

## A NEW APPROACH TO ASSESSING THE LEVEL OF ACHIEVEMENT OF STUDENTS

**Nabi Mahmudov**

Baku city, director of school-lyceum No. 246

PhD in mathematical and physical sciences

E-mail: nabimm@mail.ru

<https://orcid.org/0000-0003-4351-9104>

**Abstract.** The article analyzes new approaches to assessing the level of achievement of students. This approach dictates that the educator monitor the learner's performance, take into account the skill level, and assess the achievement level correctly. It is proposed to differentiate the assessment scores of students when assessing the means that differ in the degree of difficulty, and that the scores given to the Level I assessment tool and the Level IV assessment tool are four times different from each other. When evaluating assessment tools, it is recommended that incomplete solutions (in addition to correct and incorrect answers, as well as answers close to both correct and incorrect answers) be considered in addition to the complete solution. Regardless of the number of assessment tools, a general formula is given to assess a student's level of achievement on a 100-point scale.

**Keywords:** learner, activity tracking, assessment tool, assessment of skill and achievement level, correct, semi-correct and incorrect answers, answers close to right and wrong answers, formula.

**To cite this article:** Mahmudov N. A new approach to assessing the level of achievement of students. (2022). *Journal of Preschool and Primary Education*, Vol. 239, Issue II, pp. 39-46.

**Article history:** received – 17.04.2022; accepted – 21.04 2022.

## TƏHSİLALANIN NAILİYYƏT SƏVIYYƏSİNİN QIYMƏTLƏNDİRİLMƏSİNƏ YENİ YANAŞMA

**Nəbi Mahmudov**

Bakı şəhəri, 246 nömrəli məktəb-liseyin direktoru,  
fizika-riyaziyyat elmləri üzrə fəlsəfə doktoru  
E- mail:nabimm@mail.ru  
<https://orcid.org/0000-0003-4351-9104>

**Annotasiya.** Məqalədə təhsilalanın nailiyyət səviyyəsinin qiymətləndirilməsinə yeni yanaşmalar təhlil olunur. Bu yanaşma təhsilverənə təhsilalanın fəaliyyətini izləməyi, bacarıq səviyyəsini nəzərə almağı və nailiyyət səviyyəsini düzgün qiymətləndirməyi diktə edir. Çətinlik dərəcəsi ilə fərqlənən vasitələrin qiymətləndirilməsi zamanı təhsilalanların qiymətləndirmə ballarının da fərqləndirilməsi, I səviyyəli qiymətləndirmə vasitəsi ilə IV səviyyəli qiymətləndirmə vasitəsinə verilən balların bir-birindən dörd dəfə fərqli olması təklif olunur. Qiymətləndirmə vasitələrinin qiymətləndirilməsi zamanı tam həll ilə yanaşı, yarımqıq həllərin də (doğru və səhv cavablarla yanaşı, həm yarımdoğru, həm də doğru və səhv cavablara yaxın cavabların) nəzərə alınması tövsiyə edilir. Qiymətləndirmə vasitələrinin sayından asılı olmayaraq, təhsilalanın nailiyyət səviyyəsinin 100 ballıq şkala üzrə qiymətləndirilməsi üçün ümumi düstur verilir.

**Açar sözlər:** təhsilalan, fəaliyyətin izlənilməsi, qiymətləndirmə vasitəsi, doğru, yarımdoğru və səhv cavablar, doğru və səhv cavablara yaxın cavablar, düstur.

**Məqaləyə istinad:** Mahmudov N. (2022). Təhsilalanın nailiyyət səviyyəsinin qiymətləndirilməsinə yeni yanaşma. «Məktəbəqədər və ibtidai təhsil», № 2 (239), səh. 39-46.

**Məqalə tarixçəsi:** göndərilib – 17.04.2022; qəbul edilib – 21.04.2022.

## Introduction

Beginning from the 2008/2009 academic year, textbooks and methodological aids for teachers based on new educational programs (curricula) are used in the first grades of secondary schools of the republic. The “Concept of Assessment in the General Education System of the Republic of Azerbaijan” developed to ensure the assessment of the skills and achievements of students in the classes where the curriculum is applied in our country was approved by the Cabinet of Ministers of the Republic of Azerbaijan on January 13, 2009, No. 09 [Assessment in General Education System Concept., 2009]. The “Rules for Conducting In-School Assessment at the Primary Education Level” are designed to ensure the implementation of the Concept of Assessment in primary schools where new educational programs are applied and provide for a 1-point assessment of the correct answer (complete solution) of assessment tools in assessing students’ achievement levels [Rules for in-school assessment at the level of primary education., 2011].

