

Vocal Hygiene and Training of Professional Voice Users in Inclusive Education



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Abstract: *The article considers the issues of the etiology of voice disorders in occupations with vocal load, teachers in particular. Modern ideas about the methods of vocal training and work on its improvement are considered. Recommendations on the prevention of professional voice disorders among teachers in inclusive education are given.*

Index Terms: *phonopedic exercises, speaking voice, vocal hygiene, vocal training.*

I. INTRODUCTION

The relevance of vocal hygiene and training of professional voice users and, primarily, teachers, are due to the increased load on the vocal apparatus when working in inclusive education organizations. Children with disabilities require increased attention from teachers. In addition, in the structure of the defect in this category of children, there are often various kinds of voice disorders that require timely elimination. In this regard, a modern teacher should not only possess his/her own resilient voice but also be able to undertake special activities to restore and protect a child's voice. The relevance and necessity to form competencies in future teachers and professional voice users are related to communication activities both in promoting the socialization of children and adolescents with special educational needs and in preserving the effectiveness of an inclusive educational environment.

II. THEORETICAL AND NORMATIVE ASPECTS OF VOICE PRESERVATION OF PROFESSIONAL VOICE USERS UNDER THE CONDITIONS OF INCLUSION

The human voice is a unique acoustic phenomenon anatomically, physiologically and socially. Many organs and systems take part in voice formation, which requires their normal development and functioning. The state of the voice,

its strength and purity have a significant impact on the intelligibility, audibility, emotional expressiveness and even semantic structure of speech. A clear, sonorous, strong and mobile voice has the same significance for oral speech as the correct pronunciation of sounds in words, grammatically correct construction of sentences or precise use of lexical means. Phoniatrists and practical speech therapists note that among those who need otolaryngological and phonopedic care, there are often teachers, who can be considered representatives of professional voice users. I.V. Pleshkov and Z.I. Anikeeva note that "...functional voice disorders that occur in conjunction with lung diseases and nervous system disorders and are accompanied by acoustic inferiority and the shortened phonation exhalation, as well as organic diseases of the vocal apparatus, which should be considered a professional pathology" [1, p. 159]. The main factors that determine the development of permanent disability among people of pedagogical professions, as these researchers indicate, include the high psycho-emotional intensity of the process of training and education, the so-called psychogenic factor, significant excess of voice norms during the day, week, month, low tolerance to the common cold, labor activity in the period of inflammation of the vocal organs, failure to comply with the norms of vocal hygiene, frequent forcing of the voice, leading to an overstrain of the vocal cords, incorrect or incomplete vocal training. E.V. Lavrova and I.A. Mikhalevskaya [2] correctly note that a professional voice should meet particular requirements, the main of which include endurance, melody, wide tone and dynamic vocal range, the pitch of the voice corresponding to the sex and age and the harmoniousness of timbre. Specialists in the field of correction of speaking voice disorders note the special sensitivity of the vocal apparatus to the effects of imperfect speech technique, which significantly increases the number of diseases of the vocal apparatus. With the inept use of the phonation apparatus and with neglecting the basic requirements of hygiene, the voice becomes weak, timbre changes, the vocal range is reduced, breathing difficulties and unpleasant sensations in the throat and larynx may occur. Disorders of vocal function, in the opinion of the mentioned researchers, not only make it difficult to perform professional duties but in some cases can lead to disability and prove to be psycho-traumatic, which can result in the emergence of neurotic reactions to voice impairment. In this regard, the problem of restoring impaired voice function and the production of a speaking voice of teachers is quite acute and relevant.

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Voice impairments are manifested in two main forms: aphonia (complete loss of voice) and dysphonia (partial vocal disorder). The main defects of the voice are expressed in the loss of sound strength, timbre distortions, weak voice modulation, hoarseness (a typical hissing raspy sound tone).

