SPECIAL METHODS OF SOLVING TEST TASKS AND THEIR IMPACT ON EDUCATIONAL EFFECTIVENESS

Avezov Alijon Khairulloyevich

Senior teacher of the Department of Mathematical Analysis of Bukhara State University

a.x.avezov@buxdu.uz

Annotation: This article examines modern and special methods of solving test tasks, their significance in improving educational quality, and their effectiveness in assessing students' knowledge. The advantages of elimination techniques, logical analysis methods, time management strategies, probability-based answer selection, and combined approaches are scientifically substantiated. Furthermore, recommendations for enhancing the reliability and validity of test results are proposed. The findings indicate that the application of special test-solving methods significantly improves students' academic performance and contributes to more objective assessment outcomes.

Keywords: test tasks, assessment system, elimination method, logical analysis, educational quality, diagnostics, competence, test strategies, knowledge assessment.

Introduction

In modern educational systems, testing has become one of the most effective tools for measuring and evaluating students' knowledge and competencies. Test-based assessment enables educators to evaluate a large number of learners within a relatively short period of time while ensuring objectivity and standardization. Consequently, testing is widely used in international assessment programs, university entrance examinations, certification processes, and professional qualification assessments.

The effectiveness of test performance depends not only on a student's level of knowledge but also on the ability to apply appropriate test-taking strategies. Educational practice demonstrates that students with similar levels of subject knowledge may achieve significantly different results due to differences in their test-solving approaches. Therefore, studying special methods of solving test tasks is essential for improving educational outcomes and assessment accuracy.

The purpose of this study is to analyze special methods of solving test tasks, identify their advantages, and develop recommendations for their effective implementation in educational practice.

Research Methodology

The study is based on theoretical analysis of scientific literature, comparative analysis, pedagogical observation, and the generalization of statistical findings related to educational assessment. International experiences and contemporary approaches to testing and evaluation were also examined.

The methodological framework of the research is grounded in competency-based education, pedagogical diagnostics, and modern theories of educational measurement. The effectiveness of various test-solving strategies was analyzed from both theoretical and practical perspectives.

Special Methods of Solving Test Tasks

The Elimination Method

The elimination method is based on systematically excluding incorrect answer options in order to identify the correct one. This technique is particularly effective in multiple-choice tests where several alternatives are presented.

For example, if a question contains four answer options and a student can confidently eliminate two incorrect choices, the probability of selecting the correct answer increases substantially. Research suggests that the use of elimination strategies can improve test performance by 15–25 percent.

The elimination method is especially useful when students are uncertain about the correct answer but possess partial knowledge of the subject matter. By reducing the number of possible alternatives, decision-making becomes more efficient and accurate.

Logical Analysis Method

Logical analysis involves examining the information provided in a test item, identifying relationships among concepts, and drawing conclusions based on reasoning.

This method is widely applied in mathematics, science, and social science assessments. Students with well-developed logical thinking skills tend to solve complex test items more accurately and efficiently than those who rely solely on memorization.

Logical analysis enables learners to identify hidden clues within questions, recognize patterns, and avoid common misconceptions. Consequently, it contributes significantly to successful test performance.

Probability-Based Answer Selection

In certain situations, students may be unable to determine the correct answer with complete certainty. In such cases, probability-based strategies can be employed.

For instance, in a multiple-choice question with five answer options, random guessing provides a 20% chance of selecting the correct answer. However, if two incorrect options can be eliminated, the probability increases to approximately 33%. Therefore, probability-based decision-making can enhance overall test results when applied appropriately.

Although guessing should not replace knowledge, strategic use of probability principles can serve as an effective supplementary approach in assessment contexts.

Time Management Strategy

Time management is a critical factor in test performance. Many students spend excessive time on difficult questions and consequently fail to complete easier tasks that could contribute valuable points to their final scores.

Effective time management includes the following steps:

1. Answer easy questions first.
2. Proceed to moderately difficult questions.
3. Leave the most challenging items for later.
4. Review all answers before submitting the test.

