

KATARZYNA PLUTECKA

Pedagogical University of Cracow
Institute of Special Education

Conditions of auditory-verbal education of deaf children

SUMMARY

The article focuses on the theoretical approach of the subject literature overview the essence and conditions of auditory-verbal education of deaf children. Among the discussed conditions of auditory-verbal important to: early and multi-speciality diagnosis, use of appropriate auditory prosthesis and contribution of the family environment. In the light of the analysis, it is important to look at deaf children as a group requiring an intense stimulation in the field of auditory-verbal education since the diagnosis of hearing loss, because the auditory-verbal education is therefore an integral part of the whole rehabilitation process of hearing-impaired children.

Keywords: auditory-verbal education, deaf children

INTRODUCTION

Supporters of auditory-verbal education assumed that a deaf child should develop in the same way as a hearing child – under the same conditions (and not in isolation) – and master basic skills, in particular the use of human speech, in the same way. To make this possible, when working with a deaf child, the teacher should apply relevant teaching strategies, tailored to the development needs, and take into account necessary conditions, such as an early and multidisciplinary diagnosis, use an appropriate auditory prosthesis auditory, and also involve parents in the auditory-verbal education of their deaf child so they can be partners of therapists in the early rehabilitation period.

ESSENCE OF AUDITORY-VERBAL EDUCATION

Learning the language by a deaf child through hearing may proceed in different ways. A. Löwe (2000) distinguishes two approaches: unisensory (single-sensory) and multisensory (multichannel). S. Schmid-Giovannini and A. van Uden are considered to be representatives of the unisensory approach. Proposing focusing on intensive stimulation of auditory-verbal education, the authors set two major objectives, namely the integration of hearing and personality, as well as preparing the child to operate independently in the social life of people with normal hearing and speaking abilities (Löwe 1999: 116).

S. Schmid-Giovannini is the author of a comprehensive, oral method. The creator of the method is considered to be an outstanding deaf educator, a pioneer of early rehabilitation of deaf children in German-speaking Central Europe. In the late 60s of the twentieth century, the author started working in a special education nursery in Vienna and was conducting a special unit for deaf children for two years, and then this class was incorporated in a public school. S. Schmid-Giovannini described the results of her work in numerous publications. The author called her approach a natural and comprehensive method, which means that a hearing-impaired child should learn the language system, similarly to his or her hearing peers. The criteria of naturalness criteria were to include the following indicators:

- Learning the language from the parents, because their voice is a kind of an instrument, which is the justified in advice and indications of the author, who said that “the child should learn to listen to the voice of his or her parents, because these voices are the starting point of the whole auditory education” (Schmid-Giovannini 1995: 14). The parents’ use of the same words as to the hearing child, because “treating a deaf infant or small child must be conducted in accordance with the developmental stages of a child with normal hearing” (Schmid-Giovannini 1995: 28).

- The parents’ use of words in natural situations, namely “whenever you take your child in your hands, you change, feed him or her, you should speak directly to the ear, in particular, sing [...]. The child should learn the voice of his or her parents. These voices are the starting point of the whole auditory education” (Schmid-Giovannini 1995: 13–14).

- The parents’ provoking the child to imitate heard sounds, to verbal communication as early as possible, and therefore the author suggests: “When you want to talk to your child, do not wait until he or she is looking at you. Start talking even when your child is not looking at your mouth” (Schmid-Giovannini 1995: 24).

- Referring to the child through “normal speaking”, there must not be used simpler structures, because it impoverishes the language.

The author rejected building the child's system by specially constructed methods as unnatural, and therefore, i.a., she criticized following the criterion of articulating difficulty of words, the use of simplified sentences and words, supporting the language system building process with labels, non-verbal communication, e.g. facial expressions, gestures and movements of the entire body. She was an opponent to the sign language because, in her opinion, "the sign language is deadly for oral speech; only using the spoken language, the child can become a sterling member of the human community" (Schmid-Giovannini 1995: 24). The method was named comprehensive due to the deliberate speaking to the child with grammatically and semantically non-simplified sentences. Learning to read within this method should be holistic, whereby it is important to read whole sentences, and the letters are shown to the child in selected words in a sentence. A critical time in the development of speech is the first year of life of a deaf child, and therefore the auditory-verbal therapy should be started as early as possible. Working on the assimilation of sound speech should be implemented through hearing and requires full involvement of the whole family (Cieszyńska 2001).

