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ABSTRACT

of the dissertation submitted for the degree of
Doctor of Philosophy

EDUCATIONAL ACHIEVEMENTS OF YOUNG SCHOOLCHILDREN THE SYSTEM OF WORK ON EVALUATION

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Applicant: **Konul Vagif Mikayilova**

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The dissertation work was carried out in the Department of "Theory and History of Education" of the Institute of Education of the Republic of Azerbaijan.


Scientific supervisor: Doctor of pedagogical sciences,
professor **Vidadi Jamil Khalilov**

Official opponents: doctor of pedagogical sciences,
professor **Hikmat Abdul Alizadeh**

doctor of pedagogical sciences,
professor **Shahla Gasim Aliyeva**

doctor of philosophy in pedagogy,
associate professor
Nigar Eldar Zeynalova

FD 2.15 Dissertation Council operating within the Supreme Attestation Commission, Azerbaijan State Pedagogical University under the President of the Republic of Azerbaijan


Chairman of Dissertation Council: doctor of historical sciences,
professor **Jafar Mammad Jafarov**

Scientific Secretary of the
Dissertation Council: doctor of philosophy in pedagogy,
docent **Malak Alislam Zamanova**

Chairman of the
scientific seminar: doctor of Pedagogical Sciences,
professor **Farrukh Abbas Rustamov**



GENERAL CHARACTERISTICS OF THE WORK

The actuality and the usage rate of the research work. The education system has always been oriented towards the spiritual enrichment of the personality based on democratic principles, creative and independent thinking, acquiring knowledge, skills and habits based on science and the national and spiritual values of the people. Evaluation in the education system is a process that determines the quality and effectiveness of education. This process ensures the improvement and continuous development of the education system by monitoring the implementation mechanism of educational standards and examining individual needs. In this regard, evaluation maintains its actuality in the entire educational sphere.

When discussing the relevance of the research, it should be noted that the “Education Reform Program of the Republic of Azerbaijan”¹, “General Education Concept in the Republic of Azerbaijan (National Curriculum)”², “Azerbaijan 2020: Look into the Future” Development Concept³, “State Strategy for the Development of Education in the Republic of Azerbaijan”⁴, “Strategic Roadmap for the National Economy Perspective of the Republic of Azerbaijan”⁵, and other normative legal documents require that the content of education be updated annually based on the requirements of the modern era. These requirements accelerate the process of integration of Azerbaijani education into the world education system.

The research work we present can be applied as a repository of information in identifying the problems and difficulties encountered in the integration process, as well as in eliminating them and

¹Education Reform Program of the Republic of Azerbaijan (June 15, 1999). URL:<https://e-qanun.az/framework/5363>

²“Concept of general education (National Curriculum) in the Republic of Azerbaijan”. URL: https://www.anl.az/down/meqale/az_muellimi/2010/iyun/122663.htm

³“Azerbaijan 2020: a vision of the future” Development Concept. URL: <https://e-qanun.az/framework/25029>

⁴State Strategy for the Development of Education in the Republic of Azerbaijan”. URL: <https://president.az/az/articles/view/9779>

⁵Strategic Road Map of the perspective of the national economy of the Republic of Azerbaijan. URL:<https://e-qanun.az/framework/27274>

understanding the needs, and also for measuring the effectiveness of the training process as an evaluation tool.

While discussing the relevance of research, it has been taken into account that the rapid development of scientific and technical progress in the 21st century, the diffusion of information and communication technologies, and the globalization of capital in the economy exert a significant influence on education, as they do on all other fields. New approaches are required for shaping the content of education involving academic and practical knowledge. These new approaches must ensure the integration of the education system and its adaptation to innovations.

We claim that the evaluation of learning achievements is directed towards setting new goals and stimulating development, aiming for learning to be active and interactive, as well as encouraging young schoolchildren to learn in a more personalized and effective manner.

One aspect that conditions the relevance of research is the failure to address weak assimilation of topics and sections covering content standards in the teaching process, which negatively impacts academic achievements. As evidence, it is possible to note the results of the Progress in International Reading Literacy Study (PIRLS), carried out by the International Association for the Evaluation of Educational Achievement over a period of five years, for the purpose of assessing the reading comprehension skills of fourth-grade students. Namely, in 2011, Azerbaijan ranked 37th among 45 countries with 462 points, in 2016, 39th among 50 countries with 472 points, and in 2021, 35th among 55 countries with 440 points⁶.

The failure to address the lack of understanding in sections and topics covering content standards in the educational process also paves the way for parents to collectively resort to tutors in the primary education level⁷. This also influences the regularity of attendance at school, the effectiveness of education, and the family budget.

⁶ IEA's Progress in International Reading Literacy Study - PIRLS 2021. Downloaded from <https://pirls2021.org/results>

⁷Fantastic tutoring prices in Azerbaijan.URL:<https://konkret.az/azerbaycanda-fantastik-repetitorluq-qiymetleri-cedvel/>

In the primary education level, the “Assessment of Learning Achievements” (ALA) model is introduced as a new mechanism in addressing such issues.

The scientific-pedagogical and psychological literature has been reviewed based on the degree of research utilization. The views of researchers Y.R.Talibov, Y.Sh.Kerimov, A.A.Alizadeh, A.S.Bayramov, A.A.Agayev, A.O.Mehrabov, A.Kh.Pashayev, H.A.Alizadeh, A.N.Abbasov, F.A.Rustamov, R.I.Aliyev, H.H.Ahmadov, A.M.Abbasov, I.A.Javadov, and E.B.Baylarov have been referenced on the issues. Works of foreign researchers such as L.S.Vygotsky, Y.K.Babansky, M.N.Skatkin, D.B.Elkonin, Sh.A.Amonashvili, A.G.Asmolov, B.Bayber, E.A.Golubeva, I.Y.Lerner, D.Jenkins, L.D.Kronbakh, and D.Nevan have been included in the research.

Research from international assessment studies such as ISO 29990 Education Services, ISO 9001 Quality Management System, CEFR, AQA Standard, CAEP Standard, PISA, TIMSS, PIAAC, ICCS, TALIS, ICILS, etc., has been investigated.

