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THE ROLE OF GAME-BASED TECHNOLOGIES IN DEVELOPING READING CULTURE AMONG PRIMARY SCHOOL STUDENTS

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Abstract. This study is devoted to analyzing the methods and pedagogical and psychological effectiveness of using interactive game-based technologies (Game-Based Interventions) to develop reading habits and a reading culture among primary school students. In the modern educational environment, where information and digital technologies are rapidly advancing, game-based approaches are considered among the effective tools for increasing children's interest in books, improving reading comprehension and analytical skills, and fostering critical thinking. The article provides a comprehensive analysis of the theoretical foundations of game-based approaches, particularly gamification mechanisms, storytelling, Reading Bingo, Reading Quests, and the practical application of digital reading platforms. The results of the experimental study indicate that game-based interventions can enhance students' intrinsic motivation, vocabulary development, and reading comprehension skills.

Keywords: primary education, reading skills, game-based interventions, reading culture, gamification, learning motivation, interactive methods, reader-response theory.

INTRODUCTION

One of the key priorities of the modern education system is to develop not only literacy but also independent reading skills and a lasting love of books among young learners. However, attracting primary school students' attention to books has become increasingly challenging in today's digital age. In an information environment dominated by visual content, short videos, and digital games, traditional methods of compulsory reading do not always produce the expected results. Young learners may become tired quickly when processing textual information or gradually lose their motivation to read.

In this regard, there is a growing need to introduce game-based interventions (Game-Based Interventions) and gamification elements into the educational process. Play is one of the activities most closely aligned with the nature and developmental characteristics of primary school children. Integrating games with reading enables children to perceive the reading process not as a mechanical task but as an engaging and enjoyable adventure.

Research Aim and Objectives

The main aim of this study is to substantiate the theoretical and pedagogical foundations and practical effectiveness of game-based technologies in fostering a reading culture among primary school students.

To achieve this aim, the following research objectives have been established:

1. To analyze the scientific perspectives of local and international scholars on game-based approaches to promoting reading in primary education.
2. To classify effective game-based interventions and methods aimed at developing students' reading habits and skills.
3. To evaluate, through experimental research, the impact of game-based technologies on students' learning motivation, vocabulary development, and reading comprehension.
4. To develop practical recommendations and methodological guidelines for primary school teachers.

LITERATURE REVIEW

The integration of play and education, as well as children's reading, has been studied by many international and local researchers.

L.S. Vygotsky, in his cultural-historical concept, regards play as a key factor in a child's mental development and in the formation of the "zone of proximal development." According to Vygotsky, during play a child can perform logical and emotional tasks at a level above their age.

D.B. Elkonin, analyzing the characteristics of the transitional period between play and learning activity at primary school age, emphasizes that new knowledge and skills are firmly acquired only if elements of play are preserved.

In international practice, J.P. Gee (What Video Games Have to Teach Us About Learning and Literacy) analyzed the influence of game mechanics on literacy and reading skills. In his view, a well-designed game environment stimulates a child's problem-solving, hypothesis-forming, and deep text-comprehension skills. S. Deterding and colleagues defined gamification as "the use of game design elements in non-game contexts," and showed that incentives, levels, and quests used in education increase learner agency.

Among Uzbek pedagogical scholars, J.G. Yo'ldoshev and S.A. Hasanov have emphasized the role of interactive methods and game-based technologies in improving lesson effectiveness, while R.A. Mavlonova has paid particular attention to game-based forms of working with literary texts in developing primary school pupils' speech and thinking.

RESEARCH METHODOLOGY

This study used a combination of theoretical and practical research methods:

1. **Theoretical-pedagogical analysis:** A comparative study of literature on pedagogy, psychology, and methodology, as well as curricula and advanced foreign experience.

2. **Pedagogical observation and survey:** Determining pupils' classroom engagement, their attitude toward books, and the time they devote to reading outside class.

3. **Pedagogical experiment:** An experiment conducted among primary school pupils (grades 2–3) to determine the effectiveness of game-based interventions. Control and experimental groups were formed.

