

DO NEUROLOGICAL SIGNS IMPROVE IN CEREBRAL PALSY?

by Erzsébet Balogh

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There are about 15.000.000 people with cerebral palsy in the world. The frame which we can use to caring for cerebral palsied people if we take the „Requirements of children with cerebral palsy” from the chapter on cerebral palsy written by Bax and Aicardi: diagnostics, assessment, treatment, evaluation, re-diagnostics, re-assessment, re-evaluation, counselling, management. Of course, there are important and much more permanent activities in this for non-medical persons.

”Cerebral palsy will produce signs in the central nervous system which we should not expect to be eliminated by any therapy.” ”But again, are we to expect changes in neurological status following physical therapy? I think not.”

My own experience throughout one generation’s observations of the problem that we can expect for beneficial changing, in the so called motor impersistence (inability to sustain simple acts) (Lewandowsky, M: Über Apraxia des Lidschlusses. Berliner Klinische Wschr. 22/Juli/1907 pp: 921-923; Fisher, M: Left hemiplegia and motor impersistence. J Nerv Ment Dis. 123:201-218, 1956) only, as follow:

1. conjugate gaze (right or left lateral gaze fixation),
2. fixing the eyes centrally,
3. holding the eyelids shut (eye closure),
4. keeping the mouth open,
5. protruding the tongue,
6. head turning (to right or left),

7. holding the breath,
8. vocalisation (deep breath and say „aah” as long as possible),
9. arm extension,
10. hand grip (exerting a steady pressure) during conductive education.

Questions are unanswered: is it the results of this continuous, coherent form of rehabilitation or a success of the maturation otherwise?

HISTORICAL ANTECEDENTS OF CEREBRAL PALSY

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About the origins of the most modern terms for our everyday professional practice we should note writers from the last century. Their publications are absolutely correct according to the newest data of research.

William John Little (London) (1810-1894) published his work in 1843 and in 1844 with the title: Deformities of the Human Frame. Twenty years later, in 1861, he defended his thesis before the Obstetrical Society of London: birth asphyxia could cause permanent central nervous system damage. From the Thesis:

„I showed that premature birth, difficult labours, mechanical injuries during parturition to head and neck, where life had been saved, convulsions following the act of birth, were apt to be succeeded by a determinate affection of the limbs of the child, which I designated ... spastic rigidity from asphyxia neonatorum, and assimilated it to the trismus nascentium and the universal spastic rigidity sometimes produced at later periods of existence.”
„(Writers) who have described the condition of stillborn children, suspended animation, asphyxia neonatorum and apoplexy of newborn children, are almost entirely silent respecting the after consequences to the infant, when not fatal ... (They) seem quite unaware that abnormal parturition ending in death or recovery, not unfrequently has ... a third termination in other diseases.”

(parturition = labour, trismus nascentium = neonatal seizures, universal spastic rigidity = mixed form of the generalised increased muscle tone)

Sigmund Freud (Vienna) (1856-1939) was forced to search and write a series on „Kinderlähmung” (1891-1893-1987) in which he stressed the lack of correlation of clinical findings with the aetiology and the lack of correlation of clinical findings with the neuropathological findings.

William Osler (Chicago, Oxford (1849-1919) presented a series of lectures on The Cerebral Palsies of Children (1888) in which he proposed a possible classification too but it was the first use of the term 'cerebral palsy'.

