

Strategies for the Development of 6–8-Year-Old Children’s Breathing for Singing

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Abstract. On the basis of the diagnostic results yielded by the international project “The Coordination between Musical Hearing and Vocal Apparatus of 6–8-Year-Old Children during the Process of Singing: Comparative Study in Latvia, Lithuania and Taiwan”, strategies for the development of 6–8-year-old children’s breathing for singing were formulated in three areas (breath support, formation of the sensation of inhalation and exhalation, and breath energy), as well as exercises for the development of correct breathing in singing were devised. Research aim: to design strategies for developing 6–8-year-old children’s breathing for singing.

Keywords: 6–8-year-old children’s process of singing, strategies for the development of breathing for singing, exercises.

Singing is the major and one of the most favorite music activities of children. Child’s emotional, musical and cognitive development takes place through singing. In 2015, an international project “The Coordination between Musical Hearing and Vocal Apparatus of 6–8-Year-Old Children during the Process of Singing: Comparative Study in Latvia, Lithuania and Taiwan” was started. The aim of the project is to determine and experimentally verify teaching strategies for the development of coordination between 6–8-year-old children’s musical hearing and vocal apparatus during the process of singing in Latvia, Lithuania and Taiwan.

Within the frame of the project, 225 children between the ages of six and eight were tested during the diagnostic research: 75 children in each age group were tested in Lithuania,

Latvia and Taiwan. The researchers randomly selected one class (group) from the pre-primary, first and second forms. The number of children in each form equaled 25 (in total) in every country (Rauduvaite, Lasauskiene, Abramauskiene, Davidova, & Chuang, 2016).

In this study, children's voice was tested by applying the Children Singing Voice Measure Scale (CSVM) elaborated by M-J. Chuang (Chuang, 2010, 2011a, 2011b, 2012) (for details of the diagnostic research see: Rauduvaite, Lasauskiene, Abramauskiene, Davidova, & Chuang, 2016).

The diagnostic research resulted in identifying the problems which are causes for children's inaccurate intoning. One of these problems is wrong breathing-related. The issue of developing 6–8-year-old children's breathing for singing is inseparably linked with the development of their culture of singing and is topical for the contemporary music education (Hennessy, 2002; Pribujsiene, Uloza, & Kardisiene, 2011; Davidova, Zavad-ska, Sersnova, Rauduvaite, & Chuang, 2015). Children's inability to use their breathing properly affects the quality of sound intonation. Therefore, it is essential to work out different strategies for teaching singing to children, based on indicating the sequence of teacher's activities, and on creation of educational environment for a further development of children's intonation-singing skills and their musical abilities on the whole. Research question: which kinds of strategies can use music teachers for the development of 6–8-year-old children's breathing for singing?

The aim of the research: within the frame of the case study, to design strategies for the development of 6–8-year-old children's breathing for singing.

Research methods: analysis of different conceptions, a modelling method based on pedagogical experience.

Features and problems of 6–8-year-old children's breathing for singing. Breathing is one of the basic factors involved in voice formation, it is the energy source of voice and also the base for singing: breath training and support are essential to good singing technique (Emmons, 1988). In everyday life, breathing occurs naturally. The formation of breathing for singing is one of the most complicated processes at teaching children to sing, since it is tightly linked with will-related exercises.

According to F. Abrahams and P. Head (2005), in music pedagogy, case study is both a strategy and a method which should contribute to identifying and addressing the research problem in the form of a dialogue. J. Creswell (2007) emphasizes that a case study is a qualitative approach which studies a case or a sequence of cases during a long period of time. In this research, a case study strategy is oriented towards investigating different aspects of a specific breathing problem with the aim of understanding the development of 6–8-year-old children's breathing for singing.

Within the three groups of 75 children participating in the diagnostic research, specific problems of breathing typical of each age group (6, 7, 8 year) were identified. It should be mentioned that some of the typical problems were observed in all three age groups. They are:

- Shallow, short breathing, mainly of clavicular character, since the breathing muscles of children of this age are not yet fully developed;
- Breathing muscles function flabbily, the inhalation is not deep and full enough, exhalation is performed without an active interaction between breathing muscles;
- Breathing with raised shoulders;
- A wrong posture of the torso.