Research has demonstrated that students who effectively allocate their time during examinations generally achieve higher scores and experience lower levels of test anxiety.

Combined Approach

The combined approach involves integrating multiple test-solving strategies simultaneously. For example, students may use logical analysis together with elimination techniques and effective time management practices.

This approach maximizes the strengths of individual methods while minimizing their limitations. Studies indicate that students employing combined strategies consistently outperform those who rely on a single technique.

The combined approach reflects real-world problem-solving processes, where multiple cognitive skills are applied together to achieve optimal results.

Results and Discussion

The analysis revealed that students who apply special test-solving methods generally achieve higher academic outcomes than those who use traditional approaches alone. Several factors contribute to this improvement:

- Systematic analysis of test questions;
- Elimination of incorrect answer options;
- Efficient use of available time;
- Development of logical reasoning skills;

- Regular practice with test materials.

The findings suggest that test-solving strategies enhance students' ability to demonstrate their actual knowledge and competencies. Furthermore, these methods reduce the influence of anxiety and uncertainty, leading to more accurate assessment results.

The implementation of strategic approaches to testing also promotes critical thinking, decision-making, and self-regulation skills, which are essential components of modern education.

Recommendations for Educational Practice

Based on the findings of this study, the following recommendations are proposed:

- Organize specialized training sessions on test-taking strategies;
- Use diagnostic assessments regularly to monitor student progress;
- Develop students' logical reasoning and critical thinking skills;
- Integrate digital testing platforms into educational practice;
- Implement adaptive testing technologies;
- Encourage continuous practice with standardized test formats.

These measures can contribute significantly to improving educational quality and enhancing the effectiveness of assessment systems.

Conclusion

Special methods of solving test tasks constitute an important component of contemporary educational assessment. Techniques such as elimination, logical analysis, probability-based answer selection, time management, and combined strategies can substantially improve students' test performance.

The study confirms that the effective application of these methods contributes to higher academic achievement, greater reliability of assessment outcomes, and improved educational quality. Therefore, educators should actively incorporate test-

solving strategies into teaching and learning processes to maximize students' success in assessment environments.

References

1 Avanesov, V.S. (2018). *Pedagogical Tests*. Moscow: Prosveshchenie.

2 Nitko, A.J., & Brookhart, S.M. (2019). *Educational Assessment of Students*. New York: Pearson Education.

3 Haladyna, T.M. (2021). *Developing and Validating Multiple-Choice Test Items*. Routledge.

4 Mehrens, W.A., & Lehmann, I.J. (2018). *Measurement and Evaluation in Education and Psychology*. New York.

5 Kuder, G.F., & Richardson, M.W. (2017). *The Theory of Estimation of Test Reliability*. Psychometrika.

6 Turgunov, S.T. (2020). *Fundamentals of Pedagogical Diagnostics*. Tashkent: Fan Publishing.

7 Avezov A.X. Eyler integrallarining tadbiqlari. Uzbekistan www.scientificprogress.uz scientific progress volume 2 | ISSUE 1 | 2021 ISSN: 2181-1601. 10

8 Avezov A.X. Ta'limning turli bosqichlarida innovatsion texnologiya-lardan foydalanish samaradorligini oshirish. // Science and Education" scientific journal, 2:11 (2021), c. 789-797.

9 Avezov A.X. Oliy matematika fanini o'qitishda tabaqalash texnologiyasidan foydalanish imkoniyatlari // "Science and Education" scientific journal, 2:11 (2021), c. 778-788.

10Avezov A.X. Умумтаълим мактаблардаги математика дарсларида ахборот технологияларини ривожлантириш тамойиллари // "Science and Education" scientific journal 2:11 (2021), c. 749-758

11Avezov A.X. Matematika o‘qitishning tatbiqiy metodlari // Pedagogik mahorat, 2021, Maxsus son. c. 52-57.

