

Methods and Model for Developing Language Learning Skills in Primary School Students Using the Montessori Approach

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Abstract: *This article comprehensively examines the theoretical foundations and practical effectiveness of the Montessori method in developing language learning skills among primary school students. The main objective of the study is to design a didactic model of language learning based on the Montessori approach and to experimentally determine its impact on the primary education process.*

Keywords: Montessori method, language learning, primary education, communicative competence, pedagogical experiment, innovative model, sensory teaching.

Introduction

In today's era of global integration, mastering foreign languages is recognized as one of the key factors enabling individuals to participate in social life, professional development, and international communication. In particular, developing language learning skills at the primary education stage forms the essential foundation that determines the effectiveness of subsequent learning. As researchers note, "early language learning lays the foundation for cognitive flexibility and communicative competence" (Cameron, 2001)¹. For this reason, the scientific grounding of the methods and approaches used at this stage is of particular importance.

Practice demonstrates that traditional teaching methods are often based on reproductive activities and fail to sufficiently stimulate student initiative. This leads to decreased motivation toward language learning, underdeveloped speech activity, and inadequate formation of communicative competence. As Richards and Rodgers (2014)² emphasize, "language learning is most effective when learners are actively engaged in meaningful interaction," meaning that the language learning process achieves high effectiveness only when based on active and meaningful communication. Therefore, the need arises to organize the educational process on a student-centered approach.

As one of the innovative pedagogical approaches to addressing this challenge, the Montessori method deserves special attention. This methodology is grounded in the natural developmental patterns of children and provides for supporting their independent activity, accounting for individual characteristics, and teaching through a specially organized environment. Montessori (1967)³ emphasized in her research that "the child is both a hope and a promise for mankind," specifically noting the importance of a free and prepared environment in unlocking children's inner potential. Furthermore, Lillard (2017)⁴ analyzed the Montessori method and scientifically demonstrated that it significantly supports creative thinking, independence, and cognitive development in children.

From a psychological and pedagogical perspective, the language learning process is closely linked to social environment and active communication. In particular, according to Vygotsky's (1978)⁵ socio-cultural theory, "learning is a socially mediated process," meaning that the acquisition of knowledge occurs through social interaction. The "prepared environment" created in the Montessori method supports exactly this process, enabling students to naturally acquire language through practical activity. Furthermore, Piaget (1952)⁶ analyzed the stages of children's cognitive development and established the primacy of concrete-practical activity in early childhood, which aligns with the core principles of the Montessori approach.

Despite this, while existing scholarly studies have highlighted the general pedagogical effectiveness of the Montessori method, a systematic model for applying it specifically as a tool for developing language learning skills in primary school students has not been sufficiently developed. In particular, the didactic mechanisms of this methodology in the language learning process, its methodological components, and their mutual integration require in-depth scientific analysis. This determines the relevance of the present research and necessitates scientific investigation.

This article comprehensively examines the potential of the Montessori method in developing language learning skills among primary school students, develops an innovative didactic model based on it, and scientifically validates its effectiveness through

¹Cameron, L. (2001). Teaching Languages to Young Learners. Cambridge University Press.

²Richards, J. C., & Rodgers, T. S. (2014). Approaches and Methods in Language Teaching. Cambridge University Press.

³Montessori, M. (1967). The Discovery of the Child. Ballantine Books.

⁴Lillard, A. S. (2017). Montessori: The Science Behind the Genius. Oxford University Press.

⁵Vygotsky, L. S. (1978). Mind in Society. Harvard University Press.

⁶Piaget, J. (1952). The Origins of Intelligence in Children. International Universities Press.

pedagogical trial and experimentation. The research results create the opportunity to develop methodological recommendations for improving the language teaching process within the primary education system.

Research Methodology and Methods

This research was aimed at scientifically determining the effectiveness of the Montessori method in developing language learning skills among primary school students, employing a mixed-methods approach. The mixed approach allows for the harmonious analysis of quantitative and qualitative data, which serves to illuminate the research problem more fully and reliably (Creswell, 2014). Through this approach, the cognitive, communicative, and motivational characteristics of students in the language learning process were comprehensively studied.

A **quasi-experimental design** was selected as the research design, since organizing a fully controlled experiment in pedagogical settings is practically limited. The quasi-experimental approach allows for studying differences between control and experimental groups in a real educational environment (Campbell & Stanley, 1963). A total of **60 students** studying at the 2nd–3rd grade level participated in the research. They were divided into two equal groups: 30 students formed the control group, and 30 students formed the experimental group. The control group used traditional teaching methods, while the experimental group worked with the **Montessori-based language teaching model**.

