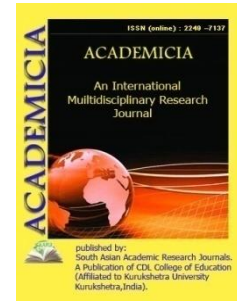




**ACADEMICIA**  
**An International  
Multidisciplinary  
Research Journal**  
(Double Blind Refereed & Peer Reviewed Journal)



**DOI: 10.5958/2249-7137.2021.01715.8**

## **FORMATION OF ORTHOGRAPHY COMPETENCES OF PRIMARY SCHOOL STUDENTS THROUGH PROGRAMMING PEDAGOGICAL TOOLS**

**Rakhimkulova Makhbuba Bakhranovna\***

\*Associate Professor,  
Samarkand regional center for retraining and advanced training of public Educators,  
Candidate of Pedagogical Sciences, UZBEKISTAN  
Email id: raximkulova80@mail.ru

### **ABSTRACT**

*This article provides information on innovative teaching technologies aimed at developing the creative abilities of primary school students in the field of spelling. It also highlights the importance of computer adaptive learning technology, methods, tools and forms for enriching the content of teaching material to achieve the required level of spelling competence and teaching of students, independent study of full, abbreviated or in-depth reading options of students. Computer modeling is effective in learning and generalizing exercises to learn native language spelling, it provides a basis for young school students to create their own algorithm for the events being studied and to select the material for their verification. In other words, they perform the role of a programmer relative to the computer. Algorithms created independently by students are carefully memorized. Practice has shown that such work significantly increases interest in language and affects understanding of efforts to apply rules. As a result, attention to the written word increases and literacy improves.*

**KEYWORDS:** *Software Pedagogical Tool, Professional Competence, Technology, Orthography, Spelling, Computer Modeling, Literacy.*

### **INTRODUCTION**

From the first years of independence, the need for radical, step by step reform of the education, science and professional systems of the country has been felt, and this work, which can never be postponed, has been carried out step by step.

Indeed, the formation of the professional competence of future teachers in the introduction of an updated education system is an important requirement of today.

At the present stage of development of science, the interest in the study of orthography has not diminished, both from a didactic point of view and from a linguistic point of view. Legislation in the field of orthography has not yet been identified and adequately studied: the extent to which spelling skills in primary school students are adjusted in the context of adaptive (personality-oriented) teaching in relation to the requirements for their language competencies has not been resolved.

In determining the conditions for the implementation of trends in the informatization of education in the example of the organization of spelling work in primary school, **firstly**, increase students' computer literacy, **secondly**, modernization of existing forms and methods of educational work through the use of software and pedagogical tools, **thirdly**, changes in the content of education (the ratio of theoretical and practical training in the formation of spelling skills), the use of new organizational forms and methods to ensure adaptive learning based on the use of information technology.

**Analysis of the literature on the subject.** As a result of the lack of an information model for teaching orthography, the volume and level of coverage of theoretical material in the native language textbooks of primary school, the lack of development of objective criteria for determining the optimal ratio of theoretical knowledge and practical assignments aimed at the formation of correct writing (spelling) skills and competencies has led to the burden of academic work for young school students.

Indeed, this topic, which covers innovative teaching technologies aimed at developing the creative abilities of primary school students in the field of spelling, takes into account personal motivation in practice, it is relevant in that it is devoted to the analysis of the sharp contradictions between the underutilization of the potential of the adaptive (individual and stratified) approach, which implies the use of targeted software tools.

The essence of computer adaptive learning technology is: to enrich the content of educational material to achieve the required level of orthography competence and training of students, adequate, methods, tools, and forms for the independent study of students' fully abbreviated or in-depth reading options are selected.

