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ORIGINAL

Some Measures to Enhance First-Grade Students' Adaptability to Learning Activities

Algunas medidas para mejorar la adaptabilidad de los estudiantes de primer grado a las actividades de aprendizaje

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ABSTRACT

Introduction: this article presents the results of research and proposed measures to enhance the adaptability of first-grade students to the learning environment. Based on a solid theoretical foundation, the study clarifies the concept, characteristics, and factors influencing students' adaptation process when transitioning from preschool to primary school. Drawing on theoretical foundations and surveyed realities, the article proposes seven specific, practical, and feasible measures. These measures are designed to help first-grade students overcome initial difficulties in adapting to a new learning environment while fostering confidence and a positive attitude toward learning.
Method: the proposed measures include organizing activities to familiarize students with the classroom, designing engaging and relatable lessons, creating a friendly learning environment, collaborating with parents to support children, and promoting group activities to build solidarity. The study was conducted with an experimental group of 168 first-grade students (compared to a control group of 171 students) from two primary schools, Bến Thủy and Trung Đô, during the academic years 2022-2023 and 2023-2024. The experiment was systematically organized, utilizing quantitative measurement and evaluation methods to assess the effectiveness of the proposed measures.
Results: the research results indicate that the proposed measures significantly improve first-grade students' adaptability to learning activities. Students who experienced these measures not only adapted more quickly to the new learning environment but also exhibited a more positive attitude toward learning.
Conclusion: this affirms the feasibility and practical value of the measures in educational practice.

Keywords: Measures; Adaptability; Impact; First-Grade Students; Learning Activities.

RESUMEN

Introducción: este artículo presenta los resultados de una investigación y propone medidas para mejorar la adaptabilidad de los alumnos de primer curso al entorno de aprendizaje. Partiendo de una sólida base teórica, el estudio aclara el concepto, las características y los factores que influyen en el proceso de adaptación de los alumnos al pasar de preescolar a primaria. Basándose en fundamentos teóricos y en realidades estudiadas, el artículo propone siete medidas específicas, prácticas y factibles. Estas medidas están diseñadas para ayudar a los alumnos de primer curso a superar las dificultades iniciales de adaptación a un nuevo entorno de aprendizaje, fomentando al mismo tiempo la confianza y una actitud positiva hacia el aprendizaje.

Método: las medidas propuestas incluyen la organización de actividades para familiarizar a los alumnos con el aula, el diseño de lecciones atractivas y relacionables, la creación de un entorno de aprendizaje agradable, la colaboración con los padres para apoyar a los niños y la promoción de actividades de grupo para fomentar la solidaridad. El estudio se llevó a cabo con un grupo experimental de 168 alumnos de primer curso (frente a un grupo de control de 171 alumnos) de dos escuelas primarias, Bến Thủy y Trung Đô, durante los cursos académicos 2022-2023 y 2023-2024. El experimento se organizó sistemáticamente, utilizando métodos cuantitativos de medición y evaluación para valorar la eficacia de las medidas propuestas.
Resultados: los resultados de la investigación indican que las medidas propuestas mejoran significativamente la adaptabilidad de los alumnos de primer grado al aprendizaje en el aula.
Conclusión: Esto confirma la viabilidad y el valor práctico de las medidas en la práctica educativa.

Palabras clave: Medidas; Adaptabilidad; Impacto; Estudiantes de Primer Grado; Actividades de Aprendizaje.

INTRODUCTION

Zazzo.B (1987) and his colleagues conducted research on the transition from kindergarten to first grade for children. The author identified various signs of first-grade students' adaptability to learning activities, highlighting that learning adaptation is closely linked to psychological development aspects such as autonomy, intelligence, gender, biological circumstances, and family background. Based on these findings, Zazzo initially proposed the ability to predict children's adaptability when entering first grade. Furthermore, the study revealed a strong correlation between adaptability and children's academic performance. Research on six-year-old children's learning adaptation indicated that adaptability is influenced by 12 social environmental factors. The findings also confirmed that the pedagogical methods and practices in kindergartens and primary schools significantly impact first-grade students' adaptability. The author suggested that to support children's adaptation to learning activities, a transitional phase is necessary, during which kindergarten-style play-based activities and teacher-student relationships should be maintained during the first half of first grade.[1]