According to the degree of research utilization, analysis has been conducted on the state standards of general education in developed countries such as the USA, Germany, Switzerland, Great Britain, France, Japan, and in the developing region countries such as Turkey, Russia, Kazakhstan, as well as on the evaluation standards DeGEval of Germany, SEVAL of Switzerland, UKES of Great Britain, and SFE of France.

In the research conducted by the Institute of Education of the Republic of Azerbaijan in 2023 on the degree of research utilization, existing problems have been identified in the study titled “Internal School Assessment: Digitization of Formative Assessment”.⁸ Based on the results of the research, 98.7% of teachers have confirmed the continuous monitoring of the learning process during teaching, as well as the use of formative assessment to regulate students' learning

⁸In-school assessment: Digitizing formative assessment.<https://arti.edu.az/2023/06/24/m%C9%99kt%C9%99bdaxili-qiyam%C9%99tl%C9%99ndirm%C9%99-formativ-qiyam%C9%99tl%C9%99ndirm%C9%99nin-r%C9%99q%C9%99msallasdiril-masi-2/>

process. However, the response of teachers to the question 'How do you conduct formative assessment?' has been general, with 59% of teachers evaluating the effectiveness of formative assessment positively, and 27% rating it as excellent. This also corresponds with the results of our current research.

The object of the research is the education process of young schoolchildren.

The subject of the research is the organizational system for assessing the educational achievements of primary school children.

The aim of the research is to determine the scientific and pedagogical principles and mechanisms for evaluating the educational achievements of primary school students, to propose possibilities and methods for evaluating educational achievements, and to advance and substantiate applied technologies.

The objectives of the research.

- to determine the essence of assessing educational achievements in primary school students, to investigate the organization and development history of assessment, to analyze the problem in scientific-pedagogical literature, and to study the current situation in schools related to the problem.

- to examine the problem within the framework of state educational standards and assessment criteria, to propose principles, and to identify pedagogical, psychological, physiological, and sociological factors influencing educational achievements.

- to theoretically substantiate the "Assessment of Educational Achievements" model, to explain the application technologies of formative assessment based on the AEA model.

- to examine the effectiveness of ways of assessing educational achievements of primary school students in the process of experimental work.

Research methods.

1. Using theoretical research methods, decisions of the state regarding education, scientific literature, methodological resources, conferences, seminars, training, and electronic resources related to research are analyzed. Through induction, causal relationships bet-

ween events have been established, and through deduction, rational conclusions are generalized from specific to general facts.

2. Observation, test, questionnaire survey, interviews, and pedagogical experiments have been conducted as empirical research methods.

Observation. The purpose was to gather information on the use of formative assessment methods and tools by the teacher in the teaching process. These data have facilitated the derivation of results in conjunction with other research methodologies. The observation was conducted in the 3rd and 4th grades, involving schools numbered 7, 12, and 18 in Baku city, schools numbered 24, 26, and 49 in Aghdam city, and school number 20 in Shusha city.

Test. The aim was to assess the knowledge and skills of primary school students related to acquired content. Tests covering city and district schools have been prepared at a moderate difficulty level. When preparing the tests, the questions at the beginning of the test were based on simple exercises related to the topics they belong to, while the questions at the end of the test were presented as relatively difficult exercises related to the topics they belong to. The tests covering the Azerbaijani language and mathematics subjects consisted of 10 questions for the second grade and 12 questions for the third and fourth grades. The examination tests covered a total of 431 students from the 2nd, 3rd, and 4th grades of schools numbered 20 in Shusha city, 3 in Khojali city, 2 in Gubadli city, 87 and 25 in Kalbajar city, 24, 26, 49, 68, and 150 in Aghdam city, 18 in Sumgait city, and 7, 12, 18, and 32 in Baku city, as well as in Mingachevir, Ganja, Shaki, and Sumgait cities.

Questionnaire survey. Questionnaire surveys have been used to learn about the current situation, identify the problem, and verify the accuracy of the results. In the questionnaire surveys, the first block of questions aimed to gather information about the respondents, the second block of questions aimed to reveal information about the research topic, and the third block of questions aimed to verify the accuracy of the obtained data. The questionnaire surveys were structured based on closed and open-ended questions. Closed questions were presented based on dichotomous (yes, no) and Likert (strongly agree, agree, neutral, disagree, strongly disagree, have difficulty answering) type

responses. The questionnaire survey covered 206 parents, 98 teachers, 6 school principals, and 118 students from the fourth grade.

Interview. The results of the interview with elementary school teachers on how to eliminate weak adoption in topics covering content standards have contributed to understanding the current situation related to problems. 21 primary school teachers participated in the interview.

Pedagogical experiments. During the exploratory phase of the experiment, the current situation was identified; during the instructional phase, the “Assessment of Educational Achievements” (AEA) model was implemented, and during the supervisory phase, the results of the model-based work system were determined. Schools 179 and 246 of Baku city participated in the experiment.

3. Using mathematical research methods, a research model was created, data accuracy was verified, comparative and statistical analyses were conducted using SPSS and Excel programs, and factors and events were evaluated.

Basic theses for defence.

1. Assessment of educational achievements can improve the effectiveness of teaching by adjusting the feedback between teachers and students.

2. Assessment of physiological, psychological, and sociological factors in addition to pedagogical factors in the teaching process can have a positive impact on educational achievements.

3. Ensuring the mutual relationship between the assessment of knowledge and skills in primary classrooms and self-assessment can enhance the innovative activities of both the teacher and the student.

4. The “Assessment of Educational Achievements” (AEA) model can ensure the proper direction and development of education.

The scientific novelty of the research lies in the establishment of the scientific-pedagogical principles and mechanisms for assessing the achievements of primary school students, as well as the preparation of the “Assessment of Educational Achievements” model, and relevant proposals have been put forward for the implementation of formative assessment technologies.

The theoretical significance of the research consists of the principles of assessment educational achievements, the system of work on evaluation technologies, and the 'Assessment Model of Educational Achievements' as a new approach.

The practical significance of the research is that the technology of the model “Assessment of Educational Achievements” is a source of experience for future researchers, and the assessment tools and instruments proposed in the study are a database for school teachers and those who wish to specialize in this profession.

Approbation of the research. The content of the dissertation, scientific ideas, and findings have found their reflection in the journals determined by the Higher Attestation Commission under the President of the Republic of Azerbaijan. In the research work, 11 scientific articles (1 abroad), 10 theses in national and international conference materials (1 abroad), and 1 methodological recommendation have been published.

