

# How to teach Solfeggio in XXI century

This article was published in a book for educators *How to Teach Solfeggio in the 21st Century* by Moscow State Conservatory in 2006.

“Soft Way to Mozart” ®

*"Without music life would be a mistake"* – Frederich Nitsche

*The language of music is an international one, but its elements are not available to most people. Common methods of teaching music are in desperate need of reform. In the era of science and technology, less and less interest is being paid to advanced forms of music and music education. Technological progress calls for a progressive approach to music education that can both regenerate this interest and make it universal. This article is dedicated to the above mentioned ideas and to reformed ways of teaching music through computer technology.*

## Some ideas regarding social and historical preconditions of total musical ignorance

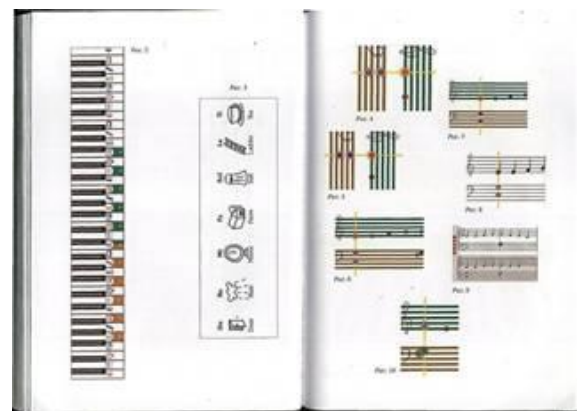
Throughout history, music education has been failing to reach the majority of people. Musical illiteracy, the inability to read and write music, has plagued human society for centuries. However, until recently, regard for music skills such as mastery of a music instrument or control and clarity of singing voice was generally very high.



Как преподавать сольфеджио в XXI веке



Издательство: Издательский Дом «Классика-XXI», 2009  
Тираж: 2000 экз.  
К-во страниц: 200  
ISBN: 5-89817-166-5



Nevertheless during these “golden” centuries of the development of the professional branch of music education, music pedagogy was not the most popular subject when learning music. In scoffing at students’ lack of talent and their dilettante attitudes, music professionals beat the hands of their negligent pupils. These rigid methods of music pedagogy focused on raising “new geniuses” and disregarding amateurs. Even well known composers in their memoirs have expressed irritation against the “hard of hearing” dilettanti they had had to teach to earn their living. There was no other reward in their teaching.

Remember one of the “Small Tragedies” by Alexander Pushkin – “Mozart and Salieri.” There is a scene in which Mozart brings home a fiddler and asks him to perform “something by Mozart.” Salieri is indignant at the sight of such “mockery of an object of worship.” This is a very indicative scene in which keen Pushkin’s eye noticed the difference between genius’s and artisan’s attitudes towards the problem of dilettantism in music.

From today’s perspective that scene has a deeper more elaborate meaning.

The point is not only that Mozart was tolerant of the fiddler’s mistakes, but also that he had a wise attitude to music in general. One needs to be a genius in order to understand that a music composition is alive only while it is being performed, even if imperfectly.

Until the emergence of adequate sound-recording devices, human society needed gifted, bright performers, and as a rule there was no lack of listeners. Therefore, most of the music schools in Europe and later all over the world concentrated on training future virtuosos.

Music pedagogy, preoccupied with the problems of improving performers’ techniques, created entrance contests that were to eliminate the “hard of hearing” ones; it was not particularly interested in universal competence in music. Because of the methods of teaching students to play instruments, reading and writing music were so difficult for ordinary people that they would give it up early and join the army of ignorant dilettanti. As to gifted learners, they stood the test of the first steps in music not because of the existing systems of initial training but in spite of them.

This can be the very explanation for such a great amount of nonsense, mistakes and bad habits that have remained in music pedagogy until now.

The neglectful attitude to the vocal nature of music language is accepted in countries with a literal system of naming music notes. Music pedagogy in general is not able or willing to develop a student’s ear for music and the singing voice of people who do not possess a marked music aptitude (in spite of discoveries in this field made by some well-known pedagogues who could teach even hard of hearing persons to sing clearly). Music schools have a tendency to turn any beginner into a performing artist. Often there is no tolerance for mistakes and imperfect playing even at the very beginning of music studies.

All these drawbacks apply to both pro-western countries where the government does not support music education and the countries of the former socialist block where professional music training is supported by the state.

However, it should be mentioned that while in Russia and the other republics of the former USSR music schools, colleges and conservatories aimed only at perfecting professionals, at the same time there was a wide net of public music schools easily accessible and affordable to everyone. These circumstances contributed to more wide-spread music education than in countries with a capitalist system. Thus not only exceptionally gifted learners but also children with average music aptitude could attend music schools in the former USSR. In addition, the number of classes a child had in his/her schedule at a music school gave a much better chance of building a better foundation for music development. This, in turn, encouraged professionals to keep searching for new methods to improve the initial stages of music education. Gradually some of these attempts resulted in music classes being introduced into education programs of regular schools.

However, the division of music education into general (as a part of general education) and specialized (music schools and studios) as well as a selective approach to enrollment for music school did not encourage music pedagogy to create methods that would be aimed at teaching each child how to read music. Although there are certain advantages to the Russian system of music education with its time-proven structure and methodology, even Russian music education has not managed to overcome the problem of overall musical illiteracy.

With technical progress, extracting music sounds by means of pressing the “Play” button on a record player or a tape-recorder has quenched people’s thirst for enriching their own lives with music. At the same time, their common musical ignorance has raised the demand for producing music that meets a lower level of expectation. New standards were established in society as Chuck Berry succinctly his hit “Roll over, Beethoven!” when he said, “If they can’t teach us, then we can do without it.” At the present time, this is the gist of the general public’s attitude toward music education. Now a new generation of music performers and “composers” has appeared on stage. Despite not being able to read or write music, these musicians are gaining popularity.