12Avezov A.X. Avtonom differensial tenglamalarning qo’zg’almas nuqtalari tasnifi haqida //"Science and Education"Scientific Journal, 2:11(2021), c.101-113.

11. Avezov A.X. Matematika fanini o‘qitishning asosiy metodlari // Pedagogik mahorat, 2021, Maxsus son. c. 47-52

13Avezov A.X., Rakhmatova N. Eyler integrallarining tatbiqlari. // Scientific progress, 2:1 (2021), 1397-1406 b.

14Авезов А.Х., С.Хожиев, Ш.Н.Муродов // Численное исследования трехмерных турбулентных струй реагирующих газов, вытекающих из сопла прямоугольной формы, на основе «*к*−□» модели турбулентности. // Бухоро Давлат университети «Илмий ахбороти» -2007. №3.с.81-87.

15Avezov A.X. Gramm determinanti haqida ba’zi bir mulohazalar. // Science and Education" scientific journal, 2:12 (2021), c. 11-22.

16Avezov A.X. Sferik funksiyalarning amaliy ahamiyati haqida. // Science and Education" scientific journal, 2:12 (2021), c. 23-34.

17Avezov A.X. О тригонометрических рядах Фурье. // Science and Education" scientific journal, 2:12 (2021), c. 35-49.

18Avezov A.X. Funksiyaning to’la o’zgarishini hisoblashga doir examplelar yechish yo’llari. // Science and Education" scientific journal, 2:12(2021), c.50-61.

18. Avezov A.X. “Kompleks sonlar” mavzusini o’qitishda “Bumerang” texnologiyasi. // Science and Education" scientific journal, 2:12 (2021), c. 430-440.

1919. Avezov A.X. Funksiya hosilasi mavzusini o’qitishda “Kichik guruhlarda ishlash” metodi.//Science and Education"scientific journal, 2:12(2021), c.441-450.

20. Avezov A.X. Interfaol usullarni qo’llab funksiyaning differensiali va uning taqribiy hisoblashga doir examplelar yechish. // Science and Education" scientific journal, 2:12 (2021), c. 451-461.

20Avezov A.X. Matematikani o'qitishda interfaol metodlar: "Keys-stadi" metodi. // Science and Education" scientific journal, 2:12 (2021), c. 462-470.

21Avezov A.X. Barcha yo'nalishdagi birinchi kurs talabalari uchun "Matematik analiz" fanidan elektron o`quv qo`llanma. № DGU 14132. 12.01.2022 y.

22Avezov Alijon Xayrulloyevich, Nuriddinova Nigina Zamon qizi. Chizg'ich va sirkul yordamida geometrik masalalarni yechishni o'rganish bo'yicha metodik tavsiyalar. "Pedagogik akmeologiya" xalqaro ilmiy-metodik jurnali maxsus son, 2022. 161-168 bet.

23Avezov Alijon Xayrulloyevich. Oliy matematika fanini o'qitishdagi innovatsiyalar va ilg'or xorijiy tajribalar. "Pedagogik akmeologiya" xalqaro ilmiymetodik jurnali maxsus son, 2022. 185-193 bet.

24Alijon Xayrulloyevich Avezov, Nigina Zamon qizi Nuriddinova Kompleks sonlar tekisligidagi muhim integrallar haqida. Science and education scientific journal ISSN 2181-0842 volume 3, ISSUE 10 october 2022. 10-24 bet.

25Alijon Xayrulloyevich Avezov, Shahzodabonu Voxid qizi Toshpo'latova Funksionallar va ularning ekstremumlari haqida. Gamilton -Yakobi tenglamasi. Science and education scientific journal ISSN 2181-0842 volume 4, ISSUE 3 march 2023.11-26 bet.

26Avezov A.X. Matematika fanini o'qitishda noan'anaviy ta'lim yondashuvlari.

27Pedagogik mahorat Ilmiy-nazariy va metodik jurnal 11-son (2023-yil, dekabr), 3443 bet