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THE INFLUENCE OF AN INDIVIDUAL TEACHING METHOD ON THE DEVELOPMENT OF PERFORMING SKILLS OF MUSICIANS-INSTRUMENTALISTS

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SUMMARY. The originality of instrumental musical interpretation is a distinctive feature of each musician, influencing and reflecting their artistic style and worldview ideas. The study aims to determine the peculiarities of the influence of an individual teaching method on the development of instrumental musicians' performance skills. General theoretical analysis, comparison and observation techniques were used to achieve this goal. The final results were also based on the skill level coefficient, quality coefficient, and Mann-Whitney test calculations. The research process provided for developing individualized training for future instrumental musicians, focusing on developing interpretive and technical skills, artistic interpretation and improvisation. The practical significance of the work lies in the possibility of using the developed individual approaches to teaching musicians-instrumentalists, taking into

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account their capabilities. Prospects for further research can be to compare the effectiveness of an individual approach to teaching musicians-instrumentalists of primary school age and students.

Keywords: students' capabilities; interpretive and technical skills; musicians' skills; piano improvisation; artistic expression; musical form

Introduction

The performing skills of musicians-instrumentalists depend on the developed technical skills and the reflection of an individual playing style. The achievement of high skill can be realised by ensuring the correct teaching approach, which also contributes to the development of creative potential, forming a unique style of instrumental playing[6]. Therefore, determining the peculiarities of the impact of an individual approach to teaching instrumental musicians is a relevant topic that contributes to the search for mechanisms for musicians to achieve a professional level.

An individual approach to teaching involves finding methods and ways to develop students' cognitive activity by focusing on their capabilities. An individual approach to education should also consider the pace of mastering students' theoretical and practical knowledge, which aims to achieve a high level of ability[7]. In the training process, an instrumental musician should master the skills of revealing the artistic image of a musical text, which is reflected in performance skills. Individual training of musicians should be aimed at forming the mechanisms of students' self-expression by focusing on different ways of realising their creative potential. Achieving a high level of professional skills also requires the active involvement of students in the learning process, which is associated with their initiative and commitment[8]. Fluency in a musical instrument should be aimed at achieving purity of sound, intonation and emotional comprehension of a musical composition. Ensuring a more expressive performance of musical compositions is possible due to focusing on a diverse repertoire, which contributes to expanding methods of

[6] Ellerbe, Amanda E. Teaching Citizenship Through Music Education: A Case Study of a Community Youth Orchestra Program. Bulletin of the Council for Research in Music Education, 236, 2023, pp. 43–57. https://doi.org/10.5406/21627223.236.03

[7] van Vreden Mignon. Creating a musical for pre-schoolers in South Africa as pedagogical praxis for a tertiary music education module. British Journal of Music Education, 40, No. 1, 2023, pp. 109–123. https://doi.org/10.1017/S0265051722000079

[8] Muramatsu, Kaito, Oku, Takanori, Furuya, Shinichi. The plyometric activity as a conditioning to enhance strength and precision of the finger movements in pianists. Scientific Reports, 12, No. 1, 2022, 22267. https://doi.org/10.1038/s41598-022-26025-0

interpreting melodies[9]. This approach allows you to develop musical thinking skills, contributing to a virtuoso and vivid sound. Individual training helps to ensure the formation of a musician's characteristic style due to focusing on individual details of a musical composition. The development of artistic and imaginative representation provides an emotional interpretation of the musical text, contributing to the audience's interest[10].

The piano is one of the musical instruments that helps to provide an interpretation of various musical genres. The piano facilitates understanding traditional, classical and contemporary music, relying on developed performance skills and musical ear. The piano can convey the musician's artistic ideas, interconnected with the skills developed[11]. Different interpretations of the same melody can be achieved due to developing playing skills on various musical instruments. For this purpose, the teacher should ensure that individual teaching approaches are sought during the training to help motivate students to deepen their musical knowledge. The gradualness of the learning process will ensure better retention of information and the formation of their style of instrumental playing[12].

The focus on using an individual approach to teaching musicians-instrumentalists has made it possible to identify the advantages of such training. However, the methods for implementing the individual training system are poorly studied, manifested in the depth of research. The study aims to determine the influence of an individual approach to teaching on the development of musicians' performance skills.

The objectives of the study were as follows:

- to develop individual approaches to teaching instrumental students, focusing on the development of technical, artistic and improvisational skills;
- to determine the level of formation of the criteria of future pianists' skills using the calculations of the skill level coefficient;
- to determine the level of performance of traditional, modern, and classical piano compositions by students, taking into account individuality while ensuring the technique and artistry of interpretation;

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[9] Suzuki, Akiho, Pitts, Stephanie. Toward effective performance psychology interventions in tertiary music education: An exploration of students' experiences, attitudes, and preferences. Psychology of Music, 2023. https://doi.org/10.1177/03057356231204859

[10] Shu, Ying. Influence of piano playing on logical thinking formation of future musicians. Thinking Skills and Creativity, 42, 2023, 100961. https://doi.org/10.1016/j.tsc.2021.100961

[11] Hirano, Masato, Furuya, Shinichi. Active perceptual learning involves motor exploration and adaptation of predictive sensory integration. iScience, 27, No. 1, 2024, 108604. https://doi.org/10.1016/j.isci.2023.108604

[12] Istvanek, Matej, Miklanek, Stepan, Spurny, Lubomir. Classification of Interpretation Differences in String Quartets Based on the Origin of Performers. Applied Sciences (Switzerland), 13, No. 6, 2023, 3603. https://doi.org/10.3390/app13063603

- To determine the level of individuality formed by students' piano playing, focus on comparing results before and after the study.

