

**ONLINE SOLFEGGIO: PROBLEMS AND SOLUTIONS
(EXPERIENCE DURING THE CORONAVIRUS PANDEMIC
AND THE WAR IN UKRAINE)**

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INTRODUCTION

Music education during the coronavirus infection (COVID-19) pandemic and the heroic opposition of Ukraine against Russian military aggression has undergone destabilization: due to forced localization and social isolation, as well as the threat to the safety of all participants in the educational process, offline learning was replaced by online learning. This difficult situation has made adjustments to the proven methodology of teaching the fundamental musical-theoretical discipline “Solfeggio”, developed by many specialists (including Ukrainian ones) (for example, Ф. Аерова¹, V. Boler², E. Jaques-Dalcroze³; ⁴, Z. Kodály⁵, M. Koval⁶, V. Kovaliv⁷, S. Kvasha⁸, I. Mudroliubova⁹, I. Ovcharenko¹⁰, S. Perminova¹¹, Y. A. Zilberman¹², etc.).

¹ Аерова Ф. І. Практичні поради з методики викладання сольфеджіо. 2-е вид. Київ: Муз. Україна, 1974. 78 с.

² How to teach rhythm vs beat. *Victoria Boler. Blog*. URL: <https://www.wemakethemusic.org/blog/2016/1/11/rhythm-vs-beat> (Last accessed: 19.02.2023).

³ Jaques-Dalcroze E. *Rhythm, Music and Education*. Barclay Press, Incorporated, 2009. 396 p.

⁴ Jaques-Dalcroze E. *The eurhythmics of Jaques-Dalcroze*. Boston: Small Maynard and Company, 1915. 70 p. URL: <http://www.gutenberg.org/files/21653/21653-h/21653-h.htm> (Last accessed: 29.07.2023).

⁵ Kodály Z. *Bicinia Hungarica I–IV. Bevezető a kétszólamú éneklésbe (Revideált kiadás)*. Budapest: Editio Musica Budapest, 1958, 1960, 1970, 1982.

⁶ Сольфеджіо та музична грамота: метод. посіб. / авт.-уклад. М. П. Коваль; Державна академія керівних кадрів культури і мистецтв. Київ: ДАКККіМ, 2003. 38 с.

⁷ Ковалів В. Я. Методика музичного виховання на релятивній основі. Київ: Муз. Україна, 1973. 150 с.

⁸ Кваша С. Методика розвитку поліфонічного слуху в курсі сучасного сольфеджіо: основні тенденції. *Молодий вчений*. 2019. № 6 (70). С. 40–43. DOI: <https://doi.org/10.32839/2304-5809/2019-6-70-9>

⁹ Мудролюбова І. О. Методика навчання сольфеджіо молодших школярів у спеціалізованих мистецьких навчальних закладах: автореф. дис. ... канд. пед. наук: 13.00.02. / Нац. пед. ун-т ім. М. П. Драгоманова. Київ, 2016. 20 с.

¹⁰ Методика викладання сольфеджіо. Практика викладання сольфеджіо: програма для музичних училищ зі спеціальності № 0507 «Теорія музики» / уклад. І. Овчаренко. Київ, 1993. 14 с.

¹¹ Пермінова С. О. Формування навичок сприйняття хорового багатоголосся у студентів вузів культури на заняттях з сольфеджіо: дис. ... канд. пед. наук: 13.00.02. / Київський національний ун-т культури і мистецтв. Київ, 1999. 170 с.

¹² Зільберман Ю. А. Методи активізації уроку та самостійних занять з сольфеджіо за допомогою технічних засобів навчання. *Методика викладання музично-теоретичних і музично-історичних предметів (музична школа – училище – консерваторія): зб. ст. / упоряд. В. Самохвалов*. Київ: Муз. Україна, 1983. С. 49–56.

The extraordinary and specific subject “Solfeggio”, which had been traditionally taught face-to-face, initially caused an ambiguous reaction among teachers and students in the online learning format – the incomprehensibility of its practical development. However, the gradual acquisition of new (online) learning competencies solved the difficult situation. Thanks to an intensive search for convenient forms of communication between the teacher and students, effective types of learning activities, the selection of electronic textbooks, exercises, etc., all participants in the online process acquired new knowledge, skills and invaluable experience.

