Studies from the field of conductive education 3.

Reading book for
XI. World Congress of Conductive Education

Semmelweis University
Pető András Faculty
Budapest, 2022

Editor

Renáta Földesi – István Kollega Tarsoly

Authors

Zsolt Domokos, Éva Feketéné Szabó,
Mónika Gruber, Anna Kelemen,
Róbert Mascher, László Matos,
Ildikó Pásztorné Tass, Henriett Pintér,
Márk Ágoston Pulai, Ibolya Túri,
Tímea Vissi, Andrea Zsebe

Semmelweis University
Pető András Faculty
Budapest, 2022

Responsible publisher
Dr. Andrea Zsebe dr. Tenk Miklósné

Contents

Social sensitization – the secret to successful inclusive education[1]

ANDREA ZSEBE

Respect to humanity obliges everyone belonging to the healthy majority to accept that people living with disability also have the right to full human life just as anyone else in this society. This is guaranteed by numerous conventions, for instance the UN Convention on the Rights of the Child [2] (it was proclaimed in Hungary in 1991) and acts (for example: Act XXVI of 1998 on the Rights and Equal Opportunities of Persons with Disabilities). The children earlier referred to as disabled (physical, sensory organ, mental, speech disability etc.) are now called children with *special educational needs* (SEN) based on act LXI of 2003.

Every year, about 250 children out of those born alive become physically handicapped due to a central nervous system disease. Providing for their special training is an obligation from the viewpoint of integrated education. *Remedial education is socially valuable work,* which can be regarded as a long-term investment, therefore the social integration of disabled people is not just a question of humanity or a legal category but also a clear economic interest of society.[3] It is a moral measure how the given society treats its fellow citizens with special educational needs.

In the 2018/19 academic year, the rate of children with special educational needs was 3% at kindergartens in Hungary. 82.2% of the involved children at kindergartan age (about 10,000) received integrated education. This rate was by 0.2% higher than a year before. There are 55,300 SEN students in primary school education. The number of SEN students receiving integrated education in primary school classes went up by 1.2% to 39,300, thus their rate grew to 71.1% within SEN students.[4]

The meeting of people living with disability and those with healthy development is possible, although hindered in any walk of life. These days, prominent experts take numerous initiatives with a view to practical implementation. So far, surveys have led us to conclude that the unreadiness of the two sides (disabled and healthy people) continues to derive primarily from the lack of experience, but the material and personal shortages also make it difficult to establish contacts.

---

[1] Published in The manual of conductive pedagogy. More than practice. Editor in chief Éva Feketéné Szabó, Andrea Zsebe. Editor István Kollega Tarsoly. Semmelweis University András Pető Faculty, Budapest, [2020], 399–412.

[2] Convention on the Rights of the Child, UN General Assembly, 1989

[3] BÍRÓ 2005

[4] KSH 2019

People living with disability can obtain skills that can improve their life quality only by taking special efforts, *as a result of persistent pedagogical activities.*

Only few people found it necessary to provide special education to disabled people in the 19th century, but in the 20th century a special institutional system was already built for those in need. In Hungary, the purpose of special education is at all times to provide educational-teaching conditions in conformity with the special needs of children living with disability and not the intention of institutional segregation. Having entered the new millennium, the need for co-education also emerges more and more often at the special institutions that have operated in segregation for decades.

However, accepting difference and having it accepted is not an easy task. The attitude to difference determines the behaviour towards the person perceived as different, which can range from oral prejudice, through avoidance and discrimination to physical violence.[5]

A related empirical survey highlights that prejudice also covers social groups that are not separated on an ethnical basis but belong to what is called "everyday differences" (e.g. homeless, unemployed, physically or mentally handicapped people).[6] It is also a proven fact that a lot of beliefs that cannot be verified objectively are due to the lack of cultural or historical knowledge, i.e. clearly due to ignorance.

These days, the integration of people living with disability is also made difficult by the objective conditions that rarely exist today although the law prescribes them.[7] Effective, special intervention work is carried on at the segregated institutions, but it has been more and more realized over the past 20–30 years that integrated education is more favourable due to socialization aspects. This means that, wherever possible (if permitted by the degree of impairment), education-teaching of children with special needs must be fully or partially provided in the neighbourhood of the mainstream educational institutions.[8]

Its implementation is assisted by the paradigm shift over the past years *in defining the term and the content of disability* both in Hungary and abroad. This paradigm shift was enabled by the new definition of disability by the UN's World Health Organization (WHO) and by the introduction of the new international classification of functioning, disability and health.[9] The former traditional, medical model defines disability primarily as an individual problem, which is directly caused by a disease, accident or another health reason. As against this, functioning is a result of interdependent factors, mainly determined by the social environment, in the social model and it examines *what the disabled person is able to do*, thus assistance to families bringing up a disabled child or adult could be significantly transformed and could become more focused.[10] In 2011, the Hungarian census data showed that 6.2%

[5] ALLPORT 1977
[6] BARCZY – DIÓSI – RUDAS 1996
[7] Act XXVI of 1998 on the rights of people with disabilities and on providing their equal chances
[8] Katalin Biró – Andrea Zsebe: Discrepancies between the theory and practice of the Hungarian integrated education of children with disabilities. Conference-presentation. Conductive World Conference, Bp., 2004

of the population (in 2016 4.3% according to the figures of the Central Statistical Office) belonged to the disabled population. The reduction in the rate of disabled people is probably due to the fact that the system of social provisions related to health conditions significantly improved. The largest number of the disabled population, almost half of them, are physically disabled. In 2017, the number of minor aged children living with disability in Hungary was more than 35,000.[10] Thus, under the latest interpretations, disability is a result of reaction by the social environment, therefore the new social model intends to terminate the restriction coming from the environmental conditions.

As a result, more and more children who received segregated education earlier are educated-taught in mainstream schools in numerous countries, also including Hungary. In addition to providing the appropriate conditions, co-education is not only favourable for those living with disability but also for the children who go to mainstream kindergarten/school. On the one hand, the reason is that *the co-education of students multiplies the social interactions and they learn new forms of cooperation.*[11]

Furthermore, health as a value is once again given an outstanding role. On the other hand, the number of accidents has increased due to the continuous development of technology. After accidents, partial or lasting impairments may most often be suffered by people who were healthy earlier. If the persons living with disability already lived near these people earlier, they can better deal with their personal tragedy and perhaps they can better accept that they became temporarily or perhaps permanently disabled.

Integrated education can also imply dangers if it is not done under appropriate conditions. It is important to provide conditions in all directions that surpass spontaneous integration and ensure the development of people with disabilities among healthy people within the framework of true co-education.[11]

The wide expansion of integrated education with well-trained pedagogues and well-prepared programmes also creates social values for the following reasons:

People with certain disabilities can also contribute values to society that enrich the majority and shape it in a positive direction.

If a rehabilitated person can once again work, it means use for the society that can be calculated in economic terms. In the case of a habilitated child with physical disability, this means social use creating double labour force. Remedial education is socially valuable work, which can be regarded as a long-term investment, therefore the social integration of disabled people is not just a question of humanity or a legal category but also a clear economic interest of society.[12]

However, we have to see that the attitude can only be changed as a result of a long process, whereby it is important to find balance between the practice of segregated as well as integrating, then inclusive education, which is also founded theoretically.

---

[11] SALNÉ LENGYEL – KŐPATAKINÉ MÉSZÁROS 2001

[12] Katalin Biró – Andrea Zsebe: Discrepancies between the theory and practice of the Hungarian integrated education of children with disabilities. Conference-presentation. Conductive World Conference. Budapest, 2004

THE FAMILY IS THE KEY TO SOCIAL INTEGRATION

The family is an open, dynamic system. This means openness to its environment and also that it is in a constant change.[13] The family has a bipolar system of impacts: children also influence and shape their parents' behaviour. Each child has individual emotional reactions and specific verbal abilities that are used, on the one hand, to react to their environment and, on the other hand, to influence it. Thus, the family members develop and change individually but these changes also influence each other.

The family, as a system, delicately preserves its balance, even in tiny matters. The delicate balance can be easily upset by any shock, which may cause numerous physical, mental or social consequences to all family members.[14] This is the reason for the failure of interventions that only aim at the symptom carrier family member and that do not consider the a.m. evidence, namely that the family influences each member and each member influences the family. Obviously, it is a shock for the whole family and for all of its members, regardless of age and gender, if a child is born with disorder or if a family member is transferred from the healthy side to the group of disabled people due to an accident or disease. The family life also changes in a specific manner if one or both parents live their life with permanent disability and they decide to bring up children.