In her 1989 study, Vũ Thị Nho observed that at the beginning of primary school, 70 %-80 % of students adapted to learning activities, though at a moderate level, and were influenced by factors such as kindergarten education, family education, school environment, teaching methods, and teacher attributes. Nguyễn Kim Quý (1995) further indicated that the first-grade learning process involves intense adaptability to learning activities, characterized by complexity and fluctuations, with 10 %-15 % of students still struggling to adapt by the end of first grade.[2]

Literature review

Piaget (1952) emphasized that children's cognitive development progresses through stages as they continuously adapt, learning to balance external demands with their internal abilities. Piaget's theory outlines stages of cognitive development, where children must overcome specific challenges to adapt to new learning environments. Children's self-regulation and thinking abilities during early childhood play a critical role in their cognitive development.[2]

In contrast, Vygotsky (1978) highlighted the importance of social environments and adult support in helping children adapt and develop. Vygotsky introduced the concept of the "Zone of Proximal Development" (ZPD), which underscores the role of social support from teachers and parents in fostering children's development. This theory contributes to understanding first-grade students' adaptability, offering insights into how children develop cognitive and practical skills in a new school environment.[3]

Key factors influencing first-grade students' adaptability to learning activities include:

- Physical and emotional development: First-grade students are undergoing physical, cognitive, and emotional growth. They need time to adjust to new requirements such as sitting for extended periods, memorizing, and concentrating.
- Self-management skills: Adaptation requires students to manage themselves, including staying seated, completing assignments, and interacting with peers and teachers.
- Learning environment: The classroom environment significantly affects students' adaptability. A supportive and exploratory environment tailored to students' abilities fosters quicker adaptation.
- Teaching methods: Personalized, flexible, and engaging teaching methods help first-grade students grasp knowledge more easily and adapt to learning activities.
- Family support: Families play a vital role in supporting children's adaptation to a new learning environment. Parental encouragement and assistance help children overcome initial challenges.

Joseph A. Durlak (2016) focused on the importance of Social and Emotional Learning (SEL) in facilitating first-grade students' adaptation to school. SEL is critical for young children as it helps them develop essential

competencies such as self-awareness, self-regulation, social awareness, communication skills, and responsible decision-making. The author argued that SEL programs can enhance students' abilities to overcome emotional and social challenges at the start of their school journey, which is vital for both academic success and overall well-being.[4]

First-grade students face significant developmental changes, and SEL equips them with tools to navigate new social situations, adhere to classroom rules, and build positive relationships with peers and teachers. Through case studies and research data, Durlak demonstrated that students receiving structured SEL education adapt better to the demands of formal schooling. These students often achieve better academic outcomes, experience lower stress levels, and exhibit better social integration compared to their peers without such support. The article emphasized the necessity of integrating SEL into primary education as a strategy to promote long-term success in both academic and personal development. The study highlighted that a comprehensive approach addressing both cognitive and emotional growth is essential for ensuring a smooth transition for first-grade students into the formal school environment. Sarah L. Pierce (2019) explored the role of teacher-student relationships in first-grade students' school adaptation process. This study underscored the significance of teacher-student connections in helping children overcome challenges when transitioning to a school setting, particularly during the initial stages of education. The primary goal of the research was to examine how teacher-student relationships influence children's adaptability to school, including factors such as engagement in learning activities, rule compliance, emotional development, and social skills. Pierce found that positive teacher-student relationships not only foster confidence in students but also significantly contribute to their academic and behavioral success at school. The study employed Bronfenbrenner's ecological systems theory (1979), emphasizing that children's development is influenced by multiple factors within the microsystem, such as teacher-student interactions. Positive interactions create a strong foundation for developing social and academic skills, minimizing negative behaviors, and supporting the school adaptation process. Pierce also highlighted the importance of supporting teachers in building positive relationships with students, noting that these relationships affect not only academic performance but also social and behavioral development in the long term. The study concluded that for first-grade students to adapt successfully to the school environment, teachers must serve as emotional guides and supporters, fostering a positive learning atmosphere and promoting holistic development across academic and social domains. Terziev Venelin (2020) identified the process of first-grade students' adaptation to school as a complex and critical transitional phase, requiring adjustments in psychological, social, and behavioral aspects. This adaptation impacts not only academic success during the first year of school but also the long-term academic and social development of children in subsequent years.[5]