Literature review

To ensure an individual approach to playing wind instruments and learning the principles of conducting, it was envisaged to provide a compulsory study of the theoretical aspects of playing. Acquiring theoretical skills allows a better understanding of pedagogical teaching methods, reflected in creative and performing expressiveness. The peculiarities of musical strokes that contribute to musical expressiveness and the complexity of the sound palette were also studied[13]. An individual's musical skills can be developed through vocal and instrumental training. This approach ensures the development of technical skills and musical ear. The effectiveness of the training also influenced the quality of support for concert performances and participation in music competitions. The combination of vocal and instrumental training allows for understanding artistic interpretation techniques that reflect musical aesthetics[14]. It is possible to achieve a high level of instrumental playing due to developing motor technique, especially when studying Western classical music. Providing repeated practice during the game allows you to form the correct movements, which further contributes to the automation of playing. With the formation of a specific professional level, it is possible to ensure the implementation of abstract musical ideas, which contributes to achieving not only a technical level but also an artistic one[15].

Receiving feedback in the learning process ensures individualisation of learning, which helps to identify positive changes and gaps in the assimilation of educational information. Feedback ensures the transfer of knowledge and skills and affects student motivation. Such learning is manifested in a personalised approach[16]. The development of individual instrumental skills can be ensured by following the sequence of sounds during playing, which contributes to a better understanding of musical melodies. Focusing on rhythm

[13] Buchma-Bernatska, Olga, Chystiakova, Natalia, Bazylchuk, Leonid, Putiatytska, Olha, Zakharova, Oksana. (2023). Psychological and pedagogical aspects of teaching students in the field of music. Youth Voice Journal, 1(Speacialissue), 2023, pp. 9–19.

[14] Liu, Bo, Ye, Fang. The problem-based approach in online music education: how to teach students to control singing with piano accompaniment? Interactive Learning Environments, 2022. https://doi.org/10.1080/10494820.2022.2160471

[15] Han, Jungmin Grace. The Somaesthetics of Musicians: Rethinking the Body in Musical Practice. Journal of Somaesthetics, 5, No. 2, 2019, pp. 41–51.

[16] de Bruin, Leon R. Instrumental music teachers' development of feedback across the lifespan: A qualitative study. International Journal of Music Education, 42, No. 1, 2024, pp. 32–46. https://doi.org/10.1177/02557614231151445

allows you to achieve the peculiarity of sound pitch formation, which affects the sense of performance functions. The development of rhythm variability skills is reflected in the acquisition of skills when playing the drums, focusing on the aesthetic value of music[17]. The process of teaching beginner instrumentalists should be based on providing mechanical approaches to playing a musical instrument. It is also possible to provide an additional focus on developing vocal skills, contributing to additional musical development for understanding sounds during instrumental playing. The choice of vocal repertoire should be based on consonance with the musical instrument, which affects the individuality of the instrumental performance[18].

The development of individual musical skills of future music teachers can be achieved through a comprehensive approach. The training should include the development of emotionality, active listening, vocal expression, and work with a piece of music. These skills are necessary for the development of pedagogical competence and social interaction. The development of active listening skills helps to form communication skills, which contributes to ensuring a harmonious and emotional perception of the material[19]. Information technology helps to ensure an individual approach to learning for each student. They contribute to the systematisation of musical knowledge and broaden musical views. Music education allows for a critical reflection of diverse cultural aspects and various musical genres. Modern technologies help to ensure the purposefulness of learning and the active involvement of future musicians in the learning process[20]. Mixed reality technologies allow for developing new opportunities for instrumental playing due to the availability of a detailed description of learning approaches. It has been established that learning in this way contributes to the development of interpretation skills and the formation of subjective experience. Visualisation modes contribute to a better perception of information[21].

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[17] Zhang, Hang, Wang, Ting, Feng, Xiaohui, Wei, Yiping, Zhang, Jijia. Effect of bronze drum training on rhythm perception and executive function of Zhuang drummers. Acta Psychologica Sinica, 55, No. 11, 2023, pp. 1762–1779. https://doi.org/10.3724/SP.J.1041.2023.01762

[18] Weimer, Kristina, Rutkowski, Joanne. Playing Musically: Developing Healthy and Expressive Singing Instrumentalists. Music Educators Journal, 109, No. 4, 2023, pp. 42–50. https://doi.org/10.1177/00274321231178446

[19] de la O Cortón-Heras, Maria, Monreal-Guerrero, Inés-María, Parejo, José Luis (2023). Mediation of music in the development of interpersonal skills in initial teacher education. Artseduca, 35, 2023, pp. 67–84. https://doi.org/10.17583/qre.10748

[20] Vargas-Gil, Esther, Gértrudix-Barrio, Felipe, Gértrudix-Barrio, Manuel. Diverse cultural thought in the european context through music collaboration networks. Journal of Science and Technology of the Arts, 13, No. 2, 2021, pp. 75–98.

[21] Banquiero, Mariano, Valdeolivas, Gracia, Trincado, Sergio, Garcia, Natasha, Juan, M.-Carmen. Passthrough Mixed Reality With Oculus Quest 2: A Case Study on Learning Piano. IEEE Multimedia, 30, No. 2, 2023, pp. 60–69. https://doi.org/10.1109/mmul.2022.3232892

The literature review revealed that comprehensive training of musicians-instrumentalists contributes to developing professional skills. However, the research papers consider the positive results of group and individual training, which does not contribute to identifying specific advantages of individual training.