All of this has become an urgent problem for scientific study and has determined the relevance of our research and this scientific publication as a presentation of its results. *The purpose of the research* was to identify and characterize the problems of teaching online solfeggio and the optimal solutions found for them based on personal experience of training students-vocalists, students-pianists and students studying the skill of playing wind, percussion and folk musical instruments in the A. V. Nezhdanova Odessa National Academy of Music during the coronavirus pandemic (COVID-19) and the war in Ukraine.

Methodological basis of the research

The methodological basis of the research was the interaction of the following methods:

- *a method of observation*, which involves a conscious purposeful and fixed perception of reality with the aim of studying it in specific situations;
- *a method of experimentation* involving the study and acquisition of knowledge through a conscious change in objects, phenomena or situations;
- *a generalization method* (inductive and deductive), based on the definition of common core features of objects through the analysis and synthesis of information, as well as comparison;
- *a perceptual method* based on the transmission and perception of information through the senses;
- *a verbal method* that organizes such forms of the educational process as explanation, conversation, discussion, consultation, printed text, etc.;
- *a visual method* based on visual, audio or video learning materials;
- *a practical method* based on the practical activities of the participants in the educational process (performing intonational, rhythmic, auditory and other exercises and tasks) in order to form certain skills and abilities.

Analysis of existing research on the problem under consideration

The problem of teaching and studying solfeggio online in various aspects of scientific study was actualized in the works of such researchers as: K. Cherevko, H. Kobylanska & V. Kobylansky, D. R. Lasso Chaves,

L. Prudnikova & O. Prudnikova, A. Rodríguez-Juan, L. Vasylieva, etc. In particular, the study of the positive and negative possibilities of distance learning for students-musicians during the period of coronavirus infection, as well as a review of Ukrainian platforms, resources and cloud service models that host training videos and simulators with solfeggio tasks for use in online classes, was carried out by H. Kobylanska & V. Kobylansky¹³.

The problem of the use of information and computer technologies by teachers and students in the process of studying music-theoretical disciplines (including solfeggio) during the coronavirus pandemic has come into the field of scientific attention of K. Cherevko. In this regard, the author emphasizes new forms of organizing the educational process that change the traditional structure of educational information. As a result, in the process of learning with the use of information and computer technologies, an individual approach to the learning process is formed, which determines the choice of each student's own approach to the practical mastery of the material using certain textbooks, lectures, video and audio materials, as well as information resources, practical tasks, tests, simulators that help to effectively master the subject¹⁴.

Modification of the discipline of solfeggio in the aspect of implementing e-learning and remote work of a teacher and students in a simultaneous and asynchronous mode in pandemic conditions (Covid-19) is investigated A. Rodríguez-Juan¹⁵.

L. Vasylieva's research is devoted to the problems of distance learning in solfeggio and music theory in Ukraine from the point of view of reviewing the existing Internet sources (educational resources, online courses, video lessons, video schools) and their use in practice in accordance with the requirements of distance learning¹⁶.

¹³ Kobylanska H., Kobylansky V. Opportunities for distance learning of students of musician specialties in higher educational institutions. *Education during a pandemic crisis: problems and prospects. Monograph.* Tetyana Nestorenko – Tadeusz Pokusa (eds.). Opole: The Academy of Management and Administration in Opole, 2020. P. 213–218. URL: https://www.wszia.opole.pl/wp-content/uploads/2020/09/2020_education_during_pandemic_crisis_problems_and_prospects-1.pdf

¹⁴ Черевко К. До питання використання комп'ютерних технологій у викладанні музично-теоретичних дисциплін. *Актуальні питання викладання музично-теоретичних та музично-історичних дисциплін: матеріали VI Міжнародної науково-методичної конференції, кафедра теорії музики, кафедра історії музики, 20 лютого 2021 року / ред.-упор. О. Письменна.* Львів: ЛНМА імені М. В. Лисенка, 2021. С. 174–176. URL: <https://lnma.edu.ua/wp-content/uploads/2019/01/zbirka-konf-teoria-muzyky-2021.pdf>

