Mathematical statistical analysis and its results in ensuring information-resource integration

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Abstract. The article considers the mathematical statistical analysis of the organization of experimental works in the view of information resource integration. It ended with recommendations for improving the methodology of information resource integration in the mother tongue and teaching lessons for learning them and making them less regulated. Questionnaires are designed for teachers and students based on the general nature of the research.

1 Introduction

When learning the language of an artistic work at school, it is necessary to strictly adhere to the unity of form and content. Great word artists achieve a clear description of the specific aspects of a person, an object or any event through words or combinations of words, so that a new, never before seen, vivid image in motion, completely different from the previous ones, is embodied in the eyes of the reader. In the process of studying the artistic work and its images, the teacher explains to the students these new, vivid images that are different from the previous ones, which are clearly and vividly described by means of words and phrases, by studying the language of the work [1].

Experiments and tests carried out in connection with scientific research were carried out under the guidance of the author.

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in three stages.

6th, 10th, 17th, 23rd, 29th, 3rd, 9th, 10th, 11th in Reshku District, 25, 27 in Jondo district, 42, 48 in Karakol district, 44 in Urganch district of Khorezm region, 4 in Urganch city, 36, 42 in Khanka district, 6, 19 in Nurota district of Navoi region, the level of literary knowledge formed by elementary school students of the 2nd, 5th, 8th, 19th general schools in the city of Navoi in Karmana district was studied. Questionnaires were distributed and attention was paid to the level of scientific and methodical knowledge of elementary school teachers during 150 hours of lesson observation.

2 Main part

The following is a discussion of the nature of the questionnaire survey and the grounding experiment, which allows obtaining specific information about the state of achievement in primary reading classes.

The grouping of experimental participants was done on the basis of the principle of equality.

The first version of the questionnaire, which was brought to the attention of the respondent teachers, was made on the basis of the following questions:

- Are you familiar with the theory of literary analysis?
- What do you think it means to design the process of learning literary concepts in reading classes?
- What circumstances are taken into account when determining the main goal of the process of studying an artistic work in reading classes?
- How is the educational goal determined in reading classes?
- Explain literary concepts?
- What skills are necessary for students to understand the content of a work of art?

Regarding the first question of the questionnaire, most of the 32 teachers stated that they are partially aware of the theory of literary analysis (see table 1).

Table 1. Indicator of teachers' awareness of the theory of literary analysis

<table>
<thead>
<tr>
<th>Groups</th>
<th>Correct Answers</th>
<th>Incorrect Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group 16 people</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Control group 16 people</td>
<td>11</td>
<td>7</td>
</tr>
</tbody>
</table>

As can be seen from the answers, the majority of teachers (21, 68.1%) answered that they are «partially aware of the theory of literary analysis». However, during the interviews conducted with them in the later stages of the experimental work, it became clear that almost half of the teachers who responded positively (11, i.e. 27.2%) were partially aware of the theory of literary analysis in question, and the rest (13, i.e. 41.0%) it became clear that he takes into account the educational aspects of the work in reading classes. Most teachers stated that they have almost no experience in designing reading lessons. The indicators of teachers' responses were as follows (see table 2).

Table 2. An indicator of the design of the process of learning literary concepts

<table>
<thead>
<tr>
<th>Groups</th>
<th>Correct Answers</th>
<th>Incorrect Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group 16 people</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Control group 16 people</td>
<td>3</td>
<td>13</td>
</tr>
</tbody>
</table>

During the interview with the teachers in the later stages of the experiment, a certain part of them (25 77.3%) emphasized that they have little knowledge about «designing the process
of learning literary concepts in reading classes» and cannot give a correct answer because
they cannot fully explain its essence. passed.

The teachers’ answers to the third question from the questionnaire were positive.
According to their opinion, «the goal of education is the main result that is intended to be
realized in the course of studying a certain subject in reading classes.» The number of
respondents in this context is as follows (see table 3).

Table 3. Determining the main purpose of the process of studying an artistic work in reading classes

<table>
<thead>
<tr>
<th>Groups</th>
<th>Correct Answers</th>
<th>Incorrect Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Experimental group 16 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group 16 people</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the answers to the fifth question, it can be seen that even the teachers themselves
have a hard time interpreting literary concepts. It was found that they are far from the issue
in question. Primary school teachers have specific experience in organizing reading lessons.
The reason for their negative response is the lack of perfect methodical experiments on the
formation of students' literary concepts in primary education [4].

The main participants of the experiment gave a positive answer to the sixth question
compared to the previous questions. Although this answer is not logically complete and
clearly expressed, it indicates that primary school teachers have some knowledge in this
regard [4].

The best methods of most of the school teachers who have been experimented with are
that they come to a certain conclusion about the content of small works and the leading
characteristics of the characters. Conducting the lesson in this way can lead to the effective
passage of the lesson and the interest of students in reading the work [4].

When we interviewed the teachers about the methods used in the analysis of the work,
the majority of primary school teachers have higher education. The lack of methodological
manuals for working on literary concepts in the analysis of works in the primary school
reading classes, the lack of a deep approach to the issue, as a part of the subject «Methodology
of teaching the mother tongue in primary grades» in the curriculum of primary education teachers in higher educational institutions, «Methodology of reading in the classroom and outside the classroom», it was found that limiting the training of primary school teachers to such information is not proportional to the need to properly organize reading lessons and form literary concepts in students. Therefore, we think that it is necessary to develop a new integrated course program «Reading Methodology» that gives students a methodical guide to teaching children's literature in primary reading classes, and allocate hours as a separate subject in the curriculum [5].