Many times, even using the primary health and social services is a problem for families living in disadvantageous regions of Hungary. The National Strategy "Let's Make Things Better for Our Children!" 2007-2032 which was integrated into the "National Social Inclusion Strategy 2011-2020", specifies tasks in order to reduce the poverty of children and social segregation; to improve the situation of disabled children and their families and to reduce ethnic and regional disadvantages, but it offers no separate concept matched to their necessities.[15] Many parents are unable to take care of their child born with disability without help – due to their living circumstances – and the related burden leads to the dissolution of many families. Their status means special treatment and higher costs. The availability of nursery and daytime care is vital for them. The significant change in this regard definitely meant improvement for families bringing up children living with disability.[16] Every third child who can be adopted lives with a disability but they very rarely find adopting parents so they continue to receive healthcare service. Only 1% of the adopted children live with disability.[17]

Rarely though but in the case of children born with impairment or disability it turns out already in the first moment that their development will encounter difficulties, sometimes even their nature can be seen in advance, but in other cases the suspicion

---

[13] KÁLMÁN – KÖNCZEI 2002, The family. pp. 214-237
[14] KÁLMÁN – KÖNCZEI 2002, The family. pp. 214-237
[15] Country report about Hungary for the study on the special policies of member states dealing with disabled children. European Parliament, 2013
[16] KSH 2018
[17] ODOM 2005, p. 146

grows slower and it turns into a painful recognition only over months or years.[18] [19] The destructive impact comes immediately and at a wide scale if a family member gets injured due to a disease or accident. A common feature of the two processes is that the trouble is always unexpected and it also depends on the family's emotional reserves and cohesive force how the family itself and its members can cope with it. The involved family members do not simply react to the impairment as individuals but also to the way the given fact influences the family as this also has a major impact on their own life.

CONDUCTIVE EDUCATION TO SERVE SOCIAL INTEGRATION

The heroic age of care for physically disabled people started in the 1930s with the work of Dr. Gusztáv Bárczi and Dr. András Pető. This period became the most important part in the historical development of integrated school education and teaching without the appearance of the term of integration itself. In Hungary, health and education also reached the level where the education of disabled children and, almost parallel with this the training of specialists working with them, was integrated into Hungarian education.

András Pető defined the necessity and the opportunity of integration as a goal already at his first institute: "... our goal has always been the earliest possible integration..." Most of the children who left our institute went to state schools and later most schools claimed that their adoption was justified..- wrote about him his successor, Mária Hári.[20]

To that end, Pető held the view that development should not aim at adjusting the external world to the disabled persons but the disabled persons must be made capable of finding their way in the world. Pető pointed out already at that time that the problem must be solved with pedagogical tools.

The comprehensive development of disabled persons also becomes successful through an activity whereby not only their available knowledge is used but they get into decision-making positions, they are induced to cooperate and stimulated for adaptation.[20]

The *conductive group* helps physically disabled persons with their later or renewed integration into society. The socialization of children is continuous despite their disadvantages. Once allowed by their physical and intellectual abilities, they become capable of integration into mainstream society. Children living with disability must be integrated first in order to implement inclusive education. In order to widely extend inclusive education for any person with dysfunction under the necessary conditions, one needs to work out pedagogical programmes that promote first integration, then inclusion.

In the case of persons impaired from birth, *the conditions on education become restricted* due to the disability arising after the damage.This is the first level of the

[18] KÁLMÁN – KÖNCZEI 2002, The family. pp. 214-237
[19] HÁRI 1997A
[20] ZSEBE 2008

ability-creating process that László Gáspár called the level of "life abilities taken in a biological sense".[21] Individuals need special intervention in order to reach further levels in the process. This can be special education or conductive pedagogical education, which generally takes place in a segregated way at this level. However, the purpose of education is not only the fullest possible development of the personality but to integrate the individual into society as a valuable and creative member.In the case of an injured person, this purpose can only be reached through integration into society, i.e. *integration, and possibly inclusion, is a tool for fulfilling the educational purpose*.

THE CHARACTER-FORMING IMPACT OF CO-EDUCATION

Character-forming is the primary purpose of education,[22] children need a qualification of their behaviour and require orientation points for this. This is called the measure of value.[23] The multitude of objective and subjective values may cause a value crisis in the individual's life but the solid character helps to avoid it and to develop a full life.

The true integration, then the inclusion of people living with disability into society surpasses the momentary joy of single persons. These successes are able to enrich and renew the value system of society. The expansion of integration promotes this process because tolerant attitude and solidarity-based behaviour can only become a value in human relations.[25] If a parent or a pedagogue teaches the child to be more understanding, more accepting and more tolerant with themselves and with the other children, it is in vain if they do not have the chance to experience, realize and practice it as an activity.

Well-operating, integrated education may provide numerous advantages for SEN children, which can help to strengthen their character and to work out an independent lifestyle. These are as follows:

a.) They can learn through activities, cooperation and a spontaneous learning process
   those behaviour patterns and habits to follow that help smooth integration into society.

b.) The self-confidence of disabled children is strengthened by the fact that they can become a full-value member of the mainstream society.

c.) Their self-confidence can develop at a faster pace as they are continuously forced to do on their own what they are already able to do even if there is no external force.

d. Their self-image is healthy and develops in a positive direction and can become realistic due to the fact that they have to assess their own abilities among healthy children.

e.) They have the chance to practice managing the frustration factors that are

[21] GÁSPÁR 1997
[22] BÁBOSIK – BOROSÁN – HUNYADY – M. NÁDASI – SCHAFFHAUSER 2011, pp. 53-55
[23] BÁBOSIK 2004

inevitable in life, in addition, they get used to the fact that they are in certain ways different from the other children.

f.) If the pedagogue's attitude is suitable, they have numerous opportunities to experience that, in many respects, they are able to do many things that healthy children can do, or even more.

g.) They do not have to break away from their previous, narrower and wider environment.

Co-education can also be beneficial for shaping the character of children who go to mainstream schools. The reasons are as follows:

a.) The co-education of students multiplies the social interactions and it can be the scene for the birth of new values by learning new forms of cooperation.

b.) Healthy students learn already at a young age that there are individual differences and how those can be accepted.
This can result in a change of social attitude, which is, at present, still a serious obstacle to the reasonable extension of integrated education.

c.) They can become more sensitive to other people's difficulties.

d.) They can practice the ways of rendering assistance, and this can found the ability of empathy, attention and care.

e.) Health as a value once again becomes important in young people's approach and they strive for protecting it. As has already been mentioned, this attitude change is also a very important economic interest of society.

After approaching the advantages from all directions, we need to know that there are cases when co-education will not be successful, what is more, it may cause damage to the development of the child's character.

These are as follows:

a.) If the disabled children have difficulties with adaptation due to their personality, and their integration fails even after a long period.

b.) If the parents' supporting impact is missing on any side (healthy and disabled children).

c.) If the pedagogue is not accepting or is not capable of team work.

d.) If there are too many SEN children in a group or class.

e.) If there is no professional preparedness or professional support.

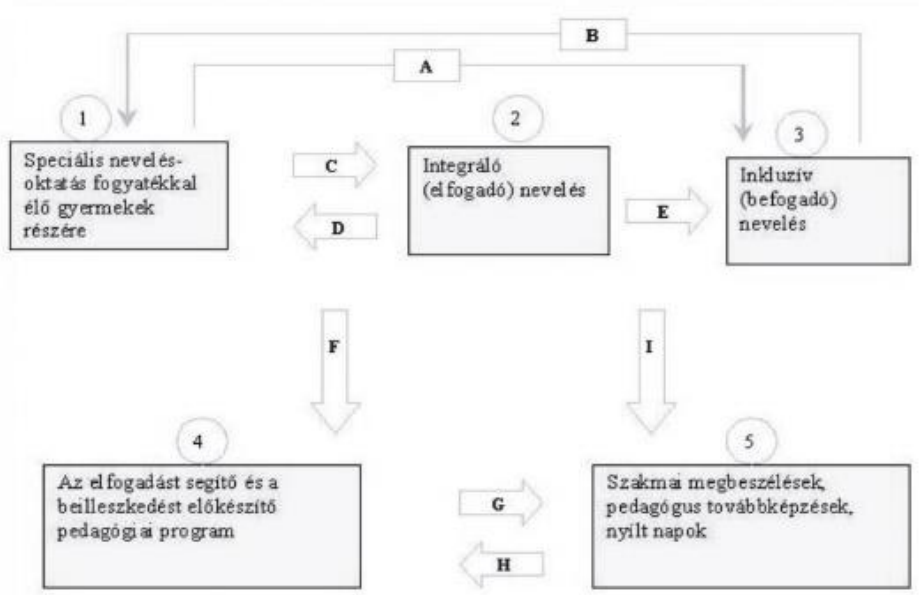
f.) If the environmental conditions are not guaranteed.