¹⁵ Rodríguez-Juan A. The E-learning educational model, a different experience in Solfeggio classes during COVID-19. *Journal of Computational Systems and ICTs.* 2020. Vol. 6, No. 18. P. 8–17. DOI: 10.35429/JCSI.2020.18.6.8.17

¹⁶ Васильєва Л. Дистанційне навчання сольфеджіо і теорії музики в Україні: огляд Internet-джерел. *Педагогічні науки: теорія, історія, інноваційні технології.* № 2 (66). 2017. С. 192–204. DOI: <https://doi.org/10.24139/2312-5993/2017.02/192-204>

The issue of organizing the educational process in art education institutions with the use of digital technologies for its implementation was considered by L. Prudnikova and O. Prudnikova. In particular, they emphasized the use of a shared screen in an online class by theoretical teachers, which can be used to demonstrate a certain musical text for the purpose of analyzing it or singing it from a sheet, as well as files with video notes. At the same time, the importance of the Whiteboard located in the shared screen menu is noted, where it is possible to draw, write with a virtual pen or stylus (if there is a touch screen) important information about the topic of the online class¹⁷.

The development of a mobile-technological audio-visual program for its using by teachers and students -musicians of a higher school in the electronic studying solfeggio in order to monitor the development of melodic-rhythmic skills was the know-how investigation of D. R. Lasso Chaves¹⁸.

Along with this, in the aspect our research problems, particular attention was paid to the works of O. Afonina¹⁹, L. Duțică²⁰, D. Hebert²¹, R. Horbatiuk & O. Potapchuk²², Z. Kiraly²³, Lin Wang²⁴, I. Kochurska²⁵, I. Levytska &

¹⁷ Пруднікова Л. П., Пруднікова О. І. Онлайн навчання в закладах мистецької освіти. *Молодий вчений*. 2022. № 2 (102). С. 86–89. DOI: <https://doi.org/10.32839/2304-5809/2022-2-102-17>

¹⁸ Lasso Chaves D. R. Monitor tecnológico para el estudio del solfeo. Trabajo de grado – Pregrado. Bogotá (Colombia): Escuela Colombiana de Ingeniería Julio Garavito, 2020. 44 p. URL: <https://repositorio.escuelaing.edu.co/bitstream/handle/001/1155/Lasso%20Chaves%2c%20Danny%20Ramsey-2020.pdf?sequence=1&isAllowed=y>

¹⁹ Афоніна О. С. Перспективи впровадження дистанційних курсів з музикознавства у навчальний процес Національної академії керівних кадрів культури і мистецтв. *Вісник Державної академії керівних кадрів культури і мистецтв*. Вип. 4. Київ: Міленіум, 2012. С. 85–88.

²⁰ Duțică L. Assessment typologies used within the discipline *theory, solfeggio, musical dictation*. *Review of Artistic Education*. 2018. Vol. 15. P. 37–43. DOI: <https://doi.org/10.2478/RAE-2018-0004>

²¹ Hebert D. G. Five Challenges and Solutions in Online Music Teacher Education. *Research and Issues in Music Education*. 2007. Vol. 5, No. 1. P. 1–12. URL: <https://commons.lib.jmu.edu/cgi/viewcontent.cgi?article=1045&context=rime>

²² Горбатюк Р. М., Потапчук О. І. Методичні аспекти застосування хмарних технологій в освітньому процесі. *Сучасні інформаційні технології та інноваційні методики навчання у підготовці фахівців: методологія, теорія, досвід, проблеми*. Київ-Вінниця: ТОВ фірма «Планер», 2016. Вип. 47. С. 147–150.

²³ Kiraly Z. Solfeggio 1: A Vertical Ear Training Instruction Assisted by the Computer. *International Journal of Music Education*. 2003. Vol. 40. P. 41–58. URL: <https://journals.sagepub.com/doi/pdf/10.1177/025576140304000105>

²⁴ Lin Wang. The Skill Training of Reading Music in the Teaching of Solfeggio and Ear Training in the New Media Environment. *Applied Bionics and Biomechanics*. 2022. Vol. 2022. 11 p. DOI: <https://doi.org/10.1155/2022/8209861>

²⁵ Кочурська І. В. Педагогічні умови гуманізації професійної підготовки майбутніх педагогів-музикантів у мистецьких навчальних закладах: дис. ... канд. пед. наук: 13.00.04 / Ін-т пед. освіти і освіти дорослих Нац. академії пед. наук України. Київ, 2018. 302 с.

