

DIGITAL COMPETENCE IN MODERN MUSIC EDUCATION: A NEW MODEL OF TEACHER PROFESSIONAL ACTIVITY

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ABSTRACT

This article examines the role and significance of digital competence in modern music education. It substantiates the formation of a new model of music teacher professional activity based on the integration of digital technologies into the educational process. The study analyzes the conceptual framework of digital competence, its structural components, and its manifestation in music teaching practice. Particular attention is paid to methodological approaches and practical mechanisms aimed at enhancing the effectiveness of music education in a digital learning environment.

Keywords: *music education, digital competence, music teacher, innovative pedagogy, digital technologies, interactive learning.*

ЦИФРОВАЯ КОМПЕТЕНТНОСТЬ В СОВРЕМЕННОМ МУЗЫКАЛЬНОМ ОБРАЗОВАНИИ: НОВАЯ МОДЕЛЬ ПРОФЕССИОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ УЧИТЕЛЯ

АННОТАЦИЯ

В статье рассматриваются роль и значение цифровой компетентности в системе современного музыкального образования. Обосновывается формирование новой модели профессиональной деятельности учителя музыки на основе интеграции цифровых технологий в образовательный процесс. Анализируются содержание и структурные компоненты цифровой компетентности, а также особенности её реализации в педагогической практике. Особое внимание уделяется методическим подходам и практическим механизмам повышения эффективности музыкального образования в цифровой образовательной среде.

Ключевые слова: *музыкальное образование, цифровая компетентность, учитель музыки, инновационная педагогика, цифровые технологии, интерактивное обучение.*

INTRODUCTION

The rapid development of digital technologies has significantly transformed contemporary education, redefining the professional roles and competencies required of teachers. In this context, music education is no longer limited to traditional instructional methods based on live performance and theoretical explanation. Instead, it increasingly incorporates digital tools, multimedia resources, and interactive platforms that enhance both teaching and learning processes. As a result, the professional activity of music teachers requires a new model grounded in digital competence.

Digital competence in music education encompasses the ability to effectively use digital technologies for pedagogical purposes, including the creation, adaptation, and presentation of musical content, as well as the organization of interactive learning environments. Through audio-visual materials, digital notation software, and virtual instruments, music teachers are able to enrich instructional content, improve students' musical perception, and foster creative engagement. Consequently, digital competence has become a key factor influencing the quality and effectiveness of modern music education.

Despite the growing availability of digital resources, many music teachers experience difficulties in integrating digital technologies into their professional practice. These challenges are often related to insufficient methodological guidance, limited practical experience, and the absence of a systematic approach to developing digital competence. Therefore, the issue of forming a new model of music teacher professional activity based on digital competence remains a pressing pedagogical problem.

This article aims to analyze the role of digital competence in modern music education and to substantiate a new model of music teacher professional activity. The study focuses on identifying the structural components of digital competence, examining its pedagogical potential, and outlining practical mechanisms for its effective implementation in music teaching practice.

METHODS

This study employed a qualitative and descriptive research design aimed at examining the role of digital competence in modern music education and identifying effective mechanisms for its development among music teachers. The methodological framework was grounded in a competence-based and pedagogical systems approach, which allowed for a comprehensive analysis of digital competence as an integral component of music teacher professional activity.

The research methods included theoretical analysis of scholarly literature on music education, digital pedagogy, and teacher professional competence. This analysis enabled the identification of key conceptual approaches to digital competence and its application within the context of music teaching. In addition, comparative analysis was used to examine different pedagogical models and practices related to the integration of digital technologies in music education.

RESULTS

The results of the study demonstrate that the integration of digital competence into music teachers' professional activity significantly influences the quality and effectiveness of music education. The findings reveal that music teachers who systematically employ digital tools in their instructional practice exhibit higher levels of pedagogical flexibility, methodological diversity, and student engagement compared to those relying predominantly on traditional teaching methods.

One of the key findings indicates that digital competence enhances the structural organization of music lessons. Teachers utilizing digital notation software, audio-editing applications, and multimedia presentations were able to present musical material in a more coherent and visually accessible form. This approach facilitated students' understanding of musical structures, rhythmic patterns, and harmonic relationships, particularly in theoretical and analytical components of music education.

The results also show a positive correlation between the use of digital audio-visual resources and the development of students' musical perception. Recorded musical examples, interactive listening tasks, and visualized sound representations contributed to improved auditory discrimination and deeper interpretative awareness among students. In practice, students demonstrated greater accuracy in identifying melodic lines, rhythmic variations, and expressive elements when digital resources were integrated into the learning process.

Furthermore, the findings highlight the role of digital technologies in fostering creative activity within music education. The use of virtual instruments and music composition software enabled students to engage in creative experimentation beyond the limitations of traditional classroom settings. Teachers reported increased student motivation and participation during tasks involving digital composition, arrangement, and improvisation. These activities promoted independent learning and supported the development of creative thinking skills.