THE THEORETICAL BASIS OF THE CO-EDUCATIONAL PEDAGOGICAL PROGRAMME

In the pedagogical practice, one cannot draw such a sharp line between integration and inclusion as is often done in the related literature.[24] The reason is that the impaired child must be integrated first for the sake of truly inclusive education. In order to widely extend inclusive education, one needs to work out pedagogical programmes at the mainstream schools that promote first integration, then inclusion.

The right way to inclusive education leads through integrating education. This means that the term "integrating education" is more correct than "integrated education" because it describes a process that can be carried out in various ways, in conformity with the needs, and inclusive education can be the key to its success.[25]

The process chart shows that the pedagogical programme leading to social integration is inserted into a process, and inclusive education can be carried out if the programme is successful.



Speciális nevelésoktatás fogyatékkal élő gyermekek részére	Special education-teaching for children living with disability
Integráló (elfogadó) nevelés	Integrating education
Inkluzív (befogadó) nevelés	Inclusive education
Az elfogadást segítő és a beilleszkedést előkészítő pedagógiai program	Pedagogical programme to prepare and assist integration
Szakmai megbeszélések, pedagógus továbbképzések, nyílt napok	Professional discussions, extended pedagogue training, open days

[24] ZSEBE 2009b
[25] ZSEBE 2005

Co-education can be successful if the foundation is first set for integrating education. Within this framework, sufficient time is needed to learn each other, to dispel misbeliefs, to answer questions and to create the conditions. Furthermore, if the intended relationship does not work for some reason, the children living with disability can freely continue their studies at the special institution as they practically did not even leave it upon the integrating education. If, however, integration takes place, inclusive education can be successfully implemented in the long run.

Integration can work if the pedagogical programme is followed both at the mainstream school and at the special school, and both child communities are prepared for the expected situations, problems and solutions.

Professional discussions must be organized about this pedagogical programme by involving the relevant pedagogues and the parents. It is important that the experience gained upon the programme implementation is highlighted and the proposals made at the discussions and extended training sessions can form the pedagogical programme as required by the given community.

After implementing the integrating education, inclusive education can be successful if the experience gained upon the integration also forms a part of the professional discussions and the extended pedagogical training sessions.

PREPARING CHILDREN FOR INCLUSIVE EDUCATION IN THE PEDAGOGICAL PRACTICE

We tried out the "preparation programme for integrating education" by involving mainstream school classes in a self-control pedagogical experiment. The programme was attended by healthy and disabled students, aged 6–10, and their pedagogues.

As was mentioned in the above theory, the goal of the launched research was to seek new opportunities to promote the independent lifestyle of children aged 6–10 who became physically disabled due to a central nervous system disease as well as their effective, integrating school education.

Conductive pedagogy tries to transform uncoordinated functions deriving from cerebral palsy (CP) into proper operation under a gradually extending special pedagogical programme. This is only possible with comprehensive education that considers both the mental, the emotional and the social-cultural aspects. In the conductive educational process the conductor develops the activity repertoire of physically disabled persons and develops their capability of task completion and volitional functions.

From the viewpoint of integrating education, special training is an obligation as the whole development process of disabled children stays behind that of other children at the same age. This may emerge in a multiple form if the physical handicap originates from early childhood.

According to the standpoint adopted in the UNESCO Salamanca Statement[26] physically disabled persons must use their restored abilities and the acquired knowledge among healthy people in order to promote full life. Furthermore, the totally segregated education-teaching of physically disabled children does not develop social assistance, cooperation ability and the acceptance of difference in children with healthy movement, which should provide social security to disabled people in the long run, also at an adult age. If co-education is practiced in a mainstream group where there are also impaired people, the cooperative activities for joint task completion can be carried out in a series of natural situations.

When working out my programme I intended to enforce my experience and conviction that *the integrating education of a physically disabled school child can be successful if the integration process is preceded by consciously planned pedagogical preparation* in both the dismissing and the hosting environment. This pedagogical preparation should be gradual, with stages built on each other, as well as focused on openness and activity. Upon the programme implementation it should not be our primary goal to remove children from their usual environment, even if the environment does not inspire any further development. Instead, we should integrate them in a group where they already apply rather than learn the movement patterns. This is the environment where we start preparing them for independent life in mainstream society, just as András Pető already defined in his first institute: "We should not change the environment but we should enable the individual to live there."[27]

The pedagogical programme consists of three major parts:

1. Conductive pedagogical sessions.
2. Sessions preparing for integrating education.
3. Organizing common sessions for healthy and physically disabled students.

The *results of the pedagogical self-control experiment* were checked with an efficiency study made with the questionnaire interview method. The questionnaire contained the following aspects:

Among students with healthy movement	**Among students with physical disability**
1. Experience and knowledge	1. Contact with healthy students
2. The level of prejudice	2. Awareness of "being different"
3. The degree of openness	3. Openness to the majority
4. The degree of helpfulness and interest	4. The degree of accepting help

The *results of the efficiency study* can be summarized as follows:

1. The recognition of the content elements of physical disability increased positively among students with healthy movement.
2. The positive attitude of children with healthy movement towards physically disabled students shifted favourably and resulted in an attitude change.

[26] SALAMANCA 2006
[27] PETŐ 1963

3. The students with healthy movement were able to learn the forms of providing assistance, and excessive help reduced to minimal.
4. The students with physical disability could not work out lasting relations during the survey as this was not facilitated by the number of joint activities and by the higher number of children with healthy movement.
5. They tried to complete tasks independently in a concrete situation, they were motivated by the new task and did not ask for help unnecessarily. If they still needed help, it was asked from the conductor-teachers whom they knew well.
6. The pedagogues who participated in the programme had the chance to observe the situations that restricted cooperation among the children.

CONCLUSION

The primary professional impressions and the measurable results go to show that the programme can be continued and it can be carried out in a wider scope and in a longer period, in cooperation with several primary schools.

The common sessions helped the students with healthy movement to recognize the impairment and to mark their essential features. However, the results show that the frequency of sessions should be increased in order to enhance efficiency. This would be important because some of the children primarily learned about the content features of physical disability at the preliminary preparatory sessions and not in the course of the common activities. The number of children with healthy movement who said that the common activities were a positive experience constantly increased with the number of sessions.

The analysis of the helpfulness of students with healthy movement highlighted the important result that more and more students were able to define the ways of help that they are concretely able to provide. I find it important to increase the number of common programmes in order to further enhance efficiency. This would enable the children to practice and apply – in a series of natural situations – the ways of help that they already learned before, i.e. the "experience-awareness-practice" trinity of the educational process could be brought to perfection in this manner.

The students with physical disability became more open to contact students with healthy movement in a direct proportion with the increase in the number of sessions. However, if possible, further common sessions should be organized with standard participants, eventually in the form of a special class in order to work out a regular and lasting relationship. This would provide physically disabled children with the safe atmosphere that they need for becoming open and for turning towards the majority with trust.

The result of the questionnaire-based surveys goes to show that the disabled children know the exact reasons and features of their impairment and also what problem mainly comes to the foreground with what activity. In order to ensure that the children can accurately specify this, there is also a need for sessions that differ from the set of conductive tasks included in their daily routine so that they can also apply the learned movement forms and other skills in the widest possible circle of activities.

The survey of the help request habits of physically disabled students would require several occasions where the physically disabled children are not in the usual environment or task situation. The survey results show that the physically disabled students always ask help from those who they trust and who, in their opinion, can provide the highest security in the given situation.

It is an important aspect that the hosting institutions are open to the problem and cooperate upon the task completion.

Although the children knew each other, this type of group organisation offered them a new occasion for developing their social skills, for applying their knowledge in new situations and for testing their existing abilities in order to fulfill higher requirements as well.

The practice of conductive education[1]

ÉVA FEKETÉNÉ SZABÓ

By linking and integrating theoretical philosophical, medical, psychological and pedagogical contents, András Pető created an operational well functioning, complex and integrated practice. Relying on the plasticity of the brain, his system can, with the right control, mobilise learning processes based on evidences such as the brain's constant need for activity, the environmental enrichment's stimulation of also the social factor, and the functional, anatomical, motor and cognitive changes induced by physical and mental activity.