T. Osadcha²⁶, M. Milosievski, D. Zemon, J. Stojkovska and K. Popovski²⁷, L. Nazar²⁸, A. Schiavio, M. Biasutti and R. A. Philippe²⁹, O. Serhiieva³⁰, S. Tamm³¹, K. A. Thorgersen & A. Mars³², etc.

1. Zoom platform and digital devices in organizing and conducting online solfeggio lessons under conditions of quarantine (COVID-19) and the war in Ukraine: problems and solutions

Video communication and its organization were the primary problems of online solfeggio classes at the beginning of their implementation. Zoom, Skype, Viber and Telegram were used to test online communication. The video conferencing software Zoom proved to be the most convenient for e-learning, despite the fact that at the beginning of its use it was possible to broadcast for free for 40 minutes, which required students and the teacher to log in multiple times. The following positive features of Zoom were also discovered:

- the possibility of holding a video meeting with a teacher and a group of students from 1–2 to 12 or more participants, mainly without loss of speed and quality of communication;
- the presence of the function of displaying two monitors, which provides the ability to be present in a virtual audience and simultaneously show the contents of the screen on two separate monitors or a presentation;

²⁶ Левицька І. М., Осадча Т. В. Використання хмарних та мобільних технологій в процесі дистанційного навчання майбутнього вчителя музичного мистецтва. *Наукові записки*. Серія: Педагогічні науки. 2023. Вип. 209. С. 232–237. DOI: <https://doi.org/10.36550/2415-7988-2022-1-209-232-237>

²⁷ Milosievski M., Zemon D., Stojkovska J., Popovski K. Learning Online: Problems and Solutions. Blog by UNICEF Young Reporters. *UNICEF for every child*. URL: <https://www.unicef.org/northmacedonia/stories/learning-online-problems-and-solutions>

²⁸ Назар Л. Актуалізація системи Е. Жак-Далькроза в сучасній музичній освіті. *Актуальні питання викладання музично-теоретичних та музично-історичних дисциплін*: матеріали VI Міжнародної науково-методичної конференції, кафедра теорії музики, кафедра історії музики, 20 лютого 2021 року / ред.-упор. О. Письменна. Львів: ЛНМА імені М. В. Лисенка, 2021. С. 104–106. URL: <https://lnma.edu.ua/wp-content/uploads/2019/01/zbirka-konf-teoria-muzyky-2021.pdf>

²⁹ Schiavio A., Biasutti M., Philippe R. A. Creative pedagogies in the time of pandemic: a case study with conservatory students. *Music Education Research*. 2021. Vol. 23, No. 2. P. 167–178. URL: <https://www.tandfonline.com/doi/full/10.1080/14613808.2021.1881054>

³⁰ Сергієва О. В. Заняття сольфеджіо в умовах дистанційного навчання: перший досвід. *Scientific and pedagogic internship «Modern approaches to the organizations if the educational process in the area of cultural studies, art history and music studies in Ukraine and EU countries»*: Internship proceedings. October 19 – November 27, 2020. Wloclawek, Republic of Poland, 2020. P. 96–99.

³¹ Tamm S. 10 Biggest Disadvantages of E-Learning. *e-student.org*. URL: <https://e-student.org/disadvantages-of-e-learning/>

³² Thorgersen K. A., Mars A. A pandemic as the mother of invention? Collegial online collaboration to cope with the COVID-19 pandemic. *Music Education Research*. 2021. Vol. 23, No. 2. P. 225–240. DOI: <https://doi.org/10.1080/14613808.2021.1906216>

– video recording of the entire lesson or its fragments in order to use it in the process of online learning (for example, for analyzing students’ errors) or self-study distance learning;

– visual projection of educational material on the screen of a computer, laptop, tablet or smartphone using the “Screen Sharing” function. In this case, the teacher had the opportunity, using the “virtual board”, to fix individual positions of the lesson structure or through the “personal screen” to demonstrate samples of various exercises, tasks, video files, diagrams, and other things;

– the presence of a collective chat that provides each participant with the opportunity to send a message during interactive cooperation.

