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**Application of new methods and forms  
of knowledge assessment in the geography curriculum**



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**Abstract.** *Introduction.* The organization of knowledge assessment in the learning process should take into account developmental characteristics and the specific importance of this process. *The purpose of the research:* to study new methods and forms of assessing students' academic achievements through formative, summative, and diagnostic assessments in line with the content strands and standards of modern geography textbooks. *Materials and methods:* a comparative analysis was conducted between modern assessment methods and traditional ones (prior to the reforms under the national education program), highlighting the differences between them. *Results.* The results show that traditional assessment systems are teacher-centered, while modern assessment approaches are student-centered. In contemporary evaluation systems, the main criteria for assessing students are knowledge, skills, and competencies. The main body of the study addresses the concept of assessment, its role in students' lives, and its contribution to their personal development. Students are evaluated at four levels (I, II, I II, IV) based on established criteria. As a result, the structure and significance of knowledge and skills assessment were determined. *Conclusion.* For the effective implementation of the assessment process, several recommendations and suggestions were proposed. Unlike traditional assessment, modern assessment encourages students to engage in research, as well as creative and analytical thinking. However, for the assessment process to be effectively organized and to meet modern educational requirements, a comprehensive approach to each subject in accordance with its educational standards is necessary.

**Keywords:** valuation concept; current price; final price; valuation programs; valuation concepts

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## Применение новых методов и форм оценки знаний в учебной программе по географии

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**Аннотация.** *Введение.* Организация работы по оценке знаний в процессе обучения должна быть организована с учетом особенностей развития и понимания особого значения этого процесса. *Цель исследования* – изучение новых методов и форм оценки учебных достижений учащихся с использованием формативной, суммативной и диагностической оценки в соответствии с содержательной линией и стандартами современных учебников географии. *Методы.* Сравнительный анализ современных методов оценки и традиционных методов (до реформ в рамках национальной образовательной программы) с выявлением различий между ними. *Результаты:* установлено, что традиционная система оценивания ориентирована на учителя, тогда как современная система оценивания ориентирована на ученика. Основным критерием для оценки учеников являются знания, умения и навыки. Ученики оцениваются по четырем уровням (I, II, III, IV) на основе установленных критериев. В результате была определена организация и значимость оценки знаний и навыков. *Вывод:* для эффективного использования организации процесса оценки были предложены несколько рекомендаций и предложений. В отличие от традиционного оценивания, современное оценивание побуждает учащихся к исследованию, творческому и аналитическому мышлению. Однако для эффективной организации оценивания и соответствия современным требованиям образования необходимо всесторонне подходить к каждому предмету в соответствии с его образовательными стандартами.

**Ключевые слова:** понятие оценки; текущая оценка; итоговая оценка; программы оценки; концепции оценки

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**Introduction.** Developing an evaluation system for the education sector in the Republic of Azerbaijan requires the creation of a system that meets modern educational standards and can accurately assess students' knowledge and skills. This system aims to support students' learning processes, track their development, and enhance the quality of the educational environment. In recent years, assessment programs have been used to measure the quality

of education. Assessment is the main tool for classifying students into different categories, influencing their choices in their future lives (Jimaa, Shihab, 2011).

Assessment programs in Azerbaijan's education system aim to objectively evaluate students' knowledge and skills, improve the quality of education, and support the development of teaching methods (Suleymanova, 2015). These programs are

applied across both general and higher education levels and encompass various stages. The State Examination Center is the main regulatory body for assessment and examination systems in education.

A number of didactic studies show that for students of all age groups, grades are considered the main motivation for preparation. In the lower grades, students tend to be disciplined in order to receive high grades, while by the third grade, students start learning for grades. This situation increases year by year. However, in higher grades, it decreases somewhat. Some individual students, regardless of whether they deserve it or not, try to get a “good” grade at all costs. In such cases, grades are primarily needed for them to establish a strong position in class and to demonstrate their power. It is essential to evaluate student knowledge assessments in order to measure progress, inform instruction and provide feedback that improves performance and enhances the teaching and learning experience (Alruwais, Zakariah, 2023). Later on, students get used to receiving high grades as a reflection of their knowledge. Only a small percentage of students are genuinely interested in education for the sake of acquiring knowledge (Hussein Togrolu, 2006).