IMPORTANT TERMS IN CEREBRAL PALSY

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Conductive education's (CE) most frequent candidates are the children with cerebral palsy (CP) (Kozma), however CE will use the term for "motor dysfunction" (Hári). Conductors regularly read children's medical history. It is important to know, use and interpret the terms the same way. Current wisdom suggests that 80% to 90% of cerebral paresis (CP) cases are determined in utero before the onset of labour (Longo). Problems during delivery could be the consequences of intrauterine acquired cerebral lesion (Paneth, Volpe, Truvitt). The underlying lesion of CP is: hypoxic-ischemic encephalopathy (HIE), this term was created by Hagberg. Hypoxic refers to oxygen-limited energy flux and electron transfer in the mitochondrial cytochrom oxydase system and ischemic refers to insufficiency of blood flow to a given organ or tissue. Encephalopathy is the consequence of the organic lesion of the brain. In dealing with CP it is usual to find two other terms: asphyxia refers to quasi tissue suffocation, which is hypoxia, combined with increased carbon dioxide tension and decreased pH. Hypoxaemia means deficient oxygenation of arterial blood (heart, lung, air). Contemporary techniques: nuclear magnetic resonance image (NMRI) and positron emission tomography (PET) provide information to understand the HIE. Note: there is no real parallelism between the size of the brain lesion and the functional deficits (Lebeer). It is our premise that a deeper understanding of the cellular and subcellular (molecular) basis of HIE and its neurological sequel: CP will lead to the development of diagnostic and predictive modalities.

HUNGARIANS OF THE CENTURY

ANDRÁS PETŐ

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“My parents were lower middle class. My father was a shopkeeper and managed the post office. My mother worked as a teacher before they got married. Many were disappointed in me. Some expected me to become an outstanding mathematician; some saw a great Hungarian poet in me. Others regarded me as an upcoming poet star in German. Yet others thought that I would become the leading light in pulmonary studies. In contrast, I lived from one adventure to the next, experiencing suffering and joy, often not knowing what I lived on. When fate burnt me badly, I kept going into an institute, working as a doctor in a lung health sanatorium, physiotherapy institutions, or mental asylums. Later I became a medical writer, an editor of a medical journal or a manager of a medical publishing house. I happened to found a medical and scientific publisher when the war broke out. I came to Budapest on the request of a friend and his wife and got involved in movement treatment. I became famous and paid tax as a physiotherapist. After the war one of my patients forced me into the Special Education College and that is how the institute began after overcoming many difficulties. I had less and less time left for adventures with women, men and objects and also for special circumstances in life. I forced myself to keep a strict daily and weekly routine. They wanted to fire me from the institute many a time, but I was ready for the fight and stood my ground.”

ASSESSMENT OF FACTORS INFLUENCING MOTOR DISABLED CHILDREN'S INTEGRATION

by Erika Bányai Bejczy

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During the past few decades a new approach, called integration has arisen and spread worldwide. Much ahead his age, professor András Pető, founder of conductive education, has fought for integration since the mid forties. The aim of conductive education is the integration of the disabled into society the smoothly and on the highest level possible, opening up the individual's skills.

Successful integration is influenced by many factors. Examination was made to find out the extent and way how the motor disabled child's self image, the family background, teachers' attitude and acceptance by class mates influence motor disabled children's integration in school. 9 children who regularly attend the Institute's Aftercare Unit were selected with different injuries and severity. Interviews with the families were made, teachers were asked and self image tests and socio-metrical questionnaires were distributed.

Two schools were visited where children with hearing and visual impairment attend. For comparison their socio-metric position and the formation of their self-image were assessed. Average score of the class: 12.71; Balázs: 13. The next child assessed was Borbála. Szabolcs is the third pupil assessed. The average of the self-evaluation of his class was 10.04, Szabolcs had 15 scores. The average of the self-image test in Enikő's class is 9.56. Out of the 265 children assessed Enikő's was the highest. Her score was 21.

1. The connection between the self-evaluation and the socio-metric position of the disabled children was sought. The statistical relation of socio-metric and self-image variables was investigated. Correlation was calculated. The correlation coefficient in this case was 0.219, a low positive correlation score.

2. Children with positive self-evaluation do not have a more advantageous position in the social field.
3. A loyal community tolerates different children better, helping the integration of the disabled this way.
4. The family's attitude and requirements toward the disabled child may help or impede integration.

The results suggest that further investigations are to be done to promote efficient integration.

AQUINAS COLLEGE: TEACHER TRAINING FOR WORKING WITH THE MOTOR IMPAIRED

by Kathy Barker

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The first Aquinas College class of future teachers for the physically and/or otherwise health impaired (POHI) has been identified and is eager to begin their program this August of 2001.

Professors of the International Pető Institute will deliver the conductive education and biomedical course content. Professors of Aquinas College will provide instruction in health, physical education and recreation, as well as psychology.