Despite the positive results obtained in the process of using Zoom for conducting online solfeggio classes, a number of problems of a multi-vector nature were discovered. Let’s consider them.

The lack of competence of the teacher and students in the use of digital devices was one of the problems that led to the study and development of their working potential.

An equally important problem was the socioeconomic status of the majority of participants studying online solfeggio, which did not allow them to have a desktop computer, laptop, tablet or smartphone in a high price segment, high-speed Internet, acoustic piano or its analogues. In particular, students (and there were a minimum number of them!), owning a desktop or laptop, felt comfortable using them for the following reasons:

a) stable position of the technical device on the surface, preventing it from falling or slipping;

b) satisfactory quality of the microphone audio signal and video image, providing an opportunity to hear and see the participants in the online process or specific educational material very well;

c) optimal screen size;

d) the ability to be in a sitting position at the table and have a working surface to complete tasks.

When students and teacher used budget smartphones of the so-called “non-advanced” models for conducting online solfeggio classes, the “stumbling block” was such parameters as poor video or sound quality, small or medium screen size and the lack of a practical holder-stand. In particular, the compact diagonal of the smartphone screen did not allow students to adequately and quickly perceive the educational material being demonstrated in its entirety or in separate fragments, and the lack of a holder-stand caused discomfort when using a mobile device.

It should be noted that these negative features of the smartphone, which were especially evident during the COVID-19 quarantine period, were

levelled during wartime air raids, when the teacher and students were forced to take shelter in shelters to escape rocket attacks and attacks by unmanned aerial vehicles, etc. In such rather difficult conditions, learning solfeggio with the help of this device (including such a variety as a high-end flagship smartphone) was the only way out, because everyone always had this mobile device with them. The principal problem of this situation in the overwhelming majority of cases was the lack of Internet in shelters due to the fact that, on the one hand, they were not always equipped with Wi-Fi, on the other hand, smartphones in these rooms did not “catch” the signal of Internet providers. In the case of the Internet availability (sometimes unstable) in these conditions, students and the teacher managed not only to attend online solfeggio classes, but also received a positive effect from the communication process, which was a distraction mechanism and at the same time psychological help in relieving stress, anxiety and emotional tension.

By the way, it should be emphasized that a significant problem in the process of conducting online solfeggio classes was precisely the difficult emotional and psychological state of most students, and sometimes even the teacher. And while at the beginning of the coronavirus pandemic, it was initially expressed only in fear of virtual communication and disbelief in its success, then during a full-scale armed attack by Russia on the territory of Ukraine, it was caused by a wide range of hardships of war. All this stimulated the teacher to search for effective “non-contact” methods of e-learning, as well as comfortable forms of switching attention, positive communication, mutual assistance and support. It was resulted, for example, through composing the instrumental accompaniment to a given melody, which in most cases was carried out through remote independent training of students at home. Demonstrating their vocal and instrumental compositions at the online classes, students were involved in an atmosphere of creative competition for the authorship of the best accompaniment and its artistic performance. An intriguing action was created, synthesizing creative competition and a concert into one whole, which often caused applause from students and a teacher. Each accompaniment was discussed by the students in terms of style, harmonic development, texture features, etc., and it was approved and supported by the teacher in every possible way.

2. Acoustic piano, its substitutes, electronic textbooks and forms of training work when studying solfeggio online under conditions of quarantine (COVID-19) and the war in Ukraine: problems and solutions

The presence of *an acoustic piano* is another problem that has become relevant for most students studying solfeggio online. In particular, students-

vocalists or students learning to play wind, percussion or folk musical instruments did not always have an acoustic piano in their use. On the contrary, students-pianists did not encounter this problem, which greatly facilitated the learning process and allowed them not only to perform auditory self-tuning and intonation of multi-voice exercises, but also to perform various other tasks. It is important to note that this situation was for the most part characteristic of the period of quarantine isolation due to COVID-19. In wartime, it was aggravated by the fact that many students – instrumentalists (including pianists) felt a lack of accessibility to the use of an acoustic piano in the educational process due to the forced change of territorial residence within Ukraine or abroad and acquiring the status of a migrant or a refugee. As a result, there was a need for an ersatz type of piano, which became *the virtual piano* (*virtual piano keyboard*), which became the most popular among students. This app, installed on a device (for example, smartphone, etc.), allowed students to play specific tasks on the virtual piano keyboard using their fingers (or a “mouse” if they had a desktop), as well as use some of the functions inherent in a digital piano.