Application stages of the research. In the first stage (2015-2016) - existing scientific-pedagogical literature, state documents on the problem were analyzed, and theoretical problems were generalized. In the second stage (2016-2017) - to study the existing situation on the problem, tests, surveys, observations, interviews were conducted in primary classes. The collected data were processed, the accuracy of the information was verified, and the tests and survey questionnaires were analyzed. In the third stage (2017-2018) - a pedagogical experiment was conducted to evaluate the effectiveness of training assessment mechanisms and proposed innovations. In the first stage, monitoring the adoption process of content standards, identifying difficulties during the application of formative assessment, in the second stage, the implementation of the instructive experiment according to the “Assessment of Training Achievements” (ATA) model, in the third stage, generalization of pedagogical experiment data was carried out. In the fourth stage (2018-2024) - changes, innovations, and results obtained in the field of assessment by national and international education organizations (UNESCO, World Bank, OECD) have been generalized. The name of the organization where the dissertation work was performed: discussed in the Department of

“Theory and History of Education” at the Institute of Education of the Republic of Azerbaijan, presented for public defense.

The total volume of the dissertation with a sign indicating the volume of the structural sections of the dissertation separately. The dissertation consists of an introduction, three chapters, 10 paragraphs, a conclusion and a list of references. Introduction – 7 pages, 13062 marks, Chapter I – 54 pages, 78032 marks (1.1. – 12 pages, 18837 marks; 1.2. – 14 pages, 26165 marks; 1.3. – 16 pages, 23916 marks; 1.4. – 12 pages, 9114 marks), II chapter – 48 pages, 73802 marks (2.1. – 17 pages, 38835 marks; 2.2. – 27 pages, 30575 marks; 2.3. – 4 pages, 4392 marks), III chapter – 31 pages, 34917 marks (3.1 – 5 pages, 5133 marks; 3.2 – 15 pages, 17994; 3.3. – 11 pages, 11817 marks), the result consists of 2 pages, 3095 marks, the list of used literature consists of 12 pages, the total volume of the dissertation consists of 156 pages, 202908 marks.

MAIN CONTENT OF THE RESEARCH

The first chapter of the dissertation is titled “The Scientific and Pedagogical Foundations of Assessing the Educational Achievements of Young Schoolchildren”. Chapter 4 consists of four subsections.

The first subsection is titled “The Nature of Assessing the Educational Achievements of Young Schoolchildren”.

When we talk about the nature of assessing the educational achievements of young schoolchildren, the main, fundamental, and determining aspects are considered. That is, the term “nature” refers to “the main, fundamental, and determining side of the object and indicates the developmental tendencies of the object”.

The nature of assessing educational achievements investigates causal relationships between theoretical and practical operations, because nature and events may not always correspond. For example, when observing a classroom from outside, the image of the teaching process taking place is perceived, which is an event. But the real nature is how that teaching is implemented.

Assessing educational achievements is a process that determines the degree of conformity of obtained results to planned objectives. This process strengthens the relationship between the teacher and the learner, provides more effective educational opportunities, prevents students from falling behind during the academic year, and ensures continuous and dynamic evaluation of the student. It aims to ensure that students acquire content standards in sections, adapt content standards to age and developmental levels, and identify deficiencies in the process.

Generalized result: The nature of assessing the educational achievements of young schoolchildren lies in the fact that student capabilities are learned, the acquisition of content standards by subjects and sections is determined, and the improvement of the teaching process is ensured. Assessment technologies provide the necessary feedback among all these processes.

The second paragraph is titled “The Formation and Historical Development of Assessment”. The issue researched in the paragraph has been studied through the following stages:

Verbal Assessment: In Azerbaijani folk pedagogy, we often come across forms of verbal assessment for encouragement and punishment. Individuals were encouraged based on their intelligence, wit, and bravery. In the epic “The Book of Dede Korkut”, for his bravery, Dede Korkut gives a young man a name, stretches his stature, and praises him. In folk assemblies, defeated poets would gift their musical instrument to their peer after losing a verbal duel. During the 13th-14th centuries in Azerbaijan, about 12 madrasahs operated near mosques, where high-achieving students were verbally assessed or awarded the Quran as a prize.

Assessment Based on a Grading Scale: For the first time in pedagogical science in Azerbaijan, Muhammad TaghiSidgi implemented a grading system in 1892 at the “Axtar” school, which he founded and led in the city of Ordubad. Following a decision by the USSR Council of People's Commissars in 1935, a five-point grading system was implemented in Azerbaijan, with grades from 1 (very poor) to 5 (excellent).

Modern Assessment Technologies: The “National Assessment Concept of General Education in the Republic of Azerbaijan”, appro-

ved in 2009, implemented assessment across four levels, and from 2018, a 100-point scale began to be used.

International Network in Assessment Research: Azerbaijani schoolchildren at the elementary education level first participated in the PIRLS assessment studies in 2010. The PIRLS assessment project, conducted every five years to evaluate reading literacy, includes levels 1^a, 1b, 2, 3, 4, 5, and 6.

Generalized Result: Based on the research conducted, the formation and historical development of assessment have evaluated learners' knowledge and skills verbally, through a five-point scale, and levels I, II, III, and IV. Currently, in the process of integrating Azerbaijani education into the global education system, 100-point grading scales are used, similar to those in countries like Turkey, Indonesia, Canada, Austria, India, the USA, and others. International educational experience in assessment allows for comparing education systems of different countries and determining international standards in education.

The third paragraph is titled “The Placement of the Problem in Scientific Pedagogical Literature.” The placement of assessment in scientific-pedagogical literature involves the study, analysis, and investigation of solutions to the problem, based on research by experts in the field. These studies provide information based on the resolution of existing problems and the analysis of research areas. Systematic research and analysis of assessment in scientific-pedagogical literature have been conducted in three directions:

- A. Traditional assessment theory.
- B. National assessment theory.
- C. International assessment theory.

Summarized results: The analysis of traditional, national, and international assessment theories in scientific-pedagogical literature is reflected in the following table (table 1.3.1.).

