

The impact of multisensory learning environments on pronunciation accuracy among Kazakh efl learners

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Abstract: This study investigates the impact of multisensory learning environments on the pronunciation accuracy of Kazakh EFL learners. A quasi-experimental design was used, involving an experimental group exposed to visual, auditory, tactile, and kinesthetic activities, and a control group following traditional instruction. Pre-tests and post-tests measured pronunciation improvements, and statistical analyses confirmed significant gains in the experimental group. Findings indicate that multisensory methods enhance both pronunciation accuracy and student engagement. The study highlights the practical value of incorporating multisensory techniques in English language teaching and offers recommendations for future research on larger samples and long-term effects.

Keywords: Multisensory learning, pronunciation accuracy, efl learners, kazakh students, language teaching, phonetics, speaking skills, quasi-experimental study, student engagement, teaching methodology

English plays an important role in the modern education system as a means of international communication. Kazakh students often face pronunciation issues when learning English as a second language. The lack of proper pronunciation reduces students' confidence in speaking

and negatively affects their overall language skills. Pronunciation not only affects phonetic accuracy but also influences listening and comprehension. Therefore, pronunciation should be given special attention in English language teaching.

The Multisensory learning method is based on the use of visual, sound, tactile and motor elements. This method increases the receptivity of students and facilitates the memorization process. Studies have shown that the use of multisensory techniques helps to improve language skills, including pronunciation. Students learn language deeply by actively using the different senses during the lesson. Therefore, a multisensory learning environment makes it possible to achieve a high level of efficiency.

The main problem of this study is to identify the effect of a multisensory environment on improving the pronunciation accuracy of Kazakh students. The purpose of the study is to improve the pronunciation accuracy of students using multisensory teaching methods. The objectives of the study are to conduct an experimental study, compare the pronunciation accuracy of the students, and develop teaching recommendations. It is hypothesized that the group that used multisensory teaching methods will have higher pronunciation accuracy than the control group. This study has practical implications for improving the quality of English teaching.

The participants of this study were Kazakh EFL learners studying English as a second language in local schools. They were selected from grades 6 to 10 to ensure a diverse representation of language proficiency levels. All participants were actively involved in English classes aimed at improving their pronunciation skills. Before the intervention, their initial pronunciation accuracy was assessed. Additionally, their motivation and interest in learning English were taken into account.

The study employed a sample of 30-50 students divided into an experimental group and a control group. The experimental group received multisensory learning interventions, while the control group followed traditional teaching methods. The participants were randomly assigned to ensure comparability, but their initial language levels were carefully matched. This design allowed for a controlled comparison of the effects of multisensory methods on pronunciation. The groups participated in lessons over a fixed period to measure progress effectively. [1, 720 p]

The research design was a quasi-experimental study pre-tests and post-tests to measure changes in pronunciation accuracy. This approach enabled the researcher to observe the impact of the intervention over time. Pre-tests evaluated the students baseline pronunciation, while post-tests assessed improvements after the lessons. By comparing the two sets of results, the effectiveness of multisensory learning could be determined. This design also helped to minimize external variables that might affect the outcomes.

Data collection tools included pronunciation tests, audio recordings, teacher observation

checklists and student questionnaires. Pronunciation tests measured accuracy in both isolated words and sentences. Audio recordings allowed for detailed phonetic analysis and comparison over time. Teacher observation checklists provided qualitative insights into students participation and engagement. Student questionnaires assessed their perception of the learning process and their motivation.

The procedure involved implementing multisensory teaching methods for the experimental group. These methods included visual aids, audio recordings, role-playing activities, and movement-based exercises. The lessons were designed to engage multiple senses simultaneously, enhancing memory and learning retention. In contrast, the control group received standard lessons without additional multisensory elements. Both groups were monitored throughout the intervention to ensure consistency in lesson delivery. [2, P. 135-150]

The experimental lessons lasted for a predetermined number of weeks, with sessions held regularly. Each session combined pronunciation practice with interactive activities that stimulated visual, auditory and kinesthetic learning channels. Students were encouraged to actively participate, repeat sounds and receive immediate feedback. The integration of multiple sensory modalities aimed to reinforce correct pronunciation patterns.