The other replacement for the acoustic piano used by some students in their online solfeggio classes was *the digital piano*. Thanks to its technical convenience, compactness and loyal price range, and a wide range of additional features not available in a conventional piano, it has become quite convenient equipment for use in online classes. Along with the ease of setup, its main convenience was the direct connection of sound through the line input of the computer, eliminating the appearance of noise and interference from external microphones.

Melodica became an extraordinary result of the search for a substitute for acoustic piano. This reed instrument, which is a type of harmonica with a keyboard, has gained recognition among some brass students and was actively used by them in online solfeggio classes.

When studying solfeggio online, electronic textbooks turned out to be relevant. Students used them not only directly in the online class, but also when preparing homework remotely. As a rule, students independently found and “downloaded” the necessary textbooks on the Internet; in case of absence of any of them on the worldwide information computer network, a teacher came to the rescue, who sent the participants of the educational process the necessary electronic version by e-mail or via messenger.

In addition, some difficulties were noted when using electronic textbooks by students in classes taking place in Zoom, broadcast via a smartphone (which was not observed when using a computer or laptop). At the same time, it turned out to be impossible to simultaneously combine the video image of the participants in the online class and the open electronic file on the

smartphone screen. In order to see this or that task from the electronic textbook and complete it, the student had to turn off the video function on the smartphone. At the same time, there were often noises in the sound, which interfered with the holistic perception of information.

In order to avoid such discomfort, the use of the “Screen Sharing” (Zoom) function during e-learning solfeggio in most cases became a priority for the teacher and students. It was with its help that the teacher could effortlessly show students his own screen of the device and provide them with access to this or that content. As a result, under the conditions of sharing an electronic file (for example, textbook, video, etc.), students could simultaneously see a specific task on the screen (for example, solfegging or solmization of the melody, performing rhythmic exercises, sing intervals, chord or mixed sequences, etc.) and perform it, and the teacher was able to direct and control the learning process. It is important to note that all tasks were performed solo by students, forasmuch as ensemble singing a cappella or with accompaniment (for example, piano) online was almost impossible – the sound was not synchronous. As a result, the options for solo performance of the task by students were its singing from beginning to end or singing separate fragments according to the principle of following one after another in a predetermined sequence or randomly as directed by the teacher. It should be emphasized that fragments during the performance of, for example, an one-voice melody could be a musical period, few bars, an one bar or a beat; for an interval sequence or chord sequence – an interval or chord in varying amounts in a *melodic performance*, in which the structuring sounds of the interval or chord were sung sequentially in ascending or descending motion. Along with this, singing an interval sequence or chord sequence could be *harmonic*, in which the student sang one of the voices of the interval or chord while playing other voices on an acoustic piano or its substitute variant. Such varieties of educational material were very positively received by students and gave good results.

The performance of multivoiced exercises is a problem that has become acute in the format of online learning. Its most positive solution was found in the educational practice of students-pianists through their independent performance of multivoiced (two-voice, three-voice or four-voice) exercises on the principle of simultaneously singing the melody of one of the voices and playing the melodic lines of other voices on the piano.

At the same time, in online solfeggio classes, the problem of multivoiced performance was also relevant for working on metrorhythm. Students of various musical specialities showed great interest in this type of activity. In particular, the basis of two-voice metrorhythmic exercises was the

simultaneous tapping of various rhythmic patterns with the right and left hands, which could have many options for their complication, namely:

a) with the simultaneous pronunciation of rhythmic syllables in accordance with certain durations of one of the voices, where, for example, such durations as a quarter corresponded to the syllable “ta”, the eighth – “ti”, two sixteenths – “ti-ki”, half – “ta-a”, whole – “ta-a-a-a”, etc.; the dot after the note and doubling it corresponded to the rhythm syllable “i”,

b) with the simultaneous pronunciation of strong and weak beats for a count of “one”, “two”, etc. in accordance with a simple or complex musical meter,

c) using dynamic shades “loud” / “soft” corresponding to the right / left hand (and vice versa),

d) with a gradual increase / decrease in the speed of execution.

