established with general education schools engaged in pedagogical education, and the improvement of the effectiveness of education and training in general education schools was helped. Scientific research work was carried out on shortening the period of acquisition of professional skills of young specialists, ensuring integration, innovation, coherence, continuity, consistency in the field of pedagogical education. Teachers of general secondary schools were supported in educational and methodological aspects, and work was started to prepare students of this general school for the CLIL program. This led to an increase in students' natural and scientific literacy

Summary. The results of the research showed that teaching biology based on bilingualism in schools where the language of instruction is not English gives the following advantages to the educational system of Uzbekistan:

- Gain experience in bilingualism and rise to the world level.
- Expanding students' participation in international projects.
- Strengthening scientific relations with foreign partners.
- Increased access to natural and scientific information sources in foreign languages.
- Adjusting the quality of education in Uzbekistan to world standards.
- Gives students who want to study abroad the opportunity to learn two languages.
- To increase the number of educated and qualified specialists in Uzbekistan
- There is an opportunity to develop cognitive and creative potential of students.

In addition to the advantages mentioned above, the implementation of bilingualism in the educational system showed a number of problems that needed to be solved, and we encountered the following difficulties in the process of work:

• Inadequate foreign language knowledge of teachers;

• Some of the students know the language, can express their thoughts freely, and pronounce words correctly, while some of them do not know the language well and are not interested.

• Insufficient bilingual books;

• Such as the lack of time to teach science in two languages.

To overcome these difficulties, the following recommendations are made:

✓ providing biology textbooks in English and methodological, didactic manuals for teachers, electronic textbooks in English according to state standards, visual aids;

- ✓ development of an expanded dictionary of scientific terms from biology;
- ✓ start teaching the basic terms of science in the continuous education system and teach them perfectly from the 5th grade[6].

Instead of the conclusion, "Know all other languages, respect your own language!" i can say Because on the basis of bilingualism, the Uzbek language does not remain one of the two languages. The Uzbek language is the first, the main, the most important of the two languages. A multilingual person can think first of all in his native language, can analyze the diversity of cultures, no matter what environment he is in, no matter how many languages he learns, he does not forget or lose his language. This program requires skill and risk. It is natural that the first steps of any innovation are full of doubts and fears. To overcome it, we teachers must work together.

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