Table 1.3.1
Theories of Assessment

A. Traditional assessment theory	
Advantages	Disadvantages
-Traditional assessment	-Current assessment relied on the

Followed by Table 1.3.1

<p>methods can accurately measure knowledge and skills on specific topics.</p> <ul style="list-style-type: none"> - Allows for the assessment of academic literacy. 	<p>subjective opinion of the teacher and sometimes led to formalism.</p> <ul style="list-style-type: none"> - It is only applied in a certain part of the teaching process. - Assessment standards are not available.
B. National assessment theory	
Advantages	Disadvantages
<ul style="list-style-type: none"> - Assessment contributes to the improvement and enhancement of the quality of education. - It is implemented at all stages of the teaching process and determines the quality of the comprehensive adoption of content standards. - The development of student achievement is systematically monitored. - Assessment standards have been established to measure educational outcomes. 	<ul style="list-style-type: none"> - National assessments may result in lower outcomes for some regions and schools due to limited resources, leading to disparities in results between schools and increasing inter-school inequality. - National assessments can sometimes lead to curriculum narrowing, as teachers and schools may tend to focus on specific topics to achieve better results in assessment tests. - National assessments involve students in numerous tests and exams, which can lead to student fatigue and stress.
C. International assessment theory	
Advantages	Disadvantages
<ul style="list-style-type: none"> - International assessment programs in education are used to compare the achievements of 	<ul style="list-style-type: none"> - International assessment programs do not fully consider the diverse cultural, social, and economic contexts of countries. This results in weak assessments of some countries' and regions' education systems. - International assessment programs create

Followed by Table 1.3.1

<p>students from different countries and to evaluate education systems.</p>	<p>pressure for national education programs to align with the tests. This reduces the diversity and distinctiveness of the education system.</p> <ul style="list-style-type: none"> - Participating in or implementing international assessment programs requires financial resources. This creates difficulties for some countries and education systems.
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The fourth paragraph is titled 'Study of the current situation regarding the problem.' The purpose of studying the current situation related to the problem is to identify difficulties based on collected information, learn about problems through analysis, and propose alternative solutions.

The problem has been studied based on the following research questions:

- How do teachers utilize formative assessment?
- How are weak understandings in discussions and sections addressed?
- Which directions do the current problems encompass?

As the research is quantitative and qualitative, the results are based on logical and statistical indicators.

Data collection method: Based on the mentioned research questions, observations were conducted in primary classes (10 classes), interviews were conducted with teachers (21 teachers), surveys were conducted with primary school teachers, and test verification activities were conducted in language and mathematics subjects for grades 2, 3, and 4 (13 schools in cities and districts, 431 students).

Data analysis: The collected data was analyzed using EXCEL and SPSS programs.

Generalized results: Based on the conducted research, the following positive aspects can be noted:

- New assessment technologies allow for monitoring and controlling the development and progress of students.
- Assessing learning and assessment through both small and large summative means ensures transparency and objectivity.
- Small and large summative assessment fosters a healthy competitive environment among students.
- In group and pair work processes, students establish relationships and empathy with each other, taking responsible approaches to group assessment.

In addition to the positive aspects, the following negative aspects can be identified based on the research conducted:

- Primary schools use verbal assessment, 5-point assessment, assessment based on levels I, II, III, and IV, and electronic assessment based on a 100-point scale.
- During the assessment of teaching skills, it was found that weak understanding of topics is not addressed because the mechanism for implementing formative assessment is not properly executed. As a result, students who perform well in grades I-II of the primary education pillar exhibit average performance in grade III and weak performance in grade IV. Therefore, parents are forced to resort to tutors for primary education.

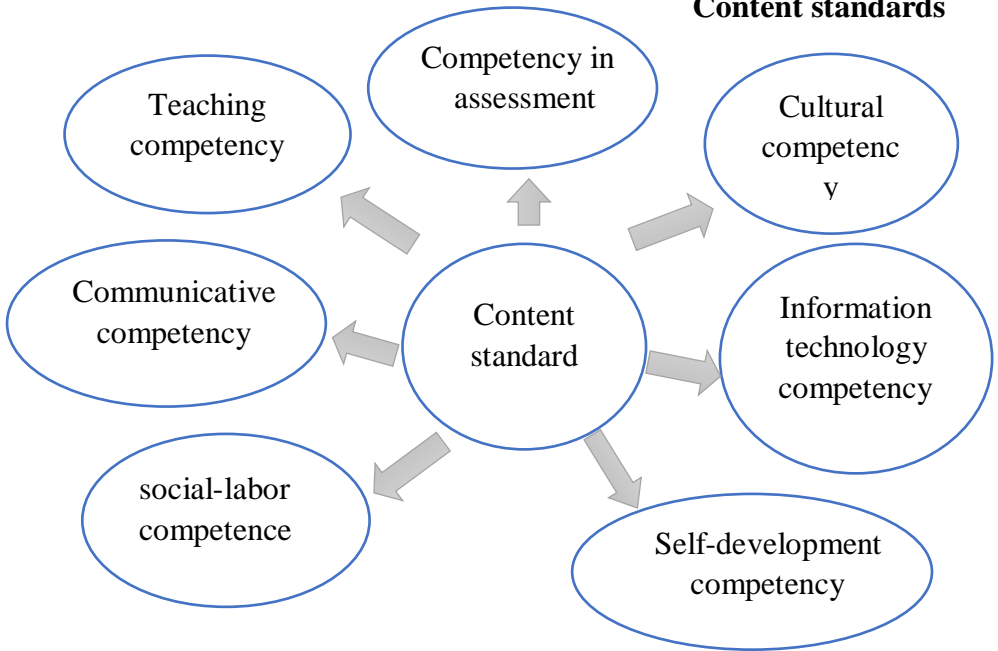
- The study of the problem in school practice revealed that there are certain inconsistencies and difficulties in the application of the main methods, means, and tools of assessing teaching skills, considered to be formative and summative assessment methods, in the Azerbaijan education system. According to the observations made, it can be noted that in the primary education level, subjects such as music, physical education, technology, etc., are substituted for Azerbaijani language and mathematics subjects. The mental and physical fatigue of young students adversely affects their learning outcomes.