Methodology

The research procedure

The first stage of the study was aimed at developing approaches to individual training of musicians-instrumentalists, namely, the training of future pianists. The learning process focused on the formation of sound purity and the achievement of its intonational expressiveness. It was also intended to ensure the development of students' creative individuality. The training lasted 6 months in an optional mode. The second stage of the study was related to the definition of criteria that reflected the professional level of future musicians' piano playing. The criteria were determined after the training. The third level of the study involved determining the quality of students' piano playing based on the selected repertoire, which involved providing an individual interpretation of melodies. It also determined the students' general understanding of piano playing techniques, focusing on possibly providing their approach to performing melodies.

Sample selection

The authors planned to involve 171 3rd year students-future pianists in the study. Restrictions in the selection of respondents are related to the need for them to understand the general piano playing techniques, which do not require learning music or reading scores. An entrance exam was held among the students to determine the necessary skills for the study, which included practical tasks. The tasks involved the interpretation of musical fragments in the original and with changes to these fragments. This approach allowed us to exclude 32 people from the study. To test the skills acquired by the students, 19 teachers were involved, who were training future pianists aged 10 to 14. The teachers were selected to use modern technologies in teaching pianists, which contributed to expanding practical opportunities.

Methods

The development of individual approaches to teaching was associated with the use of general theoretical methods of analysis and comparison.

These methods are related to the study of different approaches to developing instrumental playing skills[22] [23] [24] [25]. After that, it was established which teaching approaches are more effective for group learning and which are more effective for individual learning. The timeframe required for developing piano skills was also established by analysing existing methods. During the training, the digital applications Real Piano and RD4 Groovebox were planned to be used, which considered the level of students' existing knowledge.

Determining the level of skills of future musicians previously involved using the observation method to compare the acquired skills. During the training, it was planned to identify the ability of students to independently perform learning tasks, focusing on their formation during training. After determining the level of professional skills formed by future musicians, the authors calculated the coefficient of mastery. The results were presented after 2, 4 and 6 months of training, based on the average performance of all students:

$$l_{scil} = \sum_i (p_{sc} + p + o_{exp} + o_{sc}) \quad (1)$$

p_{sc} – a grade for the expression of a particular level of skill among students;
p – a grade for achieving purity of piano playing by students as a result of applying a separate skill criterion;
o_{exp} – a score for the overall expressiveness of the composition's sound by students using a separate skill criterion;
o_{sc} – overall score for confidence in performing piano compositions.

Determining the quality of instrumental playing by future musicians involved a primary search for piano compositions. The choice of compositions for interpretation was determined randomly from 300 compositions. However, it was envisaged to provide a choice of traditional ("Viburnum"), modern ("By the Poplar"), and classical (Etude in C major, Op. 10, 1 by Chopin) compositions for interpretation. The students had to ensure the technical purity of the

[22] Katušić, Ana, Burić, Ksenija. Music therapy in educating children with developmental disabilities. Croatian Journal of Education, 23, No. 1, 2021, pp. 63–79. https://doi.org/10.15516/cje.v23i1.3915

[23] Revenko, Vira. Education and Music Culture in the Context of Web 2.0. International Journal of Emerging Technologies in Learning, 16, No. 10, 2021, pp. 96–107. https://doi.org/10.3991/ijet.v16i10.19693

[24] Frytsiuk, Valentina, Brylin, Boris, Zanalnyuk, Anatoly, Frytsiuk, Vasyl, Mykhaylyshen, Alexander. Implementation of Information Technology into the Education of Music Teachers. Journal of Higher Education Theory and Practice, 22, No. 6, 2022, pp. 35–43. https://doi.org/10.33423/jhetp.v22i6.5226

[25] Howard, Keith. Musical instruments as tangible cultural heritage and as/for intangible cultural heritage. International Journal of Cultural Property, 29, No. 1, 2022, pp. 23–44. https://doi.org/10.1017/S0940739121000436

sound and the overall artistry of the musical text, providing the possibility of making individual adjustments. The calculations for determining the quality of instrumental playing were carried out using the quality coefficient developed by the authors of the article:

$$f_q = \frac{l_{ms}+i+a_{a/t}}{q_h} \quad (2)$$

l_{ms} – the level of playback of the main melody style;
i – the level of individuality in the piano interpretation of the composition;
$a_{a/t}$ – a score for the technique/artistry of the composition;
q_h – the highest score for the ability to perform piano melodies with high quality.

The study determined the level of individuality of future pianists during piano playing by observing their approaches to performing melodies. The study revealed the students' ability to transform melodies using the tasks set by teachers and their approach. This took into account the maintenance of harmony during the piano interpretation. The results were presented as percentages, reflecting the values before and after the study.

Data analysis

The statistical analysis was carried out using the Mann-Whitney test[26]. The calculation of the criterion is based on ranked values, which allows us to determine the difference between two indicators, focusing on initially equal or different conditions. The Mann-Whitney criterion was used to compare the requirements that reflect the level of musicians' skills, comparing data from 2 and 6 months of training. The criterion was also used to compare musicians' individuality during piano playing.

$$U = n_1 \times n_2 + \frac{n_x \times (n_x+1)}{2} - T_x, \quad (3)$$

n_1 and n_2 – critical values of the calculated indicators;
n_x – number of indicators for calculation;
T_x – reliability of indicators based on the table values.

To correlate the possible data, it is necessary to ensure that the calculated values are smaller than the table values.