32 teachers whose reading lessons were observed based on a certain goal during the experimental work were told the goals before starting the lesson, and the conditions for compliance with the principle of consistency and systematicity were explained. But as a result of our observations, we witnessed that some teachers, having a general idea about the types of work related to the analysis of works in the reading classes, are not able to use them effectively. In particular, «Which methods do you use more in the analysis of the work?» the following answers were received from the teachers.

19 out of 32 teachers (60%) reported that they use the interview method, 7 (22%) used the demonstration method, and 6 (20%) used the reproductive method.

The teachers who participated in the survey did not pay much attention to effective methods. Only a few teachers have shown that they use methods with high results in the analysis of the work. This indicates that the majority of primary school teachers do not have full methodological knowledge of the methods used in the analysis of the work.

We summarize the indicators of improvement of the methodology of providing information resources integration in primary grade mother tongue and reading lessons in the table below (see table 6).

Table 6. Statistical analysis of the results of the experience of improving the methodology of ensuring the integration of information resources in the primary-grade mother tongue and reading classes by lessons

<table>
<thead>
<tr>
<th>Observed lesson number</th>
<th>Experience class</th>
<th>Control class</th>
<th>Average value</th>
<th>Confidence interval</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 lesson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 lesson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 lesson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 lesson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 lesson</td>
<td></td>
<td></td>
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</tbody>
</table>

We summarize the indicators of improvement of the methodology of providing information resources integration in primary grade mother tongue and reading lessons in the table below (see table 6).
From the values in the table, it can be observed that some control results were significantly different in the experimental classes and the control class. For example, according to the results of lesson 5 in the 2nd grade, $X_{i1} = 64$, $X_{i2} = 36$, $X_{i3} = 3$ and the effectiveness of teaching in experimental class 1 compared to teaching in the control class was 1.41. The reason for these results is the 11th lesson in this lesson section, in each previous lesson, the students of the experimental class 1 managed to complete one to five more exercises than the students of the control class, the students of the experimental class completed the exercises individually, each lesson was tested based on more than ten questions, etc. So, the students of the 1st experimental class have mastered all the material in the chapter related to this lesson. The students of the control class had time to perform only 2 or 3 types of exercises in each lesson. Even then, the active participation of all students in the class was not ensured. Since not all students can accept the teacher's explanations in the same way, most of the students had a hard time completing the tasks [6].

In this lesson, the effectiveness of teaching in the 2nd experimental class was 1.21 compared to the teaching in the control class. All the ideas and information from the project used in the 1st experimental class are embodied in the design of students' creative activities in mother tongue education. However, due to the relatively difficult nature of tasks aimed at students' thinking, slow processes, the level of mastery of the material was lower than in experimental class 1 (see Table 6.): the efficiency of teaching in experimental class 1 is 7% more than that of experimental class 2).
We calculate the quality indicator of the obtained results. We know

\[
\Delta_x = \bar{X} - \bar{Y}, \quad \Delta_y = \bar{Y} - \bar{X}
\]

is equal to.

Quality indicators from this:

\[
K_{usb} = \frac{\bar{X} - \Delta_x}{\bar{Y} + \Delta_y}
\]

\[
K_{hdb} = \frac{\bar{X} - \Delta_x}{\bar{Y} - \Delta_y}
\]

From the above results, it is explained by the fact that the efficiency evaluation criterion is greater than one and the knowledge level evaluation criterion is greater than zero. It is known that the learning rate in the experimental group is higher than that in the control group

From the above statistical analysis, it is known that the statistical analysis carried out on the results of the research and presented in the dissertation shows that the experimental work is effective and our intended goal is confirmed.

3 Conclusion

Improving the methodology of ensuring the integration of information and resources in primary school mother tongue and reading classes is an important condition for achieving educational efficiency. Reading and mother tongue education in primary grades form basic competencies by developing students' literacy and reading skills. Improving the methodology of ensuring the integration of information resources in primary grade mother tongue and reading classes plays an important role in the formation of students' analytical skills. After all, analysis is an important factor for the teacher to communicate with students, to develop their competence and worldview of the perception of the artistic work. Improving the methodology of ensuring the integration of information resources in the primary class mother
tongue and reading classes requires strict adherence to the principle of consistency and systematicity in education.

References

1. R. Ibragimov, Didactic foundations of formation of cognitive activity in primary school students (Tashkent, 2007)
3. S. Matchonov, Organization of independent work from literature in the general education system (Tashkent, 1998)
4. R. M. Kuldoshev, E3S Web of Conferences 371, 05069 (2023)
5. S. Matshonov, et al., Organization of elementary reading classes based on editorial technologies (Tashkent, Yangyol roliograph service, 2008)
6. R.A. Qo’ldoshev, Methodological foundations of teaching writing to Chapakay primary school students (Bukhara, 2021)
7. R.A. Hamroyev, Designing students’ creative activities in mother tongue education (Bukhara, 2020)