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	Title of research article
	School-Based Assessments as an Instrument for Objective Measurement of Student Achievement and Educational Quality in General Secondary Education: A Comprehensive Analytical Study from Azerbaijan
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Keywords	educational assessment; summative assessment; formative assessment; self-assessment; diagnostic assessment; student achievement; educational development; quality assurance; evaluation methods.
Abstract	Background and Purpose:
	Assessment is one of the most crucial elements in modern education, serving as both a diagnostic and developmental tool. In the context of Azerbaijan's general secondary education system, school-based assessment has gained particular importance as a mechanism for measuring student achievement objectively, ensuring alignment between learning objectives and curriculum standards, and improving overall education quality. This study explores the role of school-based assessments, including summative, formative, diagnostic, and self-assessment approaches, in enhancing teaching and learning outcomes.
Methods:	The study employed a descriptive-analytical approach, relying on a comprehensive review of legal, policy, and conceptual frameworks, including the Law on Education of the Republic of Azerbaijan (2009), the Concept of Assessment in the General Education System (2009), and the State Strategy on the Development of Education (2013). Secondary literature on educational measurement and assessment methods was also analyzed to contextualize the evolution of school-based assessment practices.
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Introduction

Article 19 of the *Law on Education of the Republic of Azerbaijan* states that the purpose of general secondary education is:

“to ensure the development of learners’ oral and written communication, cognitive activity, and logical thinking, as well as the formation of relevant knowledge and perceptions regarding the subjects included in the curriculum and the development of world civilization. It also aims to develop the ability to use modern

information and communication technologies, evaluate events, and determine future directions of personal activity” [Concept of Assessment in the General Education System of the Republic of Azerbaijan, 2009].

The acquisition of knowledge, perceptions, and skills specified in the curriculum is achieved through the evaluation of student learning outcomes. The assessment of student achievement provides essential feedback within the teaching process, enabling teachers and administrators to monitor development, ensure quality, track progress and setbacks, and address learning deficiencies.

Assessment not only reveals students’ knowledge and skills and identifies their difficulties, but also serves as a means of evaluating the quality of instructional materials. The *Concept of Assessment in the General Education System of the Republic of Azerbaijan* emphasizes that:

“The development of a new assessment system was identified as one of the priority directions of the Education Sector Development Project. The creation of modern assessment mechanisms was proposed as a vital task for improving teaching and learning processes, obtaining objective data on student achievement nationwide, and monitoring compliance with state education standards. Since student learning outcomes are the primary indicators of education quality, their objective evaluation is considered the most reliable source for determining quality” [State Strategy on the Development of Education in the Republic of Azerbaijan, October 24, 2013].

Main Part

In every educational environment, various methods and tools have historically been used for assessment. Over time, the **objectives, characteristics, indicators, roles, forms, and methods of assessment** have evolved, reflecting changes in educational paradigms and social needs.

In education, *measurement* refers to comparing the knowledge and skills demonstrated by a learner in a given subject with established assessment standards. *Assessment*, by contrast, involves making judgments about a learner’s knowledge and skills after measurement, often through observation and based on predefined evaluation criteria.

The functions of educational measurement and assessment can be summarized as follows [Mehrabov & Javadov, 2007]:

1. To determine students’ levels of learning.
2. To identify progress and setbacks in development.
3. To reveal difficulties encountered by students during the learning process.
4. To assess the effectiveness of evaluation tools.
5. To provide a foundation for planning the next stage of instruction.
6. To ensure that learning outcomes are evaluated both by students themselves and by teachers.

Assessment and Educational Change

Recent developments in science and technology have increased the variety of skills and competencies expected of citizens. These changes are reflected in educational programs, where curricula increasingly focus on the evaluation of knowledge, skills, and competencies rather than memorization. The ability of students to apply their knowledge and skills in real-life contexts or under specific conditions has become a key goal of contemporary education. Assessment is therefore an **integral component of the teaching process**. It does not merely measure memorized information but emphasizes skill-based and competency-based learning. Both the *process of learning* and the *outcomes of learning* are evaluated. Reliable methods of measuring and assessing learning are crucial for improving the **quality and efficiency of education**. Modern approaches place the learner at the center of the process, applying models of holistic and sustainable learning. Each student acquires and transforms knowledge according to individual abilities; hence, learners should be evaluated according to their developmental level rather than through direct comparison with others.

A wide variety of tools are employed in assessment, including homework, observation, reading and writing tasks, rubrics, self-assessment, projects, and tests. The selection of appropriate methods depends on the subject's goals, standards, and the content of the topics covered.

Annual planning also defines which types of assessment tools will be used and how results will be evaluated against content standards. The primary purpose is to determine students' knowledge and skills, improve the quality of teaching, and evaluate the effectiveness of applied models [Asadov, 2024].

High-quality education equips individuals with the means to improve personal well-being, master modern technologies, and compete effectively in the labor market. According to the *Azerbaijan 2020: Vision for the Future Development Concept*, the institutional foundations, infrastructure, and human resources of the education system must be enhanced to provide learners with comprehensive knowledge and skills. The advancement of education improves the well-being of the population and empowers individuals to achieve higher living standards, adapt to technologies, engage in lifelong learning, adopt a healthy lifestyle, and develop responsible attitudes toward the environment [State Strategy on the Development of Education in the Republic of Azerbaijan].