The research highlighted the crucial roles of teachers and parents in supporting first-grade students' adaptation. Active teacher involvement through academic support and classroom management helps create a sense of security for students, while parental support provides a solid foundation for the child's adaptation process. Terziev identified several key factors influencing first-grade students' adaptation, including:

- Individual factors: Psychological characteristics and self-regulation abilities.
- Social factors: Relationships with peers and teachers.
- Family factors: Parental involvement and support.
- School environment factors: Classroom atmosphere and learning conditions.

The study emphasized the importance of collaboration between teachers and parents to create a nurturing and supportive environment for students, enabling them to navigate the challenges of formal education more effectively.[6]

L. Bierman (2008) explored how social and emotional factors influence the success of first-grade students. The study highlighted the importance of emotional understanding, social problem-solving skills, and positive social behavior in early academic achievement. According to a systematic review conducted by Donaldson, Moore, and Hawkins (2022), school transition intervention programs can improve mental health outcomes and well-being for children and adolescents by providing tools to cope with change and build resilience. These programs often include emotional support activities, social skill development, and enhanced interactions between students, teachers, and families. The research also found that programs involving community participation and tailored to the specific needs of students tend to yield better results. Furthermore, implementing early interventions, even before children enter the transition phase, can help mitigate potential negative effects on mental health.[7]

Zazzo.B (1987) discussed the transition process from kindergarten to primary school, emphasizing this as a critical stage in children's development. She noted: "The contribution that psychologists can make lies in a deep, detailed understanding of what truly happens within schools, with schools, and with children, exactly as it occurs in reality." With this perspective, B. Zazzo's research approached the topic from two dimensions: "children's integration into peer groups and their level of participation in school activities".[8]

The findings focused on children's behaviors and reactions, aiming to describe the adaptation process rather than academic achievements or test results. The author employed a combination of research methods, with the most significant being direct observation of children's behavior in typical learning situations. Another

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important method used by Zazzo was "indirect observation," where teachers were consulted to provide insights into children's behavior across various dimensions. Based on this research approach, B. Zazzo made several noteworthy conclusions:

- Adaptation to learning activities in first grade is a complex and fluctuating process.
- The adaptation process is influenced by numerous internal and external factors, most notably gender, family circumstances, intellectual development, autonomy, self-control, biological history, and school entry age.
- Adaptation to learning activities in first grade shows little correlation with kindergarten teachers' evaluations of children's abilities.
- The level of adaptation to learning activities is minimally correlated with children's adaptation to community activities.
- It is possible to predict which children are likely to experience difficulties adapting to learning activities at the beginning of the school year.

METHOD

Objectives and experimental subjects

The primary goal is to preliminarily verify the effectiveness and feasibility of proposed measures to enhance the adaptability of first-grade students in learning activities. The experimental study was conducted on two groups of subjects:

- Experimental group: 168 first-grade students from four classes in two primary schools, Trung Do and Ben Thủy, in Vinh City, Nghe an Province.
- Control group: 171 first-grade students from four other classes in the same schools.
- Content and methods of the experiment
- Content of the experiment: The proposed measures were implemented.
- Methodology: Teachers, referred to as experimenters, were trained in the objectives, content, and implementation methods of the proposed measures. They then applied these measures in their teaching and educational activities in the experimental classes.

Organization of the experiment

The experimental subjects were divided into two groups—experimental and control—operating parallel to each other. The experimental group was subjected to the proposed measures, while the control group remained under normal conditions. Both groups were randomly selected and matched for key factors, such as family background, intellectual level, and gender, which were not influenced by the measures.[9]

Evaluation criteria

The effectiveness of the intervention was assessed based on the students' adaptability in classroom learning, evaluated through two main criteria:

- Behavioral conformity: The appropriateness of students' behaviors and responses to the demands and characteristics of learning activities, measured through direct observation in reading and writing sessions.
- Teacher feedback: General comments from class teachers on the students' behavioral conformity with learning activities.

