

UDK:371

DEVELOPING STUDENTS' SUBJECT KNOWLEDGE THROUGH THE USE OF ONLINE TESTS: EXPERIENCE AND RESULTS

https://doi.org/10.5281/zenodo.14948181

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Annotatsiya

Mazkur maqolada Google qidiruv tizimida yaratilgan onlayn testlar yordamida jismoniy madaniyat nazariyasi va metodikasi fanidan talabalar bilimini rivojlantirish boʻyicha olib borilgan tajriba va uning natijalari tahlil qilinadi. Tajribada, onlayn testlar orqali talabalar bilimini baholash va ularning fan boʻyicha oʻzlashtirish darajasini oshirishga boʻlgan ta'siri oʻrganilgan. Natijalar esa mazkur yondashuvning samaradorligini tasdiqlovchi dalillar bilan mustahkamlangan.

Аннотация

В данной статье анализируется эксперимент, проведенный для повышения уровня знаний студентов по предмету «Теория и методика физического воспитания» с использованием онлайн-тестов, созданных с помощью поисковой системы Google. В исследовании рассматривается оценка знаний студентов с помощью онлайн-тестов и их влияние на улучшение понимания предмета. Результаты подкреплены доказательствами, подтверждающими эффективность данного подхода.

Annotation

This article analyzes an experiment conducted to enhance students' knowledge in the subject **"Theory and Methodology of Physical Education"** using online tests created through the **Google search system**. The study examines the assessment of students' knowledge through online tests and their impact on improving subject comprehension. The results are supported by evidence confirming the effectiveness of this approach.

Kalit soʻzlar

onlayn testlar, talabalar bilimi, raqamli ta'lim, ta'lim samaradorligi, baholash usullari

Ключевые слова



AMERICAN JOURNAL OF EDUCATION AND LEARNING ISSN: 2996-5128 (online) | ResearchBib (IF) = 9.918 IMPACT FACTOR Volume-3 | Issue-2 | 2025 Published: |28-02-2025 |

онлайн-тесты, знания учащихся, цифровое образование, эффективность обучения, методы оценки.

Keywords

online tests, student knowledge, digital education, educational efficiency, assessment methods.

Introduction. Nowadays, the integration of modern technologies in the field of education is rapidly advancing. In particular, the implementation of information and communication technologies in the education system has proven to be an effective tool for enhancing students' knowledge. Among innovative approaches to education, the use of online tests holds significant importance. This method not only serves as a means of assessing knowledge but also proves to be an effective tool for its development.

The issue of enhancing students' knowledge through online tests has been studied by many scholars and experts. According to their findings, online tests offer several advantages in the educational process:

1. **Flexibility and Convenience:** Students can take online tests anytime and anywhere, allowing them to adjust their study schedules accordingly.

2. Knowledge Reinforcement: Thematic tests help students deepen and reinforce their understanding of subjects. For example, the **abt.uz** platform provides topic-based tests in various disciplines.

3. **Instant Feedback:** Online tests provide immediate results, enabling students to identify their strengths and weaknesses quickly.

4. **Increased Motivation:** Through online tests, students can compare their knowledge levels with others, which encourages them to study more actively.

Additionally, based on the decree of the President of the Republic of Uzbekistan No. PQ-3775, issued on June 5, 2018, "On Additional Measures to Improve the Quality of Education in Higher Educational Institutions and Ensure Their Active Participation in the Comprehensive Reforms Being Implemented in the Country," the introduction of the E-Minbar system was proposed to enhance the quality of higher education. This system enables the live online broadcasting of lessons conducted in each classroom, thereby contributing to the improvement of education quality.

Overall, scholars consider online tests an essential tool for increasing the efficiency of the educational process.

Subjects such as **theory and methodology of physical education** require not only theoretical knowledge but also practical skills. Within this discipline, students must not only grasp theoretical concepts related to human physical capabilities and



health improvement but also be able to apply them in practice. Therefore, the use of modern technologies in the educational process creates additional opportunities to deepen students' knowledge while considering the unique characteristics of this subject.

The findings of this research are expected to provide new insights into the role and efficiency of online tests in the educational process. In this way, the article highlights the relevance of modern teaching methodologies in the field of physical education and contributes to the development of scientific approaches aimed at improving educational practices.

Materials and methods. An experimental method was used in this study. The research involved **28 undergraduate students**, who participated in a series of **three test attempts** to assess their progress.

The following tools were utilized in the study:

- Online diagnostic tests to evaluate students' knowledge levels.
- Online test platforms (such as test.fizika-fine.uz).

• Surveys and interviews to assess students' motivation and interest in the learning process.

This experimental study was conducted with students specializing in **physical education** at a higher education institution. During the research, I came across the **test.fizika-fine.uz** website, created by **Anvar Maratovich Toshev** through the **Google search system**. The website turned out to be an **online test platform** designed for **certification exams**, **olympiads**, **entrance exams**, and other assessments across various subjects. (*Figure 1*)

The opportunity to assess students' level of knowledge acquisition through an **online platform** was utilized.

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Figure 1. The online test interface of test.fizika-fine.uz

Results. According to my calculations, a total of **100 test questions** were uploaded to the online test database. With each attempt, the order of the questions was randomized.

• First attempt: Due to inattentiveness, hesitation, and selecting incorrect answers suggested by others, **only one student** achieved a **100**% score, while the rest scored **below 70**%, failing to complete the test successfully.