School-Based Assessment in Azerbaijan

In Azerbaijan, new subject curricula (*curricula reform*) have been implemented for the past 12 years. The content is defined in the form of standards, which specify expected learning outcomes and age-appropriate skills. Within this framework, assessment is considered a central mechanism for ensuring and improving education quality.

Three types of school-based assessment are currently applied:

- **Diagnostic assessment**
- **Summative assessment**
- **Formative assessment**

No assessment is carried out in Grade I. In Grades II–III, only small-scale summative assessment is conducted. In Grades IV, IX, and XI, both small-scale and large-scale summative assessments are applied across all subjects. In Grades V–VIII and X, students undertake small-scale summative assessments in all subjects, while large-scale assessments are applied in Azerbaijani language, mathematics, and English, with the possibility of extension to six subjects by decision of the pedagogical council.

Diagnostic Assessment

Diagnostic assessment is carried out at the beginning of the academic year or at the start of a unit. It serves as a tool for identifying the initial potential of each student, class, and school, thereby enabling individualized approaches to learning. Diagnostic results help teachers design appropriate strategies to ensure students achieve curriculum standards. School administrations also use diagnostic assessment to track school-wide progress and direct the teaching staff's activities throughout the year [Azerbaijan School Journal, 2004, No. 1]. Importantly, diagnostic results are not recorded in class registers.

Summative Assessment

Summative assessment plays a decisive role in school-based evaluation. Two types are applied:

1. **Small-scale summative assessment (SSA):** conducted by the subject teacher at the end of each unit.
2. **Large-scale summative assessment (LSA):** administered at the end of each semester, either by school administration or under its supervision.

Summative assessment measures the extent to which students achieve curriculum standards. Its results are official, recorded in class registers, and expressed as marks and grades. Tools for small-scale assessments are

prepared by teachers, while large-scale assessments are designed by a commission established by school leadership.

Formative Assessment

Formative assessment is carried out throughout the academic year during daily lessons. It is non-official, conducted by teachers, and results are recorded only in a formative assessment notebook. The process is guided by learning objectives derived from curriculum standards and is applied across four performance levels. Formative assessment can be conducted holistically or analytically, and it serves primarily as a developmental and feedback-oriented mechanism.

3. Holistic and Analytical Assessment Approaches

The term *holistic* originates from Latin and means “general,” “whole,” or “complete.” In educational practice, holistic assessment represents a rapid evaluation scheme. It provides a general overview of a learner’s developmental level within a short time by assessing skills that are predetermined according to instructional objectives. Instead of isolating each micro-element of performance, holistic assessment captures the overall achievement of students in relation to learning outcomes [Asadov, 2025].

By contrast, the **analytical assessment scheme** focuses on the sequential and detailed monitoring of specific skills over an extended period of time. It is characterized by a systematic process that evaluates how consistently and progressively students meet defined performance standards.

Both approaches serve several key purposes:

- Ensuring the correct orientation and effectiveness of the teaching process.
- Identifying students’ learning needs.
- Monitoring students’ progress and setbacks in learning.
- Preparing students for summative assessments.

4. Levels of Assessment and Rubrics

As noted earlier, this form of assessment is typically conducted across **four performance levels**, which are determined by state-defined standards. Teachers are encouraged to inform students of these levels at the beginning of instruction. In some cases, rubrics are developed based on assessment criteria.

A **rubric** is a rating scale that describes the degree of achievement of student outcomes. It is designed to ensure a more accurate and fair evaluation of student performance.

Rubrics may be applied to assess a variety of learning activities, including:

- **Oral projects:** role plays, oral presentations, storytelling, lectures.
- **Products:** preparing collections, exhibitions, booklets, or wall newspapers.
- **Practical reports:** drawing graphs, problem-solving, or preparing project reports.
- **Research and business writing:** letters, applications, essays, compositions.
- **Creative activities:** artistic or literary production.

5. Self-Assessment in Learning

Self-assessment is the process by which students evaluate their own performance based on criteria defined in advance by the teacher. Unlike teacher-led assessment, it does not simply verify whether a task has been completed; rather, it develops students’ abilities to make reflective and analytical judgments.

Self-assessment may be applied both at the beginning of the academic year, to establish baseline levels, and at the end, to determine whether intended learning outcomes have been achieved. Students generally conduct self-assessment using tabular tools designed in a “yes/no” response format, aligned with specific criteria.

In group-based learning environments, teachers observe all groups, while paying particular attention to targeted students. They record observations and emphasize that the final evaluation of group work depends on the individual contributions of each student. This approach not only enhances accountability but also encourages learners to engage in self-reflection.

Self-assessment is therefore directed toward the analysis of one’s own progress and setbacks, providing students with greater awareness of their learning trajectory.