Additionally, student attitudes toward learning and school were considered as supplementary criteria.

Research Schedule

The experimental study was conducted over two academic years:

- 2022–2023: First experimental cycle.
- 2023–2024: Second experimental cycle.

Both cycles focused on testing the measures designed to enhance the adaptability of first-grade students in learning activities.

Ensuring objectivity in the experiment

Efforts were made to ensure equivalence between the experimental and control groups in terms of family background, intellectual development, gender, and age. Objective criteria were used to measure students' adaptability, and data collection for the baseline, experimental, and control stages was conducted concurrently. Regular monitoring of experimenters ensured compliance with the experimental requirements. Statistical methods were employed for data analysis to ensure objectivity.

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Experimental setup

The study was conducted at two schools: Primary Trung Do and Primary Ben Thuy in Vinh City, Nghe An Province. These schools are located in industrial areas, representative of urban and industrial elementary schools in Viet Nam.

Sample Selection: Students were selected based on criteria such as family background, gender, intellectual development, and age, assessed through surveys conducted before the school year started. Classes were matched for equivalence in these factors.

At Trung Do Primary School

- 2022–2023: Class 1B (experimental) and 1E (control).
- 2023–2024: Class 1B (experimental) and 1C (control).

At primary Ben Thuy School

- 2022–2023: Class 1D (experimental) and 1E (control).
- 2023–2024: Class 1C (experimental) and 1D (control).

The selected classes were grouped into experimental and control categories.

Experimenters: Teachers were selected based on equivalence in key criteria such as age (25–35 years), teaching experience (5–10 years), and standard qualifications.

Training of experimenters

Teachers in the experimental group were trained in:

- Basic theoretical concepts: psychological characteristics of first-grade students, their learning activities, and their adaptability challenges.
- Proposed measures for enhancing adaptability and their implementation.
- Methods for evaluating student adaptability.
- Control group teachers were trained in consistent evaluation methods aligned with the experimental group. Training was conducted before the academic year began, and follow-up observations and adjustments were made throughout the year.

Monitoring the experiment

Regular monitoring was conducted to:

- Ensure the proper implementation of proposed measures.
- Track the progress of students' adaptability.
- Identify and mitigate any unintended random factors that could affect the experimental results.

RESULTS

Proposed measures to enhance the learning adaptability of first-grade students

Measure 1: Enhancing teachers' understanding of first-grade students' adaptability to learning activities

We helped teachers gain a thorough understanding of the changes in first-grade students compared to preschoolers, including:

Shifts in students' cognitive development between kindergarten and first grade.

Transformations in emotions and attitudes toward teachers and the school environment as they transition from preschool to elementary school.

Behavioral changes and new habits that first-grade students need to develop, such as adapting to a stricter and more disciplined school environment with rigorous rules.

These rapid and comprehensive changes can present significant challenges for students, potentially leading to psychological crises. Therefore, teachers must understand the difficulties students face and implement supportive measures to help them quickly adapt to the new school environment.

Measure 2: Instilling appropriate behaviors and conduct from the start of school

The formation of appropriate behavioral systems for students during their first days at school focuses on three main areas:

- Basic rules and routines: Arriving at school on time; Preparing for class adequately; Sitting in the correct place in class; Avoiding unrelated activities during class time; Speaking and interacting appropriately during lessons; Bringing and maintaining textbooks and school supplies.
- Specific behaviors in learning situations: Lining up to enter and leave the classroom; Properly sitting, standing, walking, and using the board; Communicating respectfully with teachers and peers; Effectively using textbooks, notebooks, and other learning materials.
- Forming a habit of active participation: Developing a consistent habit of engaging actively in

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collective class learning activities. This is essential to ensure students keep pace with the class. For example, during reading lessons, it is common for some students to disengage. Teachers must emphasize the principle: "Stay on task during each lesson." To implement these, teachers are required to model appropriate behaviors, guide students to follow them, and consistently monitor and reinforce compliance. The goal is to establish behavioral norms and habits for the entire class within the first 3–4 weeks of the school year.

