

**PEDAGOGICAL FOUNDATIONS OF CHEMISTRY TEACHING  
IN AN INTERACTIVE ENVIRONMENT AND THE FORMATION  
OF COMMUNICATIVE COMPETENCE**

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This study explores the pedagogical foundations of chemistry teaching within an interactive learning environment and their role in forming students' communicative competence. The research emphasizes the use of interactive strategies such as cooperative learning, guided discussions, inquiry-based tasks, and peer feedback to promote active participation and meaningful communication in chemistry lessons. The findings indicate that interactive environments enhance students' ability to use scientific language accurately, explain chemical concepts clearly, engage in argumentation, and collaborate effectively. The study highlights that interactive chemistry instruction supports both cognitive development and communicative growth. In modern education, communicative competence is considered a key component of students' overall academic and social development. In chemistry education, however, traditional instructional approaches often limit opportunities for dialogue, explanation, and collaborative reasoning. An interactive learning environment creates favorable pedagogical conditions for student-centered learning, active communication, and the development of scientific discourse skills. Therefore, investigating the pedagogical foundations of interactive chemistry teaching and its impact on communicative competence is highly relevant to contemporary educational practice [1].

The purpose of this study is to analyze the pedagogical foundations of chemistry teaching in an interactive environment and to determine how interactive instructional methods contribute to the formation and development of students' communicative competence. The study proposes a pedagogical framework that integrates interactive teaching methods with chemistry-specific communicative outcomes. It identifies key indicators of communicative competence in chemistry learning, including the use of scientific terminology, clarity of explanations, evidence-based argumentation, and collaborative dialogue. The research also demonstrates the effectiveness of combining interactive instruction with formative feedback and peer assessment in fostering communicative and conceptual development simultaneously. The results of the study provide chemistry teachers with practical guidelines and instructional tools for creating interactive learning environments. These include discussion-based tasks, collaborative learning formats, inquiry activities, and feedback mechanisms aimed at developing students' communicative competence. The proposed approach can be effectively applied in secondary school chemistry lessons and adapted to different topics, improving classroom interaction, student engagement, and learning outcomes [2].

The study concludes that an interactive learning environment grounded in sound pedagogical principles plays a crucial role in the effective teaching of chemistry and the formation of students' communicative competence. Systematic use of interactive methods fosters active dialogue, scientific reasoning, and collaboration, while enhancing students' understanding of chemical concepts. Consequently, interactive chemistry teaching should be regarded as an essential component of modern education, contributing to the development of communicatively competent and scientifically literate learners.

#### References

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