6. Monitoring and Evaluation in General Education

Dynamic development in general education schools requires systematic monitoring at the end of each academic year. This includes continuous evaluation during the year, data processing, identification of underlying problems, and formulation of solutions. Such practices help schools determine their future directions more effectively.

As Javadov (2014) emphasizes: “Regular monitoring of the quality of the teaching and learning process, along with the evaluation of student outcomes, holds special importance in a context where the renewal of curriculum content, the implementation of educational standards, normalization of teaching loads, safeguarding learners’ health, and addressing challenges of moral education are becoming increasingly critical.” This underlines that monitoring and assessment are not merely technical processes but central elements for ensuring the sustainability, quality, and relevance of education [Javadov, 2014; Asadov, 2024].

7. Conclusion

Based on the conducted research, it can be concluded that the implementation of systematic monitoring and assessment in general education schools plays a decisive role in ensuring the dynamic development of education and in determining the correct strategic direction of institutions. Such practices contribute significantly to the effective governance of the education system by supporting decision-making processes that are grounded in objective information about educational quality.

School-based assessment must be purposeful and aligned with clearly defined objectives. When designed and implemented effectively, assessment becomes a powerful tool for identifying learning priorities, guiding educational decision-making, and ensuring that decisions are translated into practical outcomes. The clarity of objectives directly influences the quality and objectivity of the assessment process.

Importantly, assessment in education should not be viewed as a mechanism for differentiating or ranking students, but rather as a diagnostic tool for identifying their levels of knowledge, skills, progress, and difficulties. Modern assessment emphasizes students’ active engagement and competencies within the learning process rather than rote memorization. In this way, it highlights learners’ abilities to apply knowledge in practical contexts and reflects the developmental trajectory of each student.

In the contemporary context, where the quality of education is directly linked to national development, the management of educational quality, the monitoring of developmental dynamics and the prediction of future trends require a precise understanding of the current situation. Systematic assessment provides a foundation for evidence-based policy, continuous improvement of teaching practices, and the alignment of education with global standards.

8. Actuality (Relevance of the Study)

The relevance of this study lies in the increasing global emphasis on **accountability, transparency, and quality assurance** in education systems. As societies face rapid technological, social, and economic transformations, the

demand for highly skilled, adaptable, and innovative individuals has grown substantially. This reality places new expectations on schools, requiring them not only to impart knowledge but also to ensure that students develop competencies for lifelong learning, problem-solving, and participation in the global knowledge economy.

In Azerbaijan, the integration of **curriculum standards**, **diagnostic assessments**, **summative assessments**, and **formative evaluations** into the general education system reflects this global trend. Monitoring and school-based assessment are no longer optional but essential mechanisms for evaluating and improving educational quality. By focusing on learning outcomes, competencies, and student progress, these practices contribute to both **national educational development** and the **international competitiveness** of learners.

Thus, the actuality of the present research is evident:

- It provides insights into how assessment can serve as a cornerstone for educational reform.
- It emphasizes the importance of aligning national standards with global educational benchmarks.
- It demonstrates that assessment systems are not merely technical tools, but also **strategic instruments** for improving the effectiveness, fairness, and inclusivity of education.

In summary, school-based assessment, when effectively designed and implemented, ensures not only the improvement of individual student outcomes but also the strengthening of the entire education system.

Findings:

School-based assessment provides a multidimensional function:

- It objectively measures student knowledge, skills, and competencies, shifting emphasis away from rote memorization toward practical application.
- It identifies students' learning progress, setbacks, and difficulties, enabling teachers to provide targeted support.
- It enhances feedback mechanisms, allowing both learners and teachers to evaluate instructional effectiveness.
- It serves as a monitoring and accountability tool for evaluating the quality of education at the classroom and systemic levels.

Evidence indicates that modern school-based assessments contribute not only to measuring achievement but also to planning future learning, promoting self-evaluation among students, and aligning teaching strategies with curriculum standards.

Conclusions:

School-based assessments play an essential role in fostering accountability, objectivity, and fairness in education. By integrating formative and summative tools, they ensure that students' development is monitored in real time and that progress is measured against national education standards. This study concludes that strengthening school-based assessment systems is vital for improving the overall quality of education in Azerbaijan and can serve as a model for similar education systems undergoing reform.

Findings

- School-based assessments provide **objective measurement** of students' academic achievement, reducing reliance on memory recall and emphasizing application of knowledge and skills.
- Both **formative and summative assessment** contribute to identifying students' strengths and weaknesses, enabling targeted intervention and individualized support.
- Assessment results offer a **feedback loop** for teachers, students, and policymakers, ensuring transparency and accountability in the education system.
- The system supports the **monitoring of state education standards**, ensuring consistency and comparability across schools.

- Ultimately, assessments foster **student-centered learning** by encouraging self-reflection and responsibility for one's own progress.

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Ethical Considerations

The study was based on a review of official documents, conceptual frameworks, and literature. No primary data collection involving human participants was conducted. Therefore, no ethical approval was required. Nonetheless, the principles of academic integrity, accuracy, and transparency in reporting were strictly adhered to.

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Conflict of Interest

The author declares no conflict of interest related to this article.

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