Measure 3: Increasing structure in low-structure learning situations

Teachers were instructed to strengthen their control over students' behaviors and minimize inappropriate actions during lessons. Teachers consistently encouraged students to participate in collective learning activities through specific requests, such as:

- Completing tasks assigned to the entire class; Continuing the work initiated by their peers; Repeating or reviewing tasks performed by others; Commenting on the work of classmates.; Reiterating instructions or content shared by the teacher.
- For students prone to violations, additional targeted interventions were introduced. For instance:
    - Asking students to reread words, syllables, or sentences previously read by peers; Continuing the narrative from where a peer left off; Providing feedback on their peers' pronunciation or storytelling; Repeating the teacher's instructions or recapping recent classroom events.
    - These measures were designed to ensure every student remained engaged and contributed positively to the classroom environment.

Measure 4: Adopting appropriate attitudes and behavior toward the psychological characteristics of first-grade students

The behavior of teachers must align with the psychological characteristics of their students, which is essential at all educational levels but particularly critical for first-grade teachers. First-grade students face significant challenges due to changes in their living environment and primary activities, being at a developmental turning point. Only actions suited to this unique stage can help children overcome difficulties and develop smoothly. Appropriate behavior must be demonstrated consistently, in all circumstances, but is especially important in the following aspects:

- Regular assessment and monitoring of student behavior: The effectiveness of monitoring depends on how the assessment is conducted. Assessing first-grade students should follow these principles:
- Standards-based evaluation: Assessments should be based on predefined behavioral standards established at the start, avoiding arbitrary judgments.
- Frequent evaluation: Assessments should occur regularly alongside monitoring to encourage students to overcome difficulties and adopt school routines and learning behaviors.
- Motivational assessment: Evaluations should aim to encourage students, avoiding complete negation in any case. Teachers are advised to use two basic levels: "correct" and "not yet correct," with intermediate levels like "almost correct" or "correct with minor adjustments." Assessments should be strict and help students recognize even minor errors.
- Progressive self-assessment: Initially, assessments are conducted by teachers. Gradually, students are encouraged to evaluate their peers, progressing to self-assessment of their behavior. For this, students must clearly understand behavioral standards and be able to compare actual behavior against these benchmarks. Initially, students compare observed peer behavior with standards and eventually their own behavior. In practice, this involves peer reviews followed by self-reflection, identifying both correct and incorrect behaviors.
- Fairness: Teachers must ensure fairness by objectifying the behavioral standards, making students perceive them as independent guidelines rather than teacher-imposed rules.
- Building a classroom community and promoting cooperative activities
- Teachers should prioritize creating a strong classroom community from the very beginning. This involves two intertwined tasks:
- Developing cooperative skills: From the start, students are required to participate in collective activities, strictly adhering to instructions such as "stay on task during class." Students must engage in the same activity as their classmates under the teacher's guidance. Over time, students progress to performing varied tasks simultaneously while maintaining focus. For example, one student may solve a problem on the board while others observe, work individually, or respond to the teacher.
- Establishing a stable classroom community: Teachers should frequently organize group activities, enabling students to build relationships with peers and integrate into the classroom. Teachers must treat all students equally, avoiding favoritism or bias. A genuine attitude of care and fairness fosters a supportive classroom environment.
- Praising and critiquing appropriately: A teacher's praise can significantly impact students. Efforts

should be made to identify and commend students' strengths to motivate them. However, praise must be proportional to achievements, and critiques should be limited, specific, and constructive. Both praise and critique should be based on objective evaluations of behavior against predefined standards.

- Timely correction of improper behavior: The primary purpose of regular monitoring, assessment, and feedback is to reinforce correct behaviors and promptly correct incorrect ones. If improper behaviors are not addressed, they may become ingrained habits that are difficult to change. Teachers must immediately identify and correct errors by requiring students to redo actions until they get them right. Even minor mistakes should be corrected promptly. Teachers should address errors in a flexible yet firm manner, avoiding anger or lengthy explanations, which can confuse and demotivate students. Calm, gentle, but resolute guidance helps students rectify their mistakes effectively. Conversely, a teacher's lack of composure can cause students to freeze and fail to respond. Over-explaining can lead to disengagement, while leniency might result in students disregarding rules in the future.