The author also encouraged the mother to develop a diary of events jointly with the child. It should be prepared with pictures and words, which will help the child with transmitting information, e.g. about their own experiences, about important events in the life of the hearing-impaired child's family. Personal, family experiences can be presented as a drawing, photograph or a cut-out picture and the child tries to talk about it, at least fragmentarily – "We live and experience. Our language lives with us." (Schmid-Giovannini 1995: 64). Multiple reading (repeating) of records consolidates words and phrases the most commonly used in conversations. From the fourth year of a deaf child's, the author proposes the introduction of symbols (their function is to be performed by colours, not writing) to facilitate the child to build grammatically correct sentences. She called using coloured sheets a symbolic method. The S. Schmid-Giovannini method requires a lot of effort of the whole family, especially the mother. In addition to lingual commenting of all the activities of an adult and a child, exciting his interest of the surrounding reality provides him or her with new impressions, the child should describe them daily in the diary (Cieszyńska 2001).

Another proponent of the unisensory approach was the creator of the parental method, A. van Uden. The creator of this method relies on the early lingual and auditory education. The term of "maternal" means referring to intuitive teaching of the mother during nursing, raising her child. According to the author, the child learns to understand speech of his or her mother, intuitively and globally grasping the importance of whole statements, and also the intonation and different social contexts helps him or her. The speech of mother has a distinct articulation, it is slow, melodic. The deaf child discovers the meaning through the quantity and quality of connections with other concepts, and by grammatical information

(inflection). A. van Uden, as one of the first, pointed out the necessity of conducting general development exercises within auditory-verbal therapy of deaf children, aimed at stimulating memory, attention, perception (Cieszyńska 2001).

He considered the conversation as the ideal method of shaping the language, because in the conversation, the deaf child acquires new knowledge and skills. In addition, he revealed a number of advantages of the conversation, such as: it is undertaken spontaneously, allows to explore the world of thought of the partner, recognizes the language as a whole, develops passive and active speech at the same time and shapes new grammatical forms, is the basis for linguistic thinking, develops the comprehension of expressions through its various contexts. The maternal method is based on two strategies used by mothers of children with normal hearing: on acting a dual role (of the child and her own) and on the picking-up technique (guessing the feelings and thoughts of the child). The author emphasized the need for early hearing aid, because it prevents dumbness. The first voice reactions of infants with profound hearing loss do not differ from those of their peers with normal hearing, because they also coo and babble. Nevertheless, in the period between 17 and 23 weeks of age, they their voice responses lose the quality and frequency, and dumbness can be the negative effect.

He was an opponent of the sign language, stating that it:

- limits the vocabulary,
- makes it difficult to memorize verbally transmitted words,
- delays the development of reading skills,
- leads to conventional thinking,

creates a psychological and sociological problems, because it precludes communication among peers with normal hearing and in the immediate microsystem (Cieszyńska 2001).

The author considered the use of non-verbal means of communication: facial expressions, body language, natural gestures, but only by the child. The objective of early auditory-language rehabilitation is the creation of inner speech – understood as a predisposition to learn speech, which gradually develops if the child is positively accepted by the parents as he or she is. The inner speech should be developed during games and identification exercises. This method is sometimes called the cybernetic method of speech rehabilitation, i.e. through the use of cybernetic teaching aids (prostheses, articulatory mirror), the deaf child can consciously experience his own speech, hear and feel the sounds articulated by himself or herself.

In deaf education, there is also the multisensory approach. Proponents of this approach suggest focusing on the use of residual hearing and reading speech from mouth. Multisensory therapy is addressed to children dependent on manual methods of communication, and these measures are treated as a support in the un-

derstanding and development of speech. Representatives of this approach are divided on the use of manual means of communication. The therapists at John Tracy Clinic in Los Angeles, U. Eckert, I. Stawowy-Wojnarowska, A. Prozych reject manual measures, because they believe that the impact of early rehabilitation involving the constant use of speech sounds, drawing the attention of the child to its articulatory side provide sufficient conditions to master the language for the child. On the other hand, A. Korzon (2001) is an advocate of total communication. This is an extreme variant of the multisensory approach, which assumes that manual measures help the deaf child in the initial phase of development of communication, so later, they are able to use auditory perception and reading speech from mouth. This concept of recognizing the value of the sign communication was, among others, the basis for a new method called total communication. The term was first used in the late 60s of the twentieth century by Roy Holcomb, a Californian teacher of deaf children, a father of two deaf sons. It was only in 1976 at a conference of managers of American schools for the deaf when the definition of this method was developed: "a philosophy incorporating the appropriate aural, manual, and oral modes of communication to ensure effective communication with and among hearing impaired persons" (Pahz, Pahz 1978: 67).