However, specific problems of breathing for singing, pertaining to each children's age group under the research, can also be distinguished. Thus, typical of the 6-year-old children are:

- Complete absence of physical sensation of breathing;
- The position of inhalation is not maintained during singing, and consequently there is no breath support as such;
- 7-year-old children:
 - Absence of the sensation of fixed inhalation and of economic, calm exhalation;
 - Absence of the skill of a noiseless inhalation through the nose;
- 8-year-old children:
 - Inability to let the breath out gradually till the end of the phrase;
 - Lack of breath energy.

Depending on the nature of the complexities of breathing for singing identified in children groups under the research, and on typical problems of each group, case study strategies for the development of 6–8-year-old children's breathing for singing were designed.

Strategies for the development of breathing for singing. On the basis of the results obtained from the above mentioned diagnostic research, strategies for the development of breathing for singing were designed in three directions: breath support; formation of the sensation of inhalation and exhalation; breath energy.

A. Breath support

Breath support is a component of a support for singing. The concept "breath support" is commonly used to specify one of the aspects of voice formation, and namely – work of breathing muscles. Support is a very important sensation in singing, owing to it a singer calmly and freely manages his voice. The order in which the work on breath support might be done could be as follows:

1. The posture of the torso during singing: to perform breathing for singing a correct posture of the torso is vital: the children must keep their back straight, and the section of the lumbar vertebra must be well curved; it is also essential that the lumbar vertebra should be fixed by spinal muscles, which takes place if the lumbar vertebra is well curved.

2. Work on giving up the wrong habit of raising one's shoulders at inhaling: this shortcoming is observed for children in all age groups under research. This habit interferes with a successful development of breathing for singing and is tightly linked with a

shallow clavicle breathing. At inhaling, the upper part of singer's ribcage must remain in a rest state and the shoulders must not be raised.

3. Work on inhalation: by means of various kind of exercises (including non-music-related ones) to train children not to use jerky, convulsive, short inhalations, quite often observed for children in all three-age groups.

4. Conscious work on breath support, employing short exercises in a slow tempo. At the initial stage of child's vocal development, the elements of breathing for singing (especially those of inhaling) should be acquired consciously. Children have to a) understand tasks set to them, b) be aware of all elements involved in breathing for phonation (taking the breath, holding the breath and sustaining the state of inhalation during singing a musical phrase), c) to remember the sensations related to this, d) by means of constant training exercises, to learn to perform them correctly.

Shaw J. (Shaw, 2013) maintains that each exercise has to be demonstrated by a teacher in practice; besides, in junior classes, the use of voice in different ways (speech, singing, whisper etc.) is recommended. At the beginning of training, the movements necessary for a correct formation of the voice are demonstrated (of a lower jaw, lips, forms of an open mouth, a yawn, movements of muscles involved in breathing). There are theoretical substantiations of the assumption that at the initial stage a text might distract children from the process of singing: the results of many research works convincingly show that children's learning is much more effective, if they are trained on the material without text (Goetze, Cooper, & Brown, 1990; Levinowitz et al., 1998; Gault, 2002; Guerrini, 2006).

B. Formation of the sensation of inhalation and exhalation

Teaching of breathing for singing occurs gradually and systematically. At the initial stage of developing children's vocal apparatus, elements of breathing for singing, especially inhalation, have to be acquired consciously.

The sequence of work on the sensation of inhalation and exhalation:

1. Work on maintaining the inspiratory position during singing. For a large group of 7-year-old children, a rapid fall (slip) of chest walls at the beginning of singing a musical phrase was observed. Such a chest position is not right: it indicates to the fact that children do not maintain the inspiratory position during singing and therefore breath support is missing. Teaching children to breathe begins with a calm, slow inhalation through the nose, with lips softly closed, and an exhalation through the mouth (lips maintain the previous softness and lack of tension, and are not protruded).