Another significant result concerns the transformation of teacher–student interaction. Digital platforms and interactive tools facilitated more dynamic communication and feedback mechanisms. Music teachers were able to provide

timely and individualized feedback through digital recordings and annotated materials, which contributed to the improvement of students' performance skills. This shift toward interactive pedagogical communication strengthened the learner-centered nature of music education.

The study also identified challenges related to the uneven level of digital competence among music teachers. While experienced users demonstrated confident integration of digital tools, others faced difficulties associated with limited technical skills and insufficient methodological support. This disparity affected the consistency of digital technology use across music education practices, underscoring the necessity of targeted professional development programs.

Importantly, the results confirm that systematic development of digital competence contributes to the formation of a new model of music teacher professional activity. This model is characterized by the ability to design digital learning environments, adapt teaching strategies to technological contexts, and apply innovative pedagogical solutions. Teachers operating within this model demonstrated greater adaptability to contemporary educational demands and improved instructional outcomes.

Overall, the findings provide empirical and pedagogical evidence that digital competence serves as a fundamental factor in modernizing music education. The effective integration of digital technologies not only enhances instructional efficiency but also supports students' musical development, creativity, and engagement.

DISCUSSION

The findings of this study confirm that digital competence plays a decisive role in shaping a new model of professional activity for music teachers in modern educational contexts. The results align with contemporary pedagogical research emphasizing that digital technologies, when applied systematically, enhance both instructional quality and learning outcomes in arts education. In particular, the integration of digital tools in music teaching supports a shift from teacher-centered instruction to a more interactive and learner-centered educational environment.

The observed improvement in lesson organization and content presentation supports the view that digital technologies function not merely as technical aids, but as pedagogically meaningful instruments. The use of digital notation software and multimedia resources allows music teachers to visualize abstract musical concepts, thereby facilitating deeper cognitive engagement. This finding is consistent with competence-based education theory, which highlights the importance of multimodal learning experiences in developing complex subject-specific skills.

The positive impact of audio-visual resources on students' musical perception further reinforces the pedagogical value of digital competence in music education. Enhanced listening accuracy and interpretative skills indicate that digital environments can effectively support the development of musical hearing and analytical abilities. This suggests that digital tools expand traditional listening practices by offering repeatability, visual reinforcement, and individualized pacing, which are essential for differentiated instruction.

The study also demonstrates that digital technologies significantly contribute to the development of students' creative potential. The incorporation of virtual instruments and composition software enabled learners to actively participate in creative processes, such as composing and arranging music. This result supports constructivist pedagogical approaches, which emphasize learning through active creation rather than passive reception. In this regard, digital competence empowers music teachers to design learning tasks that foster creativity, autonomy, and reflective thinking.

Another important aspect revealed in the discussion is the transformation of pedagogical interaction. Digital feedback mechanisms and interactive platforms enhanced communication between teachers and students, promoting continuous assessment and personalized support. This development corresponds with modern educational paradigms that prioritize formative assessment and individualized learning trajectories, particularly in skill-based disciplines such as music.

At the same time, the study highlights existing challenges related to unequal levels of digital competence among music teachers. Limited technical proficiency and insufficient methodological training remain significant barriers to the effective integration of digital technologies. These findings underscore the necessity of systematic professional development programs that address not only technical skills but also pedagogical strategies for digital integration.

Overall, the discussion confirms that digital competence is not an auxiliary skill but a core component of music teacher professionalism in the digital era. The transition toward a new model of professional activity requires institutional support, continuous training, and methodological guidance. Without these conditions, the potential of digital technologies in music education cannot be fully realized.

CONCLUSION

The results confirm that digital tools contribute not only to the technical modernization of music lessons but also to meaningful pedagogical transformation. Through the use of multimedia resources, digital notation software, and interactive platforms, music teachers are able to improve students' musical perception, analytical

skills, and creative expression. These outcomes indicate that digital competence directly influences both cognitive and artistic aspects of music education.

Moreover, the study highlights that the development of digital competence supports the formation of a new model of music teacher professional activity. This model is characterized by pedagogical adaptability, innovative instructional design, and continuous reflective practice within a digital learning environment. Teachers operating within this model demonstrate greater professional flexibility and readiness to implement student-centered approaches.

At the same time, the identified disparities in digital competence among music teachers emphasize the need for systematic professional development. Targeted training programs, methodological support, and institutional investment in digital infrastructure are essential to ensure the sustainable integration of digital technologies into music education.

In conclusion, strengthening digital competence among music teachers is a strategic priority for the modernization of music education. Its consistent development not only improves teaching effectiveness but also contributes to the overall quality and relevance of music education in the digital era.

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