Education implies learning-based implementation at the same time is also the most basic, general and complex human activity. It is essentially based on activity, which is also in the focus of conductive education. It is a sociological phenomenon and subjectification process at the same time. The learning process is far more than obtaining information. It is much broader than that, it is also about behaviour and lifestyle shaping.[2]

The multifactorial nature of education is undeniable, because it affects the entire personality.[3]

Cerebral palsy is the changed status of movement coordination, posture and learning abilities in the broader sense, and the symptoms change a lot with age while brain insult remains static.[4]

Most secondary symptoms are lasting; organisational disfunctions, however, can be considerably reduced by the teaching and education process, while neurological deficits remain for the entire life. This could bring the organisation of the education procedure, learning, life management and life leading, aiming at, and often accomplishing a medical/paramedical results into the foreground, with the holistic approach as key condition.

In the case of cerebral palsy, which is not curable in the classical sense, prevention and symptom alleviation could lead to intense development through the organisation and provision of the appropriate supportive learning environment.

"Humans also exist in a wide range of individual versions, and all individuals have specific values, the unfolding and development of which is the task of education to create social values and enrich human values." [5]

---

[1] Published in The manual of conductive pedagogy. More than practice. Editor in chief Éva Feketéné Szabó, Andrea Zsebe. Editor István Kollega Tarsoly. Semmelweis University András Pető Faculty, Budapest, [2020], 223–238.

[2] NAHALKA 2004

[3] SCHAFFHAUSER 2012

[4] FEKETÉNÉ SZABÓ – BÖSENBACHER 2019

[5] BÍRÓ K. 2005

In the approach and practice of conductive education, the re-evaluation of the link between healing and education and exploring the necessity of its development potentials through pedagogical methods was determinative.[6]

The first step of the system created by Pető was that "The newest branch of special education has got a department at the Special Education Teacher Training College. This department is hoped to make an effective impact with its uniform methodology and group education within the context of special education."[7] Embedded in the history of Hungarian special education but later separating from it, the beginning of the history of conductive education was characterised by these words.

"Established in 1963, the Institute of Conductive Education for the Motor Disabled and Conductor Training, located at Budapest XI., Villányi u. 67., developed the system of conductive education to organise targeted care for people with disabilities who have distinctions of central nervous system origin by establishing a conductive education network for the disabled. This meant a new field, conductive education, in rehabilitation and special education."[8]

This characterises well the resulting situation: "The dual goal, education and healing, is combined; its latter component, however, is achievable only with effective education; the management of the institutes should, therefore, be left to the pedagogues. The medical directors of these institutes should be reminded to direct their attention on urine, blood and things like that... Effective healing and education require the simultaneous and combined effect of two forces, the pedagogue and the physician. The key to accomplishing this noble goal, the two must form an indivisible alliance."[9]

The modern, contemporary interpretation of cerebral palsy also verifies and confirms Pető's approach: "In the modern perception, the severity, prediction, influenceability of neurological conditions accompanied by paralysis are not determined by the palsy or the plegia (i.e. the degree of paralysis and its accompanying symptoms such as spasticity, rigour, pseudobulbar palsy, pathological postures, pathological reflexes, persistent primitive reflexes, pathological synkinesis, contractions, etc.) but by the so-called negative symptoms: atony, weakness, fatigability, body scheme disorders, neglect syndrome, etc. and the accompanying mental retardation, sub-normality, cognitive and behavioural disorders, sensory and perceptional disorders, epilepsy."[10]

Established by Pető, conductive education had a widespread impact on rehabilitation practice and set up, almost with avantgarde freshness, its own novel holistic practice, which has become legitimate in the names of many development methods and procedures, such as complex rehabilitation. The holistic education practice is reinforced by the specificities of the conductor's activities, in other words, despite its being in the context of movement activities and a wide range of activities, it is still natural and complex and develops all the natural activities and abilities of a given

6 FEKETÉNÉ SZABÓ – BÖSENBACHER 2019
7 BÁRCZI 1948
8 HÁRI 2000
9 FRIM 1884
10 BALOGH E. – KOZMA 2000

age. “This is the reason why conductive education is more than its competing movement therapies (as it is not about movement correction or the development of individual movement culture) and is also more than psychotherapy (because its aim is not the homeostasis or the equilibrium).”

Nowadays it is obvious that rehabilitation goes far beyond the healing of the body. The group, rhythmical intendation, which provide support in planning, anticipation, task focus, etc. and mobilise forces that address the unity of the body, soul and spirit are key in developing motivation, social skills in conductive education. In other words, one must touch upon somatic problems and psychic dimensions as well.

This approach and attitude could be implemented in a sysetemised, institutionalised form and as a training only in accordance with Pető’s follower’s, Mária Hári’s committed training organisation.[11] [12] Her thoughts on training goals and organisation (described in a way that is still modern to this day in “Mit ismer meg a hallgató a képzése folyamán” (What do students learn during their training?)) are parallel with the organisation of conductive education and conductor training. The holistic approach is a cornerstone of the process of systematically organising the practice of conductive education.

The education and teaching of children who are different from the average (either because of their delayed development or outstanding abilities) is a pedagogical activity that requires great tact, openness, a rich methodological toolset and differentiated distinction. The education of children with CP is also only possible through this kind of activity. The different activities (game/playing, learning, work) have specific personality-shaping forces/have specific forces for personality development. The conductor “…purposefully and continuously organises social interactions to avoid isolation. He or she makes the children practice interactions among one another and with adults and often organises role plays and situation games in addition to the special activities.”[13]

Hári started her presentation speech at the 1990 World Congress by appreciating Pető’s performance/achievements in building up the system of conductive education and emphasised the fight fought and won for establishing conductive education, which made it possible that education, i.e. conductive pedagogy, opens up new paths and opportunities to uncurable children and adults.

“Humans, as beings are relatively undeveloped when born and only potentially carry themselves in themselves and require education and development, training and teaching, require an educator for successful physical, spiritual and intellectual development, maturation, individualsation, personalisation, cultural development and socialisation. And the educator has good reason and right to design sound plans and determine the attainable personality status of the subject as the goal of his or her work:[14]

[11] SCHAFFHAUSER 2018, p. 35
[12] HÁRI 1980
[13] MEDVECZKY 2004
[14] SCHAFFHAUSER 2000

Pető, who called the practice he implemented conductive education right from the beginning, but which was officially accepted only after 28 years of operation, knew oriental philosophies and his contemporary alternative procedures well. With the support of his fellow pedagogues and psychologists, Mrs. Katalin Bíró and Mrs. Éva Ancsel, he could find the pedagogical and historical links to the foundations of conductor training and conductive education. The starting point of the conductive education elaborated by Pető is the approach to the central nervous system disorder. Pető said that it should not be treated as a biological obstacle, but as a learning disorder. Examining form the macro level, in the background of CP symptoms are the incoordination of activities and the damaged operation of the nervous system.

Consequently, the problem is not local, so the solution cannot be local either. And if we face a learning disorder, then we require a pedagogical approach. The basic concept is that, despite the injury, the nervous system still has resources, unused capacities and the opportunities to establish new connections, links which can be mobilised in the process of teaching.

"The great abundance of neuroblasts during the brain's maturing could, to some extent, explain the plasticity during neuroortogenesis and the derived compensating opportunities after an embryonal, fetal or early postnatal brain damage."[15] "The dysfunctional persons become able to overcome various obstacles by relying on their willpower and regardless of their motor performance."[16]

Conductive education is the development of the entire personality through teaching to experience active way of living and teaching how to live with others. Children with cerebral palsy can be cared for, and their symptoms can be influenced by methods other than conductive education. Impacts on the periphery and muscles, however, naturally bring the passivity of the subject into the foreground. Procedures affecting the central nervous system clearly build on activity and participation. In connection with the point of impact, ensuring the framework and way of learning are key. Cognition could support the constructive opportunities. Obviously, conductive education does not affect the periphery but the central regulation area. The scientific bases carries the approach that the key problem of cerebral palsy is not muscle weakness or stiffness, but the difficulty of learning or the combination of all these.

As a result of learning-based conductive education practice, the arrangement of somatic problems could also improve; the most typical is, however, social and cognitive learning. The degree of regularity and intensity are important efficiency improving factors.