EARLY AND MULTI-SPECIALITY DIAGNOSIS

In the light of current neurological and cardiological examinations, an early and multi-speciality diagnosis conditions the effective auditory-verbal education of hearing-impaired children. In the first year of life, in the auditory centres, there occur important processes of maturation, conditioning the appropriate auditory perception. If, during this period of development, there is no relevant stimuli (which happens in the event of an early diagnosis and the lack of quickly started rehabilitation), then the neuronal structures programmed to receive auditory stimuli may irreversibly lose their function. Their subsequent stimulation includes activities directed to a system of degenerated neurons, which are difficult to be improved to the state of normal ability, even through an intensive stimulation. The plasticity and maximum potential of the central nervous system during the first two years of life are related to the specificity of development, and such processes as: equipotentiality of nerve tissue, migrating neuroblasts, synaptogenesis, apoptosis and myelination of nerves, differentiation of dendrites, maturation of the cortical part of the brain are of particular importance (Podgórska-Jachnik 2009). Therefore, the above neurodevelopmental facts imply important conclusions for the surdologopedic practice. Delaying the diagnosis of hearing loss and, consequently, delaying introducing of the hearing aid and auditory-verbal education is also an oversight of a phase that is critical for the development of hearing

and speech, which can lead to a smaller chance of success in rehabilitation, and then in the process of education of the deaf child. Therefore, a neuropsychological diagnosis based on understanding brain mechanisms underlying the impaired functioning of the child is of a great importance. In broad terms, the above diagnosis relates to the study of relationships between brain functioning and behaviour, mind, and consciousness of the child. The neuropsychological test result forms the basis for further medical diagnosis (audiological diagnosis), which is associated with obtaining information on the causes, time, place and degree of hearing loss. The deaf child requires multidisciplinary care, and therefore, the diagnosis procedure must include: the psychological (on the level of development of individual mental functions, additional developmental dysfunctions) and speech therapy assessment (on the level of language skills, and in particular, it is important to diagnose functioning of the breathing, phonatory and articulatory apparatus). Also a pedagogical diagnosis associated with assessment of readiness to commence primary school education by the deaf child is important. In this instance, the rating by the educator will be linked with requirements set out in the program of preschool education in the following areas: social skills and emotional resilience, math skills and readiness to learn reading and writing, motor ability and visual-motor coordination, independence, including self-servicing. It should be emphasized that in the Polish deaf education, there coexist two diagnostic paradigms. In the approach of A. Krause (2010), the first one is the traditionalist paradigm, according to which in practice, there are used standardized diagnostic criteria, in early detection of hearing impairment, medical and audiological diagnosis is applied. Currently, in clinical practice, to assess the auditory organ, there are used two types of diagnostic methods: psychoacoustic (subjective) and electrophysiological (objective) methods that allow recognition of the degree and type of hearing disorders without the active cooperation of the patient. In the next, humanistic paradigm, a functional diagnosis is important, which focuses on evaluation of individual and developmental needs of hearing-impaired children (Kochanek 2004). This is in the humanistic paradigm where the most important is the subject of diagnosis, signalling autonomy to choose forms of support by therapists, and gradual replacement of the diagnosis on a hearing-impaired child by the diagnosis for a hearing-impaired child.

