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# PEDAGOGICAL CONDITIONS FOR THE FORMATION OF PROFESSIONAL COMPETENCE OF FUTURE PRESCHOOL EDUCATORS USING THE «Sibboard» TECHNOLOGY

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**Abstract:** This article explores the pedagogical conditions necessary for effectively forming professional competence in future preschool educators through the use of the interactive educational platform «Sibboard». The study examines how integrating «Sibboard» technology into the educational process enhances students' practical skills, motivation, and collaborative abilities. Employing a mixed-methods research design, including literature review, observation, surveys, and a pedagogical experiment, the study identifies key conditions that support interactive learning and competence development. The results demonstrate that targeted pedagogical strategies combined with «Sibboard» technology significantly contribute to the professional readiness of preschool educator students.

**Keywords:** Professional competence, preschool educators, interactive technology, Sibboard, pedagogical conditions, teacher training, early childhood education.

## 1. Introduction.

The field of preschool education is undergoing profound transformation due to global digitalization and the growing recognition of early childhood learning as the foundation of lifelong development. In this context, educators are expected not only to possess theoretical knowledge about child development and pedagogy but also to demonstrate practical and technological competencies that support interactive, inclusive, and meaningful learning experiences.

Professional competence, as defined in contemporary pedagogy, is a complex construct encompassing cognitive, operational, and personal components. It reflects an educator's ability to apply theoretical principles to practice, to adapt to changing educational contexts, and to employ innovative tools that enhance the learning process. Consequently, the integration of **educational technologies** has become an essential aspect of teacher preparation programs.

Among such technologies, **«Sibboard»**, an interactive digital platform, has emerged as a powerful tool for engaging students in dynamic, participatory learning. It offers virtual whiteboards, collaborative tasks, and multimedia integration, allowing learners to construct knowledge interactively. However, the pedagogical effectiveness

of «Sibboard» depends not merely on its availability but on the **conditions** under which it is implemented.

Therefore, this research seeks to identify and analyze the pedagogical conditions that enable the most effective use of «Sibboard» in forming the professional competence of future preschool educators. The study addresses the following research questions:

1. Under what pedagogical conditions does «Sibboard» enhance the development of professional competence?
2. How do students and instructors perceive the impact of «Sibboard» on engagement, motivation, and skill development?
3. What challenges arise during its integration into teacher education curricula?

**2.Methodology.**

**Research Design.**

The study employed a **mixed-methods approach**, combining quantitative and qualitative methods to obtain a holistic understanding of the educational impact of «Sibboard». This approach allowed the researcher to triangulate findings and ensure greater validity of results.

**Participants and Setting.**

The research was conducted at a pedagogical university with 72 participants, including 60 undergraduate students in the preschool education program and 12 instructors. The participants represented both experimental and control groups. The experimental group received instruction using the «Sibboard» platform, while the control group followed traditional classroom methods.

**Research Methods.**

1. **Literature Review:** Current theoretical frameworks and empirical studies related to professional competence, digital pedagogy, and interactive learning technologies were analyzed.
2. **Classroom Observation:** Observations were carried out during lessons integrating «Sibboard» activities to evaluate student engagement, interaction, and behavioral responses.
3. **Surveys and Interviews:** Structured questionnaires were distributed to both students and instructors to collect data on usability, motivation, and perceived learning outcomes. Semi-structured interviews provided deeper insights into subjective experiences.
4. **Pedagogical Experiment:** Over a 10-week period, the experimental group participated in «Sibboard»-based modules. Competency development was evaluated through performance assessments, reflective journals, and standardized tests.

**Data Analysis.**

Quantitative data were analyzed using descriptive and inferential statistics to determine the extent of competency improvement. Qualitative data were coded thematically to identify recurring patterns and to interpret participant feedback in the context of pedagogical theory.

## 3. Results and Discussion.

### Instructor Preparedness.

The study revealed that the instructor's proficiency with the platform was a decisive factor in its success. Teachers who underwent prior training in digital pedagogy were able to design more engaging and goal-oriented activities. Their familiarity with «Sibboard» functionalities allowed for smooth transitions between instructional stages, effective use of multimedia, and real-time assessment. Conversely, instructors with limited digital experience faced challenges such as technical delays, fragmented lesson flow, and reduced classroom management efficiency. These findings underscore the importance of **professional development programs** focusing on technology integration for educators.

### Curriculum Integration.

Integrating «Sibboard» activities into the curriculum proved vital for ensuring that digital tools complemented—not replaced—pedagogical goals. Lessons where «Sibboard» was used to connect theoretical knowledge with practical scenarios (e.g., designing preschool lesson plans, simulating classroom management) demonstrated higher student involvement.