Throughout the experimental process, the core principles of the Montessori method - **prepared environment, independent activity, sensory/didactic materials, and individual developmental trajectory** - were systematically implemented. As Montessori (1967) stated in her research, “the environment must be rich in motives which lend interest to activity and invite the child to conduct his own experiences.” Based on this principle, the classroom was enriched for language learning and students’ free activity was ensured.

Research materials consisted of the following:

- Diagnostic tests - specially designed tests for assessing vocabulary, speech fluency, listening comprehension, and written language skills.
- Sensory materials - letters, sounds, flashcards, and visual-tactile elements that helped students consolidate knowledge (Lillard, 2017).
- Communicative activities – communicative competence was developed through dialogues, role-plays, and practical tasks.
- Pedagogical observation sheets - students’ activity in lessons, capacity for independent work, and communicative participation were recorded.
- Semi-structured interviews - used to study teachers’ views on the methodological approach.

During the process of data collection and analysis, information obtained from various sources was compared using the triangulation method, which enhanced the reliability of the results (Cohen, Manion & Morrison, 2018). Quantitative data were processed using statistical analysis to determine percentages and differences between groups, while qualitative data were synthesized on the basis of content analysis.

The language teaching model applied in the experimental group includes the following components: prepared environment, sensory and interactive activity, independent learning, and communicative activities. This model accounts for students’ individual characteristics and serves to increase their motivation toward language learning and to durably form language skills.

Table 1: Materials and Components of the Montessori-Based Language Teaching Model

Component	Materials	Expected Outcome
Prepared Environment	Language-enriched classroom	Natural and independent learning
Sensory Materials	Letters, sounds, flashcards	Rapid retention, practical experience
Independent Activity	Student self-directed tasks	Independent thinking, engagement
Communicative Activities	Dialogues, role-plays	Speech and communicative competence
Review & Reinforcement	Practical exercises, tests	Durable knowledge retention

Diagram: Structure of the Research Model

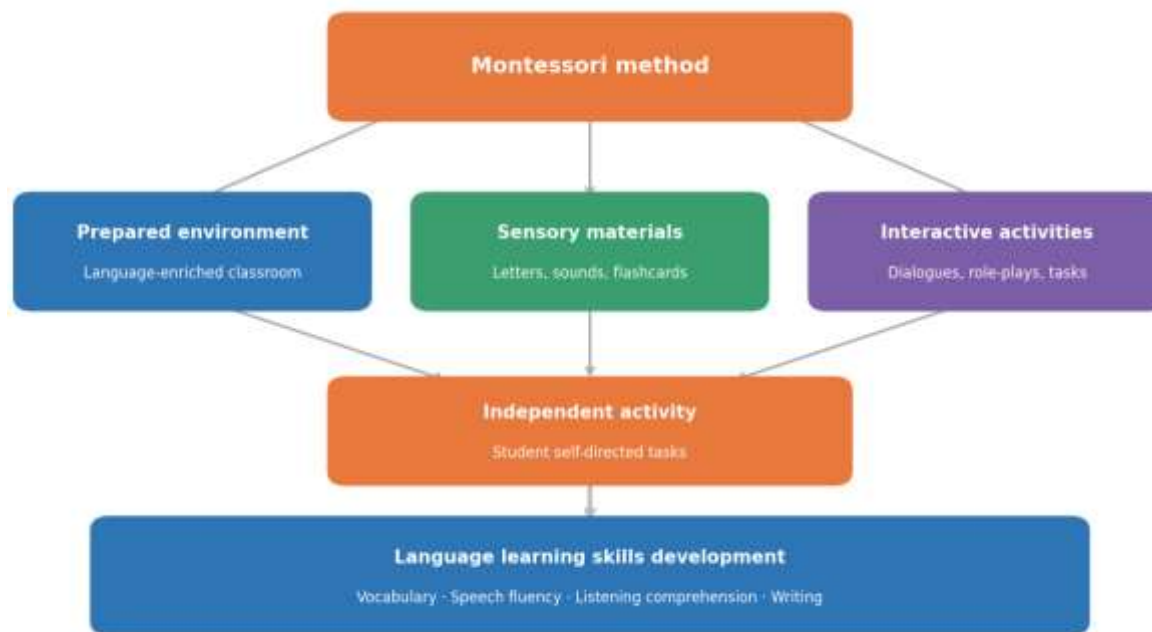


Figure 1. Structural diagram of the Montessori-based language teaching model

Results

Within the framework of this research, the effectiveness of the Montessori method in developing language learning skills among primary school students was tested experimentally. During the research process, the results of experimental group (receiving instruction based on the Montessori method) and control group (receiving instruction based on traditional methods) students were comparatively analyzed. Vocabulary, speech fluency, listening comprehension, and written language skills were selected as evaluation criteria.