## Main part

In the 2006/2007 academic year, by the relevant order of the Minister of Education of the Republic of Azerbaijan, an experiment was handled on the application of a new in-school assessment system in Azerbaijani language and mathematics in four secondary schools in Baku and Sumgayit, Absheron district.

Meantime, 10 open and closed assessment tools were used to assess the student’s level of achievement. Each easy task was rated 3, the intermediate level task 7, and the difficult task 10 points [Mahmudov N., 2007].

In the “Foreword” written in the assessment tools developed for the I-V grades by the working group of the Ministry of Education in the 2012/2013 academic year, the tools consist of three (5 easy, 5 medium, and 5 difficult) level questions instead of four levels. 1, 2, and 3 points were recommended. It is noted that if the student answers all the questions correctly, he / she will get 30 points  $(1 \cdot (1 + 1 + 1 + 1 + 1) + 2 \cdot (1 + 1 + 1 + 1 + 1) + 3 \cdot (1 + 1 + 1 + 1 + 1)) = 30$ . In this case, the correct answer (correct solution) is evaluated by 1 point and the level of difficulty is taken into account. However, it was recommended that the student’s level of achievement be determined by dividing the student’s score by 6 points in secondary schools with a 5-point assessment and by 3 points in secondary schools with a 10-point assessment. However, it was suggested that the student’s level of achievement be determined by dividing the student’s score by 6 points in secondary schools with a 5-point assessment and by 3 points in secon-

dary schools with a 10-point assessment [Assessment tools., 2013]. Clearly, this approach was incorrect (on the one hand, students' scores should be divided into 5 instead of 6 and 3, respectively, in secondary schools with a 5-point scale, and 10 in secondary schools with a 10-point scale, on the other hand, the evaluation of incompleting tasks were not noted). However, in the assessment at the level of «general education» in the assessment of assessment tools performed by students, all nuances are taken into account, including correct and incorrect solutions, as well as semi-correct, as well as solutions (answers) close to correct and incorrect (answers) was proposed to be taken away [Mahmudov N., 2012, pp.109-113]. In the "Temporary Instruction on in-school assessment in secondary schools" approved by the order of the Minister of Education of the Republic of Azerbaijan dated 23.09.2013, No. 792 [Temporary Instruction on in-school assessment in general education schools., 2013] to ensure equality of level differences in was given, combining the values of 1 (very bad) and 2 (insufficient) with 2 (two) and transferred to a scale of 4 (2, 3, 4, 5). The instruction provided that the proposed tools for assessing the achievements of students should be at four (I - IV) levels, correctly assessed assessment tools - 1 (one), incorrect solution, and incomplete solution - 0 (zero) In the author's articles «Assessment at the general education level» and «Intraclass assessment in secondary schools» the assessment tools are not 1 or 0 points, but at the same time close to the level of solution (correct answer (solution), incorrect answer (solution) and these answers (solutions) It was suggested to take into account the number of answers (solutions), the number of distractors) and evaluate them with 0, 1, 2 or 0, 1, 2, 3, 4 points [Mahmudov N., 2012, Mahmudov N., 2016]. We analyzed the school experience, the results of anonymous surveys and monitoring, and conducted a summative assessment in secondary schools for each assessment tool (task), the correct answer (solution), semi-correct answer (solution), incorrect answer (solution), semi-correct answer (solution). We propose to take into account the close answers (solutions), the total number of distractors to be an odd number (3 or 5), the lowest rating score to be 0, the highest rating score to be 1 unit less than the number of rating distractors.

a) When the number of multiple-choice answers (or solution level) of the task is 3 (three), the lowest score is 0, the highest score is 2 ( $3 - 1 = 2$ ), and in this case, the wrong (unresolved or unselected) answer is 0, the semi-correct answer is worth 1 point and the correct answer is worth 2 points

b) If the number of multiple-choice answers (or solution level) of the task is 5, the lowest score is 0, the highest score is 4 ( $5 - 1 = 4$ ), and in this case, the wrong solution or unselected answer is 0,25%, the correct solution is 1, 50% correct solution (semi-correct answer) 2,75% correct solution 3 and 100% correct solution (correct answer) 4 points.