This is the reason why today interest in studying music in the USA is much lower than the popularity of sports or martial arts. The profession of a piano teacher is one of the least secure partly due to the high drop-out rate. According to the statistics printed in a Houston newspaper, publishing houses that issue materials for piano classes (materials designed for several years of studies), sell 100 books for the first-year learners vs. 10 books for the second year and only one book for the third.

Any US federal or state program has rarely subsidized education for those studying professional piano and other music instruments. The low effectiveness and high cost (an average American cannot afford more than one individual lesson per week) bring about a further loss of interest in the subject. At schools, kindergartens or nursery care centers as well as in households of common Americans, one can hardly meet people who are able to play the piano or especially read music.

Children in Russia also have little possibility to learn the language of music during the lessons in non-music schools. Outdated methods of training at music schools make the majority of

graduates only partially literate with added the aggravation of feeling extremely negative toward playing music for the rest of their lives.

As a result, both approaches to music education (self- or government-supported) still end up dividing society into a small stratum of talented professionals and the musically ignorant masses who are not even able to appreciate the skills of the former.

Thus, the essence of the problem is not just in the structure of financial support for music education but also in the lack of effectiveness of its methods. We will be able to save music only by the means of highly effective systems of teaching music at public schools and free access to knowledge for any child, no matter how musically gifted. Furthermore, the survival of language of music in the world depends on that drastic measure.

However, human society is still strongly and dangerously convinced that music competence is available only for the talented. And therefore, the problem of universal music education is assumed not to be very urgent or vital. Somehow we don't see a connection between empty philharmonic halls and packed stadiums with a frightening spiritual ignorance in most people.

Similarly, we fail to notice the causal relationship between teenage violence, drugs, and depression and music has a primitive connection with all human beings, so we shouldn't ignore its power

Even when people understand the catastrophic situation in music education, their efforts to "save music" are very often in vain. For instance, the progressive community of the USA shows sincere concern for the state of music. Institutions, funds and associations are founded with the main aim of "saving music." However, the salvation of music in the opinion of these funds and societies consists of purchasing music instruments, manuals and notes. Most of the people running these organizations believe that all methods of music education have already invented been and do not need any revision.

However, there are no universal methods that will teach everyone (independent of their talents) to read and write music, so the resources to save music are spent without many results. The salvation of music is out of the question without reforming music education, without close to universal music competence. The art of music can be saved and supported only by an army of competent listeners who have a highly developed music memory, ear and thinking, and who can read and write music texts.

Is it possible to love a language passionately without understanding it?

We often ask the question, "Is music education really necessary for people without music talent?"

Music in our opinion adds another dimension to our lives. This is a language that can connect people of different cultures and backgrounds, a language that opens up new horizons for everyone using it. This language becomes a great part of our life; it forms our consciousness and ideology. Recent research at the University of California, Irvine, conducted by now deceased

Gordon Shaw has scientifically proven that music and piano studies develop the human brain and, above all, spatial and temporal reasoning.

Psychological discoveries have also verified a fact that is more incredible: there are no people deprived of an ear for music. And it is only natural. A child is exposed to the language of music, like the spoken one, even while still in his/her mother's belly. Human speech has a music component – intonation. A newborn baby responds first of all to the intonation (the music part) of speech and only much later he/she begins to comprehend the meaning of words. It is natural to conclude that a child begins to understand the language of music much earlier than spoken language. Plato once said: "Music training is a more potent instrument than any other, because rhythm and harmony find their way into the inward places of the soul." Why should we deprive anyone of the greatest tool in developing one's soul and mind?

## **Where do the people who sing out of tune come from?**

Scientists of the Moscow State University guided by A. N. Leontiev along with English scholars have discovered an interesting fact. There are two main mechanisms of sound perception: tonal perception – which basically allows us to differentiate between sound pitch— and timbre perception which lets us determine a sound's timbre. (More information can be found at <http://yurpsy.by.ru/biblio/leontev/25.htm> Leontiev, A. N. Lectures on general psychology. Moscow, 2000. Lektion 25. Pitch hearing.)

Leontiev's team tested a non-musician audience on its perception of two sounds of the same frequency but different timbre. For the English-speaking audience, they used "u" as in "boot" and long "ee" as in "beet." Amazingly, 30% of people could always answered that "u" is a lower sound even though in reality it was sometimes an octave higher than the corresponding "ee." They took the tone-deaf group and made them do simple exercises on tonal perception then continued experiment. For 10-15 minutes a day that group practiced vocalizing a given sound produced by an electric device (in order to take the timbre out of the picture). The outcome of the experiment was sensational – previously tone-deaf group showed highly significant improvement. That led to a hypothesis about the way our perception is developed. Early on, most of the interaction a child is involved in comes through speech. Perception that is being developed is mostly timbre based, rather than tone-based, particularly in Indo-European languages. The development of the tone-differentiating apparatus is very minimal. This is also supported by the fact that individuals from cultures whose languages use tone modulations in their speech (like Chinese Mandarin) have a better ability for tone recognition.

Thus, the human voice is not only an organ of perception but also an important instrument for the development of an ear for music. Even D. E. Ogorodnov (a famous Russian music teacher) argues that the human larynx is as sensitive to sounds as human hearing. By improving the voice with the help of a music instrument, we can infinitely perfect the learner's capacity to perceive absolute pitch. It is impossible to cultivate music memory and music thinking without this ability.