• Second attempt: After allowing students to retake the test, one student again achieved 100%, while four students scored 70%, and 23 students still failed. The results indicated an improvement, likely due to the retention of previously encountered questions.

• Third attempt: In this round, 12 students achieved 100%, 11 students scored 85%, and 5 students obtained 70%. Most importantly, no students failed this time. Additionally, the time required to complete the test significantly decreased.

• Fourth attempt: More than 80% of the students achieved a 100% score.

To assess their **knowledge retention**, an **oral Q&A session** was conducted, during which students provided **remarkably accurate responses**, demonstrating the effectiveness of online testing in reinforcing learning.

To conduct a scientific analysis and draw conclusions based on these test results, the following mathematical methods were used for calculations. *Figure 2*







We determined the effectiveness of the process based on several aspects of accuracy. These include:

Distribution and analysis of student results.

Grouping based on results:

- 1. **First attempt:**
- 1 student achieved a **100% result**.
- The remaining **27 students** did not pass the test (did not reach at least

70%).

2. Second attempt:

- 1 student achieved a **100% result**.
- 4 students achieved a **70% result**.
- The remaining **23 students** did not pass the test.

3. Third attempt:

- 12 students achieved a **100% result**.
- 11 students achieved an **85% result**.
- 5 students achieved a **70% result**.

2. Student Success Rates

Students who achieved a positive result in each attempt: (A positive result is considered as at least **70% correct answers**.)

• First attempt:
$$\frac{1}{28}x100 = 3.57$$
 Formula 1

• Second attempt:
$$\frac{5}{28}x100 = 17.8657$$
 Formula 2

• Third attempt:
$$\frac{28}{28}x100 = 100$$
 Formula 3

3. Calculation of the Average Percentage Result

Determining the average percentage of students' results for each attempt: **First Attempt:**

Formula 4

Average result =
$$\frac{(1x100)+(27x0)}{28} = \frac{100}{28} \approx 3.57$$

Average result =
$$\frac{(2800) \cdot (1200) \cdot$$

- 4 students 70%.
- 23 students 0%.

Average result = $\frac{(1x100) + (4x70) + (23x0)}{28} = \frac{100 + 280}{28} = \frac{380}{28} \approx 13.57$





Formula 5

Third Attempt:

- 12 students 100%.
- 11 students 85%.
- 5 students 70%.

Average result =
$$\frac{(12x100) + (11x85) + (5x70)}{28} = \frac{120 + 935 + 350}{28} = \frac{2485}{28} \approx 88.75\%$$

Formula 6

4. Determining the Overall Success Rate of Students

By combining the results of all attempts, calculate the proportion of successful students:

- First attempt: 1 student (3.57%).
- Second attempt: 4 more students (14.29%).
- Third attempt: The remaining students (82.14%).

Total success rate:

Success rate =
$$\frac{number \ of \ students \ with \ a \ positive \ result}{total \ nomber \ of \ students} x100 = \frac{28}{28} x100 = 100\%$$

Formula 7

5. Analyzing the Effectiveness of the Test

Comparison of test results:

- 100% result: 1 student in the 1st attempt \rightarrow 12 students in the 3rd attempt.
- 85% result: No students in the 1st attempt \rightarrow 11 students in the 3rd attempt.
- 70% result: 4 students in the 2nd attempt \rightarrow 5 students in the 3rd attempt.

Knowledge improvement: The students' knowledge level increased with each attempt, demonstrating the effectiveness of the test.

6. Scientific Conclusion and Recommendations for the Article

1. Knowledge Development: It has been proven that students' knowledge can be improved through an online testing program. The average result increased with each attempt, and in the final attempt, all students achieved a positive result.

2. Impact of the Test: The students' average score in the third attempt (88.75%) is 25 times higher than the initial attempt (3.57%), demonstrating a significant improvement.

3. Knowledge Reinforcement: The high scores achieved by most students in the third attempt indicate better retention of questions and strengthened subject knowledge.

The following diagrams and tables analyze students' test results across different attempts:





1. Diagram 1 (Attempt Results):

 $_{\odot}$ Shows the number of students achieving 100%, 85%, and 70% in each attempt.

• In the first attempt, only 1 student scored 100%, while in the third attempt, this number increased to 12. (Diagram 1).



Results for Each Attempt

1st Diagram: Attempt Results

2nd Diagram: Increase in Average Score

• The average score for each attempt.

• A significant increase was observed, reaching 88.75% in the third attempt. (2nd Diagram).





AMERICAN JOURNAL OF EDUCATION AND LEARNING ISSN: 2996-5128 (online) | ResearchBib (IF) = 9.918 IMPACT FACTOR Volume-3 | Issue-2 | 2025 Published: |28-02-2025 |



2nd Diagram: Increase in Average Score

Table: Overview of Students' Results by Attempts

• In the first attempt, only 1 student achieved a positive result. In the second attempt, this number increased to 5, and in the third attempt, all students achieved a positive result.

Conclusion. The number of students achieving positive results increased with each attempt, demonstrating the effectiveness of knowledge reinforcement. The calculation of the average percentage result shows that students' knowledge levels significantly improved with each attempt.

The research results indicate that online testing can be an effective tool for enhancing students' subject knowledge. In the future, improving this method and integrating new technologies into the education process can further increase its effectiveness. Additionally, it is recommended to organize specialized training sessions for teachers and students on using online test systems.

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