[26] Sungurtekin, Sehnaz. Classroom and music teachers' perceptions about the development of imagination and creativity in primary music education. Journal of Pedagogical Research, 5, No. 3, 2021, pp. 164–186. https://doi.org/10.33902/JPR.2021371364

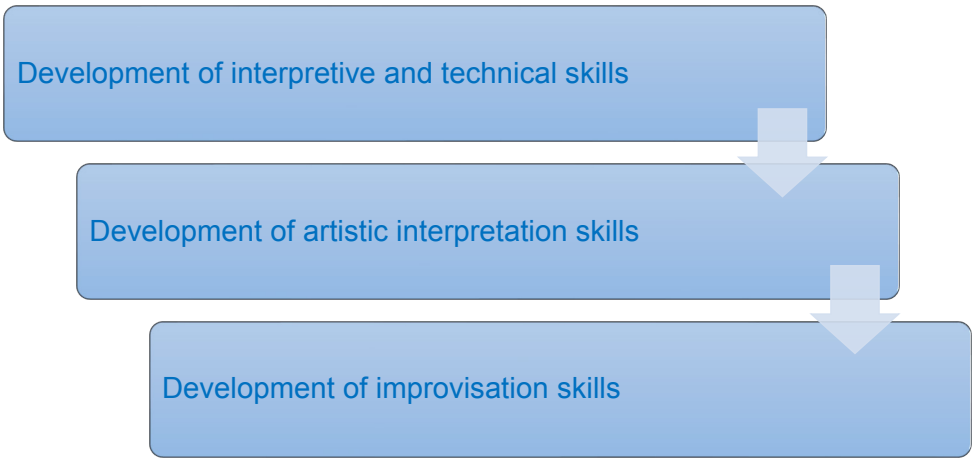
Ethical criteria

Ethical standards were achieved by following the provisions of The Norwegian National Committee for Research Ethics in Science and Technology[27]. By ethical standards, the use of already published materials that could affect the falsity of the results was excluded. The authors also exclude any possible conflicts of interest that may have arisen during the preparation of the research paper.

Results

It was possible to study the impact of individualised teaching of musicians-instrumentalists by developing appropriate teaching approaches. The results were aimed at training future pianists (E.g. 1).

E.g. 1



Approaches to providing individualised learning for musicians-instrumentalists

The first approach to teaching aimed at developing interpretive and technical skills in forming piano skills. Developing technical skills involved ensuring the accuracy of interpreting sounds and musical pieces due to each student's perception of melodies by ear. Developing technical skills became possible due to preliminary analysis of musical scores with further perception

[27] The Norwegian National Committee for Research Ethics in Science and Technology. Guidelines for Research Ethics in Science and Technology, 2016. https://www.forskningsetikk.no/en/guidelines/science-and-technology/guidelines-for-research-ethics-in-science-and-technology/

of melodies by ear. In this way, the ear for music was developed, which allowed for a meaningful perception of sounds by each musician. During the training, various genres' musical compositions were ensured, forming universal skills in playing a musical instrument. Individualisation of the learning process was ensured through the digital application Real Piano. The app helped consider the level of knowledge and capabilities of the future musician, which was manifested in selecting the appropriate repertoire, focusing on its complexity. The app also allows you to adjust the tempo and volume of playing and provide repetition of theoretical material to develop professional skills. The musician's confidence was improved by changing the tempo. Adjustment of playing took place due to slow interpretation, which contributed to the student's understanding of the used playing movements. The gradual complication of musical fragments was aimed at ensuring smooth piano playing.

Developing skills in the artistic interpretation of piano compositions by future musicians involved their analysis due to perception by ear. The analysis of musical compositions was aimed at studying the sounds and analysing the composition in terms of expressiveness and range of sound. It was also intended to study the musical elements that contribute to the artistic expressiveness of the composition. Based on the established aspects of expressiveness, students had to provide modelling of interpretation techniques that could be used to form their playing style. It was also essential to ensure that the primary mood of the composition was conveyed through the playing techniques – the development of artistic skills aimed to preserve the melodic line, which protects musical chords and intervals. The individual approach to teaching involves the student's emotional presentation of a piece of music, considering their feelings and capabilities. After that, the correctness of the selection of artistic elements and the technical accuracy of their performance were checked. The aim was to ensure an understanding of the primary and secondary parts. During the interpretation of a piece of music, every detail that formed the artistic feature of the work was considered. It was also ensured that the regularities contributing to transmitting the vividness of musical images were identified.

The development of improvisation skills was entirely focused on the individual capabilities of the musicians. This was achieved by the teacher setting a separate task that required student adjustment. The teaching approach contributed to the development of associative thinking by finding the most successful approaches to ensuring figurativeness. The process of piano improvisation involved the creation of a preliminary schematisation, which was analysed with the teacher for the correctness of the combination of musical elements. During the development of improvisation skills, the melody was planned to be transformed by one variant. Additional changes were made to the transformed melody using rhythmic features, dynamics, keys, etc. Musical

improvisations were made possible using the RD4 Groovebox application. Students focused on expressiveness, logic, and genre definition when creating improvisations.

After the training, the criteria reflecting the level of musicians' skills were identified among the students (Table 1).