Singing without notes does not help in developing music literacy. It does not assign any constant “names” to sounds and does not stimulate association between perceived sounds and the written language of music. Solfeggio is the basis of music literacy in children. Without it, more rigorous music development is impossible.

However, in today’s world, Solfeggio is not generally used in either public schools or private professional music studios. This observation is particularly true in the countries with a so-called “literal” system of teaching.

## **“Solfeggio”? But what is it?**

The majority of people in the USA do not know what the term “Solfeggio” means in its first, classical meaning. Even modern English-American dictionaries spell this word differently: some of them with a single “g,” others – with double “g.” Music teachers are still discussing if one should say “Solfeggio” or “solfege.” Solfeggio is not a compulsory subject at American music studios and schools; Solfeggio training is not used in the classes of most private music teachers. Actually, one can officially attend a Solfeggio class only at music colleges and universities.

However, the level of such classes is barely adequate. For example, students from the former USSR who have come to the USA by exchange complain regularly that the level of teaching Solfeggio at the universities is extremely low. Professors usually select repertoire for individual lessons in accordance with a student’s proficiency. At the same time during group studies at music colleges and conservatories, students are forced to write dictations of a complexity level corresponding to what 10-year-old fifth-graders of the average Russian music school have to deal with. Even the understanding of “Solfeggio” itself is different between Russia and the USA.

In Russia, Solfeggio is an important part of work with a student not only in the area of ear development and perfection of intonation but also in acquiring skills of music writing and sight-reading. In the USA and other countries with the “literal” system, “Solfeggio” is mostly based on the system developed by Zoltan Kodaly. That system amounts to nothing more than to training students the skills of singing in a chorus and using seven Italian syllables and seven hand signs.

Thus, sometimes during the first years of music study in grade schools in the USA, children are taught to sing simple melodies using the names of the notes of Solfeggio. The first sound of any key can be called “Do.” Kodaly used slightly modified syllables for his relative system (Jo, Le, Mi, Na, So, Ra, Ti) to separate it from the traditional notation, but this distinction is regarded as inessential in the countries with the “literal” system.

Using so-called “movable Do” has become the alpha and omega of Solfeggio training at American public schools. It is considered that the relative use of “Do” as the major stop to all the other major keys would lead to the development of stop-harmonic hearing. But at the same time, one’s ear for music is in no way connected with the inexhaustible source of music information – music’s written language. Students are limited to the repertoire learned from a teacher’s voice or hand signs. Without the ability to read new music material aloud or to oneself, learners’ music thinking is not developed properly; it is closed into the confines of a limited repertoire.

The unification of Kodaly's system with Solfeggio into a single whole did not improve either one of the systems, but it definitely had a detrimental effect on Solfeggio as a training system.

Since music singing and intonating are part and parcel of training, teachers at music studios of the "literal" system try to sing music using alphabet letters. It is inconvenient, but they do not see another way to go about it. Professionals got used to believing that Solfeggio with "absolute Do" is excessively difficult for students to understand because there are no mnemonic associations connected with the logic of the verbal language. They think that it is more difficult to keep in mind names "Fa, La, Do, Mi" than the abbreviation "FACE" because it is generally accepted that we can build words of letters but Solfeggio syllables are no more than an abracadabra for human memory. I will discuss the validity of such speculations below.

During our presentations of the latest achievements in music education, music teachers often ask me questions concerning "fixed Do." Many music teachers consider that the aim of using traditional, classical Solfeggio with different keys does not go beyond the development of a perfect ear. Most teachers in the USA know little about the vocal nature of the music language and about the intonation basis of music perception. Very few of them are able to cope with writing music dictations or singing music fragments at sight.

The literal naming of notes, popular in the USA, has divided music training into "singing" and "playing an instrument." As a rule, those who play an instrument read music texts using the above-mentioned mnemonic techniques of visual-logical learning. For example, to memorize the notes of the treble clef they use the phrase "Every Good Boy Does Fine"; to learn the notes between the staves they employ the abbreviation "FACE." The notes on the staves in the bass clef are learned with the phrase "Goofy Babies Do Funny Acts" and the notes in between – with "All Cows Eat Grass."

Many "innovative teachers" in the USA create more and more fairy-tales and manuals as though they were competing with each other in inventing stories, which could draw a parallel between the world of notes and the world of letters. They believe that such linguistic discoveries can help beginners learn to read and write notes. All these attempts look like works by medieval alchemists who were trying to find the formula for transforming stone into gold.

Music pedagogy restrains the development of note reading while trying to interpret the language of music by the means of a logic of verbal language. Although these devices seem to be attractive, simple and suitable for memorizing separate notes on the staff, this approach is one of the main reasons for the ineffectiveness of training to read music. It also delays children's music development overall. This situation is caused by the following facts:

1. First of all, literal note naming makes it impossible to teach children of younger preschool age to read and write music. Children's ability to recognize letters and read is considered to be a necessary condition for studying music. It follows that it is not music that prepares a child's brain for successful studies of other sciences, but quite the contrary.
2. Secondly, sounds [ei, bi:, si:, di:, i:, ef, dʒi:] are very unsuitable for singing and hardly help to develop the ear and voice while training to play an instrument. Singing a music fragment using letters is inconvenient for the voice and does not contribute to the connection between

“singing – hearing – remembering.”

3. All the other syllables in the literal system lean on the vowel [i:]. Though it is one of the basic speech tones, it is also one of the tensest. While pronouncing the vowel [i:], singer opens his jaws only 15 %. A voice, trying to sing the alphabet, cannot “rest” on any one of the syllables, five of which are [i:] and two – [e]. It is no wonder that teachers stay away from singing music texts and prefer regular music performance.