Voice impairments, like all speech defects, are divided into central and peripheral, each of which can be organic or functional. As E.V. Lavrova [3] notes, functional voice disorders that are not accompanied by any anatomic changes of the larynx are the most common and diverse. The reasons for such disorders are rather various: vocal fatigue, poor vocal training, infectious diseases or stressful situations. Pathology of the voice, resulting from anatomical changes in the vocal apparatus or chronic inflammatory processes in it, is considered organic. In her research, O.S. Orlova notes that functional voice disorders are more often diagnosed in professional voice users, teachers in particular. The author concludes that teachers' complaints, first of all, include rapid vocal fatigue, the inability to speak in a voice of normal volume at the most ordinary vocal load, voice tremor, professional incompetence and fear of losing the working ability [4]. I.V. Pleshkov and Z.I. Anikeeva note that the main methods of treatment of the larynx diseases include medication, physiotherapy and surgery with the obligatory observance of voice rest during the exacerbation of the inflammatory process. At the same time, in recent years, otorhinolaryngologists recommend the given methods of treatment of the larynx diseases to be supplemented with phonopedic exercises during the period of recovery [1]. E.V. Lavrova and I.A. Mikhalevskaya claim that persons who suffer from functional voice disorders, phonasthenia in particular, as a rule, seeking medical treatment of a phoniatriest, receive medication, while one of the most effective ways to restore voice function with a given disorder and measures to prevent voice deficiency is vocal training and hygiene. According to these researchers, systematic and focused training of the neuromuscular apparatus of the larynx, consistent mastery of speech technique can improve the acoustic properties of the voice and allow teachers to adapt to the increased voice load [3].

III. METHODS

A. General Description

Eliminating functional voice disorders requires competent professional knowledge and skills of speech therapists, a specialist in the field of correction of vocal speech disorders. In Armavir State Pedagogical University, according to the curriculum of students' education in the training field 44.03.03 "Special (Defectology) Education", the educational program "Speech Therapy", the study of the discipline "Practical Vocal training and Expressive Reading" is provided. The primary goals of the discipline are to improve skills in using a voice freely on the basis of diaphragmatic breathing, to develop such qualities of a speaking voice as strength, audibility, flexibility, beauty of timbre coloring, to form professional speech qualities (precise articulation, clear diction, the ability to express one's thoughts logically, figuratively and emotionally). As a result of studying the discipline, students should master skills in forming good posture, the orthoepic norm of the Russian literary language,

the basics of analyzing literary texts and poetic works. The main objectives of the discipline include the study of the following sections of speech technique which are closely interrelated: breathing, diction, voice, orthoepy as well as mastering skills of expressive reading. Practical classes in training a speaking voice necessarily include the study of the scientific and theoretical foundations of voice formation, as well as the implementation of a set of exercises for the normalization of muscle tone, posture correction, breathing and voice formation skills, etc. Before starting classes, a teacher should determine the functional readiness of students to implement a speaking voice, that is, correct posture and muscle tension. As A.M. Brusser and M.P. Ossovskaya note, correct posture creates favorable conditions for the functioning of the respiratory system. In a professional environment, teachers often have to observe breathing problems resulting from bad posture. An important task of each teacher includes timely identification of deficiencies and continuous posture monitoring. Moreover, the formation of correct posture contributes to the development of respiratory muscles. In turn, poor posture leads to rapid vocal fatigue, the emergence of professional diseases, deterioration of general well-being. It can be claimed that the formation of correct posture is one of the elements of the process of proper breathing and voice sound development [5]. Training breathing, a speaking voice and diction should begin with self-massage, as many of the nerve endings involved in the process of vocalization are located directly in the face area (forehead, nose, cheeks, tongue, hard palate, gums). Muscle massage prevents muscle clamps, promotes the free formation of sounds. In order to relieve excessive tension in the muscles of the arms, legs, neck and shoulder, and the spine, it is necessary to alternately relax and strain different muscle groups, which will prepare the body for further exercises for the formation of diaphragmatic breathing, which is most optimal for vocal training. When forming the skills of correct breathing, it is necessary to develop a mixed type of breathing consisting of the chest and abdominal elements. Particular attention should be paid to the activities of the abdominal muscles. Their well-coordinated work during inhalation and exhalation prevents an excess air intake, ensures smooth exhalation and necessary voice support. For this very purpose, we use a complex of static and dynamic exercises based on the recommendations of A.N. Strelnikova [6]. The formation of physiological and phonation respiration is carried out alongside training of the articulatory apparatus muscles. This contributes to the removal of muscle clamps, fixing the correct position of the larynx. Before starting exercises to normalize the acoustic characteristics of the voice, it is necessary to ensure that there are no organic deficiencies in the structure of resonator cavities that require medical intervention and to determine the features of the voice sound of each student. In our work, we rely on the program of special studies proposed by E.V. Lavrova and I.A. Mikhalevskaya [3]. The training is based on the phonetic method, which allows finding the optimal direction of sound for more productive phonation.