The teacher preparation program continues the Pető Institute model of continuous application practice paralleling the learning of theory. Students will spend time weekly in the established laboratory school. This school serves infants through teen-agers. Anticipated programming for adults will commence within the next two years. A team of directors supervises lab school staff, one selected from the Pető Institute and the other representing the non-profit organization managing the school. Conductors delivering service to the enrolled children are primarily selected from the staff of the Pető Institute. Course requirements for a major in POHI (with conductive education methodology) totals 50 credits, a total of 23 classes completed over the course of 4 years. Students are admitted by selection after completion of their freshman (first) year of college. A complete listing of the program is available on our website of aquinas.edu/conded.

Graduate studies will be offered as of June of 2002. A Masters in the Art of Education is available for those already certified as a teacher and desiring to gain expertise in the area of working with the physically impaired. An additional masters level program will allow those already trained in

conductive education at an undergraduate level to specialize in either early development or working with the adult.

The goal of the Aquinas College program is to prepare American special education teachers with an expertise in the conductive education method. This will allow for expansion of the conductive education experience into the established public school delivery system as well as provide conductor-teachers for those wishing to operate private educational opportunities.

THE FIRST TRAINING IN CONDUCTIVE EDUCATION

by Angela Bauman, Beate Höss-Zenker & Marianna Stelczerné Oberst
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Since Sept. 2000 the Stiftung Pfennigparade offers a job accompanying further education to guarantee the quality of conductive work in Bavaria in the future. It applies to specialists working in the field of rehabilitation. The course is state approved and was founded in collaboration with the Ministry of Education and Cultural affairs and the Bavarian Ministry of Employment, Social Orders, Family Matters, Women and Public Health. Particular lectures can be heard by; interested persons from Bavaria and from other neighbouring European countries. The further education trains all participants in the basics of conductive education and all specific conductive subjects as well as German based special education for physically handicapped and neuro-physical methods of treatment and movement. During the two years of training the Stiftung Pfennigparade offers its participants many occasions to experience practical work with 70 handicapped children in different age groups. Furthermore the training supports the transparency of the different professions of the participants and encourages trans- disciplinary rehabilitation work. The further education is understood as a supplementary training for the participants try their basic education as educators, teachers, conductors, therapists, psychologists and social workers. It is carried out in form of a module system. The state approved final examination entitles the participants to work as a „pedagogic-therapeutic-conductor”. Aspects regarding the further education at the Stiftung Pfennigparade as well as the contents of the curriculum will be discussed in this lecture.

ANOTHER LOOK AT THE CHILD AND HIS HANDICAP: DEVELOPMENT OF A WHOLE PERSONALITY

by Yves Bawin

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CE suggests an other look at the child and his handicap. The concept of “orthofunctional spontaneity” (M. Hári) was for me a new door that opened in my professional approach. It was a big change because a whole system has to change. Changing was also meaning “adapting”. Four conditions at least are necessary to make it correctly:

1. knowing and respecting the irreducible and energy core of CE
2. making what is possible in a concrete context
3. being sure of the benefit for the children at each step
4. stepping forward

For keeping CE alive in adapting, the strong connection between practice and theory is also fundamental. Establishing a more official and stable training adapted to our concrete context and possibilities are probably one of the next challenges for the future in our country. This future will exist for CE if we can keep a CE ideology alive without being static.

CONDUCTIVE EDUCATION OF PERIPHERAL AND SPINAL MOTOR DISABILITIES. TEACHING AND LEARNING TO WALK BY ACTIVE FIXATION

by Éva Beck

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Active fixation tasks for children with flaccid paresis will enable the palsied person to stand securely while extending the knees (which otherwise would flex or collapse), to bear weight and thus avoid the use of boots, support or facilitation.

Children are often unable to change position; therefore they learn active fixing tasks in a lying position in the beginning. The success of a flaccid child's swing impetus is only possible in this position. In a supine position the child learns to extend the knees, learns to put feet up on and take them off a low box. Whenever he changes position the knees remain extended.