From the standpoint of comfort for vocal organs, the sounds of Solfeggio are more suitable for the larynx. They include different basic vowels – [o] (opening the jaw 50 %), [e] (opening the jaw 50 %), [a] (100 %). The vowels alternate with each other to provide a strong phonetic basis for the vocal cords. They require using different muscles of the larynx when singing. Uniqueness of pronunciation of each sound “name” helps the student remember the sound pitch both on the hearing, timbre level and on the muscular one.

Linguists consider the vowels [a, o, e, i:] to be fundamental and basic for human speech organs and the main vowels in all the languages. The sound [ɛ] is regarded like a secondary one. Usage of the vowel [e] in the syllables [ei] and [ef] is unsuitable for singing not only because of the tension that pronunciation of the sound [e] creates in the vocal cords and only a partial opening of the jaws but also because the syllable itself is cut short by the consonant endings [j] or [f].

Studying the language of music in a literal system neglects the tonal nature of music and excludes the human larynx from developing. Such disregard can be considered among the greatest and the most destructive mistakes of modern music education in the countries adhering to the literal music system.

The literal system does not stimulate the development of music thinking and music memory. Sounds do not correspond to signs due to “translation difficulties” because signs are perceived with eyes and sounds – with ears and larynx.

People’s speech memory is much more advanced than their logical memory. Every child begins to assimilate and memorize his/her mother’s speech from his/her birth. Free command of Solfeggio language on the speech level – solmisation – allows beginners to read note texts easily. Attachment of notes to some artificially invented words and phrases minimizes development of music thinking.

To render justice it should be said that Solfeggio in its full variant, which is adopted at music schools, colleges and conservatories in the republics of the former USSR, is not a rule but an exception in the world of music pedagogy. Up until today, music has been taught in the public schools of the whole world as a superficially informative subject. For the most part, it is lessons ABOUT music, during which teachers do not usually train students in the command of the language of music.

However, even if lessons of Solfeggio or piano would be introduced as general classes in public schools, it is unlikely to improve something today. Nowadays, popular methods of teaching music are not able to effectively teach beginners with varying levels of music aptitude.



## **Primary music education without the “point of support.”**

Well-known Moscow grade school teacher S. N. Lysenkova once wrote, “One does not simply like to study. One likes to study WELL.” The methods of all successful teachers are based on the main common sense principle – respect for human ignorance.

Self-control, self-evaluation of each movement, decision and conclusion, and the possibility of seeing one’s own mistakes—these form the point of support in teaching any type of activity.

The point of support is the “zero” stage of teaching, which contains an impulse to the first step in subject study. This impulse is more intuitive than logical. As a rule, the point of support is based on knowledge and skills that have already been assimilated, and it serves as a “lever” for “lifting” the unknown material.

Remember, for example, the teaching aids of Maria Montessori, in which one can always check up one’s answer on the flip side of the card. The anxiety of some teachers that such prompting would “relax” students and would not teach them to “use their brains” does not stand up to criticism. There cannot be the first step without support. There will not be any trip without the first step. The point of support gives students reassurance and motivation to set themselves onto more and more difficult tasks. If there is no help and nowhere for it to come from, confusion and the inability to find the solution give rise to disappointment, diffidence, low self-esteem and an unwillingness to study further.

One of the striking examples of how we study with the help of the point of support is alphabet blocks. Take, for instance, a block with a picture of an apple. There is an abstract symbol near the apple and child knows that it is a letter. He/she also knows what an apple looks like and how one pronounces the word “apple.” In most cases, he/she might know that there is the letter “A” in the alphabet as well. All these things have already been heard and absorbed by his/her consciousness. In order to “pick up” new information – to learn the name of the abstract letter near the picture of an apple—the child must take only one step. The picture of an apple in this situation is the point of support, the link between the image of the letter and the pronunciation of the word that begins with this letter. As a result, the child’s consciousness copes with the unknown (the letter name) and assimilates new information.

Unfortunately, the world’s music pedagogy still has not worked out a training system in which there would be a natural point of support for developing the ability to read and write music. Many children who are reaching school age already know some if not all of the alphabet, and some of them can read fluently. However, we have never come across a single case when a child entering a music class was able to fluently sight read music compositions, because he/she had learned it from children’s sheet music. This situation demonstrates that the point of support in reading music has not been found yet.

Is it possible to create such a point of support or is music language too esoteric? Is it possible to explain the rules of the abstract music language to a completely inexperienced person—with the help of training material? Is it possible to learn the elements of reading and writing music

without a school? How deeply and effectively can one study the language of music in a general school? How early are children able to learn to read and play music?

All these questions have been the subject of our research for more than 25 years in the area of music pedagogy in Ukraine and the USA. As a result of this work, we have created a new system of music training, which got its name – “Soft Way to Mozart” ® – in 2002. Today this program is already being used at tens of public and private schools and music studios in the USA, Canada, UK, Spain, Costa Rica, Mexico and Russia. Interest to this system is rapidly growing because of effective results of training.

