

An Integrated Assessment of Students' Astuteness and Knowledge

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Abstract:- Any assessment must elicit evidence of performance, which is capable of being interpreted. Whether or not these interpretations and actions satisfy the conditions for formative functions, the fact that interpretable evidence has been generated means that the assessment can serve a summative function. Therefore, all assessments can be summative, but only some have the additional capability of serving formative functions. The art of assessment depends on the teacher's diligence and experience, requires a creative approach and caution from him. Thus, the assessment process requires an individual approach in the classroom environment, which will help educators to refine the unified assessment system by sharing teachers' personal practices.

Keywords:- Astuteness, Knowledge, Summative Assessment, Formative Assessment.

I. INTRODUCTION

The main goal of the teaching-learning process is the high achievement of the students, however, it should be taken into consideration, that "not all students are the same". Assessment outcomes not only influence the student progress and development, but also play an important role in the decision making process regarding the selection of learning strategies and curriculum (Dietel, R. J., Herman, J. L., & Knuth, R. A. 1991). Assessment is the driving force in the teaching process (Assessment is a powerful force in student learning) As a rule, from the students' perspective the only most important activities of the subject are evaluated (Kandlbinder 2009).

Based on the theory developed by Palomba and Banta theory "Evaluation is the tool in order to improve and develop teaching process, by the means of systematic collection, review and use of information regarding the educational programs" (Palomba, C. A., & Banta, T. W. 1999).

In 1992 according to the works developed by Harlen et al., assessment is the process of gathering, interpreting, recording, and using information about students' responses to an educational task (Harlen, W., Gipps, C., Broadfoot, P., & Nuttall, D. 1992). Noteworthy the opinion of Trochim in the article "Introduction to Evaluation" voiced that evaluation

should be a systematic process of gathering the information and further used for the feedback (Trochim 2006).

It should be noted that the authors of the article have found a practical example and methodical assessment of the student evaluation. In particular, based on the opinion of the Public Teacher of Georgia, Davit Gondauri, when writing a mark, not only the shortcomings should be taken into account, but also the perception that the student shows. If possible, the student should be given an even higher grade for the intelligence and skills presented (Gondauri 1981).

In general, when it comes to evaluation, two different approaches can be distinguished: summative assessment (SA) measures the achievement of pre-defined standards, objectives, or goals, includes all the evidence collected up to a given point to obtain comparative or numerical ratings (Taras 2005). On the other hand, formative assessment (FA) promotes individual development through diagnostic judgment with interpretation and feedback that provides information about candidates continuing learning processes (William and Black 1996). Unfortunately, many believe that the different goals of these two forms of evaluation are incompatible.

According to William and Black (1996), neither FA nor SA categorically excludes each other; rather, they are seen as the extremes of a common continuum, the core of which is the (interpretable) evidence of performance: any assessment must elicit evidence of performance, which is capable of being interpreted (however invalidly). Whether or not these interpretations and actions satisfy the conditions for formative functions, the fact that interpretable evidence has been generated means that the assessment can serve a summative function. Therefore, all assessments can be summative (i.e. have the potential to serve a summative function), but only some have the additional capability of serving formative functions.

The long-standing desire of many teachers, educators and experts has been to integrate summative and formative assessments so that external assessment data used for external monitoring of the system is also used in-classroom training.

Famous Georgian teacher and public figure, The holder of the status of Georgian public teacher, mathematician Davit Gondauri was known as a creator, innovative teacher, experienced methodologist, author of methodological recommendations, and numerous articles. He was the creator of supportive visual materials and equipment used for effectively teaching mathematics. At the same time organizer of extracurricular activities, highly erudite, and self-taught person (Gondauri and Mikautadze 2021).

During the generalization of his teaching experience, the question arose: by what means did Mr. Gondauri achieve such great success in teaching mathematics? Published a review of his activities where it is written that he creatively uses the methods and techniques of teaching mathematics and checking the knowledge of students established in the school, modernizing them in accordance with the requirements of today (Gondauri and Mikautadze 2021).

Thus we decided to study the necessity of taking into account the nature of the mistakes on the examples of Mr. Gondauri's methodology. To answer the question, how can a summative assessment include a formative assessment?