Lifting the extended lower limbs on a box is followed by lifting them on a small chair, wall and freely. The child has to be helped to choose the best position e.g. one has to see how far he has to be from the wall in order to lift the extended legs successfully. Then children are given help to take legs off into the starting position. In the end, the disabled child will learn to swing, slide, lift and put back the extended leg. The more varied the positions are that the child has to perform the tasks in the more secure and usable they will be. The lying task series present a framework, a means to achieve active fixing.

The child has to learn to change position with extended legs. The child will first stand on all fours, bearing weight on the lower limbs. As a next step he will be able to stand and make steps by holding onto a low stool, the seat of a small chair and finally holding onto two chairs on the sides or pushing a chair in the front. At the beginning of walking we can hold the knees to facilitate

the extended position but we must try to slide our hands down towards the ankles so that the child would be able to stand and step with extended knees independently. The child uses the so-called standing fixing in order to learn the extension of the knees: he grasps the rung of the ladder-back chair up and down with two hands simultaneously. If he has done the tasks for fixing the knees well, he will be able to stand in this position without any help.

After fixing the child may walk with the help of knee splints or callipers but he can also walk between two lines of chairs. In certain cases independent walking may require the help of surgery but that can only happen if the child has already learnt to extend the knees and bear weight on the lower legs, i.e. he has a plan and image of movement. The child will have an image of the position of the lower limbs and will be able to adapt in an active form despite the lost functions as a result of the conscious learning process.

THE ROLE OF CONDUCTIVE EDUCATION IN THE FOLLOW-UP STUDIES OF RISK TERM AND PRE-TERM NEWBORNS

by Anna Beke & Márta Szekszárdi ***

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The authors work in a team in the largest Department of Obstetrics in Hungary. They deal with follow-up studies of pre-term and sick term, newborns born and treated in Neonatal Intensive Care Unit. The goal of the presentation is to show the role of conductive education and therapy in the habilitation and rehabilitation of movement disorders in the infant population treated in intensive care unit.

Patients of screening are 700-800 newborn babies yearly. The most important indicators to conductive education are: different forms of infantile cerebral palsy, hydrocephalus, different congenital anomalies and neurological disorders with movement disabilities, developmental delay.

Methods: the protocol of follow-up studies was introduced twenty years ago. The authors compared the methods and effects of conductive therapy in two ten-year periods. Every risk newborn baby is observed and examined regularly to judge the neurological state and the somato-mental development to the pre-school years. The members of the team are specialist of child-neurology, specialist of developmental paediatrics, physiotherapist, specialist of conductive therapy, specialists of psychology.

Results show differences in the number of patients, in the time of the beginning of the therapy and the effect of conductive education. There are other developmental therapies compared with Pető method. The authors found the best results with the consequent conductive education, added sometimes with other, complemented methods.

Conclusions: before six-seven months of age the infants need special neurohabilitation. After this, the early start of conductive therapy (before one year of age) give better developmental possibilities. The role of conductive education is also important in later ages for disabled children.

CHARACTERISTICS OF THE REALISATION OF CONDUCTIVE EDUCATION ASSESSMENT IN MICHIGAN

by Andrea Benyovszky

International Pető Institute, Budapest, Hungary

In the spring of 1999, as a result of the co-operation between the International Pető Institute and Aquinas College, the evaluation and assessment of children applying for conductive education started in Grand Rapids under the professional supervision of the Pető Institute.

A multiple stage system of assessment was introduced that had been successfully used with international applicants in Budapest. (Figure 1)

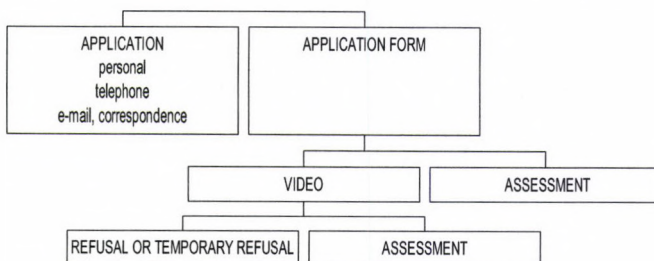


Figure 1

Conductive observation based on personal contact is vital and the indispensable condition of the launch of conductive education. At the same time we faced the problem that, due to local particularities, most of the applicants do not wish to or cannot travel to Grand Rapids for the sake of an assessment with unsure outcome. This is why, following the evaluation of the application form, the home video recorded of the child was used as an interim stage.