**Methodology and Methods.** The research was prepared using decrees and orders of the President of the Republic of Azerbaijan regarding education, decisions adopted by the Ministry of Education of the Republic of Azerbaijan, and research conducted by local and foreign experts on the relevant issue. Electronic internet sources were also used. In order to study the main directions of research in this field, to examine the literature, and to verify the data, ChatGPT<sup>1</sup> artificial intelligence sources were also utilized. In addition, to analyze traditional and modern assessment methods comparatively, scientific research methods such as analytical and comparative analysis (comparative method) were applied.

**Research Results and Discussion.** As in many other sectors, significant reforms are currently being implemented in the field of education in the Republic of Azerbaijan. The main goal of these reforms is to improve the quality of education and ensure its development, taking into account the needs and demands of society. Quite in line with the effective schools' tradition, evaluation and assessment are seen as conditions that enhance effectiveness (Hendriks, Scheerens, 2014). In this regard, there has emerged a necessity to reconsider the factors that determine the quality of education, primarily the content of education, teachers' training, and assessment systems. The development of a new assessment system has been identified as one of the priority areas in the Education Sector Development Project<sup>2</sup>. Improving the teaching and learning process, obtaining objective information about students' achievements across the country, and carrying out monitoring of state education standards are presented as important tasks for the creation of modern assessment mechanisms. In our research, we provide examples of face-to-face assessment in schools, its forms, and benefits. However, after the COVID-19 pandemic, the online education system has also become a part of our education. We consider this assessment format as part of our education system and, more broadly, as part of the global education system. For example, during this year's COP-29 event held in our country, we transitioned to online education for 12 days. Several countries around the world have implemented online assessment, which has been increasingly integrated into education systems as a new assessment method (Onuh, Willington, 2022).

Azerbaijan's education system participates in several international assessment programs to align with global educational standards:

PISA: This assessment program evaluates the reading, mathematics, and science

<sup>1</sup>Azerbaijan journal of educational studies, volume 702, issue 1. 2023. <https://www.slideshare.net/slideshow/azrbaycan-mktbi-azerbaijan-journal-of-educational-studies-volume-702-issue-2023/264924997> utm\_source=chatgpt.com

<sup>2</sup> “Concept of Evaluation in the General Education System of the Republic of Azerbaijan” (Baku, January 13, 2009), электронное право, <https://e-qanun.az/framework/16061>.

knowledge and skills of 15-year-old students on an international comparative level. PISA measures students' ability to apply their knowledge in real-life situations.

TIMSS: This program evaluates the knowledge and abilities of 4th and 8th-grade students in mathematics and science. Through participation, Azerbaijan compares its education system with international standards and determines its developmental directions.

PIRLS: This program evaluates students' reading skills at the initial stage of primary education. Azerbaijan uses PIRLS to assess the level of development of students' reading skills at an early age. The implementation of the geography curriculum is accompanied by the emergence of numerous problems in the teaching process, and as a result, the importance of new content and activity changes in the work of geography teachers (Alxasov, Seyfullayeva, 2016).

The Ministry of Education of Azerbaijan also implements several programs to regulate and improve the assessment processes in the education system:

1. Evaluation of teachers' professional competencies: This program assesses teachers' professional development and teaching skills. Certification exams are conducted to evaluate teachers' knowledge levels and professional preparedness.

2. Subject Olympiads for students: These aim to evaluate students' knowledge and skills individually. Held at both local and international levels, these Olympiads provide students with opportunities to expand their potential. The analysis results of the students' Olympiads show that the tasks must meet the following requirements: to be different in form; to contain search problems; to reflect situations that require originality of thinking (Grevtseva, Litvak, 2018). In the context of digital transformation in education, electronic assessment systems are being developed in Azerbaijan. These systems facilitate a more

transparent and efficient assessment process. Formative assessment plays a significant role in modern education processes. These programs are designed to continuously assess students' knowledge during the learning period and monitor their progress. Assessment programs are conducted in various regions of Azerbaijan to monitor the quality of education. These programs aim to measure the level of teaching in educational institutions and identify challenges in this area. Assessment programs in Azerbaijan's education system serve the purpose of objectively evaluating students' knowledge and skills, improving teachers' professional levels, and enhancing the overall quality of education.

The President of the Republic of Azerbaijan has signed several decrees and orders to improve the assessment system, enhance quality, and implement reforms in the education sector. These documents aim to develop education, ensure transparency and effectiveness in the evaluation processes of teachers and students, and align the education system with international standards.