USE OF APPROPRIATE AUDIOTORY PROSTHESIS

Another condition for the success of auditory-verbal education is the use of hearing aids and transmitter/receiver devices after the earliest possible detection of hearing loss. In Poland, since 2003, with the financial support of The Great Orchestra of Christmas Charity, there has been realized the modern, nationwide

Newborn Hearing Screening Program. Within the program developed by a team of experts, there are implemented three levels of diagnosing hearing loss. On the first, reference level, the newborn baby undergoes non-invasive hearing screening test in the 2nd or 3rd day after birth, there are obtained information on risk factors, then the parents should be given a screening test results and further information concerning the diagnostic procedure. In the second stage, there is continued the recognizing of hearing loss in the infant and realized the precise audiology diagnostics to 3 months of age. The third level involves the supply of auditory prosthesis and referral to a specialist clinic to begin hearing and speech therapy, at the age of 6 months at the latest (Eckert, Wereszka 2010). The time when parents are informed on the diagnosis is specific and is an introduction to a new, cooperative stage of the family life. The parents have the chance to get expert help at home under the Orange Foundation. Technical progress in electronics, the development of microsurgical techniques led to introducing a research program aimed at the treatment of deafness using cochlear implants in Los Angeles in the late 60s of the twentieth century. They were initially single-channel cochlear implants, and in the 80s of the twentieth century, multi-channel implants and auditory brainstem implants implants. In our country, the initiator of the hearing implants program was Henryk Skarżyński. It was an international cooperation (among others, with Professor Claude-Henri Chouard) and scientific achievements of H. Skarżyński that resulted in appearing multimedia hearing screening programs, teleconsultation system in otolaryngology or the telefitting program. Very good results of using this method brought the creation of the National Network of Telerehabilitation Auditory Centres, including 20 centres located on the Polish territory, in 2009. At the Institute of Physiology and Pathology of Hearing in Warsaw, headed by H. Skarżyński, a hearing-impaired child can be covered by a comprehensive hospital and rehabilitation care. Of the 400 implanted so far by Prof. H. Skarżysko people, only 4% of them said they were disappointed with the effects of implantation (Skarżyński 2012).

Reports of studies on the effectiveness of the use of cochlear implants allow to evaluate i.a. the level of auditory-verbal rehabilitation. It turns out that babies who were implanted in the first six months of life and were covered by early rehabilitation, reached normal or nearly normal speech development (Niemczyk, Piotrowski, Woźniak, Mikołajewska 2004). In other studies, authors, choosing two groups of children: with a cochlear implant and with hearing aid found that children with cochlear implant achieve better results than children with hearing aid. It turned out that an important criterion in the achieved high results on communication, social development, overall resourcefulness was not the time of implantation, but the length of the implant use period. More benefits are achieved by children with less hearing loss (Bat-Chava, Martin, Kosciw 2005).

CONTRIBUTION OF THE FAMILY ENVIRONMENT

A. Jakoniuk-Diallo (2000: 14), on the basis of a literature review, points out that the auditory-verbal education is a long process, and the family environment plays a particular therapeutic role in its implementation. The thesis that auditory-verbal education of deaf children should be conducted in the family environment found its justification in models of early childhood development support in the family environment by A. Twardowski (2012), including:

- support home visits model by Robin McWilliam
- responsive teaching model by Gerald Mahoney
- improved learning in the natural environment model by Terry Hancock and Ann Kaiser.

In the support home visits model by Robin McWilliam, the most important support that the family obtains, is a support from a specialist coordinating rendered services. Therefore “support home visits” – SHV play a key role. Robin McWilliam featured the following five principles of his concept:

1. SHV is not about conducting classes regularly, it may be once a day, and another day, three or four times, so that they are not like tedious, ritualized, specialized courses;
2. SHV should be carried out throughout the day, in various situations, in accordance with the interests of the child;
3. family has a much larger impact on the development of the small child than specialists, who see the child one or two times per week;
4. the child needs as much interaction supporting the development as possible, so the amount of opportunities for parents to more often and longer stimulate the development of the child may be increased;
5. support of the development takes place primarily in the periods between visits of specialists, and their job is to teach parents how to deal with the child so he or she can master the necessary skills.

In the compiled model, in addition to support home visits, other elements are of a great importance: development of an ecomap of the family, an interview on the daily life of the family, appointment of a specialist coordinating helping reactions – a special education teacher, psychologist, occupational therapist, speech therapist. The coordinator should keep in regular contact with the parents, visiting the family once a week, and provide them with various support aspects, namely: emotional, material and information aspects (Twardowski 2012).