II. METHODOLOGY

For the above mentioned purpose, at the initial stage of the research, we used a qualitative research method, namely content analysis. The object of research was the records, letters and newspaper articles of the devoted teacher Davit Gondauri. The teacher's position on the evaluation of students' papers was interesting for the research, so we defined code categories as "evaluation" and "error", and gave them the status of categories. We analyzed, compared and summarized the content of the data.

Content analysis, which involves a combination of detailed and consistent processes of detailed analysis, study, and substantiation of data content allowed us to study Davit Gondauri's methodological writings as well as manuscripts (Krippendorff 2004). There were some obvious limitations to the research, such as indirect communication with the teacher.

III. ANALYSIS OF RESULTS

The guidelines published by Mr. Gondauri regarding the assessment of knowledge and skills of secondary school students in mathematics consist of three parts. The first part gives general instructions, the second gives methodical recommendations for assessing students' knowledge and skills, and the third part gives instructions for setting up and using a math classroom at school. It is noteworthy that the recommendations in the second section focus not only on how the student's knowledge is assessed (as it was used before) but also on how to give the assessment to the student for the intelligence and skills presented during the class.

Gondauri's methodology uses the following terms and focuses on naming negative moments in students' works such as error, flaw, inaccuracy. However, the positive moments are

also described: the original way of solving the problem and the ability of understanding.

In his works, he has distinguished the three types of defects - error, defect, inaccuracy. He explains each of them as follows:

- An error is a defect that proves the ignorance of the underlying issue and its application.
- A defect is a flaw that indicates partial or inconsistent knowledge of the underlying issue.
- Inaccuracy is a defect in writing or speaking that does not distort the general content.

It should be noted that 1) an error in non-essential issues of the material or an error in the control writing work, which occurs only once in several similar cases (see above); 2) a mistake caused by negligence that does not distort the main idea or result; 3) a vaguely defined explanation or assertion when solving a task; 4) a carelessly executed drawing or record that does not change the content and indicates a student's insufficient skills, in particular, poor knowledge of drawing rules; 5) incorrect use of names when acting on named numbers; 6) Distortive use of plural-logical language. Confusion of signs of logical origin and equivalence; 7) correction and scraping; 8) Consider a simplified image as the final answer to a task or example; 9) Solve a task or example in an irrational way.

Let us be content with just listing the types of inaccuracies. 1. A grammatical error that does not change the content of the reasoning; Inaccurate or carelessly executed mathematical record; Inaccurately executed drawing or writing; Moving the multiplier to the second row; inaccurate placement of text, mathematical transformations, and formulas on a sheet of paper; 2. Small records that are correct but are not sufficient for the problem. 3. An irrational record that does not completely distort the opinion transferred. 4. $125-100 = 25$ cm facial record. 5. A randomly missing character. 6. When subtracting and multiplying multi-digit numbers, the order is placed incorrectly under one another, which has not affected the accuracy of the calculation. 7. Inserting an error noticed by a student in the process of written work in parentheses and passing a line on it is considered inaccurate if their number does not exceed two. 8. Inaccuracy if the actions are performed correctly but the answer is misspelled.

How should the teacher be guided in assessing student knowledge and skills? Mr. Gondauri uses a 5-point grading system that offers the following approach to grading:

For one mistake the student's mark is reduced by one point; For one defect the mark is reduced by one-third of the score; For inaccuracy, the student is not deprived of a mark if the number of inaccuracies does not exceed three. More than three inaccuracies are already considered mistakes. For example:

Written work can be evaluated on grade "5" even when it is done flawlessly, briefly, perfectly, but not more than three inaccuracies or one defect and one inaccuracy are allowed.

Grade "4" is written when:

Only one error is allowed in the work out of five, - of approximately the same volume and difficulty, four are performed flawlessly and without any error, and the fifth is either not performed or has no more than one error and one defect or no more than four defects;

Out of the four given questions, three questions were performed flawlessly and without any error;

Note: If the completed task is the most important in the given problem, then the student's paper can be evaluated as the grade "3".