In 2013, President Ilham Aliyev signed the State Strategy for the Development of Education in the Republic of Azerbaijan, which ensures reforms and quality improvement across all levels of education<sup>3</sup>.

In 2019, a decree titled "Measures to Ensure Quality in Education" was signed, outlining specific actions to enhance the quality of education and improve assessment mechanisms<sup>4</sup>. In 2016, another decree focused on improving the assessment system for vocational education by introducing new criteria for evaluating the knowledge and skills of graduates from vocational education institutions. The State Examination Center, established by a decree in 2016, conducts university entrance exams and other assessment activities. Modern internal school assessment is divided into diagnostic, formative, and

<sup>3</sup> <https://president.az/az/articles/view/40215>

<sup>4</sup> <https://president.az/az/articles/view/35526>

summative types. Diagnostic assessment is the evaluation of students' initial knowledge and skills level at any stage of learning in a subject (Seyidova, 2024). In 2020, a presidential order was issued to further refine the assessment system in general education schools and expand measures for formative and summative evaluations of students' knowledge. This order introduced new methodologies for the continuous evaluation of students' knowledge.

The educational and assessment policies in Azerbaijan reflect national interests and necessitate the implementation of reform-oriented measures. The political, economic, and social changes worldwide in the late 20th century required the realization of the following specific goals:

- transition to more democratic governance methods;
- establishment of an open civil society in the country;
- ensuring effective cooperation with developed countries;
- creation of international market relations and competitive economic conditions;
- instilling a sense of national self-identity<sup>5</sup>.

By employing the aforementioned methodologies, a comparison was made between traditional and modern assessment systems. Differences between them were identified (Table 1).

**Comparison of Modern Assessment with Traditional Assessment**  
**Сравнение современной оценки с традиционной оценкой**

Table 1  
 Таблица 1

Traditional Assessment	Modern Assessment
Assessment was perceived as simply giving grades to students, and students studied only to receive grades.	Assessment is aimed at improving the quality of education and emerges as a key factor in its management. It ensures the acquisition of knowledge and guarantees the objectivity of the assessment.
It was applied only to a specific part of the teaching process.	It is applied to all stages of the teaching process.
The basic level of knowledge was assessed.	The student's achievements (acquired values) are assessed, and their development is systematically monitored.
Assessment standards were not available.	Assessment standards have been established to measure the level of mastery of content standards.

Traditionally, as the object of assessment of students' achievements, their acquired knowledge, skills, and habits are primarily considered (Zulfiyya, 2007). In the traditional education system, assessment is based on strict norms and standards that provide a clear and understandable system for checking knowledge. Traditional methods like standardized and summative assessments are noted for their

simplicity and wide acceptance, providing consistent metrics for measuring student achievement. However, they often fail to accommodate diverse learning styles and do not foster critical skills such as creativity and teamwork, which contemporary methods aim to address (Meylani, 2024). However, to achieve a more objective and comprehensive evaluation of students' progress, it is important to complement

<sup>5</sup> <https://e-qanun.az/framework/16061>



traditional methods with new approaches, such as formative assessment, project work, and

alternative forms of knowledge assessment (Table 2).

Table 2

### Comparison of Modern and Traditional Assessment

Таблица 2

### Сравнение современной и традиционной оценки

Traditional	Modern
1. The teacher explains the lesson using pre-prepared materials.	1. The student learns the lesson by developing cognitive, communication, and psychomotor skills.
2. A teacher-centered approach is applied. The teacher serves as the primary source of knowledge and the transmitter of information.	2. A student-centered approach is applied.
3. Lessons are mainly based on lectures and teacher-led methods. They are often theoretical in nature, with limited questions and discussions.	3. Lessons are based on project-based learning, group work, game-based learning, discussions, and the use of digital tools. They are interactive and allow students to actively participate in the learning process.
4. Students are primarily taught to memorize existing knowledge.	4. Encourages critical and creative thinking. Students are free to find their own solutions to various problems.
5. Technology is used in a limited capacity.	5. Technology has become an integral part of teaching.

It is common practice among authors to divide assessment into two groups. The first group includes factors that influence only the grading process and are explained as follows:

1. “Halo Effect” – This refers to a student’s reputation based on previous evaluations. Some students retain their earlier grades regardless of subsequent weaknesses (or strengths) due to their established position in the class. Such uniformity in the assessment process diminishes motivation in students and leads to a lack of objectivity in teachers.