Pető's naming his first institute after Pestalozzi is of great importance, because Pestalozzi thought that education was surfacing the forces in the child and that opportunities can be realised through own activity, and he advocated the harmony of the heart, the head and the hand, i.e. a complex approach. Conductive education means the organisation of the activities which are based on active learning, age appriopriate and fulfills the devevelopment needs of the participants.

The goals of conductive education include elements of the pedagogical trends enumerated by László Gáspár: Rousseau was the advocate of child individuality and

[15] MEDVECZKY 2003
[16] MEDVECZKY 2004

unfolding the individuality; Herbart stressed *interest*, Diesterweg emphasised the significance of *self-action*, Dewey, who focused on *action* as the point of existence, and Ellen Kay who emphasised *experience*.[16]

Given its complexity, conductive education shows similarity with the components of several disciplines such as psychomotor and group therapies with orthopaedic and neurophysiological orientation, humanistic and cognitive psychological methods, relaxation techniques, pedagogical methods of various approach, and perception and speech-learning procedures. Vygotsky and Feuerstein, the advocates of learning and teaching theories, emphasise the cognitive developability of pupils and constructive activities, as well as the much deeper involvement of teachers in the activities and the roles which go far beyond the simple conveyance of information by teaching.[17] [18] Being strongly similar to conductive education, both theories emphasised the determining role of the social group in the definition of the interaction types that could bring about learning between the children and their environment.[19]

"From the complex symptoms of CP, conductive education can be effective in terms of the minus symptoms and could lead to reduced stress, improved quality of interaction ~~quality~~ in the family, lower inhibitions, increased motivation for action, better failure tolerance, development of the need for communication behaviour, improved movement coordination, successful prevention, etc.

Conductive education is holistic system aproached, child-centered, mobilises the injured individual's mental resources by conductive learning. The complex intervention's approach is person-, learning- and education-centered which offers an alternative to rehabilitation, way of habilitation, reintegration by education. If we look at the impairement as a socialisation and learning difficulty, then the path to intervention is habilitation/rehabilitation, which presumes learning and relearning.

The practice of conductive education simultaneously and complexly develops movement coordination, communication, perception, self-care activities, the planning, organisation of which requires a purposive, planned pedagogical competences. The aim of conductive education is to support persons who are able to change, to achieve and lead the most independent possible life, an appropriate life quality and social integration. Conductive pedagogy builds on characteristic human features and abilities which the central nervous system retains even after an injury. It focuses on the desire to act, motivation, communicating behaviour, the development of the need for communication, recognising that learning is not about simple copying, and action is not the series of the subsequent components of action. The individual is involved in the development of the goal of action; therefore, the goal motivates action, and intends its implementation, i.e. it actively plans, guides the action process.

The re-learning, reliving of the acquisition of key competences, abilities in the gradual and systematic daily routine of conductive education could be beneficial for the children and adults who develop differently because of their immature nervous systems or neurologically delayed nervous system development."[20]

---

[17] GÁSPÁR 1997
[18] HÁRI – TILLEMANS 1984
[19] FEKETÉNÉ SZABÓ 2007
[20] FEKETÉNÉ SZABÓ – BÖSENBACHER 2019

In the practice of conductive education, the holistic approach is ensured by the possibilities, competence of the conductor, as he or she has the opportunity for complex development by creating the programme as the same person at the same time.

"Pető's holistic approach explains why he did not leave the influencing of the condition causing the sensation, perception, speech and communication disorder with professionals who work in different places at different times. On the contrary, the intervention is provided by a single professional, a prepared pedagogue."[21] The complex tasks of the conductor are almost impossible to list whichembrace the child from the first moment of conductive education to the discharge: the first conductive assessment, consultation, finding the most suitable group, compilation of the education programme, the weekly and daily routine corresponding to the group goals that also take individual needs into account, the programme, the intervention with continuous observation, in the goals, the programme, facilitation, differentiation, if necessary, programme management, facilitation, adaptation, equipment selection, cooperation with other professionals, the number of helpers, meeting the family, motivation, organisation of control and evaluation processes.

"The conductor is a professional who has been prepared for the planning and implementation of the conductive education programme. The training content, its theoretical and practical requirements are results of the recognition of the needs of children and adults who live with CP. During conductive education, the conductor plans and organises the education process with a methodologically uniform approach, decisively for small groups, groups, pairs and individuals and ensures an optimum learning environment for the children. Movement teaching, the acquisition of movement experiences are the tools in the conductor's hands, and their development allows the children to discover, learn about and be actively involved in the exploration of the world itself."[22]

The worlds of Imre Pán bring the humantity and openness of Pető closer and make the philosophy, basic principles, theory and practice of conductive education understandable. "He can remember a lot of things even from his early childhood, and from even earlier times, and has added a lot to what he has gathered to himself. In sum, he knows a lot about the world, life, the body, spirit and soul, he has experienced a lot and broke a lot of secrets, because he was active and meditative. What does he know about people, death, arts and science? What does he know about the Earth, the sky, peoples and individuals? What does he know about the past, the present and the future? What does he know about religions? And what does he know about God? What does he know about nature and his profession? He is ascetic and epicurean, materialist and idealist, classicist and anticlassicist, professionalist and primitive, naive, realist and surrealist. He does not regard the roots, the trunk, the branches and the foliage, the flowers and crops as separate beings, that is sure. He works and lives by instinct but he also gets nourishment through his spirit. He is an alchemist! He cured more than one of his patients not with the method read in books but with the one he had learnt from primitive people. Sometimes, he is carried away by his readiness to act, sometimes by his meditation. He is interested in the individual. We should call him a humanist, but

[21] MEDVECZKY 2004
[22] FEKETÉNÉ SZABÓ – BÖSENBACHER 2019

that would not cover all. He never shares his plans in advance, because he does not trust the plan but the person and fate."[23]

The basic principles of conductive education, the conductor's activities, the conductive programme (complex programme) designed by the conductor, the daily routine, group composition, rhythmical intendation have, substantially, not lost their significance; moreover, in several respects, the theoreticians and several rehabilitation practices have caught up to conductive education. Nowadays, everybody speaks about complex intervention, everybody regards socialisation, social relations and their development as priorities, because they are indispensable for inclusion and integration. The contents of conductive education fit and align well to new challenges. For decades, conductive education has done well designed and well organised case management.

Dr. Hári thought the same of the conductive programme in 1967, 1980 and 1990. She thought that the programme is made for the person and not the function. No change happened in this regard over the decades, the conductive programme must be designed in the light of this, bearing this in mind and in alignment to current social expectations.

In the view of Pető, the conductor profession, the name of which already implies its most important characteristic, means a conductive role, attitude and requires an openness, sensitivity and crafts which can be acquired only through true experience

"Humans can only understand what they find out on their own, what they get without having to work for it in their souls just go through them… a plant cannot really use the water that is poured onto its leaves, it trickles off, the plant can use the water that it absorbs through its roots." Dr. Hári supports his thoughts with her favourite quotation from Rényi: "The view and practical skills of the conductor should be shaped and developed in the process of conductive pedagogy in practice from the beginning."[24]

The characteristics of the conductor's activity are best defined by the basic principles of conductive education. "The education of children with disabilities requires the respect of substantive, human capabilities, an ability to do purposeful, focused activities, of which evolvement is the result of conductive education."[25] By organising the group, the conductor creates one of the most important resource of education. The community of children ensures motivation, cooperation, example. Conveys expectations, necessities.

"If the dysfunctional person is not excluded from the process of education and teaching, then their lack of knowledge, experience and skills, can be reduced that they show intense development despite their damaged nervous systems, are active and could become partly or completely independent. The many individual treatments bring them into an artificial condition and distances them from everyday life. If they are not disclosed from community life, group development is needed. By organising the teaching process (optimum learning environment), the obstruction of group progress can be avoided."[26]

Conductive education, conductive pedagogy and conductive practice focus on the entire personality. Conductive education is based on the trust between the child and the

[23] PETŐ 2017
[24] HÁRI 1980
[25] BÍRÓ 2005a
[26] HÁRI 1980

conductor and is an everyday, but at least continuous, age-specific, methodologically well organised learning process with a supportive learning environment.

The child's action, activity is only possible with the child's involvement. It is not possible with only passive exercises. If the learning environment is safe and supportive enough, then it is also motivating. This must be so all the time. Tamás Freund, a researcher of the brain, writes about this continuous urge, participation and intense involvement: "The older you are, the less adaptable your brain is. If a young child suffers a traumatic brain damage, then the surrounding areas have good chances to take over the missing function. An older person have less chances for the same.