It should be noted that taking into account the degree of solution (level) in the assessment of the assessment tool allows to objectively determine the level of achievement of the student on the implemented sub-content standards. This helps the educator to assess the student's skill level (where and why he is wrong and to determine the appropriate individual approach to it), as well as his activities, and those who exercise control over the correctness of the educator's and students' performance. At the same time, it should be noted that it would not be correct to consider it correct to evaluate the task of the IV level, which is 4 times more difficult and correctly solved, with the task of the I (easy) level correctly solved by the student.

Indeed, for the assessment of the three sub-content standards, out of 12 tasks developed at levels I-IV, the student who completed 3 tasks of level I and the student who solved 3 tasks of level II (III, IV) scored the same score, as well as those who worked on the task to some extent (25%, It is not the right approach to evaluate the achievement level of a student who does not work on the task with a student who solves 50% or 75% correctly) with a score of 0 (zero).

We used 2 (3, 4) times to determine the number of distractors for the correct assessment of the student's level of achievement, to determine the assessment score of the tasks depending on this number, the level of difficulty (weights), the task of level II (III, IV) and the task of level I We considered it acceptable to evaluate with many points and proposed to calculate the results of small (large) summative assessment consisting of 10 tools by the following formula (case I) [Mahmudov N., 2012].

$$K(B) SQ = N_1(S_{11} + S_{12}) + N_2(S_{21} + S_{22} + S_{23}) + N_3(S_{31} + S_{32} + S_{33}) + N_4(S_{41} + S_{42})$$

However, Level I or Level IV assignments may not be selected for some of the sub-content standards implemented during the development of Level I – IV assessment tools in a 2: 3: 3: 2 ratio of 10 tasks. The trainee, on the other hand, may not be able to complete Level II and Level III assignments based on that sub-content standard. In this case, the student's level of achievement according to that sub-content standard will not be determined. Therefore, we propose that the number of small (large) summative assessment tools conducted in any educational unit (or semester) is up to 4 times the number of implemented sub-content standards and calculated by the following formula (Case II) [Mahmudov N., 2016].

$$K(B) SQ = p/q \cdot 100 \cdot \{N_1(S_{11} + S_{12} + S_{13} + S_{14}) + N_2(S_{21} + S_{22} + S_{23} + S_{24}) + N_3(S_{31} + S_{32} + S_{33} + S_{34}) + N_4(S_{41} + S_{42} + S_{43} + S_{44})\}$$

və ya

$$K(B)SQ(m, r) = \frac{p}{q} 100 \cdot \sum_{m=1, r=1}^4 N_m S_{mr}$$

Here  $K(B)SQ$  small (large) summative assessment;

$N_m$  - weight ratio of vehicles according to the degree of difficulty ( $m$  level);

$N_m = m$  ( $m = 1, 2, 3, 4$ ) values;

$S_{mr}$  - evaluation points of means depending on the number of answers ( $S_{mr} = 0, 1, 2$ ; if the tool has 3 answers,  $S_{mr} = 0, 1, 2, 3, 4$  if the answer is 5);

$r$  - number of tools on levels ( $r = 1, 2, 3, 4$ );

$p$  - the score of the student;

$q$  - indicates the total score.

**Example:** for each of the 3 sub-content standards implemented in the educational unit, at the I-IV levels, the student was offered 12 tasks to conduct the  $K(B)SQ$ . The student, on the other hand, solved some of the tasks at different levels correctly, some of them incompletely, and some of them either completely or incorrectly.

The considerations we propose above are given in the table below:

**Schedule 1**

Points according to the solution level (answers) of the assessment tool	Implemented sub-content standards											
	1.1.1			1.1.2				1.1.3				
	Sub-content standards assessment tools (by levels)											
	I	II	III	IV	I	II	III	IV	I	II	III	IV
<b>A) 4 points, 100% correct solution (correct answer)</b>	+				+							+
<b>B) 3 points, 75% correct solution (correct answer)</b>		+				+						
<b>C) 2 points, 50% correct solution (semi-correct answer)</b>			+				+				+	
<b>D) 1 point, 25% correct solution (correct answer)</b>								+		+		
<b>E) 0 points, 100% error (unspecified answer)</b>				+					+			

It can be seen from the table that out of 12 proposed tasks, the student solved only 3 (100%), 2 (75%), 3 (50%), 2 (25%) correctly, and 2 100% did not solve.

When assessing a student's level of achievement, the educator took into account only the number of completely solved tools and therefore rated it with 2 (two) (because 3 tasks make up 25% of 12 tasks, which is less than 40%) [Temporary Instruction on school assessment in secondary schools., 2013].