The manifestation of creativity in performing metrorhythmic tasks (mostly single-voice) was the use by some students of a *darbuka* – a small drum related to ancient percussion musical instruments of indefinite pitch, as well as some *kitchen utensils*. In this case, the sound of the reproduced rhythmic pattern was clear and well audible, in contrast to the actions of the palms on the tabletop, the result of which was not always audible.

The auditory analysis, which is one of the rather complex basic forms of work in offline solfeggio classes, had some minor hiccups when it was carried out online. In particular, when the teacher performed various tasks on the acoustic piano, students did not always clearly hear their sound content as whole and individual components. This was especially evident in relation to tasks presented in a multivoiced form, namely: two- / three-voice musical dictations, chords and chord-harmonic sequences, etc. The solution to this problem was a set of certain tasks pre-recorded by the teacher in audio format, which were provided to students for listening by broadcasting them to Zoom using the “Screen Sharing” function with the transition to the “Advanced” tab in the sharing mode “Computer sound only”. As a result, a high degree of interactivity was created, which was formed, for example, by listening exercises for each student individually with collective auditory control of the entire group. Along with this, if the student answered incorrectly, each of the other students had the right to give his own answer, the confirmation or refutation of which was the final summary of the teacher.

In addition to determining by ear the tasks presented to students in audio format, the auditory analysis of intervals, chords, scales, melodic motifs, etc., which were performed by the voice of the teacher, aroused great interest. At the same time, this “voice” version of tasks for auditory analysis had its own positioning in the form of its distribution between two students according to the principle “you sing specific musical material for me to determine by ear

and vice versa – I sing to you, and you listen and say the result of your auditory analysis”.

An acceptable solution for demonstrating musical dictations (one-, two- or three-voice) and their graphic recording was their audio recording, pre-recorded by the teacher. It should be noted that during the period of coronavirus quarantine and especially in wartime, in order to stabilize the unfavourable emotional state of students, the framework of the traditional musical dictation performed on the acoustic piano was expanded with its more interesting variants, such as timbre dictation, dictation with accompaniment and dictation in the form of a fragment from a specific work of musical classics. All these varieties of audio dictation were included in the educational process of online classes and independent distance learning of students. At the same time, a problem was discovered related to cases of collective cooperation of students when writing a musical dictation, and as old as the time, banal situation – “colleague, let me copy” / “help a friend, please”. The result of this problematic situation was dictations written perfectly by mediocre students, or containing the same errors. The options for transferring a written dictation from the student to the student could be, for example, as follows:

a) through a message sent to the device, the content of which was a photo of the finished dictation,

b) by turning off the microphone and video camera of the device in order to communicate via a smartphone to transfer information, etc.

In case such academic dishonesty of students took place during the exam, then the teacher faced the problem of objective assessment of each student’s knowledge and skills. As a result, compliance with moral and ethical standards has become necessary for students in order to reduce the risk of such a situation. In this regard, it is important to note the statement of S. Tamm, which is close to the standpoint of the author of the parts of the monograph, namely: “Building strong self-motivation and disciplinary skills is a key to succeeding in an online learning environment”³³.

“Gaps” in the behavioural education and individual responsibility of some students became another problem of online solfeggio. This problem was manifested, for example, through:

a) the student’ outer look or location, which sometimes caused the student to be unwilling to turn on the camera during class;

b) insufficient preparation (or complete lack of preparation) by the student of homework, which involved memorizing various exercises, recording rhythmic and melodic dictations presented in audio format, determining by

³³ Tamm S. 10 Biggest Disadvantages of E-Learning. *e-student.org*. URL: <https://e-student.org/disadvantages-of-e-learning/>

ear and fixing in writing intervals, chords, varieties of scales, modes of folk music, and much more.