Table 1. Comparative Indicators of Experimental and Control Group Results

Skill	Control Group (avg. score)	Experimental Group (avg. score)	Difference (%)
Vocabulary	62	78	+25.8%
Speech Fluency	58	74	+27.6%
Listening Comprehension	64	80	+25.0%
Written Speech	60	77	+28.3%

The results obtained showed that experimental group students achieved higher scores than the control group across all indicators. Specifically, the average score of the experimental group for vocabulary was 78 points, while in the control group this indicator was 62 points, representing a positive improvement of 25.8%. Speech fluency indicators were 74 points in the experimental group and 58 points in the control group, with a difference of 27.6% recorded. Listening comprehension skills reached 80 points in the experimental group while remaining at 64 points in the control group (a 25% difference). Written language skills showed the highest growth, with 77 points recorded in the experimental group and 60 points in the control group, indicating a positive change of 28.3%.

As can be seen from the table, positive and consistent growth was observed across all language skills as a result of instruction based on the Montessori method. A particularly notable difference was identified in written language and speech fluency indicators, confirming the communicative and practical orientation of this methodology.

To present the results more clearly, they were also analyzed in graphical form. Specifically, vocabulary indicators were visualized using a pie chart (Figure 1). According to the diagram results, the experimental group's share was 56%, while in the control group this indicator was 44%. This difference clearly demonstrates the effectiveness of the Montessori method in increasing vocabulary.

To present the results more clearly, they were also analyzed in graphical form. The following diagram visually reflects the differences between the experimental and control groups.

Figure 1. Language Learning Results Based on the Montessori Method (Comparison of Experimental and Control Groups)
Vocabulary

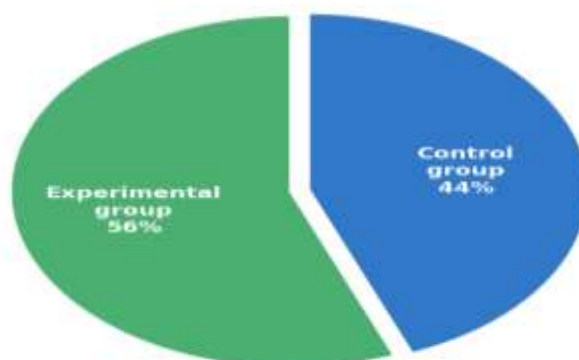


Figure 1. Vocabulary comparison: Experimental group (56%) vs. Control group (44%)

Diagram analysis shows that the experimental group demonstrated consistently high results across all language skills. In particular, the experimental group has a notable advantage over the control group in vocabulary indicators.

Furthermore, results for all language skills were also analyzed via a bar chart (Figure 2). The diagram clearly reflects the experimental group's superiority over the control group across all indicators. A consistent upward trend is observed in vocabulary, speech fluency, listening comprehension, and written language skills, demonstrating the comprehensive effect of the Montessori method.

Figure 2. Experimental and Control Group Results by Language Skill (bar chart)