2. Work on overcoming a forced breathing; forced breathing involves undue activation of breathing muscles: the inhalation is usually noisy, involving too much of breathing; exhalation involves great air pressure; at resisting the undue pressure, vocal folds overstrain (this leads to changing their oscillations and interfering with their normal work, which, in turn, influences a sound, and it becomes forced, sharp, expressionless and poor in timbre) (McAllister, Sederholm, Sundberg, & Gramming, 1994; Titze, 2000). Forced

breathing affects the sound intensity as well: it decreases. It is essential that the children should maintain the “inspiratory” orientation, i.e. the sensation of a fixed inhalation and that of a calm and economical exhalation: at such a sensation, the most correct position of the singing apparatus is maintained. Every time, at inhaling anew children must be taught to prepare for producing a sound (at the initial stage in a slackened speed, consciously controlling oneself). Working on overcoming the forced breathing, it is vital to use short exercises in a slow tempo, not requiring great reserve of breathing, sustained exhalation and great support.

3. Work on the skill of regulating the breathing for singing. A teacher must see to it that after a musical phrase has ended and sounding has finished, the inspiratory position of the chest should be still maintained to some extent, i. e. that “some breathing reserve would remain”. In this situation, any new inhalation as if overlies the previous one, and the orientation to singing is not being completely lost before a new inhalation. This allows children to quickly organize a new inhalation.

C. Breath energy

Vocal-pedagogical practice considers a mixed type of breathing the most suitable one, when at inhaling lower ribs rise high and expand, while the rest of the chest remains almost fixed, but the diaphragm and abdominal muscles are active. The mixed type of breathing allows a singer to achieve smoothness, fluency and duration of a sound at inhaling, both when singing loudly and also softly. However, due to the physiological features of junior age children (6–8-year-old), they are inclined to speak and sing in a low voice, since their sound production is falsetto (Glaze, Bless, Milenkovic, & Susser, 1988). Besides, breathing for singing cannot develop in isolation from voice formation. For the development of breathing for singing, it is not advisable to use breathing exercises isolated from sound.

The sequence of work on breath energy:

- The development of the skill of automaticity of a correct breathing for singing. Vocal exercises are a compulsory prerequisite for both the development of a correct breathing for singing and also for making it fully automatic. In order the exercise would serve for the fulfillment and improvement of the action, children have to be told which sound they have to produce, what should be done for this, and why they should attentively watch their breathing during the formation of voice. Besides, for this purpose, exercises with quite simple melody and rhythm patterns are recommended, since they are easy for children to memorize. Respective exercises are selected for every age-group.
- The development of the skill to control the process of breathing for singing. The author of a well-known vocal methodology, S. Riggs (1992), asserts that a good sound does not require much air. When a singer decreases the amount of the air pushed towards the vocal folds, he helps the muscles inside the larynx cope with

their work, because the air flow is not so great that the participation of these muscles would be needed to keep it in. Therefore, switching of registers occurs easier and more imperceptible.

S. Hennessey (1998) points out that it is necessary to learn controlling the vocal apparatus during the process of singing on the level of sub-consciousness. During singing, the brain constantly receives neural signals about the state of the working organs. Partially they are reflected in consciousness as different sensations: vibrating (resulting from a tissue vibration caused by resonance), muscular (from muscle contraction), tactile (from air pressure). All these sensations are synthesized in brain and are transformed into a complex sense of breathing for singing.

Breathing exercises for the development of a correct breathing for singing. An exercise is a frequently repeated specifically organized action. Within the frame of this research, exercises for the development of a correct breathing for singing were devised. This paper offers some examples of these exercises. A correct breathing for singing can be developed by making use of both soundless and sound exercises. In order the exercise ensures performing and improving the action, children must be told: a) which specific sound is to be produced; b) what is needed to do that; c) what they must carefully watch during the formation of voice.