We do not know precisely yet, it is intensively researched all over the world, what is that chemical, the neurons or the glia cells that feed them can release or the gene combination that can still be activated in the still developing brain to ensure capacity for potentially necessary regeneration. If we managed to identify this mechanism and what turns it off by adult age, then we could perhaps turn it back on, which could considerably facilitate the healing of the above-mentioned brain damages and the takeover of functions by the neighbouring areas.

The Pető Institute often seems to cruelly force children with disabilities through tasks that require complicated movement coordination that seem hopeless at first. They still force it, again and again, and it seems that this forcing is the key to increasing brain plasticity in the right regions, the release of this chemical or the activation of the genes around the damaged area, which could then facilitate the takeover of the fallen out part by another one, or the growth of nerve fibres in the new area as necessary for involving the affected area into operation.

So the brain researcher says that the famous Pető method is working? I think yes. And if an older person suffers from the fall-out loss? of a function, then again, the most radical forcing is that can accelerate improvement or increase its degree."[27]

The child and the learning centrered approach are syntethised in the system of values and goals of conductive education. By stimulating interest (motivating) it builds and uses the activity to learn missing abilities. It takes the natural and social environment into the conductive group, ensuring the opportunity of experience, activity, success, i.e. self-action.

In the experience of Pető, the uniformity of education requires that the professionals act on a shared philosophical, methodological, attitude and most importantly, practical basis. His idea was that practical organisation and implementation was the task of one professional, the conductor.

Not excluding the trans-, inter- and multidisciplinary models or their adapted forms in which the great knowledge of many professionals could mean an enormous potential, the systematicity of practice, the shaping of the relations with the children, continuity, trust, the most supportive condition for education and then learning, can fulfil only in a well-organised educating and teaching relationship.

The complex conductive programme is the manifestation of the approach and philosophy of conductive education. It is a purposefully designed and then implemented pedagogical development process aiming at the multidirectional development of persons who have been disabled by the injury of their central nervous systems.

---

[27] MEZEI 2005

"In the view of Pető, individual activity was not only possible and compatible with correct movement, but the linking of activity and movement was necessary. He required an activity with which children can find the new way despite their disfunctions, and facilitation, in this sense, is not primarily the easing of the technique, neurophysiology or problem solving, but primarily the estabilshment of activity and spontaneity."[28]

Our task is to demonstrate conductor students that the orthofunction can be achieved. They must learn that the goal is independence, autonomy and recudcing facilitation. To this end, the child must be activated to the desired cooperation in consideration of the above.

In the programme, cognitive intervention, movement direction to create activity, the teaching of an independent way of life, communication and speech development, the shaping of emotional, volitional features and the teaching of social skills are indivisible. Knowing the relationship between functions, it motivates to purposive activities and puts the children into problem-solving and exploratory situations. The individual solution leads the child to the way to accomplish the goal through active learning. The development of the various movements, however, require the development of the body scheme. Information obtained with the sensory systems and their arrangement facilitates the development of the body scheme and movement perception. This accepted view says that movement development in the conductive educational system includes the development of perception and cognition.

The conductive programme manifests in the daily routine, which could be understood in its entirety in the context of regimen, life rhythm, leading a life, life management. Hári thought that "caring for motivation is very typical of conductive education and it does not mean a motivating sentence said in the beginning of our work. It is becoming increasingly clear that it is not impossible to do something at one's will and purposefully and still in a coordinated way. Purposeful, volitional action leads to a different experience the reflex responses to the stimulations."[29]

The entire program is characterised by the unity of learning and application. The complexity of conductive education also means that the programme components are closely related and are characterised by continuity and integration. "The programme's complexity meant that we bore in mind not only its longitudinal, parallel and concentric structure but also its mutual, simultaneous relations."[30]

The characteristic of a good programme is its feasibility. The appropriate space and location, a positive, person-centered, empathic atmosphere, which is key to development, must be ensured. The individual specificities of the group members, in terms of their biological and mental ages, must be aligned to.[31]

Among educational and therapeutic procedures, conductive education offers special observation opportunities. Its intensity requires the conductor to constantly spend a lot of time with the children with central nervous system disorders. Partly, because of the intensity, the conductor continously spends lot of time with the children

[28] HÁRI 1980
[29] HÁRI 1990
[30] HÁRI 1997
[31] NÁDASI 2012

with central nervous system disorder. On the other hand due to the spesifics of the conductive education programme the conductor has the opportunity to observe the person in every situation, such as waking them up in the mornings, going to bed in the evenings, eating times, school lessions, The specificities of the conductive educational programme also allow the conductor to observe the children in all situations, e.g. during waking them up, putting them into bed, eating and classes.

Because conductive education is the cooperation of a team of professionals, and this cooperation gives a lot of opportunities to share and promptly use the results of observations in the team.

Observation also plays a great role in the researching of the effectiveness of conductive education. The structured recording of the observations is also very important. Data collection and processing during research projects could also be extremely useful. The writing down, noting down of experiences could provide direct data on various groups, pedagogical situations and individuals.

To ensure objectivity and data comparability, conductive observation must be complemented with tests, measurement series and their adapted versions offered by the related disciplines.[32]

Pető created the developmental space and work format of conductive education, the group, which was implied by the reinterpretation of the injury. The perhaps most rejected, most debated characteristic of Pető's novel practice was the introduction of group sessions. Pető's hypothesis was that if the disfunction was a conflict or difficulty of socialisation, then the intervention, education is more efficient in a series of interactions. The group can ensure the relationship between the environment and the individual, the development and support of interactions between the individuals, and give space for experiencing, i.e. the organisation of the optimal learning environment. The positive effects of the group must be fully exploited in the support of interactions and the organisation of teaching and learning activities. The group itself is a communication base and a motivating medium. Naturally, a great deal of aspects need to be considered in composing the group.

A group will be successful if it is active, and individuals will be active if they are in groups like that. Group organisation means that everybody is active at his or her individual level, takes part in the life of the group, with individual solutions and differentiation, if necessary. Groups, same-age groups, communities of people with similar fates could build down inhibitions, release tension, frustration and offer security after a while. In the interpretation of conductive education, the group is not limited to solving tasks together, but, from the activities of daily living to celebrations and holidays, it provides social situations, pre-school education, elementary school education, based on maximum knowledge of the individuals in it.

The conductor role is more complex than that of kindergarten teachers or primary school teachers. It contains two very different roles: the role of programme manager,

[32] HÁRI – KOZMA – HORVÁTH – KŐKÚTI 1991; FEKETE 2011

leader and the role of facilitator, helper. Being a facilitator is difficult, because, as a mediator, the facilitator has to direct the children's attention from the background on the programme leader in an almost invisible way. The programme leader must draw, keep and lead all children's attention to himself or herself and be in the middle and radiate. They have to play different roles every day, because everybody is measured in all roles, and at the same time they can support the work of each other as well.

If we enter in one of our well-managed conductive groups, because leading is conduction, although invisible, but one must know that the activity seen there has not emerged on its own, the way of participation, the activity had to be planned, organised in advance and then properly managed.[33]

The interpretation of central nervous system, disorders as social conflicts explains that the leading way of organisation must be socialisation organisation through group development and not individual development.

Introduced by Pető, rhythmical intendation opened new dimensions and themes, anticipates and leads the children's intentions from rhythm to self-control and to activity.

"In conductive education, motor learning is based on reality and is included in the daily routine. The motor experiments that apply the paradigm of contextual interference demonstrated the improvement of movement functions. This contextual interference means functional interference and is only possible in practical situations. In conductive education, the changeability (or modifications) of practice, task variations are important components of the task series of learning and lead to contextual interference. Although implementation could be weakened by practical modifications in the learning stage, it is still important for the development of the schemes responsible for the development of motor learning, its improved maintenance and transfer."[34]

The use and substantive implementation of the concept of daily routine, which first appeared in conductive education, and its natural, adapted activities ensure the life rhythm and the a possible way of living for the participants of conductive education.

Through the implementation of the above, it was demonstrated that, in rehabilitation, besides healing the body, the nourishing of the soul and spirit could be the vehicle for living life in all types of human bodies. One cannot leave unnoticed the slip and accordance between Pető's life reform movement and today's so important healthy lifestyle and life models.

The daily routine could mean prevention in rehabilitation, less complications, preventions, , development of indepemdence, self-responsibility, leading a more autonomous life, i.e. a full life.