The system “Soft Way to Mozart” ® is based on all the remarkable achievements of the world’s music and general pedagogy, which we have collected and systematized. We tried to take into account the main laws of the psychology of music perception and the physiology of formation, necessary for the development and perfection of music skills. It is based on the classic Russian music school, on advanced concepts of outstanding teachers of the past and the present, and on the systems by Montessori and Suzuki. Computerization of the method has considerably improved sound and graphic possibilities of the training course and added interaction to further promote effectiveness

### **The ways of solving the problems of general music education**

While working on our program, we tried to address the above-mentioned challenges of modern music education and also:

- 1) Allow for effective group training
- 2) Make the training course easily understood for pre-school children, in order for each child to be able to read and perform music using both hands, sing and write notes at the same time prior to learning the alphabet
- 3) Create ways of developing the visual perception of music script in addition to singing Solfeggio and the ability to write music by hearing; to develop muscular coordination in order to perfect a student’s piano technique, which is necessary for forming a “music mind” (it will be discussed below) and for developing fine motor skills altogether.

“Soft Way to Mozart” ® may seem like a commercial computer game, just another fun training program for children and grown-ups, but it is not so. “Soft Way to Mozart” ® is a well thought-out and thoroughly systematized program aimed to fight against musical illiteracy. It is a system of teaching the language of music to people of different backgrounds and musical talent, the point of support in music education.

### **Role of the piano in formation and development of “music mind”**

Drivers always remember the road better than passengers. One of the main theses of the system “Soft Way to Mozart” ® is the importance of the piano in the formation and the development of an ability to read music, to possess a musical ear and to think musically. As music is first of all a language, the most optimal organ of its “pronunciation” is a combination of voice and piano, but not the voice by itself.

This premise of this system is related to the fact that to develop thinking in any language (including music), one needs to get used to its elements, absorbing them into one's consciousness. Until now it was generally accepted to consider singing a melody sufficient for developing musical thinking. However, when limiting the pronunciation of the language of music solely to a voice, we disregard the polyphonic nature of music. Moreover, we are filtering out people who are not able to produce the correct intonation.

In our method, the piano is the most important component of primary training. By "piano" we mean first of all the new generation of digital keyboards from five octave ones to grand pianos. We regard the piano as the point of support for developing a music mind because playing this instrument does not require an outstanding music talent and sound extraction does not demand any physical effort.

The piano is also the only instrument available to all, which unites reading the treble clef and the bass clef simultaneously. It also enables learners to develop a melodic and harmonic ear, a sense of rhythm both in class and at home. Certainly, this instrument was and still is the king of music education.

Electronic pianos are not really very inferior to acoustic instruments. They range in size, cost and sound quality. These instruments, like picture books, have unlimited tonal, meter and technological potential. But the main quality of this new generation of pianos is the possibility to link them up to computers to create an interactive element for teaching music.

### **Is it possible for a computer to teach the language of music?**

After all it is only a machine, not a human!

The idea to connect a computer up to a music instrument and create a training program does not belong to us and it appeared in the 1980's. For decades, manufacturers have been making electronic music instruments with MIDI (Music Instrument Digital Interface) – a communication protocol between an electronic instrument and a computer. Several computer programs were developed, some that were integrated into electronic pianos and some that were computer-based. Most of these programs are electronic manuals for a self-directed education, using a few elements of interactivity. As a rule, computers are used in them mainly as the "interpreters" of music theory.

Our goal was to create an educational program for developing basic vocal and piano skills on the intuitive cognitive level. In our program, the computer became a learning partner rather than an interpreter. In order to achieve this goal, we integrated:

- 1) speech memory
- 2) the ability to distinguish colors and drawings
- 3) ambidextrousness—the ability to use the fingers of both hands (Any two-year-old should be able to do it.)

A key principle of deduction (moving from the simple to the complicated, from concrete to abstract) was used in our system's core. The piano helped connect vocal, muscular and vision skills and build a basis for the developing the vocal, auditory, and music reasoning of every child.

### **Do you know music alphabet? Then read it back to front!**

We believe that teaching the music alphabet is one of the fundamentals of music education. However, the world's music pedagogy has not yet decided what the music alphabet is and which symbols must represent it. It is often accepted (by analogy with the verbal language) that the music alphabet is seven basic notes in a Do-major key: Do, Re, Mi, Fa, Sol, La, Ti.

However, music language has its own logics, different from the verbal one. There is no single direction in it. Therefore, the music alphabet should rather be: Do, Re, Mi, Fa, Sol, La, Ti, Do, Ti, La, Sol, Fa, Mi, Re, Do.

1) The language of music consists of modes, and the seven steps of these modes form seven systems of order notes. So, knowledge of all these seven basic systems and the ability to read them fluently in direct and reverse orders is a necessary basis for music literacy. Practice has shown that it is useful and possible to teach pre-school children seven systems of the music alphabet in direct and reverse orders. (Do, Re, Mi, Fa, Sol, La, Ti, Do, Ti, La, Sol, Fa, Mi, Re, Do; Re, Mi, Fa, Sol, La, Ti, Do, Re, Do, Ti, La, Sol, Fa, Mi, Re; Mi, Fa, Sol, La, Ti, Do, Re, Mi, Re, Do, Ti, La, Sol, Fa, Mi, etc.)

2). Notes can be ordered sequentially with none missing at every step, with every other one missing (Do, Mi, Sol, . . . ), with two missing (Do, Fa, Ti, . . . ), etc. Knowledge of these regularities in direct and reverse orders starting with any of the seven sounds is as important as the skill of spelling.

At Russian music schools and studios, children sometimes memorize the music alphabet when they study the scales, the chords and the intervals.

For any child of preschool age, it is very important to learn the music alphabet on the articulation level because speech memory is being trained from birth. Music text learned on the articulation level is the first step towards developing an ear for music and a musical voice; it is the point of support in understanding the music organization of sounds. Our long-term experience has proved that learners, while memorizing a music composition, rely mostly on their own articulation. They begin to pronounce the memorized material correctly even though they might still be confused with the keys on the muscular level or they do not always reproduce its pitch clearly.