Exercises must have a simple melody and rhythm pattern, which the children can easily memorize. For every age group of children respective exercises are selected. At the age 6–8, children give preference to exercises – little songs, which strengthen breathing and develop also musical hearing, memory, and help the children reveal the artistic image as well.

A. Soundless exercises

Exercise “Training of inhalation”

The aim of the exercise: the development of the skill of noiseless inhaling through the nose.

The process: a) together with children, we visualize a bunch of flowers; b) calmly inhale through the nose and try to remember some pleasant aroma; c) a short hold; d) exhalation.

Exercise “Push-ups”

The aim of the exercise: the development of a stable sensation of lower costal breathing.

The process: a) a push-up from a (school) desk: while doing this, pay attention to the character of inhalation and immediate holding of breath; b) then a child is offered to repeat the inhalation in a standing position, fixing with his hands the lower costal area and the front abdominal wall.

Exercise “Training of exhalation”

The aim of the exercise: the formation of the control of air consumption.

The process: “let’s blow the candle”, i. e. we try to keep the smoothness of exhalation and concentrate the flow of the exhaled air.

B. Sound exercises and exercises – practicing

Exercises involving consonants

The aim of exercises: the development of breathing for singing when the larynx, diaphragm and other areas of the vocal apparatus are involved in work.

- The process of exercise No 1: a) an active inhalation; b) a hold, c) a long active exhalation on sound “s”, d) expelling of the residual air;
- The process of exercise No 2: a) short active exhalations on the sound “f”;
- The process of exercise No 3: a) to slowly pronounce the sound “v” letting the air freely out (children perform phonation exhalation without any pushes);
- The process of exercise No 4: a) children are offered to visualize themselves as big colorful air-balls; b) after the game, the ball is put on the grass to rest for a while and the valve is taken out: the air gradually goes out (children let the air out very slowly).

The use of the above mentioned warm-up exercises before practicing singing testifies to the fact that children’s voices sound much better, and moreover, children needn’t tense their vocal muscles very much. Vocal exercises are a compulsory prerequisite for the development of vocal skills.

The analysis of specific music examples for work on breathing for singing. Ability or inability to use breathing for singing affects the quality of sound intonation. Children’s sound producing in the process of singing takes place by adjusting the produced pitch to the given one (Zavadska, Davidova, & Rauduvaite, 2016).

At the initial stage, we deal with the task of the ability of the vocal apparatus to intone isolated sounds of different pitch (see soundless and sound exercises). Then this ability is reinforced to make the management of the vocal apparatus more convincing and accurate. At this stage, work on exercises-little songs can be continued, now paying attention to the accuracy of intoning and importance of every sound.

For work on breathing for singing, small intoning exercises, based on the taught songs, are offered. The range of 6-year-old children’s voice, whose vocal apparatus is still very delicate, usually extends from “re” to “la” of the first octave. Therefore, at selecting the song material, children’s vocal abilities have to be the primary concern.

Both exercises help children to acquire a) wide intoning of the major and minor third, and b) firm, convinced singing of the tonic. Children are offered to alternate a connected singing on one breath with singing the exercise by separating sounds with short pauses. We have to bear in mind the fact that 6–8-year-old children must be given no more than two breathing developing exercises per lesson. Such exercises-practicing are aimed not only at preparing the vocal apparatus for work, but also for the formation of learners’ breathing for singing and breath support.

Conclusions

The development of 6–8-year-old children's breathing for singing is an integral part of the formation and development of child's vocal apparatus. Among the typical breathing problems identified in the age group of children (6–8) under the research are: a) a shallow, short breathing, b) insufficiently deep, active, full inhalation and exhalation, c) breathing with one's shoulders raised, d) a wrong posture of the torso.

The strategies for the development of breathing for singing, designed during the research, (breathing support, the formation of the sensation of inhalation and exhalation and breath energy) may be employed at tackling similar breathing problems in work with 6–8-year-old children.