The need for co-education could contribute to the elimination of prejudices linked to disability. Integration means inclusion with the individual's keeping his or her identity while fitting into a community, contrary to assimilation.

Although Pető did not use the expressions known to today's disability care, education policy and rehabilitation, like inclusion, integration, when he said that conductive education should take the shortest possible time and that conductive education could be extended to children with sound movement development, defining

[33] HÁRI 1980
[34] KELEMEN 2018

the goal of conductive education, inclusion and integration. By referring to the duration of conductive education, he also determined the role of conductive education, i.e. preparation for integration.

Conductor training is the key to the continuation of conductive education. Theory blooms and develops in the practice of conductive education. Besides its growth and its objective presentation of results, attitude-shaping in practical training is also indispensable. As physicians can become physicians only if they stand beside the patient's bed, conductors can become true conductors only in practical conductive education. The holistic approach of conductive education makes it possible to the conductor student to contact children and adults from completing nursing tasks to the organisation of their learning.

We cannot promise full recovery to most participants of conductive education, but we can promise them a livable life, because that can be taught.

The conductor can communicate well with the group members, which requires intensity in time. The conductor also can teach children with spastic muscles to change their locations and positions and also can ensure success and failure and can make the child want and fight for things.

The conductor and conductive education are responsible for learning about, adapting and applying the technological achievements of the 21st century with a view to the children and adults they care for. Developments in robotics and technology will necessarily dehumanise medicine and rehabilitation. The conductor's attitude and intensive presence could help to keep the human focus of practical conductive education in the future as well.

"The endless opportunities of pedagogy are acknowledged in terms of persons whose movement development is sound. One can become an active person even despite severe disfunctions, and this does not require healing in the classical sense, but pedagogical help."[35]

[35] HÁRI 1980

Measurement and research[1]

TÍMEA VISSI – ÉVA FEKETÉNÉ SZABÓ – ANNA KELEMEN

CONDUCTOR'S COMPETENCES, COMPLEX CONDUCTIVE EDUCATION

In compliance with the holistic human image of conductive education, intervention is also done in a complex manner, by focusing on the whole personality. Contrary to other approaches, habilitation and rehabilitation is interpreted as learning or re-learning, by also laying special emphasis on deviations in movement due to the impairment of the nervous system and in other abilities as well as on *social and learning-related difficulties.* Throughout the intervention process, conductive education builds on the existing, especially human drives like motivation, the desire for action and the need for communication.

Conductive pedagogy provides the framework for education, the various programmes and educational situations do not focus on developing specific areas but *intervention is carried on simultaneously and in a complex form*, by concurrently involving as many areas as possible. The conductor has a key role in ‚planning, implementing and assessing the development and, evidently, also later, in this repeated cyclical process, where the availability of special competences is required.[2]

In the course of their training, the specialists receiving conductor qualifications not only acquire the theoretical bases for this complex work but they also attend practical training in an especially high number of hours in order to gain experience in developing and educating physically disabled persons at any age, from infants to adults. As a result, conductors specializing on kindergarten or school age are able to educate and teach children educated in segregation and integration, to assess their abilities and, accordingly, to prepare, implement and evaluate individual and group development plans.

Conductors specializing in *pedagogical rehabilitation* "are able to provide conductive intervention for children and adults with dominantly physical disability due to the central nervous system disorder at rehabilitation centres, in team work organized with the representatives of associated professions, by applying the basic principles of the conductive method and by implementing the comprehensive intervention programme."[3]

Decree no. 18/2016 (VIII. 5.) EMMI on higher education courses as well as on the training and output requirements of bachelor and master courses defines the conductors' professional competence as follows: "The purpose of the training is to train pedagogical professionals, conductors who gain theoretically well-founded knowledge

[1] Published in The manual of conductive pedagogy. More than practice. Editor in chief Éva Feketéné Szabó, Andrea Zsebe. Editor István Kollega Tarsoly. Semmelweis University András Pető Faculty, Budapest, [2020], 239–262.
[2] FEKETÉNÉ SZABÓ – BÓSENBACHER 2019, p. 316
[3] ZSEBE – FEKETÉNÉ SZABÓ 2019a

and abilities to develop – through conductive education – children and adults at any age coping with motor coordination disorder due to central nervous system disease as well as to carry out complex pedagogical rehabilitation."[4]

STATUS SURVEY IN CONDUCTIVE PEDAGOGY

It already follows from the holistic approach and from comprehensive intervention that surveying the status of persons with physical disability due to the impairment of the nervous system cannot be narrowed down to testing one single area either. The list of tools provided here does not strive for giving a full list of the devices that can be used, only the ones that have already been tested and introduced in the practicing institutions of the András Pető Faculty of the Semmelweis University. The list does not contain assessment tools that can be used with other non-pedagogical (e.g. psychological) qualifications. The list of measuring instruments that can be used in conductive pedagogy will probably be extended in the future, and the faculty definitely intends to find and test new measuring instruments and to use them if they work well.

THE MAIN ASPECTS OF CONDUCTOR OBSERVATION

The numerical recording of the results renders it possible to track and compare various life courses as well as to highlight the strengths that education and intervention can rely on, together with the pause in development, that are addressed in the individual development plans. Numeric results are also important from the viewpoint of scientific work and various research activities as they help to visualize the results towards others and to compare them with other results. The results given in numbers generally show what the child or the adult is able to perform independently, without help. However, they do not express differences in terms of quality and do not help to specify in what manner, on what basis and in what environment learning/re-learning can be started.

For this reason, the conductor's observation covers the movements made by the child/adult spontaneously and in a task situation, as well as their ways of solutions, speech, behaviour or dominant personality traits. The observation is not limited to the test occasions but it can also be made in the organised and leisure time activities.[5] The conductor records the observations in the individual development sheet minimum twice a year, depending on the age of the observed person and the time spent in conductive education.

- *General development level:* It must be observed whether the body of the child/adult (height, weight, physical condition etc.) is average or different from usual development. This is where it is recorded upon the first assessment, how the child/adult react to the presence of unfamiliar people,

[4] Annex 2 to Decree 18/2016 EMMI
[5] HÁRI – ÁKOS 1971; HÁRI – KOZMA – HORVÁTH – KŐKÚTI 1991

whether he/she establishes an eye contact or initiate a contact, accept the offered contact, is she/he friendly or rejective, or perhaps indifferent; what relationship he/she has with the accompanying person.

- *General motor status description:* This is where muscle strength, tonus distribution, contractures and deformities are recorded, and the person is observed when lying prone and supine sitting and standing. In each position, the conductor observes the position of the head, the body and the limbs as well as the environmental conditions and tools for taking and keeping the position. If possible, the written observations are extended with photos.
- *Ways of changing place and position:* It is observed whether the child/adult also change their place/position spontaneously, what position they take safely and most often, and what is the position of the head, the body and the limbs in the spontaneous positions. The changes of place and position are also observed and recorded in task situations, together with the type of help (equipment, manual, verbal or supervision) that they need to successfully carry out the given task. This is where it is recorded whether they are capable of changing places independently, and if yes, how, whether they use an equipment (stick, walking frame, wheelchair), together with the tempo and the symmetry of the movement, what is the way of changing place they are learning at that stage and what help they need for this.
- *Manipulation:* It is recorded whether the child/adult uses hands in a spontaneous situation, and if yes, what tools they use. It is very important to observe manipulation in a task situation as well.
- *Intellectual development, activity:* Childis observed during spontaneous play, whether he/she plays on his/her own, if yes, what are his/her favourite games, what he/she is interested in. Activity at kindergarten/school sessions is also observed, together with the situations and tasks where they perform well and where they encounter difficulties. Do they have any favourite activities, – whether choosing from a spontaneous or controlled, or offered activities – , and if yes, what are they. It is also recorded if the children are directed to an appropriate specialist or to the expert committee, in the course of our observations or upon request by the parent/other specialist, in order to assess/develop their intellectual/learning abilities.
- When questioning adults, the conductor asks them about carrying out their everyday activities, leisure activities etc. The activity at the sessions is also observed in the case of adults, together with the situations and tasks where the observed persons perform well and where they encounter difficulties.
- *Speech, communication:* The place of conductive education is the group, in conductive education children and adults are mainly developed in form of group sessions, where it is of utmost importance how the persons involved in

conductive education can communicate with their environment. This is why the conductor observes speech hearing (listening to, and understanding spoken information) and speech comprehension, assesses the active and passive vocabulary, spontaneous speech, the pronunciation of sounds, the answers to questions, coherent speech etc. It is recorded if the child/adult is directed to an appropriate specialist or to the expert committee, based on the observations or upon request by the relative/other specialist, in order to assess/develop their abilities.