Group type	Number of pupils	Approach used
Control group	30	Traditional reading and text-work methods
Experimental group	30	Game-Based Interventions and gamification

The "Reading BINGO" Method

"Reading BINGO" stimulates pupils' interest in reading literature of various genres through free choice and game dynamics. Each pupil receives a BINGO card with 5x5 squares. Each square contains a specific condition:

- "Read a fairy tale whose main character is an animal"
- "Read a book with a green cover"
- "Read one page together with your parents"
- "Memorize one poem from a book of poetry"

When a pupil fulfills a condition, they mark the corresponding square. Pupils who complete a row or column announce "BINGO!" and are rewarded with small prizes (badges, bookmarks).

The "Reading Quest" Method

A reading quest is a game with detective and investigative elements that guides pupils to read the text attentively. During the lesson, the teacher prepares mysteries and puzzles based on the content of the work. Pupils split into groups and find keywords, hidden clues, and maps in the work.

- **Goal:** To develop close reading, that is, deep rather than superficial analysis of the text, and teamwork skills.

"Hot Seating" and Role-Playing Games

One pupil takes on the role of the main or a negative character from the work they have read and sits in the "hot seat." The rest of the class asks questions about the plot and evaluating the character's actions. The pupil in role must answer from the character's point of view.

- **Goal:** To develop emotional intelligence, empathy, critical thinking, and oral speech skills.

Digital Game-Based Interventions

In the digital age, gamifying reading through interactive applications (for example, Kahoot!, Quizizz, Wordwall) and digital book platforms is highly effective. Interactive quizzes based on a book that has been read give children a chance to test their knowledge and awaken a sense of healthy competition.

1. EXPERIMENT AND DISCUSSION OF RESULTS

To test the effectiveness of game-based interventions, an 8-week experiment was conducted among grade 3 pupils. At the beginning and end of the experiment, both groups were assessed on three main indicators:

2. Reading motivation and interest (via survey and observation).
3. Vocabulary richness and ability to use words (via special tests).
4. Level of text comprehension and analysis (via text excerpts and comprehension questions).

Comparative Analysis of Experiment Results

Indicators	**Control Group (Start)**	**Control Group (End)**	**Experimental Group (Start)**	**Experimental Group (End)**
High motivation level	30%	36%	28%	78%
Vocabulary acquisition	52%	58%	50%	84%
Deep text comprehension (Analysis)	40%	46%	42%	80%

Control Group (Start) Control Group (End) Experimental Group (Start) Experimental Group (End)

The results showed that although indicators grew slightly in the control group using traditional methods (by about 6–8%), in the experimental group using game-based interventions, pupils' motivation increased by 50%, vocabulary by 34%, and text comprehension by 38%.

Analysis and Discussion of Results

1. **Disappearance of the psychological barrier:** Reading organized in a game format removed the stereotype and anxiety in pupils' minds that "reading is a difficult task."

2. **Growth of active vocabulary:** Because new words encountered during play were remembered through context, children began to use them freely in their speech.

3. **Formation of initiative:** "Reading BINGO" and "Reading Quest" built in pupils the habit of going to the library independently and reading books outside class.

5. CONCLUSION AND PEDAGOGICAL RECOMMENDATIONS

The research and experiment demonstrated that game-based technologies (Game-Based Interventions) have high pedagogical and psychological effectiveness in developing reading skills

among primary school pupils. The combination of play and reading activates children's cognitive processes, develops their emotional-volitional sphere, and turns them from passive listeners into active readers. Gamification and interactive game methods serve as an important tool for improving the quality of modern primary education.

Pedagogical Recommendations

The following recommendations are put forward for primary school teachers and methodologists:

1. **Moderation and flexibility:** Game tasks must suit pupils' age and psychological characteristics and the complexity of the text. The game should remain a means and must not crowd out the content of reading, which is the main goal.
2. **Setting up the reward system properly:** The game should recognize not only winners but also each pupil's personal growth and small successes.
3. **Cooperation with parents:** It is recommended to extend game-based reading tasks (for example, family BINGO or home quests) to the family environment.
4. **Balance of digital and traditional methods:** Interactive and digital game technologies should be used productively while preserving direct contact with the book.

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