The conductor can make a decision about personal assessment with a better knowledge of the candidate.

On the basis of the video films recordings and application forms sent in between the spring of 1999 and 2001, 72% of applicants were suggested to undergo personal assessment.

During the past two years 84 children had been assessed at the Aquinas Pető Conductive Education School. This figure includes children living near Grand Rapids who personally attended the assessment and those who, on the basis of the video recording, were suggested to undergo personal assessment. (Figure 2 shows the breakdown of suitability of CE)

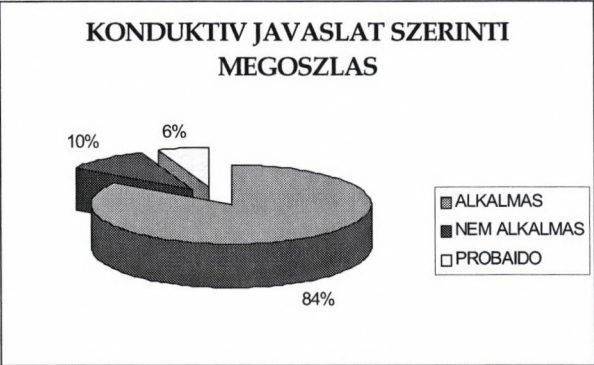


Figure 2

The breakdown of children by diagnosis is shown on Figure 3

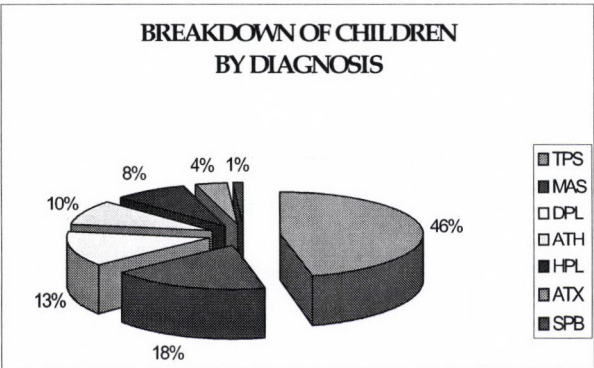


Figure 3

Seeing the video recordings some questionable diagnoses, borderline cases occurred. It is especially decide when

1. the written information given by the parent is not reflected on the video recording.
2. when CP is associated with other problems, sense organ, social and special cognitive injuries.

It was clearly proven that the combination of video recordings and written information let us safely decide the suitability of conductive education for the child applying.

THE REALISATION OF CONDUCTIVE EDUCATION IN MICHIGAN IN THE SPIRIT OF SALAMANCA

by Andrea Benyovszky

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The re-evaluation of the notion of disability made a major step internationally after the statement of the UN in 1993 about the equal chances of people with disability and the World Conference in Salamanca in 1994. The main subject of this conference was integrated education, inclusive teaching. This approach is not new in conductive education (CE), as it teaches and educates children and adults with this attitude.

Integration, as the aim of conductive education, is realised in different ways in each country, depending on local conditions and possibilities. In Michigan, the school's integration programme was designed by the Aquinas-Pető Conductive Education School (APCES) taking local specialities and needs into consideration.

In the United States, the integration of the motor disabled is a basic endeavour. „Most, if not all, students with CP should be educated in an integrated setting. However, it is a grave injustice to place these children and young adults in general education classrooms and not give them specialized educational assistance that they need. It is not uncommon to find severely impaired students with CP ‘integrated’ physically with their able-bodied peers but academically ‘segregated’ from their classmates for most learning activities” (Jennifer Leigh Hill).

In APCES, our aim is to prepare motor disabled children's true integration. Due to local characteristics, integration has its traditional and special features.

1. Total integration: as a result of ongoing conductive education children

are discharged to school or kindergarten, depending on their age. In the 1999/2000 school year 40% of the children, in the 2000/2001 school year 25% of 3 to 6 year old children receiving ongoing CE could start attending age appropriate pre-school, kindergarten or primary school.