Now let's evaluate the level of achievement of the student, taking into account the data given in the table above, on the basis of the proposed formula. First of all, let's calculate the score of the student. Obviously, he scored 58 points:  $(1 \cdot (4+4+0) + 2 \cdot (3+3+0) + 3 \cdot (2+2+2) + 4 \cdot (0+1+4)) = 1 \cdot 8 + 2 \cdot 6 + 3 \cdot 6 + 4 \cdot 5 = 58$ . If the student correctly solves each of the 12 assessment tools proposed **120, (=1 · (4+4+4) + 2 · (4+4+4) + 3 · (4+4+4) + 4 · (4+4+4))** will collect points. Since the student's 58 points accounted for **48, 3%-** ( $30\% < 48,3\% \leq 60\%$ ) of the maximum 120 points, his / her achievement level should be assessed with a "3" (three) grade, not a "2" (two) grade. can be considered more accurate [Mahmudov N., 2012., Temporary Instruction on school assessment in secondary schools., 2013].

Thus, based on many years of school experience, we can say that the assessment of a student's level of achievement, depending on the level of problem-solving, is based on the table proposed above:

- a) develops a positive attitude, gives him an incentive to improve his level of education;
- b) allows the educator to properly assess the learner's level of ability (what, why, at what level, whether he or she knows or applies it, and to assign an individual approach to that level);
- c) instructs supervisors to properly supervise the activities of the educator and students.

## Conclusion

From the above, we conclude that the assessment of summative assessment tools in the proposed format - taking into account the level of problem-solving, based on the data in the table, gives grounds to say that the student's skill level is taken into account, the assessment is fair. Fair assessment motivates students to study and creates a positive attitude. If these proposals are taken into account, an objective and accurate assessment of student's achievements, as well as a multi-point (100, etc.) system of assessment is provided, which serves to assess the level of achievement of graduates of secondary schools in accordance with international standards.

**Relevance of the article** The problem of correctly assessing the level of achievement of students has always been relevant and is still relevant today. This

.....  
article is devoted to the consideration of semi-correct (incomplete) correct solutions (based on the given norms), as well as the level of solution of their assessment tools in the assessment of the level of achievement of students.

**The scientific novelty of the article** examines the objective assessment of the student's level of achievement, taking into account all the nuances of his skill level, depending on the level of the task, and makes suggestions.

Proper assessment of the student's work motivates him to study.

**The practical importance of the article** the teacher who reads the article acquires the skills to provide an objective assessment of the student's current level of achievement in each sub-content standard, and his / her level of professionalism increases.

## References

1. Azərbaycan Respublikasının ümumi təhsil sistemində Qiymətləndirmə Konsepsiyası. (2009). Bakı.
2. İbtidai təhsil səviyyəsində məktəbdaxili qiymətləndirmənin aparılması Qaydaları. (2011). Bakı.
3. Ümumtəhsil məktəblərində məktəbdaxili qiymətləndirmənin aparılması barədə Təlimat. (2012). Bakı.
4. Ümumtəhsil məktəblərində məktəbdaxili qiymətləndirmənin aparılmasına dair müvəqqəti Təlimat. (2013). Bakı.
5. Mehrabov A., Cavadov İ. (2007). Ümumtəhsil məktəblərində monitoring və qiymətləndirmə. Bakı.
6. Mahmudov N., Əliyeva İ. (2007). Ümumtəhsil məktəblərində riyaziyyatdan yeni məktəbdaxili qiymətləndirmə sistemi haqqında. Bakı, "Fizika, riyaziyyat və informatikanın tədrisi", № 4.
7. Qiymətləndirmə vasitələri. (riyaziyyat, 3-cü sinif). (2013). Bakı.
8. Mahmudov N. (2012). Ümumi təhsil pilləsində qiymətləndirmə. Bakı, "Müəllim".
9. Mahmudov N. (2016). Ümumtəhsil məktəbində sinifdaxili qiymətləndirmə. Bakı, "Müəllim".
10. Mahmudov N., Raziyyəva S. (2017). Təhsilalanın nailiyyət səviyyəsinin qiymətləndirilməsinə yeni yanaşma haqqında mülahizələr. Bakı, "Təhsil", № 11.
11. Otsenivanie uchebnix dostijeniy uchashixsya. (2016). Bişkek, «Bilim».
12. Kriterialnoe otsenivanie uchebnix dostijeniy uchashixsya. (2016). İnformatsiya dlya roditeley. Astana.