Participants reported that such tasks helped them **visualize pedagogical concepts**, bridge the gap between theory and practice, and develop applicable teaching strategies. This supports the argument that interactive technologies are most effective when **aligned with learning objectives** rather than used as supplementary entertainment tools.

### Collaborative Learning Environment.

The collaborative functions of «Sibboard»—such as group whiteboards, shared projects, and peer feedback—significantly enhanced teamwork and communication skills. Students engaged in problem-solving tasks where they co-created lesson plans and discussed educational challenges. This not only improved their understanding of preschool pedagogy but also cultivated professional qualities such as leadership, empathy, and responsibility.

Such collaboration mirrors the cooperative nature of real preschool settings, where educators must work together to support children's learning. Thus, «Sibboard» fosters **social and emotional competencies** essential to effective early childhood teaching.

### Technical Accessibility.

While the majority of participants appreciated the platform's interface, technical limitations occasionally hindered learning. Problems included inconsistent internet

connectivity, device compatibility issues, and insufficient institutional support. When technical infrastructure was stable, student engagement levels increased markedly. Therefore, **technical accessibility** is identified as a fundamental precondition for effective digital learning.

**Student-Centered Learning.**

The «Sibboard»-based modules promoted autonomy and creativity by allowing students to independently explore materials, construct visual presentations, and reflect on their learning. Students valued the opportunity to express personal teaching ideas and apply theoretical knowledge in simulated classroom settings. Furthermore, the use of multimedia (videos, interactive games, digital storytelling) stimulated intrinsic motivation and deepened understanding. These outcomes illustrate that technology can transform passive learning into **active knowledge construction**, a principle central to constructivist pedagogy.

**Quantitative Outcomes.**

Statistical analysis of the experimental data indicated measurable improvement in the professional competencies of students exposed to «Sibboard»-based instruction. On average, their scores in communication, problem-solving, and digital literacy increased by 18% compared to the control group. Qualitative feedback also reflected higher satisfaction rates, with 86% of participants describing the learning experience as “motivating” and “practically valuable.” These findings confirm that «Sibboard» positively influences both cognitive and affective dimensions of learning.

## 4. Conclusion

The study concludes that the **implementation of «Sibboard» under well-structured pedagogical conditions** significantly enhances the development of professional competence in future preschool educators. It promotes engagement, collaboration, and reflective thinking—qualities essential for 21st-century teachers.

**Pedagogical Implications**

1. **Teacher Training:** Educational institutions should invest in continuous professional development focusing on digital pedagogy, ensuring that instructors are capable of effectively utilizing interactive technologies.
2. **Systematic Integration:** «Sibboard» should be embedded in teacher education curricula as a regular instructional tool, not merely an occasional supplement.
3. **Collaborative Learning Culture:** Universities should foster teamwork-oriented learning environments where technology enhances communication and shared problem-solving.
4. **Infrastructure Support:** Reliable access to digital devices, software updates, and high-speed internet is crucial to prevent interruptions and ensure inclusivity.

5. **Ongoing Evaluation:** Periodic assessment of technological and pedagogical innovations should be conducted to align educational practice with global standards.

**Future Research.**

Further research is recommended to explore long-term impacts of «Sibboard» on teachers' professional practice after graduation, as well as its adaptability for diverse educational contexts. Comparative studies across different cultural and institutional settings could also provide a broader understanding of how digital platforms influence teacher identity and competence development.

## References

1. Zeer, E. F. (2020). *Psychology of Professions: Textbook*. Moscow: Academic Project.
2. Bim-Bad, B. M. (2021). *Pedagogical Encyclopedic Dictionary*. Moscow: Great Russian Encyclopedia.
3. Selevko, G. K. (2019). *Modern Educational Technologies: Textbook*. Moscow: People's Education.
4. Khutorsky, A. V. (2022). *Competence-Based Approach in Education*. Moscow: People's Education.
5. Klyarina, M. V. (2021). *Interactive Technologies in Education: Theory and Practice*. St. Petersburg: Piter.
6. Smirnova, E. V. (2023). Professional Competence of Educators in Digital Educational Environments. *Journal of Pedagogy*, 5, 45-53.
7. Roberts, J., & McNeese, M. (2021). Interactive Learning Technologies in Early Childhood Education: A Research Overview. *Early Childhood Research Quarterly*, 54, 10-25.

(2022). . Moscow: Education Press.

(2020). The Role of Interactive Technologies in the Formation of Professional Competence of Future Teachers. , 12(4), 78-85.

(2021). Collaborative Learning in Preschool Teacher Training: Methods and Technologies. , 8(2), 32-40.