2. “Co-effect” or collaboration effect – This occurs when students who achieve closer cooperation with the teacher or adapt to their expectations become favored and are thus awarded higher grades.

3. “Level Effect” – Students in weaker classes receive higher grades for identical

questions, while those in stronger classes often receive lower grades than they deserve. This can be attributed not only to the level of the class but also to the overall quality of education in secondary schools (Karaman, 2019).

The second group includes factors that artificially diminish the quality of students’ responses. These are:

1. “Connection Effect”.  
 2. “Emotion Effect” (Seyfullayeva, 2011).

Education reforms have introduced new norms for assessment, which differ significantly from traditional methods. The comparison between traditional and modern assessment involves the analysis of various aspects, such as objectives, methods, the role of the student, feedback, and the use of results. The main differences between them are as follows.

Table 3

**New standards of assessment**

Таблица 3

**Новые стандарты оценки**

<b>Traditional Assessment</b>	<b>Modern Assessment</b>
1. The main objective is to measure students' knowledge and skills through tests and exams. Often focuses on results and final grades.	1. Focused on maintaining and developing the learning process. It emphasizes not only results but also the development of students' competencies and skills.
2. Uses standardized tests, written exams, and quizzes. Methods are often static and do not consider different learning styles.	2. Includes a variety of methods such as project work, group discussions, presentations, and portfolios. These methods are more flexible and adapted to the needs of students.
3. Students play a passive role by completing tasks without actively participating in the process and accepting the grades assigned by the teacher.	3. Students actively participate in the assessment process, gaining opportunities for self-assessment and feedback to foster personal growth.
4. Feedback is usually limited to grades and comments given after the task is completed, often in a one-time manner.	4. Feedback is continuous and detailed. Teachers provide regular and constructive feedback, helping students understand where they need to improve.
5. Knowledge and evidence-oriented. Primarily measures what students have memorized and can repeat.	5. Encompasses all aspects of the learning process, including critical thinking, problem-solving, creativity, and collaboration.
6. Results are primarily used to assign grades and determine students' academic status.	6. Results are used to improve the learning process, adapt teaching methods, and help identify students' strengths and weaknesses.

Among the subjects taught in school, geography is chosen because it is more interesting and makes greater use of visual aids. The content of the subject provides a wide range of methodological opportunities for the application of these tools (Seidova, Takhirov, 2022).

“Evaluation should primarily create positive emotions for students. In active (interactive) teaching, the teacher should emphasize students' achievements rather than their mistakes, focusing more on support than punishment. The evaluation system is based on the principle of “There are no wrong answers, only different ones.” It is crucial that the teacher provides feedback like “Think again” or “This is an interesting idea, but our question is different”

instead of saying “You are wrong.” Regarding punishment, teachers should avoid aggressive consequences and instead convey both personal and class attitudes to the student, thus promoting a positive relationship”.

Finally, assessment is the process of observing students' learning and cognitive activities, as well as describing, collecting, recording, and interpreting information about the student to improve the quality of education (Shakirov, 2012).

**Conclusion.**

1. The current evaluation system assesses students' achievements quantitatively rather than qualitatively. As a result, students may not form a complete understanding of their own level. The existing system is based on

general standards, enabling objective results and consistent evaluation of students. This is especially evident in summative assessments, such as exams and final tests.

2. Evaluating students' achievements involves measuring the extent to which they have mastered the knowledge and skills learned, as well as how well they have achieved the lesson's objectives. This process aims to improve the quality of teaching and support student development.

3. The analysis of the current evaluation system shows that while it has certain advantages, attention must be given to improving some aspects. The violation of evaluation principles is linked to the lack of evaluation standards. The existing system, although it has certain advantages, requires a more comprehensive approach to meet the demands of modern education. A system that evaluates not only academic knowledge, but also creative, analytical and practical skills, will contribute more effectively to students' individual development and future success.

4. Modern evaluation methods help overcome the limitations of traditional evaluation and guide students toward more comprehensive, creative, and analytical thinking. Through these methods, students better understand their strengths and weaknesses, develop skills that will be necessary in real life, and become more motivated in the learning process. The application of modern evaluation methods has led to an increase in teaching quality and student achievements.

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