In regard to this, I would like to analyze the mnemonic device popular in the USA of memorizing the notes' places on the grand staff using the alphabetical system. As I have mentioned above, there is no preferred direction in music language. Therefore, any attempt to attach the logic of the note sequence to the logic of phrase construction can as a whole decelerate reading music. For example, the phrase "Every Good Boy Does Fine" used widely in the USA is a witty prompting for recognition of the five notes on the staves of the treble clef. However, this

phrase also carries unnecessary meaning, which is likely to confuse students every time the association is used.

Memorizing the music alphabet must be based on pronouncing scales and learning note successions like verses. One does not need a bright music talent and a special music education to learn such material. Still it is as important as learning the alphabet. In “Soft Way to Mozart” ®, we use different games, songs, manuals and computer programs that help beginners learn the music alphabet on the level of automatic performance. This helps to considerably accelerate sight-reading while playing the piano and singing Solfeggio.

### **“Music vision” is an essential component of music literacy.**

We consider that the development of people’s music vision is the next most important basic stage of primary music training. Music vision is the main instrument of “acquiring” new information from music literature. It is the ability of learners to perceive visually written note texts as a whole, not one note at a time. That’s why we have created a so-called “elementary presentation” of music texts. While developing the system, we tried to take into consideration the basic note writing problems of beginners and find ways around them with the help of stimulating graphics.

### **Beginners’ problems of visual perception of written notes and the ways of their solution.**

Traditional notation is the alpha and omega for the beginner. It is usually accepted that children should be able to read music after they can read books.

There are very few methodologies of music education that do not rely on the ability to read as a requirement. Probably Dr. Suzuki Shinichi developed the most famous one. That methodology is mainly based on students’ hearing and their motor memory. Exercises that require visual perception of music text are introduced much later.

Partially, this plan is attributed to the fact that traditional music staff (as well as traditional music writing as a whole) is unfit for teaching music to little children. It is the carrier of purely music information. It could have been a very entertaining training tool indeed if in addition to note signs it used colors and pictures. The ability to recognize colors and shapes and the ability to recognize sounds complement each other in mastering new information – music writing.

How to incorporate these concepts in music methodology? Whoever is starting to learn music, first of all looks for cognitive associations from previous life experience. For example, many refer to learning how to read. The majority of beginners consider sheet music to be “books” with sounds instead of letters with most of the rules of reading applicable.

However, each letter of the alphabet is unique, and recognizing a letter happen by comparing it with other letters. But in music, note signs look very much alike, and it is much easier to remember them as part of the system. Book lines are parallel to one another and so are the note lines. However, the space between the lines of text is simply to separate one from the other while the space between the five lines of the music staff contains information. While reading, we

typically shift our focus laterally from letter to letter. When reading a music part, we scatter our attention between several note lines with no breaks between them.

A beginner's vision is not prepared for such an operation and needs some special training. Finally, rhythmic notation in music is more vivid and recognizable than the pitch notation. Nevertheless, for a person just starting to master the instrument the most important goal is finding a proper key, making the proper sound, and not worrying about the rhythm.

In order to help our students overcome these "visual" difficulties we decided to use some additional graphical presentation.

### **Color and sound? Should we look for direct analogies?**

How many colors should be used for the optimal coding of the staff? This is a central question to using color as an educational tool in our system. Some teachers have tried to use color to differentiate between sounds of different pitch. This approach does not seem rational to us. Physiologically, we perceive sound and color using different senses: hearing and sight. An attempt to use sight to recognize sounds is unnatural which confuses our perception. That's why we are using color only to aid in developing recognition of note signs, not sounds.

### **How do we decode music notation?**

As already mentioned, one of the problems of reading music text is the similarity of note signs. In order For the beginner to understand the organization of the notes, we decided to systematize note shapes based on their position on or between the lines of the staff. Based on the association lines of the staff - "hard", space between the lines - "gas", we chose to contrasting colors: red for notes on the staff lines and blue for notes between the lines. Considering that most two-year-olds can tell a difference between the sexes, we called red notes "girls" and blue notes "boys."

As anyone who reads music knows, notes are equivalent even though the lines of the staff and the spaces between them are not represented equally (lines are thin and white spaces are thick). We emphasized their equivalence by making lines and spaces the same size. This tactic helps beginners understand that white spaces are not spaces per se but equivalent lines for music notation.

To discriminate between the areas for the bass and treble clefs, we colored widened lines in contrasting colors. The choice of the actual colors: brown for the bass and green for the treble clef is not random and is based on the visual experience of the student. The composition of green and brown colors became the graphical point of support for understanding the very nature of music notation. The natural association of a tree helps children understand the principle of distributing sound between the registers. Sounds of the lowest register are written in the bass clef on additional lines, which we can compare to a tree's roots. The lower register is known for its depth and richness of overtones - a tree's trunk. Air is gradually filling the middle register - most of tree's branches, and finally the high register is a tree's crown - the additional note lines above.

Color-coding treble and bass keys helps graphically discriminate between the two different systems and prepares student's sight to differentiate them on the subconscious level when reading.

Because simultaneous reading of tens of note lines is impossible for the unguided eye, we also numbered the lines. In contrast to the widely accepted bass clef enumeration system from bottom to top, we suggested a reversed one, from top to bottom with an additional line for the "middle C" – "Do" of the first octave marked by 0 and coloring it partially brown and partially green. The note staff started looking like a coordinate system.

Our system is also symmetrical (Pic. 1), and because "Do" of the second and third octaves is between the third and fourth lines, we used less intense blue-grayish color to shade it. This practice visually divides the field of the staff into four parts and helps a student find a point of support in each one of them.