Another model of responsive teaching by Gerald Mahoney is based on the assumption that in the early stages of ontogeny, the behaviour, whose dominating feature is the responsiveness, is the most favourable for the development of a child. Responsive parents encourage the child to take a variety of activities and support him or her in their implementation. Responsiveness is a complex property

and includes several components (which are also features of the style of conduct of parents towards the child): cooperation, adequacy of the parents' reaction, moderate control of the course of the interaction, showing acceptance and adapting requirements to the capabilities of the child. The aim of responsive teaching is to stimulate the three main areas of child development: cognitive development, communicative competence, emotional and social functioning. The responsive teaching is delivered through 66 strategies, including the following: "do the behaviour of the child", "during joint actions, talk to your child", "observe the child's behaviour", "treat the child's behaviour as a sign of his interests", "specify intentions, feelings and actions of the child with words." The effectiveness of responsive teaching stems from the fact that its aim is to develop key skills in a child, not the collection of all skills. According to the authors, the development of a small child is carried out in the context of a play. While playing with the parents, the child shapes key skills: he or she initiates the play, solves the problems, talks. According to G.Mahoney, specialists can apply three methods to prepare the parents to more responsive conducting with the child and they include:

- discussion – explanation, what the responsive acting is;
- modelling – learning key skills of responsive parents and incorporating them into their behaviour;
- direct application of the responsive teaching strategy – demonstration to parents how they should act and encouraging them to modify their behaviour.

The last of the proposed models is the model of improved learning in the natural environment by Terry Hancock and Ann Kaiser. This model is the latest version of the "environmental approach" in the treatment of children with developmental disorders, which was started in the mid-70s of the twentieth century. This approach was developed for speech therapy and determined by the authors with many terms, such as: natural teaching, child-oriented teaching, transaction teaching, conversational teaching, teaching oriented on communicative competence education. The essence of the environmental approach in speech therapy is to teach the language in the context of its use in everyday situations, e.g. in the family home of the child, in the kindergarten. According to Marc Fey, the concept of teaching speech in the natural environment is highly effective because it is natural, allows permanent and quick mastering of language skills, and facilitates transferring mastered habits to new communication situations.

Theoretical background of this model includes: behaviourist psychology, communication orientation based on the development of language, knowledge about parents as teachers of language. The creators reject the classical formula of behaviourism: incentive- reaction-reinforcement, and instead, they accept the assumption that the child plays an active role in the process of learning speech, and often initiates it by himself or herself. The role of parents in this model is indirect, and it boils down to three steps: organizing the environment for the speech

therapy, encouraging the child to express himself or herself and ensuring that verbal behaviour of the child leads to a positive result, so it is important that the child uses acquired language skills in new situations, communicating with new friends.

The improved teaching model in the natural environment consists of three consecutive elements, namely:

1. arranging the environment in such a way that it favours teaching and learning of language – the parents are trained in selecting toys and other teaching means helping the child to develop his or her social skills;
2. responding to the child's behaviour – the parents are taught to follow the child, react to his or her behaviour, adapt speaking to the lingual and cognitive abilities of the child during the interaction,
3. using deliberate teaching methods such as modelling, provoked modelling, deferring, occasional teaching.

The improved model of learning in the natural environment has many advantages, but of a great importance is the fact that it allows to interact with the child in a flexible way, and therapists can adapt early development support strategies to his or her needs and abilities.

CONCLUSIONS

In the light of the analysis, it is important to look at deaf children as a group requiring an intense stimulation in the field of auditory-verbal education since the diagnosis of hearing loss, from professionals, teachers and parents. Auditory-verbal education is therefore an integral part of the whole rehabilitation process of hearing-impaired children. There is a need to promote awareness-raising activities about the actual effectiveness of auditory-lingual treatment among parents of deaf children. Therapists, taking these preventive measures, will be experiencing issues related to the cooperation with parents of deaf children who do not constitute a homogeneous group. In the opinion of some deaf parents, and especially of those who identify with the emancipatory aspirations of the environment of the deaf, the assumptions of auditory-verbal education will not meet the needs of their deaf children. The implementation of intense stimulation will also be difficult in the case of deaf children with additional development disabilities. In the context of the foregoing, despite the demonstration of high efficiency of auditory-verbal education, there should be emphasized that there is no single perfect strategy or combination of methods for supporting development that would meet the developmental needs of the deaf children. Nevertheless, an early and systematic implementation of auditory-verbal education concepts will make the thesis of A. Löwe, that the deaf child "will learn to hear and speak", come true.

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