Table 1

Criteria	Two months	4 months	6 months	Mann-Whitney test (comparison between 2 and 6 months)	α
Skills of piano interpretation of compositions perceived by ear	14,4	17,5	18,3	1,357	0,05
Skills of creative independence (improvisation)	14,3	17,9	18,1	1,526	0,05
Skills of artistic and aesthetic performance	14,9	16,8	17,5	1,351	0,05
Use of unique piano techniques	14,7	16,9	14,3	1,296	0,05

The skill level of musicians-instrumentalists depending on the criteria

It has been established that an individual approach to the formation of piano interpretation skills positively impacted students, which was reflected in the formation of various skills. First, students formed the piano interpretation skills of compositions perceived by ear. This meant not using musical scores to perform individual fragments associated with a conscious perception of musical compositions. Artistry and technical accuracy were ensured during the interpretation of the compositions, which also contributed to the reproduction of specific musical techniques.

In the second place, the skills of creative independence were developed, which was associated with the search for the most appropriate approaches to the expressive sound of the composition. In developing creative autonomy, students could use approaches to maintaining a harmonious musical structure, considering

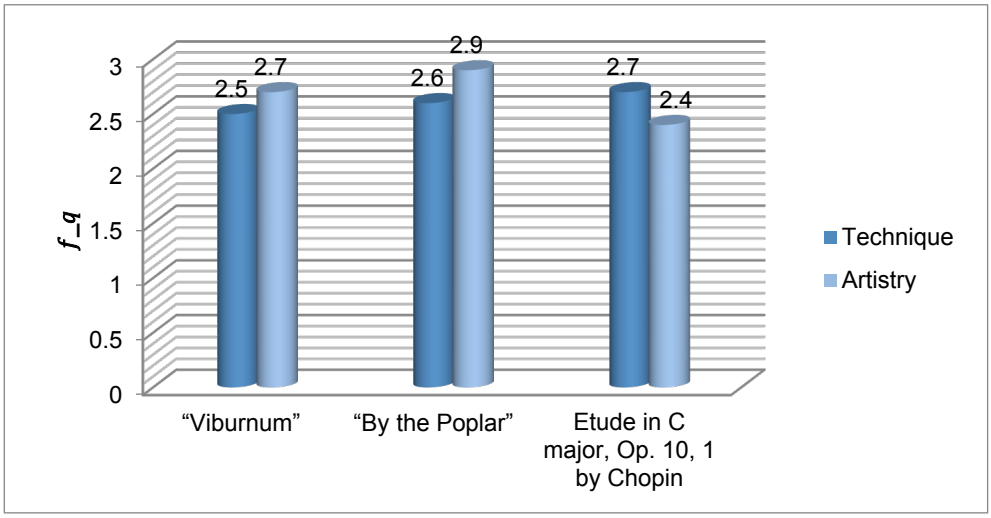
specific elements (additional musical decorations, fundamental changes, etc.). Students could convey their own experiences, which contributed to the individual performance of melodies.

The artistic and aesthetic performance skills are related to understanding approaches that ensure the expressiveness of compositions. Students were able to vary imaginative associations, which contributed to the creation of musical connections. Aesthetics was achieved through understanding the principles of timbre and dynamic change, as well as the selection of the most melodic sounds. Developing these skills is associated with a conscious and deep perception of the content of the compositions, focusing on its combination with artistic images. The artistic and aesthetic performance was related to transmitting the author's intention.

Using unique piano techniques was associated with a higher level of students' skills. These techniques involved achieving a high level of grace and mannerisms and creating contrasting elements. They are also involved in working with the complexity of intonation and achieving sound balance. The techniques involved selecting an upbeat solid, contributing to the sound's richness and expressiveness.

The research process involved identifying the quality of instrumental playing by future musicians based on the performance of different repertoire (E.g. 2).

E.g. 2



Students' piano playing level based on existing musical compositions

It has been established that the instrumental performance of the song "Viburnum" is characterised by a higher level of artistry than the purity of the performance technique. The artistry was created to ensure the harmony of the melodic line, which is associated with paying attention to each tonality. The new tonality implied that it would be played a bar faster. The composition "Viburnum" performance technique reflects the performance of dissonant consonances. However, gaps were observed during melodic splits, which involved minor mistakes. Future musicians could achieve individual approaches by combining the traditional melody with the peculiarity of the composer's technique, which influenced the complexity of the melody. This was realised through polytone chord combinations (E.g. 3).

E.g. 3

The score of the composition "Viburnum"

The piano performance of the song "By the Poplar" showed the advantage of emotional performance, which is associated with artistry. The lyricism of the melody was achieved using emotional chords. The performance technique was characterised by purity, but the combination of cultural diversity did not reflect harmony. However, the students could convey the dramatic nature of the melody, which was created with the help of melodic tones. This was reflected in the emotional, energetic sound. The intonation and melodic enrichment were aimed not only at the expressiveness of the sound but also at the complexity of musical forms (E.g. 4).

E.g. 4

A score of the contemporary composition "By the Poplar."

The study's results showed that the performance of the Etude in C major Op. 10, 1 contributed to the achievement of high results in the playing technique, which provided for the preservation of the basic style of the etude. This involved following the bel canto technique, which consists of the use of a large number of musical ornamentals. The technical component was also ensured by maintaining endurance, which required compliance with the necessary intonation. The artistic component also involved adherence to a high level, but there were gaps in the dynamics, which contributed to the transmission of musical images. At the same time, preserving the musical completeness technique influenced the etude's overall expressiveness (E.g. 5).

E.g. 5

Score of "Etude in C major, Op. 10, 1" by Chopin

The study determined the level of individuality of future musicians during piano playing (Table 2).