Measure 5: Individualization in teaching

The individualization of interventions to enhance adaptability is implemented at two levels:

- Classwide level: Based on initial input data and observations of students' behaviors during the first days of school, teachers make preliminary assessments of each student's psychological characteristics and plan appropriate interventions and the intensity of these interventions. The key to providing suitable interventions for each student lies in the teacher's ability to quickly and accurately identify the psychological traits of each child.
- Individual level: In practice, every class has students with low adaptability who fail to meet the minimum requirements for school routines and learning activities. These students, often referred to as "special cases," are the focal point of efforts to improve adaptability. Teachers identify these students and tailor interventions based on the following:
- Family background and developmental indicators: From surveys of family circumstances, intellectual development, and gender, teachers identify students likely to face difficulties adapting from the beginning of the school year. These students receive special attention and tailored interventions.
- Classroom behavior observations: Teachers closely observe student behavior in class, particularly during reading activities, to identify students with low observation scores. Indicators include frequent rule-breaking, lack of participation, disruptive behavior, refusal to follow instructions, inattentiveness, or even deliberate disruption.

Once students with low adaptability are identified, teachers investigate the primary causes. Since poor adaptability often stems from multiple factors, diverse interventions are required. Key approaches include:
Paying extra attention to these students, understanding them better to provide suitable support.
Tailoring interventions for each child. For example, students from disadvantaged backgrounds or those who are slow learners, mentally fragile, or have lower intellectual scores should be given additional encouragement and patience.

Intensifying monitoring, timely corrections, and adjustments for behavioral issues to prevent the formation of bad habits.

Measure 6: Collaboration with families to enhance adaptability

At the start of the school year, during the first parent-teacher meeting, the research team allocated time to discuss the following topics with parents:

- The challenges children face when transitioning to first grade.
- Psychological adaptability to learning activities and its development.
- The critical role parents play in supporting their child's education.

Changing parental attitudes

Efforts were made to influence parents' attitudes toward their children, especially those with difficulties. Parents were encouraged to adopt a supportive, understanding, and optimistic approach. Specific recommendations included:

- Showing empathy and providing encouragement for mistakes or shortcomings.
- Celebrating even small achievements and maintaining an optimistic outlook on their child's abilities and educational future.

Coordinated actions between teachers and parents

Parents were encouraged to complement the teacher's interventions by:

- Preparing the necessary material and emotional support for their child's learning.
- Supervising and motivating their child's studies at home.

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- Raising behavioral and conduct expectations by reinforcing statements like, "Now that you're a student, you need to..."
- Recognizing and valuing their child's progress, celebrating successes to reinforce positive behaviors, and avoiding criticism or humiliation when mistakes occur.

Finally, parents were advised to maintain regular communication with teachers to stay informed about their child's progress and ensure coordinated efforts between the home and school.

Experimental results of measures to enhance first-grade students' adaptability to learning activities

To determine the effectiveness of the proposed experimental measures, we compared the levels of adaptability in learning activities between the experimental group and the control group. This comparison was conducted by calculating the mean (average) level of achievement for each criterion, the standard deviation (s), and the t-value coefficient for the two groups.

Mean and standard deviation of the measured results for students' adaptability in learning

Using formulas (1) and (2), we calculated and compiled the results into table 1, which demonstrates:

Table 1. Mean, standard deviation, and statistical test results of the surveyed criteria for the control and experimental groups

Experimental Group (n = 168)			**Control Group (n = 171)**					
Average Observed Behavior Level	**Average Teacher Evaluation Level**	**Learning Results**	**Scenario 1, Test 1**	**Scenario 2, Test 1**	**Scenario 1, Test 2**	**Scenario 2, Test 2**	**Scenario 1, Test 3**	**Scenario 2, Test 3**
X (Experimental)	1,77	1,20	1,89	1,35	2,19	1,76	1,74	1,57
X (Control)	1,78	1,23	1,86	1,16	1,95	1,63	1,63	1,46
S (Experimental)	0,77	0,84	0,64	0,63	0,59	0,64	0,68	0,67
S (Control)	0,79	0,81	0,91	0,86	1,29	0,84	0,90	0,79
t (Experimental - Control)	0,12	0,33	0,34	2,26	2,14	1,64	2,50	1,62

Notes: **X**: Mean (average score). **S**: Standard deviation. **t**: t-test value comparing the experimental and control groups. Results are based on three test scenarios conducted over three iterations. (own elaboration)

On the mean values of experimental and control classes

The survey results show that the average value of all aspects of adaptation to learning activities (HĐHT) among students in experimental classes is consistently higher than those in control classes, except for the observation conducted at the beginning of the academic year.