Another problem of e-learning solfeggio, which became relevant during the coronavirus pandemic and the war in Ukraine, can be designated as “time and teacher, time and student”. In particular, in addition to the time spent on conducting online classes, the teacher devoted a significant amount of time to self-preparation for each of them, as well as he systematically received students’ homework in the form of photos, audio and video files to his email and then downloaded them to his electronic device in order to verify and assess. In turn, the student was also overloaded with work, because in addition to the time he spent preparing homework, he had to spend a significant amount of time photographing or recording them in audio and video format and sending them to the teacher.

CONCLUSIONS

Summing up the above, it is important to state that in the conditions of the coronavirus pandemic and the war in Ukraine, online study of solfeggio has become an example of a specific educational and teaching activity that has caused a number of problems and found effective methods and approaches to solve them.

The successful implementation of online solfeggio classes depended on solving the problem of the availability of technical and didactic teaching aids and the ability of participants in the educational process to operate with them. The Internet and equipment in the form of various devices and some musical instruments, including their virtual varieties, served as technical means of education; information media reproduced using digital devices – as didactic teaching aids.

In the process of e-learning solfeggio, a tandem of a teacher and students was formed, thanks to which a systematic search was carried out for various configurations for the implementation of contact “live” interaction through certain training tasks and their implementation, and a positive psychological atmosphere was created aimed at eliminating or minimizing the negative emotional state of the individual.

The discovery and use of some acoustic piano substitutes in the process of e-learning has made it possible to understand that, just as a classical musical instrument is not identical to its variety, online learning is not identical to offline learning. Nevertheless, this training format has become an excellent solution for working in such extraordinary conditions as a pandemic and especially war. The experience, knowledge, skills and abilities gained in each electronic solfeggio lesson have become an invaluable asset for all its participants, allowing them to be used in the future in situations of unforeseen

circumstances (for example, if it is impossible for a student or a teacher to be present in the auditorium due to participation in a creative competition or concert tour, illness, etc.). Moreover, the positive results obtained in solving various problems of e-learning solfeggio oblige to talk about virtual mobility, in which a teacher, for example, is able to teach not only students present in the auditorium, using electronic devices and the Internet, but also students located in different parts of the world. In this case, virtual mobility enables the teacher and students to gain international learning experience, improve their professional competence and competitiveness. In this regard, the problem of studying solfeggio in the context of virtual mobility can become an important direction for future research by scientists.

Thus, the experience of teaching solfeggio online during the coronavirus pandemic and the war in Ukraine has convincingly shown that it has prospects for its further development, despite the accompanying problems, which in most cases turn out to be solvable.

SUMMARY

The COVID-19 pandemic and the Russian military invasion of Ukraine (2022) contributed to the fact that the musical-theoretical discipline “Solfeggio” began to be studied by music students online, which led to a number of problems requiring their solutions. This led to the relevance of this study, the purpose of which was to identify and characterize the problems of online solfeggio and the optimal solutions found for them. To achieve this goal, personal experience of teaching students of performing specialties of the Odessa National Music Academy named after A. V. Nezhdanova, acquired during the coronavirus pandemic and war in Ukraine, was used.

The results showed that the priority problem in studying solfeggio online was the organization of lessons in video mode, the solution to which was the Zoom program. At the same time, such problems as insufficient competence of the teacher and students in the use of devices; socio-economic status of some participants of the process of studying solfeggio online, which does not allow them to have electronic devices of high price segment, high-speed, etc.; searching for electronic textbooks on the Internet and using them during Zoom lessons; availability of an acoustic piano; inability to perform a cappella ensemble performance or with accompaniment, e.g. piano, of single- and multi-voice melodic and rhythmic exercises; quality online demonstration of aural analysis tasks performed on an acoustic piano; complex emotional and psychological state of most participants in online solfeggio lessons; inadequate behavior of some students and their academic dishonesty on the exam, which creates difficulties for the teacher in the objective assessment of knowledge and skills; non-standardized amount of time spent by teachers and

students on learning activities. The solutions found to these problems were named and characterized. It was also noted that online learning of solfeggio has a place not only in a pandemic or war. It, combined with offline learning, can be applied in the realization of virtual mobility in order to gain international learning experience that will increase the professional competence and competitiveness of the teacher and student.

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