## RESEARCH METHODOLOGY

Creating computer modules for orthography is done as follows:

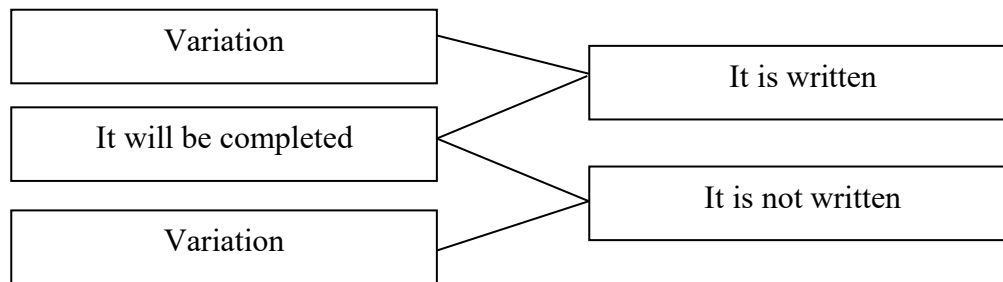
### 1. Formulation of the model of knowledge necessary for mastering spelling, taking into account the purpose of the module.

The model is a form of special abstractions in which the important relations of the object are visual and imaginative, reinforced in material or symbolic connections and relations; it is a peculiar unity of the common.

### 2. It is the process of creating an idealized object as a complex, structurally hierarchically organized structure that allows the subject to model and transform an objective being, and to perform operations on it by definite means.

A model is an object that replaces something, is easy to use, and reflects important aspects of the prototype for a specific purpose.

Based on the definition of the didactic essence of graphic models, they are divided into types: by shape (pictures, diagrams, tables), on the content (models of the external aspects of the object of language, the essence or programs of efforts to solve orthography problems), by function (concretizing and abstracting). The following scheme can serve as a model of reasoning, reflecting the essence of the spelling rule:



Depending on the characteristics of the preparation, there are model-bases (posters) containing text, bases (tables) containing text and drawing, bases (schemes) containing drawings.

The functions of the model-bases are to organize informative, managerial, cognitive activities, to stimulate the ability to apply theoretical knowledge, to generalize.

Primary basics help to understand the material, facilitate the mastery of the definition of the rule, and vividly demonstrate efforts in orthography analysis. This will help you to replicate what you have learned in the future.

Reconstructive supports help to work freely on the material based on effort patterns.

Motivational bases help to move from modeling to independent application of rules, speed up the mental work process, develop creative skills. This occurs in students' desire to identify connections between the events studied.

**Analysis and results.** The effectiveness of various methods of introducing schoolchildren to the definition of a rule is determined as follows:

Option 1 is re-reading the text of the rule from the textbook;

Option 2 is acquaintance with the definition of the rule as a result of independent work on a computer program. At the same time, the importance of graphic bases in the process of direct perception with the use of graphical bases after the observation and analysis of linguistic phenomena is great.

Option 3 is for the teacher to explain in words. The graphic bases only served as confirmation of his words.

When using the second option, the results were high: 87.1% of students consciously reconstructed the definition of the rule, 78.8% performed the required task incorrectly by applying this rule. In students familiar with option 1, these figures are 64.8% and 75%, respectively, and in option 3, 57% and 33%, respectively.

## 2. Design of orthography material.

Orthography rules require multifaceted preparatory work and analysis of the material. In the analysis of the rules, the conditions for the transition from the original form to the algorithmic form were determined. To do this, it is necessary to formalize the rules, to make the computer work.

A.G.Azimov distinguishes three permissible stages of mental effort: algorithmic, semi-heuristic, heuristic.

Some rules apply only under certain conditions. Conditions of this type can be called contextual conditions. They should be described in detail in the specific context in which they are used in contextual terms.

Many rules can be given by models describing the selection of the desired letter or combination of letters depending on the surrounding letters, which is determined by the following rules. Such letters are followed by words with dots or asterisks instead of "suspicious" letters, and the student "replaces" these letters by pressing the appropriate key and waits for the assessment of his answer - whether the work was done correctly or incorrectly.

In some cases, the application of rules depends on semantic conditions, which creates certain difficulties in programming.

The programming of the rules is carried out after determining the conditions for their implementation.