2. Gradual integration: Before starting elementary school studies, pre-school and kindergarten classes are available for children 2-3 times a week. This practice let us gradually integrate children to be discharged, in co-operation with the families and the school.

In the 1999/2000 school year 18% and in the 2000/2001 school year 62% of APCEs 3 to 6 year old pupils participated in the gradual integration programme. Within the programme, children receive CE 2 or 3 times a week and attend pre-school and kindergarten programmes of local schools on the other days.

The effectiveness of gradual integration is impossible without the co-operation of the family, the school and the conductors' team. The achievements of the past two years teachers of local schools have become interested in CE and they aim at co-operation.

CONDUCTIVE EDUCATION AND PARKINSON'S DISEASE

by Andrea Beseseck & Lisa Gombinsky
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The idea of Conductive Education (CE) as a beneficial intervention for people with Parkinson's disease (PD) is widespread within the CE community. However, at present few conductors work within this area of the profession. This paper briefly reviews PD, discusses how this unique motor disorder is addressed by CE, and details new tasks and facilitations developed over 8 years of work in the Hospital of Baja in Hungary and at the Ontario March of Dimes in Canada.

In the Hospital of Baja, participants with PD come into the CE program directly from the Neurology Department. The conductor consults directly with the doctor or neurologist before meeting with the participant and remains part of the team involved in caring for that person. The initial consultation with the participant includes details in addition to a typical initial consultation in another setting, as it is imperative to understand what has brought them into the hospital at this particular time. Possible responses may be a new diagnosis of PD, very advanced PD, or development of new symptoms or adverse reactions to medications. Most participants start individually before joining a group. Often, the conductor has the opportunity to start individual sessions with the participant when they are still on the hospital ward – learning to access or control movement is a part of the course of treatment for PD much earlier. Participants remain in the CE program after they have been discharged from the hospital as 'out patients'. This part of the program is similar to adult CE elsewhere, though has the advantage of continued dialogue with doctors and neurologists.

The CE program not only aims to address present difficulties, but also strives to stay ahead of PD and to prevent the onset of new difficulties and the

worsening of present symptoms. The main aims of the CE program are to establish an appropriate rhythm for movement and to develop techniques for controlling unwanted movement and tremor. Other aims include learning to relax the body, improving walking technique and developing strategies for dealing with walking difficulties, avoiding contractures, improving reaction time, concentration, and coordination, and correcting body symmetry and posture. Though not a cure, CE can effectively make living with PD easier when learned techniques are applied in everyday life.

SITUATION AND ROLE PLAYING IN THE DAILY ROUTINE OF CEREBRAL PARETIC CHILDREN

by Katalin Bíró

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Playing is the means and development of the child. Playing can hence be a diagnostic tool for the CP child's development and through its therapeutic functions have multiple effects on it.

Situation- and role-playing for instance can develop communicational skills, can acquaint the CP children with the rules of co-operation, can prepare them for forthcoming roles, and lies as a practice field for dealing with conflicts in various ways. Playing is furthermore suitable for applying the child's acquired knowledge in new situations and to expand their experience, as well as to gain additional knowledge. In the urge to follow the model, children widen the role-repertoire of their behaviour and get to know new role patterns. In addition to all this (that is important from the special education's point of view), it is an effective motivating means in the use of individual way of walking.

We set as aim the conscious use of above mentioned complex effects when we put together practice of walking exercises and playing activities in the daily routine of the CP children.

Through the planning, the organisation and the pedagogically aimed control of the playing tasks, that are differentiated according to individual capabilities, we create such simulated situations that will prepare the child for resolving real-life situations and for undertaking forthcoming roles.

Today at the Pető Institute, this type of occupation is built in the children's daily routine and has become a part of the conductor/teacher training as well.

The research team has developed the contents of the programmes and the

dramaturgy of the execution of the child's playing. We have worked out the method of direction of the programmes and the requirements and the order of organisation for the students' practice.

Presently our aim is to measure the effect and the success of the children's playing. It is the most appreciating that the above-mentioned programmes make part of research work of three of our PhD candidates/conductors.