The music reasoning of the child is tied together with the development of speech. Similarly to letter blocks we introduced pictures which help children to remember the notes. Whatever is drawn on the picture is phonetically associated with the name of the corresponding note. "Do" is represented by the picture of a door, "Re" – rain, "Mi" – mirror, "Fa" – farm, "Sol" – salt, "La" – ladder, "Ti" – tea. (Pic.3)

A picture is worth a thousand words; it can be not only a link between the note sign and its name, but also a link between pronunciation and singing a pitch. If we put a picture on each of the piano keys, the corresponding piano sound will help our voice find the correct pitch; if we also put the same picture next to the corresponding note sign, then it will become a link between sound, sign and pitch – a point of support in our methodology.

As a result, the modified staff became an abstract learning system in itself. All the necessary information for playing and reading music is contained in it. To unify music notation and the piano in one visual system, we devised green and brown piano key stickers, numbered them and placed a corresponding picture on each piano key. (pic. 2)

### **About the importance of "turns."**

When sight-reading at piano lessons, students experience a problem of different directions – right/left and up/down. Before playing the music test, a beginner should go through the following preparatory stages:

1. Learn the placement of notes on the note staff (I see)
2. Learn the placement of keys on the piano (I find)
3. Build an association between the notes and keys (connection between I see and I find)

If we reverse the note staff 90° clockwise so that 5 green lines (treble clef) are to the right and 5 brown lines (bass clef) are to the left, we can visualize piano keys like the continuation of the staff and movement top-to-bottom will be associated with left-to-right. This elementary presentation of the note staff helps build the third stage of the learning process (connection between I see and I find) faster and more effectively. The advantage of such a presentation is

difficult to overestimate. The graphics of the note staff become associated with the visual of the piano keyboard. Consequently, we have all the conditions for visual, motor and audio-perceptions working in unison from the first steps of studying music.

Especially important is that the reversal of the note staff 90° and its basic presentation promote the development of music vision. The speed of developed sight-reading allows hearing to recognize music thoughts without diverting attention to decoding a music score. The voice finds its point of support in the sound of the piano, which it uses to navigate itself to the right frequency.

All the above makes our senses work together to achieve the ultimate goal – developing music reasoning. By allowing students to concentrate on developing proper balance without deciphering music notation, this elementary presentation of the note staff also helps to get rid of one of the most detrimental problems in studying piano – a stiffness of the hands.

### **From the elementary music staff to the regular one.**

We have tried to make the move from the elementary note staff to the traditional one as gradual and as understandable as possible. We have also tried to adhere to the golden rule of learning: a problem should have only one unknown. Thus, 6 versions of the note staff have been designed:

Version 1: A vertical note staff with red and blue notes, green and brown lines of the same width and pictures associated with the note names. Unknown: placement of the keys corresponding to the notes. (pic. 4)

Version 2: The same but without pictures. Unknown: key names (pic. 5).

Version 3.

The same, but the note staff is horizontal. Pictures associated with the note names are placed on the notes to help the student get used to the reversal of the note staff. Unknown: note staff is not aligned with piano keys. We need spatial correlation. (pic. 6)

Version 4. The same, but again without pictures as in 2. Unknown: note. (pic. 7)

Version 5. A black and white note staff, thin lines with large note signs and simplified rhythmic notation. Unknown: sound longevity. (pic. 8)

Version 6. A traditional, black and white note staff. Unknown: metric ornament and pauses. (pic. 9).

The transfer from color-coded keys to the traditional keyboard is also done in stages:

1. Learning the piano keyboard and developing coordination. Stickers are attached to the corresponding keys. (pic. 11)
2. The piano space is almost mastered and coordination is improved. Special reminders



behind the keys replace the stickers.

3. Students play the piano without the reminders.

This methodology helped effective education of students of all ages at home and in school with a teacher or without. However, it was most effective only when translated to the language of computer graphics. Interactivity and computer visual capabilities became so natural to the system that it is hard to imagine it without them.

### **Development of fundamental music skills with the system “Soft Way to Mozart” ®.**

Developing Coordination:

The system develops the manual dexterity of learners by means of constant interaction of hands and fingers with the keys of the instrument (and in theoretical games – with the keys of a computer). Learners themselves create their own training process when they extract visual and acoustical images by pressing the keys and following the visual signals on the monitor. These images and sounds develop their capacity to recognize notes, to read and sing Solfeggio at sight, to “cut” complicated fragments of the composition in order to learn the music text in parts, to perfect their playing technique and coordination of both hands, to learn the composition by heart and to work at rhythm.

In the system, there are elements of developing coordination of the hands even in mostly theoretical games, made only for a computer. In our methodology, the computer keyboard is used as a predecessor of the piano. Interaction with several computer keys is a preparatory way to playing the piano.

Thus, training on reading rhythm on the basis of identifying a note’s duration uses only one computer key at a time, allowing learners to concentrate on reading and memorizing visual information (note’s duration) and to minimize coordination difficulties. That way, learners “play” a number of melodies with different rhythmical patterns by pressing down a single key. While working at perfecting theoretical knowledge (learning the music alphabet, connecting the music alphabet with the elementary presentation of the grand staff, learning the notes of the treble and bass clefs), the students are required by the program to use simple coordination of both hands; at the same time attention is concentrated primarily on memorizing, developing logical and spatial thinking and training the ear.

However, part of the suite of our programs designed for developing coordination is “Gentle Piano” – the principal program that teaches students to play certain music compositions. “Gentle Piano” is based on the elementary presentation method described above. Computer technologies make the program animated and interactive. In addition, we created a whole series of visual images that help in developing hand-eye coordination.