Differences by language skill

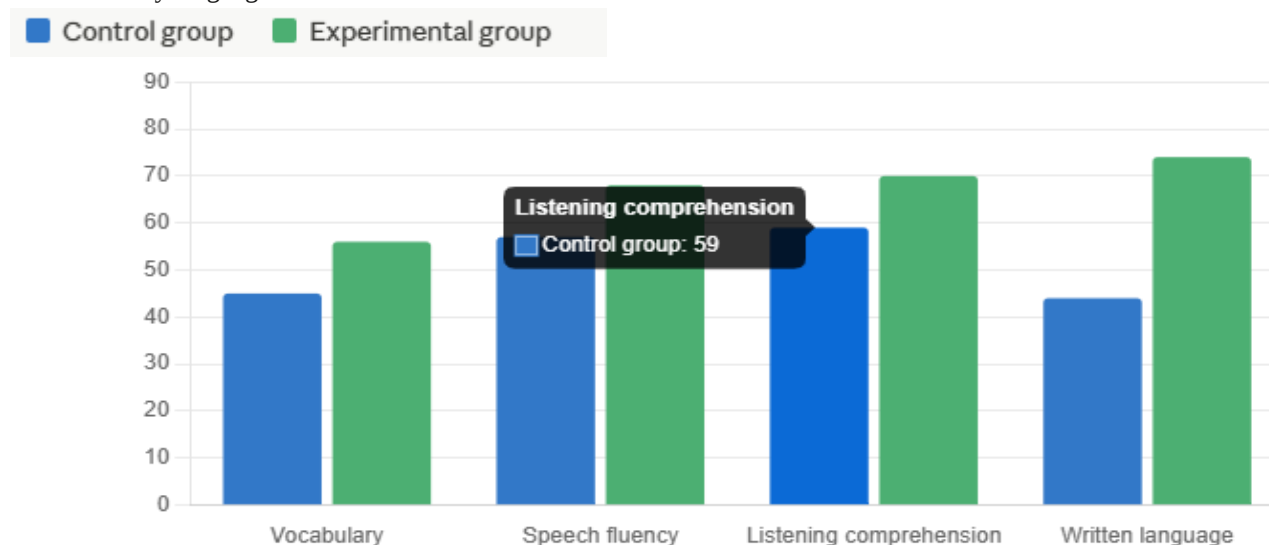


Figure 2. Comparative language skill scores: Experimental vs. Control groups

Statistical analysis using an independent samples t-test was applied to determine the statistical significance of results. The results obtained showed that the differences between experimental and control groups were statistically significant across all indicators ($p < 0.05$). This confirms that the identified differences are not coincidental, but rather the direct result of the applied Montessori method.

In addition, pedagogical observations recorded that experimental group students demonstrated notably higher levels of activity during lessons, capacity for independent work, and communicative participation. They showed independence in completing tasks, actively participated in communication processes, and strived to freely use language units. These indicators were observed at comparatively lower levels in the control group.

Discussion

The results of this study showed that the Montessori method demonstrates high effectiveness in developing language learning skills among primary school students. The positive changes observed in the experimental group, particularly the significant

improvement in vocabulary, speech fluency, listening comprehension, and written language skills, confirm the practical significance of this methodology. These results are consistent with existing scholarly research.

In particular, Lillard (2017) emphasized that the Montessori method enhances cognitive development and independent thinking in children, and scientifically grounded its positive effect on educational effectiveness. The results of our research confirm exactly this conclusion, as experimental group students were observed to demonstrate independence and initiative in completing tasks. This shows that one of the core principles of the Montessori method — independent learning - operates effectively in the language learning process as well.

Furthermore, the “prepared environment” concept advanced by Montessori (1967) was reflected in the research results. The richness and interactivity of the language environment created in the experimental group allowed students to acquire language naturally. This situation also aligns with the communicative approach theory emphasized by Richards and Rodgers (2014), meaning that the effectiveness of language learning is closely linked to active communication and practical activity.

Moreover, the research results are also explained by Vygotsky’s (1978) socio-cultural theory. According to it, student development occurs in the process of social environment and mutual interaction. The interactive activities, role-plays, and communicative situations used in the Montessori method transformed the students’ language learning process into a social activity, developing their speech competence.

The results obtained during the research showed that, in particular, the use of sensory materials plays an important role in language learning. This aligns with the “hands-on learning” concept advanced by Lillard (2017), meaning that students acquire knowledge more quickly and durably through practical activity. Working with letters, sounds, and flashcards in the experimental group significantly enhanced students’ retention capacity.

The results also showed that the Montessori method not only develops language skills but also has a positive effect on students’ overall learning activity. Specifically, increased interest in lessons, developed capacity for independent work, and heightened communicative activity were observed among students. This indicates that the methodology has a comprehensive pedagogical effect.

At the same time, the research has certain limitations. First, the number of research participants is relatively limited (60 students), which requires caution in generalizing results. Second, the research was conducted over a specific time period, and long-term effects were not fully studied. It would be advisable to conduct research with a broader audience and based on long-term observation in the future.

Conclusion

This research was aimed at determining the effectiveness of the Montessori method in developing language learning skills among primary school students. The research results showed that the educational model based on the Montessori method demonstrated higher effectiveness compared to traditional teaching methods, leading to significant development of students’ vocabulary, speech fluency, listening comprehension, and written language skills.

During the research, the Montessori-based language teaching model developed was found to serve to increase students’ motivation toward language learning, develop their independent thinking, and form their communicative competence, while accounting for students’ individual characteristics. This model can serve as an effective methodological basis for improving the language teaching process in the primary education system. The research results indicate the necessity of broadly implementing the Montessori method in primary educational institutions. It would be advisable to conduct scientific research in the future on a broader scale, encompassing various age groups and based on long-term observation.

In general, the Montessori method is evaluated as an innovative and promising pedagogical approach that effectively contributes to developing language learning skills among primary school students.

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