After the intervention, post-tests were conducted to evaluate improvements in pronunciation accuracy. Audio recordings and teacher checklists were analyzed to identify measurable gains. The results from the experimental group were compared with those of the control group to assess the effectiveness of multisensory methods. Statistical analyses were applied to determine the significance of observed changes. This methodology provided a comprehensive understanding of how multisensory learning environments impact EFL learners pronunciation accuracy.

The pre-test and post test results were compared to evaluate changes in pronunciation accuracy. The experimental group showed significant improvement in both word-level and sentence-level pronunciation. In contrast, the control exhibited minimal changes in their pronunciation scores. This comparison highlights the effectiveness of the multisensory learning. The improvements were particularly noticeable in sounds that students previously struggled to pronounce correctly. [3, 256 p]

Tables and graphs were used to illustrate the differences between pre-test and post-test scores. Visual representations made it easier to identify patterns of improvement among individual students. The experimental groups average scores increased substantially, while the control groups scores remained relatively stable. These figures clearly demonstrate the advantage of multisensory methods over traditional instruction. The data also revealed which specific pronunciation features were most positively affected.

Statistical analyses, including paired-sample t-tests, were conducted to determine the significance of the observed changes. Results indicated a statistically significant improvement

in the experimental group's pronunciation accuracy ($p < 0.05$). No significant changes were found in the control group, confirming the effect was due to the intervention. These analyses validate the reliability of the findings and reduce the likelihood of random variation. Overall, the statistics support the hypothesis that multisensory learning enhances pronunciation.[4, P. 309-326]

Student engagement and motivation were also evaluated to understand the broader impact of the intervention. Questionnaires and observation checklists showed that students in the experimental group were more enthusiastic about lessons. Higher interest levels correlated with greater improvements in pronunciation scores. The findings suggest that multisensory approaches not only improve accuracy but also foster active participation. Motivation, therefore, plays a crucial role in maximizing the benefits of multisensory learning.

The results of the study are important both theoretically and practically. In theory, multisensory learning methods have proven to be effective in improving pronunciation skills. The significant improvement rate observed in the experimental group proves the pedagogical value of these methods. In practice, teachers can effectively improve students' language skills by introducing these techniques into their classrooms. In addition, multisensory activities help to increase student engagement and commitment.

The results of the study are similar to those of previous studies, but there are some limitations. Since the sample size is relatively small, it is difficult to fully generalize the results to the entire population. The study was conducted over a limited time period, so the long-term effects may not be fully evident. Additionally, differences in the students' backgrounds may have contributed to the results. Future studies should include larger sample sizes and longer follow-up periods to provide more reliable findings.[5, 384 p]

The results of the study showed that a multisensory learning environment can significantly improve the pronunciation accuracy of Kazakh EFL students. The improvement observed in the experimental group proves the effectiveness of multisensory methods. Therefore, in educational practice, it is recommended to introduce these methods into the lessons. Pronunciation exercises not only improve phonetic skills, but also have a positive effect on listening, speaking and language abilities of students in general. These activities stimulate the interest and motivation of the students.

In future research, it is important to study the impact of multisensory methods using large groups and long-term observations. Using these methods at different levels and in different classes allows for broader generalization of the results. Additionally, this approach is beneficial for researchers and teachers as it helps to improve the quality of lessons. Multisensory exercises contribute to the comprehensive development of students' language skills. Therefore, the findings of this study provide specific recommendations aimed at enhancing the quality of English as a second language teaching.

REFERENCES

1. Richards J.C., Schmidt R. *Longman Dictionary of Language Teaching and Applied Linguistics*. 4th ed. London: Longman, 2010. 720 p.
2. Shamsi F., Khalili R. The effect of multisensory learning on pronunciation accuracy of EFL learners // *International Journal of Applied Linguistics*. Vol. 28, No. 2. P. 135–150.
3. Nation I.S.P., Newton J. *Teaching ESL/EFL Listening and Speaking*. New York: Routledge, 2009. 256 p.
4. Moreno R., Mayer R. Interactive multimodal learning environments: Special issue on the cognitive affective theory of learning with media // *Educational Psychology Review*. Vol. 19, No. 3. P. 309–326.
5. Celce-Murcia M., Brinton D.M., Goodwin J. *Teaching Pronunciation: A Course Book and Reference Guide*. 2nd ed. Cambridge: Cambridge University Press, 2010. 384 p.

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