B. Algorithm

The work on the formation of voice includes the following areas: definition of the working range of the voice; the correct use of resonator cavities; the development of tone range. The complex of phonopedic (vocal-pedagogical) exercises includes special techniques designed to "summon" the voice and to reinforce the acquired skills as well as to automate the most optimal ways of interaction between the respiratory, voice and articulator apparatus. Voice exercises include the formation of a soft start of the voice, which provides a smooth beginning of the sound, its best timbre as well as intonation accuracy. For example, with functional vocal disorders and in the process of vocal training, you should briefly pronounce the sound "m" ("mooring"), gradually increasing the duration of the sound, after which you should proceed to pronouncing the sonorous "m" and "n" in combination with the vowels "u", "o", "a", "e", and "i" in the specified sequence.

It is well known that the skills of correct voice formation are developed through repeated, purposeful training and without it, they are lost. In this regard, the authors of the phonetic method [5] recommend daily vocal training to students. The correct sound is fixed when pronouncing particular words, proverbs, tongue twisters, poetic texts and works of various genres. To successfully master the speech techniques, extensive knowledge and experience of a teacher are not sufficient; first of all, a great commitment on the part of a learner is necessary, which implies the desire to study, relevant knowledge and careful attention not only to teacher's instructions but also to the work of one's own organism. As A.I. Savostyanov [7] indicates, special abilities to listen and hear oneself, to grasp differences in the sound of one's voice, to control and fix one's muscular sensations should be formed in a student. A future teacher should possess self-control skills, the desire for independent and systematic training. This will help not only to consolidate the results obtained but also to proceed to the conscious and purposeful assimilation of the new qualities of voice that are necessary for professional activities. The difficulty of self-training is that a learner must himself/herself determine the need for certain exercises, based on the assignments received, the level of his/her own preparedness, own needs, the difficulties to be faced in the process of daily work and own health condition. It is important to do a proper number of respiratory and voice exercises. The main signs of a correct number are the freedom and ease with which the exercise is done, the absence of dizziness, the state of vigor after the end of the complex of exercises. One should not immediately resume the usual set of exercises after suffering an acute respiratory disease; it is advisable to return to it gradually.

The key to successful vocal training is to observe the principles of gradualness, consistency in mastering exercises and strict systematic character. As the practice shows, during self-training, it is very important to cultivate natural need for daily exercises aimed at developing speech breathing, voice, diction, etc. It is necessary to do exercises at least twice a day: in the morning (breathing and voice exercises are included in a complex of daily recreational gymnastics) and in the afternoon for 10-15 minutes, eventually increasing the duration of training up to 30 minutes. Exercises should be done in the open air or in a well-ventilated area. Teachers and

students have many various textbooks and manuals at their disposal, which offer modern technologies for the formation of a full-fledged voice and speech intonation, which, in turn, are the components of speech technique. The final form of assessing knowledge after studying the discipline is a test. Students should demonstrate not only knowledge in the field of scientific and theoretical fundamentals of vocal training but also their own results in improving their speech technique, enhanced functionality of their vocal apparatus as well as their readiness to master the system of developing and restoring voice in children and adults, its use in remedial and speech therapy.

IV. RESULTS ANALYSIS

Thus, timely identification of disorders of the vocal apparatus, complex treatment with the use of medicines, physiotherapy and phonopedic exercises, vocal hygiene, the prevention of voice disorders will allow teachers and all professional voice users to extend their professional longevity. Prevention of diseases of the voice-forming organs is extremely extensive. I.V. Pleshkov and Z.I. Anikeeva developed a comprehensive program for the prevention of professional voice disorders, which is based on the elimination of risk factors for the development of professional diseases of the larynx and the sequence of rehabilitation measures. The purpose of the prevention of professional diseases of the larynx is the early diagnosis of diseases of the larynx, in this regard, professional voice users should be under the constant dispensary observation of a phoniatriest and follow his/her recommendations [1]. If a person experiences vocal fatigue, loses his/her voice, has unpleasant painful sensations after being examined by a phoniatriest, the authors of the given comprehensive program for the prevention of professional voice disorders recommend starting phonopedic exercises under the guidance of a speech therapist with a specialization in phonopedic therapy. According to the developers of the program, self-training without the control of a phoniatriest should be carried out neither by speech therapists nor by persons who suffer from voice disorders.

V. CONCLUSION

Thus, the proposed option of training teachers and professional voice users for the preservation and prevention of voice disorders will not only contribute to their professional development but will also have a positive impact on the socialization of children and adolescents with special educational needs.

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