The second chapter of the dissertation is titled 'Mechanisms for Assessing the Teaching Skills of Primary School Students.' This chapter consists of three paragraphs. The first paragraph is titled 'State standards for general education and assessment standards.' The continuous improvement of the quality of education and its dynamic

development towards universality depend on the preparation and implementation of education standards, which has been reflected in this chapter. Alongside the Azerbaijani education standard, the education standards of the United Kingdom, Russia, the United States, and Japan have been analyzed. Assessment standards serve to monitor, improve, and develop the implementation process of education standards. In addition to Azerbaijan's National Assessment Concept, the assessment standards of Germany, Sweden, the United Kingdom, and France have also been analyzed.

Generalized result: Based on the conducted research, it can be noted that the content standards of each country aim to establish the following consistency in students (Scheme 2.1.1):

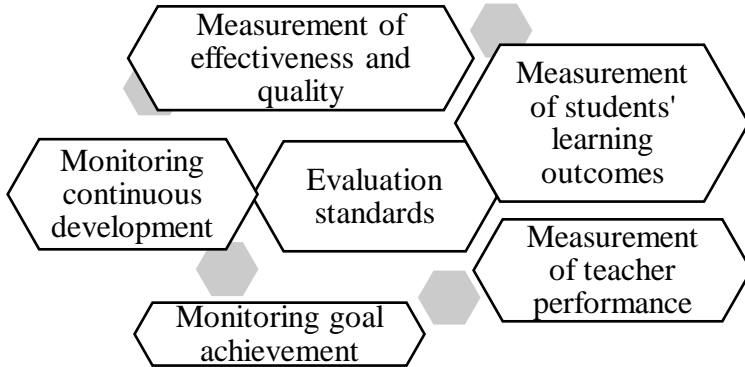
Scheme 2.1.1
Content standards



The purpose of assessment standards is to ensure the following systematic approach for measuring, organizing, improving the

effectiveness, and quality of education and the teaching process (Scheme 2.1.2.).

Scheme 2.1.2
Purpose of assessment standards



The second paragraph is titled “Pedagogical, physiological, psychological, and sociological factors affecting the educational achievements of primary school children”. Taking into account pedagogical, psychological, physiological, and sociological factors in the educational process plays a significant role not only in the formation of the student's personality but also in improving their educational achievements (Table 2.2.1).

Table 2.2.1
Factors influencing educational achievements

Pedagogical factors:	<ul style="list-style-type: none"> - Teacher professionalism; - Material-technical base; - Organization of management; - Level of continuity; - Quality of educational programs; - Activities of extracurricular institutions; - Provision with textbooks and teaching aids; - Provision of teachers with methodological tools; - School's relationship with the community and informing parents.
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Followed by Table 2.2.1

Physiological factors	<ul style="list-style-type: none">- Child's age-related physical development;- Physical disabilities (such as poor eyesight, hearing impairment);- Mental and physical fatigue.
Psychological factors:	<ul style="list-style-type: none">- Child's readiness for school;- Individual characteristics;- Changes related to age characteristics;- Interactions (student-student, student-teacher, teacher-parent, pedagogical collective, study of intra-family relationships).
Sociological factors:	<ul style="list-style-type: none">- Society's attitude towards education;- Families' social status;- Demographic diversity (age, gender, ethnic background).- Natural environment (rural and urban areas, mountainous and plain regions).

Generalized result: While conducting the teacher evaluation process alongside the formation of knowledge, skills, and attitudes, the teacher should also strive to ensure the social, psychological, and physiological development of the student body.

- From a pedagogical perspective, educators should foster knowledge and skills based on new technologies, identify and rectify deficiencies in the teaching process.

- Considering psychological factors, attention should be given to children's age characteristics, learning motivation, individual traits, etc.

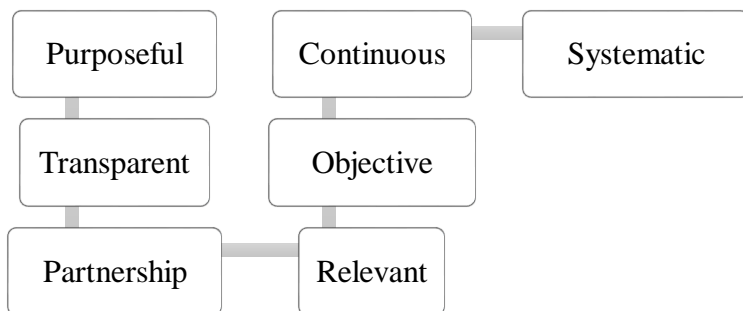
- From a physiological standpoint, teachers should prioritize their own and their school's health.

- Teachers should not reflect social problems in the teaching process, and the value they attribute to the student's personality should not depend on their social status.

The third paragraph is titled “Principles of Evaluating Educational Achievements”. In this paragraph, based on the principles of

evaluation in the “Assessment Program” of the International Network, the “Guiding Principles for Evaluators” presented by the American Association, and the principles applied in all types of evaluation in the Azerbaijani education system, the principles for evaluating educational achievements are outlined in Scheme 2.3.1.

Scheme 2.3.1
Evaluation Principle



Generalized result: The principles of evaluation serve as the main measure ensuring the implementation of the evaluation purpose. Therefore, the proper application and timely implementation of these principles are considered crucial in the world experience.

The third section is titled “**Assessment Possibilities and Methods for Evaluating the Educational Achievements of Primary School Children**”. The section consists of 3 paragraphs.

The first paragraph is titled “The Model of Evaluation of Educational Achievements (EEA)”.

The purpose of the Evaluation of Educational Achievements (EEA) model is to enhance the effectiveness of the teaching process. The EEA model ensures the measurement of students' acquired knowledge and skills, self-assessment of teachers, and awareness of success and development in the learning process. The model fulfills the following tasks:

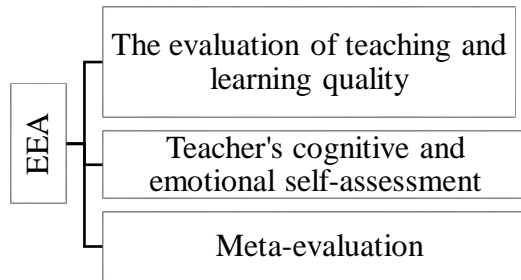
- Measuring the quality of assimilation of content standards, identifying students' weaknesses and strengths,

- Enhancing students' learning motivation through learning demands,
- Increasing the teacher's innovative activity by ensuring cognitive and emotional self-assessment,
- Informing educational managers in decision-making aimed at renewing and improving the teaching process.