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6–8 metų vaikų kvėpavimo lavinimo dainavimo metu strategijos

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Santrauka

Lavinant vaikų balsą muzikos pedagogai daugiausia dėmesio kreipia į priešmokyklinio ir jaunesniojo mokyklinio amžiaus (6–8 metų) vaikus, kadangi dainavimas jiems yra betarpiškiausia, prieinama ir paveikiausia muzikos mokymosi forma. Mokant vaikus dainuoti ugdomas jų muzikinis mąstymas, lavinama atmintis, vaizduotė, saviraiška, mokomasi susikaupti, sutelkti dėmesį, įsiklausyti. Be įgimto balso tembro, fiziologinių savybių (diapazono, stiprumo), mokantis dainuoti svarbi kantrybė, valia, ištvermė. Dainuodami vaikai mokosi ne tik tiksliai intonuoti, girdėti save ir kitus, bet ir tobulinti kalbėjimo, tarties kultūrą. Mokantis dainuoti, lavėja vaikų kvėpavimas, balso tembras, o įvairiais parengiamaisiais dainavimo pratimais galima pašalinti net kalbos defektus. Tad nuo 2015 m. vykdomo tarptautinio projekto „6–8 metų vaikų muzikinės klausos ir vokalinio aparato koordinacija dainavimo proceso metu: Latvijos, Lietuvos ir Taivano lyginamoji studija“ keliamas tikslas – nustatyti ir palyginti 6–8 metų vaikų dainuojamojo balso ypatumus skirtingose šalyse (Latvijoje, Lietuvoje ir Taivane) ir išnagrinėti 6–8 metų vaikų koordinacijos tarp muzikinės klausos ir balso aparato optimizavimo strategijas.

Tyrime dalyvauja 225 6–8 metų vaikai, po 75 Lietuvoje, Latvijoje ir Taivane. Tyrėjai atsitiktiniu būdu pasirinko po vieną ikimokyklinio ugdymo grupę bei po vieną pirmą ir antrą klasę. Kiekvienoje klasėje ar grupėje pasirinkta po 25 vaikus (Rauduvaitė, Lasauskiene, Abramauskiene, Davidova ir Chuang, 2016). Vaikų balsai buvo testuojami taikant *Vaikų dainuojamojo balso vertinimo skalę* (angl. *Children Singing Voice Measure Scale, CSVMS*), kurią sukūrė M-J. Chuangas (2010, 2011a, 2011b, 2012).

Diagnostinis tyrimas padėjo nustatyti problemas, kurios kartu yra ir neteisingo intonavimo priežastys. Viena iš jų – kvėpavimo aparato valdymas. Vaikų negebėjimas tinkamai valdyti kvėpavimą veikia ir intonavimo kokybę. Todėl keliamas tyrimo klausimas: kokios mokymo strategijos gali būti taikomos 6–8 metų vaikų kvėpavimo aparato valdymui tobulinti dainavimo proceso metu?

Tyrimo tikslas – apibrėžti 6–8 metų vaikų kvėpavimo lavinimo dainavimo proceso metu strategijas.

Tyrimo metodai: skirtingų koncepcijų analizė, modeliavimo metodas, pagrįstas pedagogine patirtimi.

Tyrimo metu nustatytos būdingiausios kvėpavimo problemos 6–8 metų vaikams: paviršutiniškas kvėpavimas, įkvėpimo trūkumas, kvėpavimas viršutinėje krūtinės dalyje, nepakankamai gilus bei aktyvus įkvėpimas ir iškvėpimas, kvėpavimas keliant pečius, netaisyklinga kūno laikysena.

Analizuojant 6–8 metų vaikų dainavimo problemas bei remiantis mokslinės literatūros įžvalgomis, dainavimo ekspertų patirtimi siekta apibrėžti kvėpavimo aparato lavinimo strategijas: kvėpavimo atramą, įkvėpimo ir iškvėpimo koordinavimą, kvėpavimo intensyvumą.

Esminiai žodžiai: *6–8 metų vaikų dainavimo procesas, kvėpavimo lavinimo strategijos, pratybos.*

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