Then the material should be selected so that students can "check" the model. One of the main advantages of machine modeling is the ability to conduct exercises on a large volume of material to strengthen the rule model in the minds of children. If, according to the traditional methodology, a 2nd grader writes 60 words in a lesson, he or she can now develop an array of up to 240 words in 30 minutes using information and communication services. The number of units of starting material is not limited by anything. It can be stored in a database and retrieved when needed, developed in several options that vary in size and complexity of the issue.

In modeling, what is learned is intended to reinforce what has been learned from the textbook in selected examples that take into account complex variants of orthography.

After working with the machine, the student selects examples based on his or her language intuition or reproduces the material provided by the machine (reproductive level), increasing students' activity and helping them to master the material being studied.

An example of a dynamic table used in software pedagogical tools in the study of the spelling rules of voiced and unvoiced pairs of consonants is given below.

### Spelling of voiced and unvoiced consonants

TABLE 1

Topics	Methods of marking the learned spelling in words
Spelling of voiced and unvoiced consonants	Draw a wavy line under the last consonant letter or double consonant in the word. <i>Wavy line</i>

The spelling of consonants or the spelling of single-syllable words that consist of a vowel after the consonant being examined	Draw a line where the spelling should stand. Change the core of the word Change the word Choose a single keyword Put the omitted letters. Draw two lines under the consonant letter in the word and one line under the consonant letter.
--	--

The data placed in the table will appear on the screen step by step: first the section in the “Topics” column, then the section in the “Methods of defining the learned spelling in words” column. Next step: after the part in the first column, the part in the second column corresponding to it comes out. In this order the whole table is filled. The machine shows an example of spelling analysis, providing a complete reference basis for students’ next steps in applying the spelling rule.

The table appears dynamic, i.e. in the form of a sequence of topics. Along with this, the actions on the content of the expression of the topics are shown step by step. Such a sequential implementation of the effort reinforces the order of spelling analysis in students’ memory by relying on the subject expression.

The diversity of types of orthography models not only allows strengthening orthography skills, but also shows the systematic connection of orthography with phonetics, word structure, morphology. In particular, algorithmic models can be presented in the form of tables, symbols in the form of a “tree”.

By teaching algorithms we mean logical structures that serve as a practical guide for the formation of skills or the formation of concepts that reveal the content and structure of the student's thinking activity in solving problems of a given type. Apparently, a learning algorithm is understood as a sequence of thinking operations that are necessary in the development of this or that problem.

## CONCLUSIONS AND SUGGESTIONS

It should be noted that in this process it is difficult to monitor and control the thinking activity of the student. But if this is not done, it cannot be forced to work on the algorithm. As a means of overcoming this difficulty, special exercises can be used to force the reader to mark the execution of algorithmic operations with actions that leave a material mark (underline, emphasize, write intermediate forms or check words). This type of commentary can also be done using a computer. Accordingly, understanding, memorizing, and recording actions ensure that the work on the algorithm is successful.

The importance of didactic work on the development of algorithms is that students carefully and meticulously repeat the situations in which this or that rule is applied.

Computer modeling is effective in the study and generalization exercises of native language spelling, allowing young schoolchildren to choose the material themselves to create an algorithm of studied phenomena and check them. In other words, they perform the role of a programmer relative to the computer. Algorithms created independently by students are carefully memorized. Practice has shown that such work significantly increases interest in language and affects

understanding of efforts to apply rules. As a result, attention to the written word increases and literacy improves.

**LIST OF REFERENCES:**

1. Matchonov S. et al. Introducing pedagogical technologies in primary school. Tashkent: New Road Polygraph Service, 2008. -224 p.
2. Niyozmetova T.R. Use of computer and information technologies in literary education // New pedagogical technologies in language and literature education. Part 1. Tashkent: Tashkent State Pedagogical University named after Nizami, 2006.
3. Azimov E.G. Theory and practice of using computer programs in teaching Russian as a foreign language. M., 2000.
4. Ishmuhamedov R.J. Ways to increase the effectiveness of education using innovative technologies. Tashkent: Tashkent State Pedagogical University named after Nizami, 2004. - 44 p.
5. Ziyotova T. Technology of computer use in native language lessons // Bulletin of GulSU. Guliston, 2001. Issue 2.