Specifically: The level of adaptive behavior and interaction of students at the beginning of the academic year in the experimental and control groups was equivalent.

The average value of directly observed behavior during the mid-year measurement showed a significant difference in Situation 2 (experimental: 1,35; control: 1,16).

This indicates that the experimental intervention was effective among students in the experimental group. The subjective aspect of adaptation in the experimental group was significantly higher than that of the control group. However, the level of mastery of the means (behavioral methods) of adaptation to learning activities in the two groups was equivalent. This means the experimental interventions had a stronger impact on the subjective aspect but a lesser impact on the instrumental aspect of students' adaptation during the first semester.

The directly observed adaptive behavior of students during the third measurement showed significant differences in both situations. This difference indicates that both the subjective and instrumental aspects of adaptation in the experimental group were enhanced after the experimental interventions.

The adaptive behavior to learning activities, as evaluated by the classroom teacher, was also higher in the experimental class (experimental: 1,74; control: 1,63).

The academic performance of the experimental group was higher than that of the control group (experimental: 1,57; control: 1,46).

Comparing standard deviations of experimental and control groups

In all surveyed aspects, the standard deviation of the experimental classes was consistently lower than that of the control classes, except for the initial observation.

In the initial observation of classroom behavior at the beginning of the year, the standard deviation between the groups was negligible, demonstrating that the level of behavior aligned with the requirements of learning activities for first-grade students in both the experimental and control groups was equivalent.

During the mid-year observation of adaptive behavior, the standard deviation in Situation 2 was smaller for the experimental group (0,63) compared to the control group (0,86). Similarly, in Situation 1, the experimental

group's standard deviation (0,59) was smaller than the control group's (1,29).

Regarding teachers' evaluations of students' adaptation to learning activities, the experimental group's standard deviation (0,68) was smaller than that of the control group (0,90).

The standard deviation of academic performance was also lower in the experimental group (0,77) compared to the control group (0,79).

Thus, the dispersion of data around the mean value for adaptive behaviors in the experimental classes was consistently lower than in the control classes, indicating lower variability in the experimental group.

_t_-test Coefficients for aspects of adaptation to learning activities in experimental and control groups

To quantitatively confirm the experimental results, we calculated the *t*-test coefficient (Student's *t*) for each aspect of adaptation in the experimental and control groups (using formula 3). The calculated *t* coefficients are presented in Chart 4.1.