When users press the key corresponding to the note on the screen (in colored presentation the notes are drawn as flower buds), the buds blossom out quickly or slowly – depending on the duration of the note, which this flower represents. If users release the key earlier than they should, the blossoming-out stops and a dwarf peeps out of the flower and expresses his dissatisfaction. This graphic is devised for learners to develop the skill of using their hand weight

in playing the piano and learning to follow the note's duration intuitively, guided by their already acquired ear experience. The note's ending is demonstrated on the screen by the appearance of a butterfly waving its wings. The butterfly shows the location of the finger pressing the key and helps determine the direction the melody moves with the next note appearing to the left of the butterfly, to its right or directly under it. With the help of butterflies, children should establish legato playing ("not losing butterflies from eyeshot") and also foresee the direction the melody moves, reading notes as a unit, not one by one. Little spiders appear on the screen when the wrong key is pressed, identifying a mistake; they also indicate where fingers should be located on the keyboard (the grand staff).

With visual symbols, the computer program tackles all the difficulties of synchronizing a student's hands. For example, there is a triad of whole notes in the left hand and there is a melody of quarters in the right. The chord looks on the screen like three blossoming flowers, which one must keep pressing (until the flowers have opened completely); at the same time, the flowers in the right hand blossom out four times more quickly, and butterflies appear on the screen, which is an indication for new notes to come.

It is very important that the program helps children learn music compositions with separate hands. While students are playing with one hand, the other is accompanying automatically. That allows children not only to perfect their technique for each hand, but also provides necessary visual and acoustic information. The technique helps a child's consciousness keep the whole composition in sight while working on the particular parts.

### **Music Timing**

We pay a special attention to music timing. All the games included in our software suite are based on the movement of objects, which represent different music sounds (objects with note names, fruits, flower buds, note symbols). By choosing the appropriate sounds (by pitch, visual qualities, similarity or difference, etc), a child is gaining the skills necessary for translating audio information into phonetic syllables, and then into notes, trying to stay within certain time intervals.

Time is calculated in our program with mathematical precision and plays an important part in skill development. Only upon achieving the fastest speed, can a student finish the game and become a "master." While the student is learning music pieces, the system uses "chess" time. Real time is pictured as a ray of light. When a note is highlighted by it, an immediate, appropriate muscular response is required. The actual number on the tableau indicates any mistiming of the response.

### **More on graphics**

The program is designed to gradually replace the color images of the "crutches" with the black and white ones. The replacement of colors or their hints provides additional information for focusing a child's practice on the appropriate skill areas. This simplifies the education process, by concentrating it on the solution of specific problems. It is difficult to overestimate the importance of visual effects in memorizing music text. The traditional process of memorization is sometimes difficult due to a lack of self-discipline or motivation. With this program, the

interactivity and entertainment of the computer graphics make memorizing much easier. Also, each hand's animations are removed from the child's field of sight and are shown only in the case of the correct reproduction or as a reminder when pressing the wrong key.

## **Solfeggio**

As noted previously, the vocal nature of music leads to solmization. That's why we introduced Solfeggio into all parts of the music activity – from the theoretical exercises to learning piano repertoire. The presence of note symbols in the 1st and 3rd versions of the note staff allows beginners to sing Solfeggio during their playing using the piano as a sound reference. Singing music fragments significantly improves the quality of playing and accelerates the memorization of music fragments. Accompaniment during singing develops harmonic hearing and improves music memory. Any task in our suite of programs is oriented in one way or another to help develop the user's music hearing. However, some exercises are specifically designed to train music hearing. For example, in Solfeggio training, the user has to sing several melodies, memorize and write them down, and then find proper accompaniment. Computer animation helps students correct themselves.

## **On the verge of music literacy**

Creating the elementary staff is, in our opinion, a breakthrough in music education. Beginners of any age can use it to quickly become musically literate. Notes with note staff and stickers should be used in nursery schools and kindergartens. Games for learning the music alphabet should be introduced at the same time. This elementary note staff can also be used in both public and music schools. That way, music literacy will enter every house and will be accessible to anyone.

## **Conclusion**

The ability to translate educational methodology to the language of computer games turned our view on human music ability upside down. It showed that teaching a five-year-old to play a simple piece with both hands is not a matter of several months, but a matter of 15 minutes. It showed that three- and four-year-olds could freely read and write music, sing Solfeggio, play by heart Bach's minuets prior to learning how to read and write. All you have to do is to get an electronic piano, connect it to the computer and voila – thirty elementary public school students in 45 minutes will learn more than music school students learn in several months. The dream of many outstanding music teachers about global music literacy can come true. A computer's interactivity, objectivity, and unlimited audio and video capabilities can solve a multitude of problems from coordination to sight-reading and memory development. In "Soft Way to Mozart"®, music education is not segmented in "Specialization," "Solfeggio," "Music Theory," "Rhythm," and "Music History." All these disciplines are closely connected and make a universal system.

The program has been developed in the USA, although it is based on the achievements of world music pedagogy. The knowledge and experience that the author has acquired during studying in Zhitomir's Music College and Kharkiv University of the Arts, her experience in teaching piano,

Solfeggio and theory of music in Ukraine and United States are all reflected in this software. Our confidence that such a system is badly needed has been growing through the years. We hope that “Soft Way to Mozart” ® will help the next generations of teachers find optimal and fruitful ways of working with students, so that language of music will become universal and music art will continue flourishing, developing and becoming perfect.

Source: <http://www.mosconsv.ru/ru/publication.aspx?id=122574>