Table 2

Skill level	Before the study began	After completing the training	Mann-Whitney criterion
High	15%	83%	1,583
Intermediate	64%	17%	1,264
Low	21%	-	-

The level of formed skills of the individuality of piano playing among students

The results confirm that the students have achieved a high level of individuality during the training due to the gradual development of complex playing skills. An individual style of piano playing was achieved due to variations in modality and tonality. Students were able to achieve their approach to the interpretation of individual compositions. This was manifested in the change of sounds and intervals. Also, the uniqueness of the piano playing was achieved as a result of the use of spontaneity techniques, which influenced the new sound. In addition, during the piano interpretation of the compositions, a more artistic sound was achieved by adding melismas. Individuality in the performance of piano melodies was also achieved by providing a variety of pedalling, which influenced the subtlety of the sound. These approaches changed the flavour sound, reflected in the piano tones and aural expression.

Discussion

The use of mentoring techniques in the training of future musicians allows for structured learning. Mentoring facilitates the exchange of experience, the search for new teaching strategies, the correct assessment of students and the development of their activity. In this way, instrumental musicians are given more opportunities to realise their creative ideas based on practical skills[28]. Feedback in the learning process positively impacts students' performance, motivation, and self-regulation and helps eliminate discrepancies between theory and practice. Such an approach should be purposeful and structured, aiming to develop new capabilities of students[29]. The development of instrumental music skills is possible due to focusing on the appropriate repertoire. Much attention should be paid to compositions of the 20th and 21st centuries, incorporating elements of different musical genres. Appropriate repertoire selection will also help motivate students to develop professional skills in playing a musical instrument[30]. In the presented works, attention is paid to selecting appropriate repertoire and providing feedback in teaching. In our article, emphasis was placed on using different repertoires, which allowed us to understand the approaches to their interpretation, focusing on the acquired knowledge.

[28] Weimer, Kristina, Albert, Daniel. A Mentoring Network for Novice and Experienced Music Teachers: Concept, Design, Outcomes, and Recommendations. Journal of Music Teacher Education, 2022, 31, No. 2, 2022, pp. 92–106. https://doi.org/10.1177/10570837211054096

[29] de Bruin, Leon. Feedback in the instrumental music lesson: A qualitative study. Psychology of Music, 2023, 51, No. 4, 2023, pp. 1259–1274. https://doi.org/10.1177/03057356221135668

[30] Torán, Andrea García, Monreal-Guerrero, Inés María, Carabias-Galindo, David, Berron Ruiz, Elena. The work with contemporary music in the professional and higher conservatories of music of Spain. Resonancias, 27, No. 52, 2023, pp. 203–233.

Forming an individual musical style is possible due to focusing on famous composers' works. This approach is possible based on the analysis of existing approaches to music performance. Artificial intelligence can be used to identify the characteristic features of composers' instrumental playing and ensure their independent performance. The MemoVision application is aimed at searching for musical information and conducting a parallel analysis of different versions of the interpretation of one piece of music. It also allows us to compare the correctness of the musicians' understanding of the composition with the original interpretation[31]. The development of movements for instrumental playing is made possible using multimodal sensor technology. Correcting piano playing using sensory signals is possible, which contributes to the consistency of training. Interactive learning allows you to develop the speed and complexity of piano movements, contributing to forming professional skills[32]. Self-regulated practice techniques are the most effective for the professional development of musicians, as they promote a thoughtful approach to learning. To ensure that this learning approach is practical, it is necessary to set a clear goal that students want to achieve. One of the approaches to self-regulated learning can be studying scores and analysing your instrumental playing. Self-regulation of practical skills allows you to assess and correct your developed skills if necessary[33]. In our article, unlike those presented above, we do not focus on students' independence in learning. The teaching approaches involved teachers and digital technologies, which allow individualising the learning process to acquire higher professional skills.

Developing motor skills in playing musical instruments is a prerequisite for beginners, and this should be considered when playing modern and traditional musical instruments. For example, the development of drumming skills should be based on the development of percussive rhythm and forearm movements. Digital technologies can provide visual and vibration feedback. Using this training approach helps to reduce the length of the beats, which affects the expressiveness of the sound, providing greater rhythmicity.[34]

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[31] Spurný, Lubomír, Ištvánek, Matěj, Jiraský, Jan. Memory of sound (Smetana–Dvořák–Janáček). To the method of processing audio recordings using the MemoVision tool. Hudebni Veda, 60, No. 4, 2023, pp. 501–533.

[32] Furuya, Shinichi, Tanibuchi, Ryuya, Nishioka, Hayato, Kimoto, Yudai, Hirano, Masato, Oku, Takanori. Passive somatosensory training enhances piano skill in adolescent and adult pianists: A preliminary study. Annals of the New York Academy of Sciences, 1519, No. 1, 2023, pp. 167–172. https://doi.org/10.1111/nyas.14939

[33] Suzuki, Akiho, Mitchell, Helen. What makes practice perfect? How tertiary piano students self-regulate play and non-play strategies for performance success. Psychology of Music, 50, No. 2, 2022, pp. 611–630. https://doi.org/10.1177/03057356211010927

[34] Shibata, Takeshi, Tanaka, Misa. Development of a forearm motion learning-assist system for playing the Japanese shamisen instrument. Entertainment Computing, 46, 2023, 100564. https://doi.org/10.1016/j.entcom.2023.100564

Mental training is the basis for developing musicians' professional skills due to the awareness of the technical and creative processes of playing. The learning process should include alternating approaches to perceiving sound and reproducing it. It is also necessary to ensure the reproduction of melodic compositional play, focusing on motor and auditory images. The perception of sound should be based on its further reproduction, which ensures the development of the intonation range[35].