The Evaluation of Educational Achievements (EEA) model is an effective tool in the education sector to enhance student and teacher successes and the effectiveness of teaching.

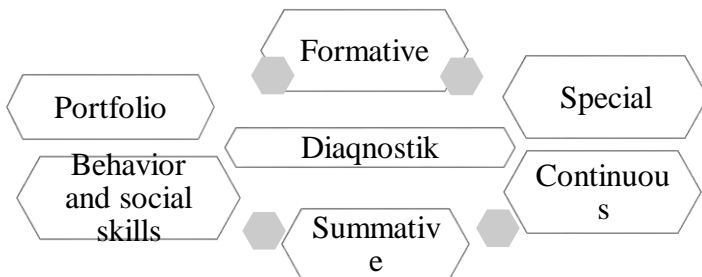
The Evaluation of Educational Achievements (EEA) model is applied in three directions (model 3.1.1).

Model 3.1.1
Evaluation of Educational Achievements



Assessment of teaching and learning quality according to the EEA model is implemented through the following methods and tools (scheme 6):

Scheme 3.1.2
Assessment of teaching and learning quality



According to the EEA model, 'Teacher's cognitive and emotional self-assessment': Cognitive self-assessment helps the teacher to better understand and develop themselves. Emotional self-assessment pertains to one's self-regard within the framework of social environment and societal norms (table 3.1.2). This is crucial for both psychological and intellectual development.

Table 3.1.1
Cognitive and emotional self-assessment

Cognitive self-assessment	Emotional self-assessment
<ul style="list-style-type: none"> - Strategy plan - Strengthsandweaknesses - Continuousprofessionaldevelop ment 	<ul style="list-style-type: none"> - Solicitopinions - Discussyouractionplan - Collaborate

According to the EEA model, 'Meta-evaluation' can be implemented by school principals. 'Meta-evaluation' ensures the identification and resolution of difficulties in the teaching process. Meta-evaluation (table 3.1.2.) is a supportive tool for monitoring the current situation.

Table 3.1.2
Meta-evaluation

1. Purpose	2. Data collection	3. Principles
Assessment ofneedsanddemands	<ul style="list-style-type: none"> - teacher - student - parent 	<ul style="list-style-type: none"> - purposeful; - relevant; - objective; - transparent; - systematic; - continuous; - collaborative
4. Methods	5. Analysis of results	6. Renewal and improvement
<ul style="list-style-type: none"> - observation; - interview; - survey; 	Based on analyses, determining student needs,	<ul style="list-style-type: none"> - Updating and improving strategies in accordance with

Followed by Table 2.2.1

- open lesson	identifying teacher strengths and weaknesses, and ensuring accountability.	goals and objectives.
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Meta-evaluation is important for ensuring more accurate, reliable, and purposeful evaluation of training achievements in the fields of teaching and learning. This process analyzes and evaluates the quality and effectiveness of evaluation.

General outcome: The “Evaluation of Training Achievements” model will serve to gather detailed information on the adoption of content standards, learning from best practices, identifying existing shortcomings, and enhancing teachers' professionalism.

The second paragraph is titled “Application of Formative Assessment Technologies and Digitalization of Assessment Based on the EEA Model”.

Formative assessment enables teachers to properly steer and organize the teaching process based on predetermined outcomes for any stage of the training process, allowing for effective management. Formative assessment is implemented through holistic (rapid assessment) and analytical (determined over a long period and assesses students in individual areas) schemes. These schemes describe the required skills and their assessment mechanism, informing students, parents, and stakeholders as a reliable information base.

General outcome: Formative assessment is a methodology applied to measure the activities of students and teachers in the training process. This assessment methodology ensures closer monitoring of the learning and progress process, enhancing effectiveness. Therefore, the proper application of criteria, indicators, and descriptor mechanisms during the evaluation of training achievements is highly significant.

The third paragraph is titled 'Organization, Conduct, and Generalization of the Experiment.' To achieve the main objectives and tasks of the research and to assess the effectiveness of the 'Eva-

luation of Training Achievements' model, a pedagogical experiment was conducted.

The following tasks were proposed in the experiment:

- If a reciprocal relationship between the teacher and student is established based on the EEA model in the 'Assessment of Teaching and Learning Quality,' success in adopting content standards is achieved.

- Pedagogical, physiological, psychological, and sociological factors in the teaching process have a positive impact on the 'Teacher's Cognitive and Emotional Self-Assessment' training achievements.

- If formative assessment and student self-assessment are properly developed, the quality of the training process improves further.

- The 'Evaluation of Training Achievements' model enhances the success of both students and teachers and improves the effectiveness of teaching in the training process.

Organizing the evaluative experiment:

The tasks of the evaluative experiment:

- Determine the mechanism for implementing formative assessment in primary classes of general education schools;

- Monitor and evaluate the adoption process of content standards in topics and sections;

- Identify the difficulties encountered by teachers and students in the lesson process.

- Table on the results of the evaluative experiment.

Table 3.1.3
Results of a deterministic experiment

İl	Classes	Stages of the experiment	Number of students	Assessment descriptors		
				Weak	Medium	High
2017	3 a control classes	Diagnostic experiment	58	21,2 %	47,6%	31,2%
	3 b experimental classes	Diagnostic experiment	58	15,8 %	53, 6%	30,6%

In class 3a, the percentage of high achievers was 31.2%, and in class 3b it was 30.6%. The percentage of average achievers in class 3a was 47.6%, and in class 3b it was 53.6%. The percentage of low achievers in class 3a was 21.2%, and in class 3b it was 15.8%.

Generalized result: Diagnostic assessment and observational time conducted as part of the evaluative experiment on the evaluation of training achievements yielded the following results:

- Teachers do not utilize formative assessment technologies.
- Weak understanding of topics is not addressed in the teaching process. Teachers rely on giving test assignments.
- There is a lack of information on students' self-assessment and evaluation criteria.

Organizing the instructional experiment:

To address such issues, the instructional experiment was conducted based on the purposeful, relevant, objective, transparent, systematic, and continuous principles of evaluation under the 'Evaluation of Training Achievements' model.