Out of the four questions given, the main parts of three and the fourth performed flawlessly and without error;

Out of the three given tasks or problems, the main parts of two and the third are performed flawlessly and without any error; If two items are performed flawlessly and without any error, and the third is not completed at all, the discount is "3" or "4" depending on how important the unfulfilled item is; Also, if no more than one error and one defect are allowed in the execution of the third part of the question, "3" or "4" may be written depending on how important the unfulfilled part is.

Of the four given tasks of problems, two are performed flawlessly and without any errors, while the other two major parts are performed flawlessly. If the third and fourth questions are not completed, the paper is rated "3" or "2" depending on how important the unresolved issues are;

Also, depending on the meaning of the questions and at the teacher's discretion, "3" or "2" can be written if the student made no more than one mistake and one shortcoming while performing the parts of the third and fourth questions; We should be guided by the same opinion even if only one issue and the other three main parts are performed flawlessly and without any errors;

Out of the three given questions, two tasks are executed flawlessly and without errors; if only one task is completed correctly without mistakes and If the main part of the second question is performed flawlessly mark "4" is written. If in the remaining two tasks the main parts of the problem are solved, "3" or "2" is written considering the importance of the unfulfilled assignments.

In case if, one, the more important task out of the two given questions/tasks is solved flawlessly and without errors; If the main part of the second question is performed flawlessly "4" is written. If no more than one mistake and one defect are made in the performance of the second question, at the discretion of the teacher it is written "2", "3", "4", taking into account the meaning of the unfinished part.

Grade "2" is written when:

Out of the five given questions, the student completed only two or one of the tasks flawlessly and without any errors; Of the four questions given, only one was performed flawlessly and without any errors;

Grade "1" is written if none of the given issues is fulfilled or is performed poorly.

The above-mentioned rules of assessment can be applied similarly in the case of an oral assessment, only the peculiarities of the oral response should be taken into account. A student's answer is impeccable if he or she conveys the content of the material accurately, concisely, flawlessly, logically, in a mathematical style.

As it can be seen from the above-described methods, he used a descriptive assessment. An interesting fact is how he managed to integrate the elements of developmental assessment. Mr. Gondauri used different notations when marking different types of defects. In doing so, he tried to highlight, outline, and properly identify/indicate errors in the written work or the intelligence shown by the student.

1. An error is marked by two continuous parallel red lines under it, a defect - one straight line, an inaccuracy - by a wavy line passing under it.
2. When solving a problem, if the student used the original method and understanding it is marked by passing a vertical red line to the right (or left) on the text and with the inscription next to this line: "It is original! discovery! Cases of any defects are similarly marked with a vertical line and inscriptions: "superfluous!", "Obscure!", "Parts are Missing", etc.
3. After a mistake (error or defect) the red line under the next entry will no longer be needed if the mistake is derived from the previous entry and does not itself contain a new type of defect.

The approach described above created a unified evaluation system. Which allows both the teacher and the student to understand the shortcomings allowed and to encourage skills and intelligence. We read in his papers that "Assessment criteria and conditional notes should be introduced to students at the beginning of the school year. The student should understand the nature of the indicated defect himself and independently or after small instructions from the teacher should correct it at the end of the work.

When evaluating the summary work, he wrote a short review - noting the strength and weaknesses of the work, substantiating the nature of the deficiencies, noting their number, and writing the appropriate mark/evaluation according to the above-described evaluation criteria.

IV. CONCLUSION

Taking into account all the above mentioned, we can conclude that the criteria of a student knowledge we have discussed are very general - there is not (nor can there be) any strictly defined criteria, because of the nature of errors and their consideration in advance is practically impossible. According to Anthony Fredericks "effective evaluation is a continuous, ongoing process." He then adds that "Assessment should be a joint activity between teachers and students. As for the students, he says that "they should be able to play an active role in the assessment so that they can begin to develop individual responsibility for development and self-monitoring" (Fredericks 2010). What Mr. Gondauri agrees with this opinion is that the art of assessment depends on the teacher's diligence and experience, requires a creative approach and caution from him. Thus, the assessment process requires an individual approach in the classroom environment, which will help educators to refine the unified assessment system by sharing teachers' personal practices.

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