The analysis of scientific articles revealed that to develop individual skills in playing a musical instrument, attention should first be paid to developing technical skills. In our article, the emphasis was placed on the search for teaching approaches that contribute to developing interpretive and technical skills, artistic interpretation and improvisation skills. It was also established what criteria of pianists' professional skills were formed during the educational process. The level of instrumental playing and individuality achievement were determined based on the established skills.

Restrictions

The work's limitations are related to the use of different genres of music material during training aimed at ensuring the diversity of instrumental playing. However, the influence of educational approaches on the development of instrumental performance within one genre of music has not been considered. The presented limitations are insignificant since the study determined students' level of formation of individual piano interpretation skills depending on classical, traditional, and contemporary repertoire.

Recommendations

Providing a well-thought-out teaching approach that considers students' capabilities makes instrumental playing skills development possible. Focusing on an individual approach to teaching allows us to consider students' skills to ensure better learning and develop an appropriate level of playing a musical instrument. This approach helps to create interest in learning among future musicians.

[35] Vilnite, Fiona Mary, Marnauza, Mara. Thinking ahead: the use of mental training in young violinists' skill development. Music Education Research, 25, No. 5, 2023, pp. 545–561. https://doi.org/10.1080/14613808.2023.2272166

Conclusions

The development of individual teaching approaches for the development of piano skills allowed us to achieve the aim of the study. During the training, interpretive and technical skills were planned to be developed by perceiving melodies by ear and then interpreting them. Using the Real Piano application made it possible to focus on students' capabilities, contributing to the formation of skills in the reference sound of compositions. The development of artistic interpretation skills involved modelling interpretation techniques aimed at preserving the melody and overall expressiveness of the compositions. The development of improvisation skills involved using the RD4 Groovebox application, which facilitated the transformation of melodies based on the preservation of genre expression and style.

Comparing the level of musicians' skills during training, it is possible to show significant improvements after 6 months of study and ensure that an individual approach to learning is reflected in developing skills in piano interpretation of aural compositions (18.3) and creative independence (18.1). These criteria helped to provide for the accuracy of the perception of musical compositions and the creation of their piano interpretations. The skills of artistic and aesthetic performance (17.5) and the use of unique piano techniques (14.3) were related to ensuring the individuality of musicians to achieve sound balance.

It has been established that students' piano performance of compositions of different genres was achieved at an intermediate and high level. During the performance of the traditional composition "Viburnum" (2.7) and the modern "By the Poplar" (2.9), a high level of artistic performance was achieved. The performance of Chopin's Etude in C major, Op. 10, 1 showed high technical skills (2.6). It has been found that future musicians have formed a high level of individuality while playing the piano, which is associated with the understanding of interpretation techniques formed in the learning process.

The work's practical significance involves the possibility of incorporating the developed individual approaches to teaching musicians-instrumentalists into university programmes, which will allow students' capabilities to be considered. Prospects for further research are related to the study of the effectiveness of individual and group approaches to teaching future pianists of classical and contemporary music.

REFERENCES

Banquiero, Mariano, Valdeolivas, Gracia, Trincado, Sergio, Garcia, Natasha, Juan, M.-Carmen. Passthrough Mixed Reality with Oculus Quest 2: A Case Study on Learning Piano. IEEE Multimedia, 30, No. 2, 2023, pp. 60–69. https://doi.org/10.1109/mmul.2022.3232892

Buchma-Bernatska, Olga, Chystiakova, Natalia, Bazylchuk, Leonid, Putiatytska, Olha, Zakharova, Oksana. (2023). Psychological and pedagogical aspects of teaching students in the field of music. Youth Voice Journal, 1 (Special Issue), 2023, pp. 9–19.

de Bruin, Leon R. Instrumental music teachers' development of feedback across the lifespan: A qualitative study. International Journal of Music Education, 42, No. 1, 2024, pp. 32–46. https://doi.org/10.1177/02557614231151445

de Bruin, Leon. Feedback in the instrumental music lesson: A qualitative study. Psychology of Music, 2023, 51, No. 4, 2023, pp. 1259–1274. https://doi.org/10.1177/03057356221135668

de la O Cortón-Heras, Maria, Monreal-Guerrero, Inés-María, Parejo, José Luis (2023). Mediation of music in the development of interpersonal skills in initial teacher education. Artseduca, 35, 2023, pp. 67–84. https://doi.org/10.17583/qre.10748

Ellerbe, Amanda E. Teaching Citizenship Through Music Education: A Case Study of a Community Youth Orchestra Program. Bulletin of the Council for Research in Music Education, 236, 2023, p. 43–57. https://doi.org/10.5406/21627223.236.03

Frytsiuk, Valentina, Brylin, Boris, Zanalnyuk, Anatoly, Frytsiuk, Vasyl, Mykhaylyshen, Alexander. Implementation of Information Technology into the Education of Music Teachers. Journal of Higher Education Theory and Practice, 22, No. 6, 2022, pp. 35–43. https://doi.org/10.33423/jhetp.v22i6.5226

Furuya, Shinichi, Tanibuchi, Ryuya, Nishioka, Hayato, Kimoto, Yudai, Hirano, Masato, Oku, Takanori. Passive somatosensory training enhances piano skill in adolescent and adult pianists: A preliminary study. Annals of the New York Academy of Sciences, 1519, No. 1, 2023, pp. 167–172. https://doi.org/10.1111/nyas.14939

Han, Jungmin Grace. The Somaesthetics of Musicians: Rethinking the Body in Musical Practice. Journal of Somaesthetics, 5, No. 2, 2019, pp. 41–51.