Tasks of the instructional experiment:

- Proving the effectiveness of the model's points;
- Eliminating weak understanding by topics and sections;
- Developing the understanding of 'value' and 'evaluation';
- Establishing a connection between self-assessment and evaluation;
- Developing teachers' innovative activities;
- Enhancing evaluation motivation.
- Utilizing individual, pair, and group work methods during the experiment to eliminate weak understanding.
- Organizing assessment by saving time.
- Analyzing and generalizing the results.

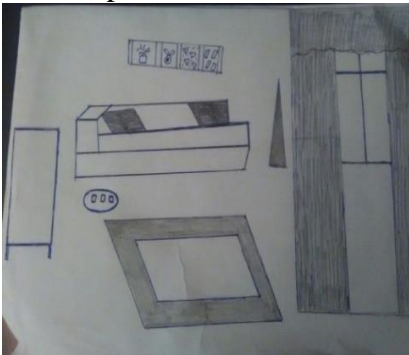
On the first week of the experiment, teachers were provided with information about the EEA model (for a total of 10 days, 5 days in school 176 and 5 days in school 246). The purpose, nature, and application mechanism of the model were explained to experimental class teachers.

On the eleventh day of the experiment: Students in the experimental class were divided into 2 groups, each consisting of 15 stu-

dents. One group was named “Sites”, while the other group was named “Summits”. Detailed information about both sites and summits was provided to each group. The experiment was conducted using the role-playing method.

The experiment spanned one lesson (45 minutes): for 5 minutes, additional information about sites and summits was provided; for 5 minutes, evaluation motivation was created; for 20 minutes, assignments were completed; for 5 minutes, group evaluations were conducted; for 10 minutes, students' self-assessment and generalization were done.

On the twelfth day of the experiment: To ensure transparency in the evaluation process, two hand-drawn pictures were hung on the board.



Drawing 1.



Drawing 2.

In both pictures, a room is depicted, but in picture 1, although the room is described accurately, the items are not properly noted. In picture 2, although the location of the items is accurately depicted, the drawing is poorly executed. Initially, only two students rated the poorly drawn picture highly. The remaining students gave high ratings to the accurately drawn picture.

From this, it can be concluded that while completing assignments, you should consider not only fulfilling the assignment correctly but also ensuring accuracy. Because sometimes you may feel unfairly judged by your teachers. However, you should know that besides correctness, your teacher also values neatness and presentation when giving grades, and such nuances are taken into account in

evaluations. This feedback will also play a significant role in students' self-assessment.

On the thirteenth day of the experiment: Students were given sheets consisting of small texts and were instructed to underline the thin sites by thin sites group and the thick sites by thick sites group. At the same time, they were asked to note the characteristics of sites and summits on the sheets. After completing the task, it was reviewed, and the groups were evaluated with the participation of the teacher.

**Table 3.3.2
Self-assessment**

Ilevel	IIlevel	IIIlevel	IVlevel
Compared to my other friends, I can't quite interpret thin, thick, lipped and unlipped vowels.	Compared to my friends, I interpret thin, thick, lipped and non-lipped vowels relatively.	Compared to my friends, I mostly interpret thin, thick, lipped and unlipped vowels.	Compared to my friends, I can interpret thin, thick, lipped and non-lipped vowels easily.
	+		

Students' self-assessment was 49.2%.

On the fourteenth day of the experiment: Each student is given three colored cards (yellow, red, green). It is determined what students have understood and what they have not. The teacher asks questions related to the topic, and students raise the corresponding-colored cards in response.

When students say, 'I fully understand the characteristics of A roots and stemmers,' green cards are raised.

When students say, 'I relatively understand the characteristics of A roots and stemmers,' yellow cards are raised.

When students say, 'I do not understand the characteristics of A roots and stemmers,' red cards are raised.

On the fifteenth day of the experiment: In order to identify students' needs, the teacher distributes individual sheets to them related to the topic being taught:

I understand _____ and I can explain it.

I still don't understand _____

I'm not really sure if I understand _____ topic.

On the sixteenth day of the experiment: The teacher gives students two types of sheets: 1st sheet: Write down the main ideas from the material learned and ask students to summarize them. 2nd sheet: Identify what you didn't understand from the material learned and prepare questions.

On the seventeenth day of the experiment: Based on questions, the teacher asks students to write a short essay:

- What did we learn today?
- What questions are unclear to you?

On the eighteenth day of the experiment: The teacher presents students with a false idea and then asks them to respond to it:

- I felt that this idea is wrong.
- I completely agree with this idea.
- I find it difficult to respond to this idea.

On the nineteenth day of the experiment: In the experimental classes, we provided detailed explanations about the concepts of 'Value' and 'Assessment,' which enhanced their activity and emotionality. It also had a positive impact on students' self-assessment. They became familiar with assessment levels.

On the twentieth day of the experiment: In the control classes, the concepts of 'Value' and 'Assessment' were not explained. Assignments were given without additional comments about the sites and summits. The good students took on leadership roles within their groups and completed the assignment properly. Other students, however, either due to lack of confidence or poor understanding, could not actively participate. As a result, their self-assessment levels were lower compared to the other group.

General conclusion: The instructive experiment resulted in the following outcomes for the experimental group:

- The quality of students' knowledge and skills improved.
- Interest in the lessons was developed.
- Students were able to objectively assess themselves.

Students acquired the skill of conducting assessment in group format. With the help of formative assessment technologies, teachers were able to determine students' knowledge and self-assessment levels, as well as their level of understanding of content standards.

Conducting confirmatory experiment: Practical information was generalized with the help of the confirmatory experiment. Statistical analysis was used in generalizing the results. To verify the results of the instructive experiment, test checks were conducted among primary school students. The results of both confirmatory and instructive experiments were generalized. The results are reflected in Table 3.3.3.

**Table 3.3.3.
Confirmatory Experiment**

Years	Schools, classes	Stages of the experiment	Number of students	The level of task completion		
				Low	Medium	High
2017-2018	Baku city schools' number 246, 179. Control classes (3 a)	Before the experiment	58	21,2%	48,6%	30,2%
		Before the experiment	58	24,7%	45,4%	29,9%
2017-2018	Baku city schools' number 246, 179. Control classes (3 b)	Before the experiment	58	15,8%	52,6%	31,6%
		Before the experiment	58	11,6%	56,1%	32,3%

Based on the results of the confirmatory experiment, in the control classes, the low level increased from 21.2% to 24.7%, the medium level decreased from 48.6% to 45.4%, and the high level decreased from 30.2% to 29.9%.

