



Methodology For Developing the Skills Of Working With The Pisa In Future Biology Teachers

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Brief abstract.

This article discusses the problems and their solutions in developing the skills of future biology teachers to work under the international PISA program.

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In recent years, improving the quality and effectiveness of the education system in the country, forming modern knowledge and skills in kindergarten students, pupils and students, close cooperation between educational systems and the field of science and systematic work is being done to ensure integration, integrity, and continuity of education.¹

The Program for International Student Assessment (PISA) is a worldwide assessment of 15-year-old students' literacy in reading, mathematics, and science. It is administered by the Organization for Economic Co-operation and Development (OECD) every three years. PISA results are used to compare student performance in different countries and to identify areas where students need additional support.

PISA tasks are designed to assess students' ability to apply their knowledge and skills in real-world situations. Assignments are usually open-ended and require students to think critically and solve problems.

Some of the challenges teachers face when preparing students for PISA include:

¹ Decree No. PF-6108 of the President of the Republic of Uzbekistan on November 6, 2020 "On measures to develop the fields of education and science in the period of new development of Uzbekistan".



– tasks are complex and require students to have a deep understanding of the concepts being tested.

– assignments are often open-ended and require students to think critically and solve problems.

– tasks are designed to be socially neutral, which can make it difficult to adapt them to different educational systems.

Despite these challenges, there are ways teachers can help their students prepare for PISA:

– Giving students the opportunity to practice solving problems in different contexts.

– Helping students develop critical thinking skills.

– Teaching students to read and interpret complex texts.

– Provide students with access to resources that help them learn about the different cultures presented in PISA.

By following these steps, teachers can help their students develop the skills they need to succeed on PISA and succeed in the 21st century.

In addition, to work with PISA, future teachers should have the following skills to develop their skills and competencies:

Mastering the latest educational technologies and methods in practice: PISA data can be used to explore education systems and help them develop. Teachers should acquire new methodologies and apply them in tests, exercises and lessons.

Mastering the management of small groups and individual learning plans: PISA helps identify students' individual skills, abilities, and practical skills. Teachers should understand and manage the skills and learning styles of each student.

International connections and exchange of experiences: The PISA program helps teachers around the world to develop mutual relations. Teachers can find opportunities to share their ideas, experiences and skills with other teachers from around the world.

Design and integration of educational systems: PISA results provide guidance for teachers to develop and integrate the educational process. These results will be a key step for integrating the learning process.

Application to teaching skills and research: PISA data provide practice for future teachers and researchers. They can use this information to develop



methods of teaching, lesson development, improving students' knowledge, and developing collaborative work.

While working with PISA, there may be the following problems in developing the skills and competences of future teachers:

Preparing for international comparisons: International comparisons can be a problem for many teachers, especially when working with PISA. Understanding this program, learning its methodology and analyzing the results can be difficult for teachers.

Test design and preparation: PISA requires effective preparation and test design for teachers. These tests are very difficult and time-consuming to test students' practices and knowledge.

Understanding statistics: The PISA program includes many statistics to help teachers. These statistics can be difficult for teachers to understand and use.

Presentation and dissemination: Teachers may face difficulties in presenting PISA results to students, parents and other colleagues. Understanding, analyzing, and presenting this information properly should be effective for educators.

Implementation: Teachers may have problems in implementing PISA results. The use of information obtained from the results in the educational process, the creation of learning programs, and the mastery in practice can be important for teachers.

These challenges can be challenging for teachers and students, but they allow for the development of effective skills and competencies to achieve the goal.

The methodology for developing the skills of working with the PISA international program for future biology teachers may consist of the following processes:

Studying the PISA analysis: Future biology teachers should have a thorough understanding of the PISA test structure and test design principles. These analyzes help teachers identify their students' problems, knowledge, and skills.

Developing students' analytical skills: Future biology teachers need to know how to design and organize lessons that help students develop analytical and discussion skills. This includes teaching students to solve problems, relate information to educational presentations, and analyze.



Support for practical skills: Future biology teachers need to know how to help students master biology practical activities, laboratories, and curriculum. It helps students understand the principles of biology in practice and enhances their experiences.

Integrating teaching methods: Teachers should integrate working with the PISA international program into teaching methods. This involves making lessons practical by teaching students to conduct research, analyze data and present results.

Analysis and decision-making: Teachers should be able to analyze PISA results and use these results to help determine what curriculum changes they need to make. This is important for teachers to update their biology lessons and make changes in education.

Collaboration with other teachers: Teachers need to collaborate with other teachers in working with PISA. It helps teachers to share their experiences, change teaching methods and improve the quality of education.

In summary, these methodologies are the main steps teachers need to succeed in working with PISA. Teachers can use these methods to enhance the learning process, develop students' analytical skills, and improve the quality of education. Higher education institutions and research centers can also help establish programs, solutions, and partnerships to develop the skills of future biology teachers. These solutions are important for future biology teachers to succeed in PISA.

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