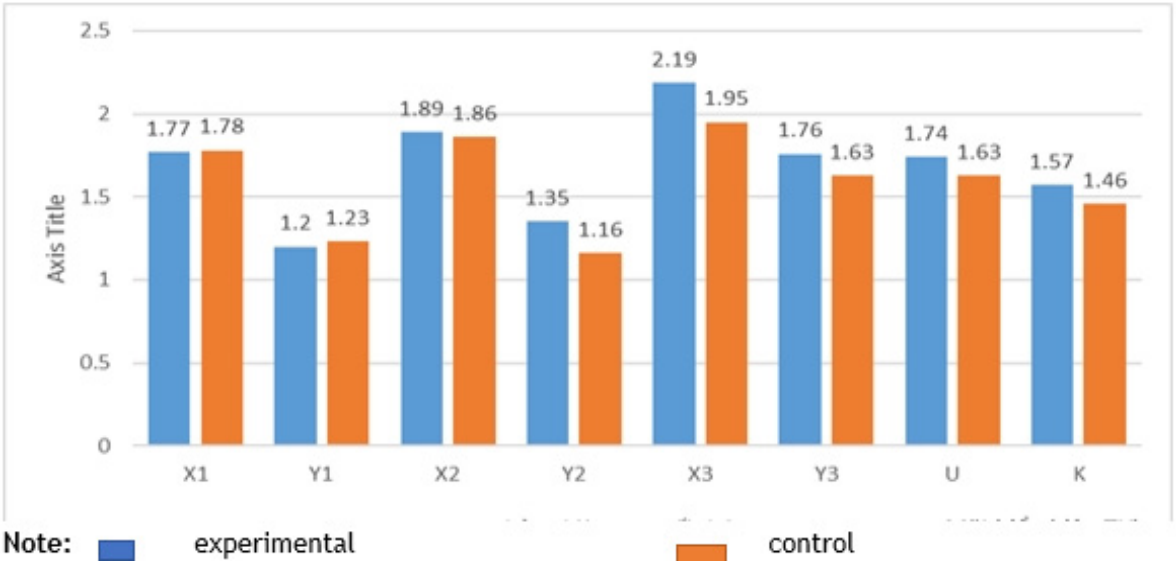

Figure 1. Comparison of the results of adaptive behavioral aspects between experimental and control subjects

n (Experimental Group) = 168, n (Control Group) = 171; X1: High Behavioral Observation Results in Specific Situations; Y1: Low Behavioral Observation Results in Specific Situations; K: Academic Performance Results; U: Teacher Evaluations of Behavior.

Using the Student's t-table with α = 0.05 and degrees of freedom f=n_1+n_2−2f = n_1 + n_2 - 2f=n_1+n_2 −2, the critical value tαt_\alphatα is 1,61. Comparing the calculated ttt values with tαt_\alphatα, we observe two cases:

For children's behaviors in Situations 1 and 2 during the first observation, as well as behavior levels in Situation 2 during the second observation, t<tαt < t_\alphat<tα. This indicates that, statistically, the results obtained from the experimental and control groups do not show a significant difference.

In all other survey results (except for teacher evaluations), the ttt-values are greater than tαt_\alphatα (t>tαt > t_\alphat>tα), demonstrating that the differences in results between the two groups of children are statistically significant.

Results of the experiment on predicting students facing challenges in adapting to learning activities and enhancing their adaptation levels

Comparison of the mean values between students predicted to have difficulties in the control classes and the mean of the entire control group

The survey results show that the mean value of the observed aspects for students predicted to face difficulties is significantly lower than the mean of the entire control group. Specifically (predicted group vs. overall control group):

The observed adaptive behavior in Situation 2 during the first observation is 0,32 compared to 1,23; during the second observation, it is 0,71 compared to 1,16; and during the third observation, it is 1,14 compared to 1,67—approximately two-thirds of the control group's average.

The observed adaptive behavior in Situation 1 during the first observation is 1,50 compared to 1,78; during the second observation, it is 1,32 compared to 1,86; and during the third observation, it is 1,50 compared to 1,95.

Academic performance results are 0,82 compared to 1,46, which is less than two-thirds of the control

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group's average.

Teacher evaluations of behavior are 1,10 compared to 1,63.

From these results, it can be observed that students entering first grade with lower intellectual development levels, challenging family circumstances, and being male are more likely to face difficulties in adapting to learning activities.

Comparison of the mean values of the surveyed aspects between students predicted to have difficulties in the experimental group and the entire control group

The mean value for this group is consistently lower than the mean of both the entire control group and the surveyed baseline. Specifically:

The adaptive behavior in Situation 2 is 0,70, 1,07, and 1,33 compared to 1,23, 1,16, and 1,63; while in Situation 1, it is 1,48, 1,70, and 1,78 compared to 1,78, 1,86, and 1,95.

Academic performance results are 0,96 compared to 1,46; teacher evaluations are 1,00 compared to 1,63.

This indicates that although the implemented measures were effective, improving the level of learning adaptation for this group of students remains very challenging. There may be external factors beyond the control of teachers and schools.

CONCLUSION

The implemented solutions have effectively helped students quickly adapt to the new learning environment, improve their attitudes toward learning, boost confidence, and develop essential skills for effective study. These results affirm the feasibility and practical value of these measures in supporting first-grade students to better adapt to learning activities.

The study provides a scientific and practical foundation for developing support programs to help first-grade students during the transition from preschool to primary school. It also opens avenues for further research into other factors that may influence children's adaptation.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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