In the experimental classes, the low level decreased from 15.8% to 11.6%, the medium level increased from 52.6% to 56.1%, and the high level increased from 31.6% to 32.3%.

The self-assessment of the student has found its reflection in the following table (Table 3.3.4).

**Table 3.3.4
Self-assessment**

Ilevel	IIlevel	IIIlevel	IVlevel
I can't quite interpret thin, thick, lipped and unlipped vowels.	I interpret thin, thick, lipped and non-lipped vowels relatively.	I mostly interpret thin, thick, lipped and unlipped vowels.	I can interpret thin, thick, lipped and non-lipped vowels easily.
-	-	+	+

The results of students' self-assessment were as follows:

At level I: 10.4% (6 students)

At level II: 13.8% (8 students)

At level III: 37.9% (22 students)

At level IV: 37.9% (22 students)

In the self-assessment of students, in the experimental classes, the percentage of students at the third and fourth levels increased from 49.2% to 75.8%, while in the control classes it ranged from 35.3% to 35.6%.

General result: The results of the experiment confirm the purpose of the research, the validity of the main points of the EEA model, the accuracy of the methods used, the principles of assessment, and the format of assessment technologies. Analyzing the stages of the experiment reveals that during the assessment of teaching skills, creating assessment motivation and self-assessment training positively affect the quality of teaching.

The research has come to the following conclusions:

The nature of the assessment process of young students' teaching skills has been identified, indicating that assessment technologies improve the effectiveness of pedagogical measures planned on the basis of content standards, and ensure the development of the teacher-student interaction. Assessing students' knowledge and skills during teaching allows for the improvement of the teaching process based on these results.

The study of pedagogical, physiological, psychological, and sociological factors during teaching played a crucial role in ensuring the proper organization of the teacher's teaching activities. It had a positive impact on creating a sound pedagogical environment, strengthening the relationship between parents and schools, and motivating students to learn.

The research also uncovered a significant aspect of the problem: most teachers do not pay enough attention to students' self-assessment during evaluation. However, such an approach significantly influences personality development. The better the self-assessment is formed in a student, the more accurate and detailed information they can provide about their requirements. In this regard, the assessment of teaching skills has expanded the opportunities for self-assessment of both teachers and students. Presenting what the student has learned and what they want to learn has influenced the teacher's innovative activities.

According to conducted research, the possibilities and methods of assessing young students' teaching skills are presented based on the "Assessment of Teaching Skills" model (EEA). The EEA model provides "Assessment of Teaching and Learning Quality" for understanding student needs and optimizing teaching, "Cognitive and Emotional Self-Assessment" for better understanding and development of the teacher's self, and "Meta-assessment" ensures that the assessment of teaching skills is more accurate, reliable, and purposeful.

We need to consider the proposals arising from the results of the research:

1. It is necessary to develop self-assessment skills that allow young students to identify their own abilities and teaching skills. For this

purpose, special lessons should be organized in the preschool stage to develop children's self-assessment skills. As a result, young students at the elementary education level will better understand the teaching process and be able to identify their strengths and weaknesses.

2. Teaching review lessons is an important tool for students to better understand topics they have difficulty grasping. Review lessons included in the curriculum consist of assignments and test assignments. It should be noted that while the teaching process includes formative assessment, it does not eliminate it. In order to eliminate weak understanding, additional lesson hours should be increased, allowing teachers to use interactive methods during review lesson hours to address the problem.

3. The utmost importance of assessment should be taken into account in pedagogical institutions of higher education. Therefore, the theoretical-methodological support of the problem is provided by including subjects such as “Assessment of Teaching Skills”, “Application Technologies of Formative Assessment”, and “Assessment and Self-assessment” in the curriculum of pedagogical faculties.

The main content and points of the dissertation have been reflected in the following articles and theses published in Azerbaijan and foreign countries:

1. Mikayılova K.V. Şagird nailiyyətlərinin qiymətləndirilməsi tarixinə dair. Aspirantların və gənc tədqiqatçıların XIII Respublika elmi konfransının materialları. Bakı: Bakı Universiteti, 2009, s. 303-304

2. Mikayılova K.V. Qiymətləndirmənin tarixi inkişaf yolu. Bakı: BDU “Dil və ədəbiyyat”, 2009, № 3, s. 225-226.

3. Mikayılova K.V. Pedaqoji qiymətləndirmənin nəzəri və metodoloji problemlərinin təhlili. Bakı: BDU “Dil və ədəbiyyat”, 2009, №5, s. 248-250

4. Mikayılova K.V. Şagird nailiyyətlərinin qiymətləndirilməsi təhsilin keyfiyyətinin diaqnozu və monitorinqidir. Bakı: Məktəbəqədər və ibtidai təhsil, 2010, №1, s. 19-25.

5. Mikayılova K.V. Kiçikyaşlı məktəblilərin qiymətləndirməsində psixoloji aspektlərin nəzərə alınması. Bakı: Məktəbəqədər və ibtidai təhsil, 2010, №3, s. 77-81

6. Mikayılova K.V. Təhsil standartları və milli qiymətləndirmə sisteminin əsas mahiyyətinə dair. Doktorantların və Gənc tədqiqatçıların XV Respublika Elmi konfransının materialları. Bakı: Bakı Universiteti, 2011, s. 254-255.

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10. Mikayılova K.V. Şifahi xalq yaradıcılığı nümunələrində və elmi pedaqogikada qiymətləndirmə. Bakı: ARTİ “Elmi əsərlər”, 2011, № 4, s. 306-310.

11. Mikayılova K.V. Təlim nailiyyətlərinin yüksəldilməsində motivasiyanın rolu və pedaqoji qiymətləndirmə stimulu kimi. Təhsil sistemində monitoring və qiymətləndirmənin yeri mövzusunda Respublika elmi-praktik konfrans materialları. Bakı: Mütərcim, 2012, s. 180-183.

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