Hirano, Masato, Furuya, Shinichi. Active perceptual learning involves motor exploration and adaptation of predictive sensory integration. iScience, 27, No. 1, 2024, 108604. https://doi.org/10.1016/j.isci.2023.108604

Howard, Keith. Musical instruments as tangible cultural heritage and as/for intangible cultural heritage. International Journal of Cultural Property, 29, No. 1, 2022, pp. 23–44. https://doi.org/10.1017/S0940739121000436

Istvanek, Matej, Miklanek, Stepan, Spurny, Lubomir. Classification of Interpretation Differences in String Quartets Based on the Origin of Performers. Applied Sciences (Switzerland), 13, No. 6, 2023, 3603. https://doi.org/10.3390/app13063603

Katušić, Ana, Burić, Ksenija. Music therapy in educating children with developmental disabilities. Croatian Journal of Education, 23, No. 1, 2021, pp. 63–79. https://doi.org/10.15516/cje.v23i1.3915

Liu, Bo, Ye, Fang. The problem-based approach in online music education: how to teach students to control singing with piano accompaniment? Interactive Learning Environments, 2022. https://doi.org/10.1080/10494820.2022.2160471

Muramatsu, Kaito, Oku, Takanori, Furuya, Shinichi. The plyometric activity as a conditioning to enhance strength and precision of the finger movements in pianists. Scientific Reports, 12, No. 1, 2022, 22267. https://doi.org/10.1038/s41598-022-26025-0

Revenko, Vira. Education and Music Culture in the Context of Web 2.0. International Journal of Emerging Technologies in Learning, 16, No. 10, 2021, pp. 96–107. https://doi.org/10.3991/ijet.v16i10.19693

Shibata, Takeshi, Tanaka, Misa. Development of a forearm motion learning-assist system for playing the Japanese shamisen instrument. Entertainment Computing, 46, 2023, 100564. https://doi.org/10.1016/j.entcom.2023.100564

Shu, Ying. Influence of piano playing on logical thinking formation of future musicians. Thinking Skills and Creativity, 42, 2023, 100961. https://doi.org/10.1016/j.tsc.2021.100961

Spurný, Lubomír, Ištvánek, Matěj, Jiraský, Jan. Memory of sound (Smetana–Dvořák–Janáček). To the method of processing audio recordings using the MemoVision tool. Hudebni Veda, 60, No. 4, 2023, pp. 501–533.

Sungurtekin, Sehnaz. Classroom and music teachers' perceptions about the development of imagination and creativity in primary music education. Journal of Pedagogical Research, 5, No. 3, 2021, pp. 164–186. https://doi.org/10.33902/JPR.2021371364

Suzuki, Akiho, Mitchell, Helen. What makes practice perfect? How tertiary piano students self-regulate play and non-play strategies for performance success. Psychology of Music, 50, No. 2, 2022, pp. 611–630. https://doi.org/10.1177/03057356211010927

Suzuki, Akiho, Pitts, Stephanie. Toward effective performance psychology interventions in tertiary music education: An exploration of students' experiences, attitudes, and preferences. Psychology of Music, 2023. https://doi.org/10.1177/03057356231204859

The Norwegian National Committee for Research Ethics in Science and Technology. Guidelines for Research Ethics in Science and Technology, 2016. https://www.forskningsetikk.no/en/guidelines/science-and-technology/guidelines-for-research-ethics-in-science-and-technology/

Torán, Andrea García, Monreal-Guerrero, Inés María, Carabias-Galindo, David, Berron Ruiz, Elena. The work with contemporary music in the professional and higher conservatories of music of Spain. Resonancias, 27, No. 52, 2023, pp. 203–233.

Vargas-Gil, Esther, Gértrudix-Barrio, Felipe, Gértrudix-Barrio, Manuel. Diverse cultural thought in the european context through music collaboration networks. Journal of Science and Technology of the Arts, 13, No. 2, 2021, pp. 75–98.

Vilnite, Fiona Mary, Marnauza, Mara. Thinking ahead: the use of mental training in young violinists' skill development. Music Education Research, 25, No. 5, 2023, pp. 545–561. https://doi.org/10.1080/14613808.2023.2272166

van Vreden Mignon. Creating a musical for pre-schoolers in South Africa as pedagogical praxis for a tertiary music education module. British Journal of Music Education, 40, No. 1, 2023, pp. 109–123. https://doi.org/10.1017/S0265051722000079

Weimer, Kristina, Albert, Daniel. A Mentoring Network for Novice and Experienced Music Teachers: Concept, Design, Outcomes, and Recommendations. Journal of Music Teacher Education, 2022, 31, No. 2, 2022, pp. 92–106. https://doi.org/10.1177/10570837211054096

Weimer, Kristina, Rutkowski, Joanne. Playing Musically: Developing Healthy and Expressive Singing Instrumentalists. Music Educators Journal, 109, No. 4, 2023, pp. 42–50. https://doi.org/10.1177/00274321231178446

Zhang, Hang, Wang, Ting, Feng, Xiaohui, Wei, Yiping, Zhang, Jijia. Effect of bronze drum training on rhythm perception and executive function of Zhuang drummers. Acta Psychologica Sinica, 55, No. 11, 2023, pp. 1762–1779. https://doi.org/10.3724/SP.J.1041.2023.01762