Communication cannot be assessed only through speech observation. It is important to observe how the child/adult expresses their emotions, desires and needs towards their environment and how he/she reacts to the expectations, desires and needs of his/her environment and whether his/her reactions to the given situation are adequate.

Among the persons attending conductive education there are often people with serious-multiple disabilities, or who cannot speak for another reason. Other communication methods must be considered in their case. It must be observed how differentiatedly they can express their emotions and whether they have other means apart from crying, smiling and flexing their muscles. The conductor observes whether the tested persons establish an eye contact with the people turning to them, whether they look at the other person's face and react to their voice and emotions. It may happen that they can only use their eyes to indicate, due to a face and speech muscle impairment, and the conductor's empathy, attention and understanding is especially important on such occasions.

It is important to observe and record how people who are unable to speak react to other people's speech. The conductor can rely on speech comprehension in their communication if the patient somehow turns to the person asking the question, tries to look at him/her and appropriately reacts to the situation (with a smile or mimicry, by expressing emotions, making sounds, winking etc.). However, it may happen that on the occasion of the first test or the first sessions the child/adult rejects the situation that is strange to them but not the communication in general. In their case it is also necessary to ask their carer/parents or to postpone the observation to another occasion when the tested person is already familiar with the new environment and already treats the conductor as a less unfamiliar person.

- *Motivation, attention, sociability:* Apart from the abilities, it is also necessary to survey the emotional factors that the intervention can rely on. As conductive education is based on the active participation of the child/adult, it is very important to observe and record with what and how the person can be motivated. It is also important to observe how the attention is raised and maintained, and how permanent it is.

The existence of, or the obstacle to social relations is also a key aspect in conductive education. The group is the scene of education, and it is often the most important social medium for the child or the adult after the family. In order to use the positive impacts of the group, it must be known how the group participants accept strangers and acquaintances (they welcome or reject them), do they initiate contacts themselves, how successful they are in establishing contacts, can the specialist rely, in the course of the intervention, on imitation, on presenting positive examples and on social learning.

For children at kindergarten age, a detailed, complex list of observation aspects is made with an attached table, based on the kindergarten observation aspects that are used nationwide, where the child's abilities are recorded when starting kindergarten and at the end of each term. The observation table has been worked out along the following aspects:

- Social and emotional maturity: relationship with adults and peers, his/her position in the community/group, conflict management, following rules, behaviour, emotional, intentional life, participation in activities, understanding tasks, task awareness task completion.
- Cognitive functions – Actively learning the external world with mathematical and environmental contents: general information level, attention, memory, play activities, mathematical-logical development, environment-related active-passive vocabulary, orienteering in time and space.
- Communication, language, speech: willingness to speak, expressive speech, vocabulary, formal speech, speech rhythm, need for communication, speech comprehension, mimicry, gestures.
- Poems, tales, singing and listenting to music: motivation, learning, performance.
- Ability to draw and represent: handedness, pencil grip, tracing, drawing, colouring, topic choice, painting, glueing, scissors usage, tearing, modeling, portraits.
- Body scheme, spatial orientation and movement: knowledge of body parts and sensory organs, terms of spatial relations.
- Features of the child's playing: types of games, toys, behaviour, the role of playfellows.[6]

[6] WHO 2009

International Classification of Functioning, Disability and Health (ICF)

The ICF is a classification system – set up by the WHO – has the basic idea, similarly to the ICD (International Classification of Diseases), to create categories that are clear and have the same meaning worldwide so that the classification of disabilities should be clear all over the world for various specialists, service providers, researchers and for the population, of course, also including disabled persons and their families.[5]

Its philosophical interpretation differs from the previous classification system, the ICF regards disability as the result of *of the interaction between the persons with a changed health status and their environment.* [7] Accordingly, it is also possible to mark the supporting or hindering impacts of the environment. A novelty is that it also pays attention to the personal factors, their supporting or hindering impacts can also be marked, however, the personal factors have not been worked out yet.

The classification system uses a 5-point scale (qualifiers) to denote the momentary status of the given function, activity etc. The ICF is also suitable for tracking positive or negative changes although, like all other classification systems, only within certain limits, and it is not sensitive to minor changes.

The ICF has a version for both adults and children. The version applicable for children (ICF–CY) considers their age characteristics, their development and the features of activities and social participation that are different from those of adults. Status-specific category sets have also been created through international development and with support by the WHO, including a category set developed for surveying people living with cerebral palsy. There is a category set to be used generally for all ages and a short category set developed for infants (until age 6), school children (aged 6–13) and for adolescents (aged 14–18).[8]

It can be mentioned as a restriction that the usage of the ICF needs special learning, also due to its novelty (the WHO recommendation also says that a training course should be attended before using the ICF), and the assessment takes some time. The adult version is also available in Hungarian,[9] [10] and, for the time being, the children's version is only available in English.

Functional classification scales

The advantage of functional classification scales is that they are easy and quick to use, need no pre-qualifications just a little practice and they produce a fast, comprehensive and comparable indicator. It can be especially useful if the goal is to form a general picture, and not a detailed one, about the tested person or group. The scales have

---

7 KULLMANN 2019, p. 97.
8 SCHIARITI 2015
9 http://mek.oszk.hu/09700/09756/09756.pdf
10 https://apps.who.int/iris/bitstream/handle/10665/43737/9789241547321_eng.pdf?sequence=1

replaced the earlier used serious-mild, serious-moderately serious-mild etc. subjective categories, enabling the researchers to compare the results of persons who conform with each other with regard to movement, communication and disability in various activities as well as to form more homogeneous groups where the results can be compared and assessed in the research.

Gross Motor Function Classification System (GMFCS)

A gross motor movement classification scale expressly made for children living with cerebral palsy. The scale has 5 levels, where 1 means very mild and 5 means very severe impairement. The scale was originally made for use between 6 months to 18 years, with versions broken down to 6 months–2 years, 2–6, 6–12 and 12–18 age groups. However, several studies support that the scale can also be used reliably with adults, and it is used for tests to measure the gross motor handicap of adults living with cerebral palsy.[11][12] The scale can be used freely.

The GMFCS focuses on measuring the gross motor performance of the child/young person at home, at school and in the local community in general, instead of assessing the best performance known. It is important to point this out to ensure that the specialists should try to learn about the current implementation of gross motor movements by using the GMFCS and not about the quality of movement or about the child's development opportunities.[13]

A self-completion version of the scale has also been made for adults and it was tested in the Hungarian language in January-February 2019.

Manual Ability Classification System (MACS)

The scale assessing the impairement of arm movements was also made for children living with cerebral palsy. Similarly to the GMFCS, the scale has 5 levels, where 1 means very mild and 5 means very severe impairement.[14] Upon the assessment, the general hand use activity must be considered and not the best ability.

Communication Function Classification System (CFCS)

It is structured similarly to the previous two classification systems, assessing the communication performance of children living with CP at 5 levels, where 1 means a fluent, practically unhindered communication, while 5 means severe impairement in communication. It must be considered upon the assessment whether the child generally participates in the communicative situations instead of focusing on their best ability.[15]

---

[11] SANDSTRÖM 2004; JAHNSEN 2006

[12] HERGENRÖDER – BLANK 2009; JIANG 2016

[13] PALISANO – ROSENBAUM – BARTLETT – LIVINGSTON 2007

[14] http://www.macs.hu/

[15] https://cerebralpalsy.org.au/our-research/about-cerebral-palsy/what-is-cerebral-palsy/severity-of-

Functional independence measure (FIM)

It determines the rate of external help and the need for support required for carrying out basic life activities (18) as well as explores the following activities: self-care , Sphincter-control, movement ability, walking, communication, social abilities. The FIM differentiates 7 levels in terms of external help, accordingly, numbers can be assigned from 1 to 7 to each activity, where levels 1–2 mean total assistance with helper and level 7 means complete independence with no helper. Using the FIM is subject to qualifications in the USA but not in Hungary, however, its usage requires attention and practice.

WeeFIM

A version of the functional independence measure (FIM) adapted to children. It assesses three main areas: self-care , movement and cognitive abilities. It covers 18 units altogether and explores children's abilities related to their daily activities based on the need to support the performance of the given activity. It is scored in the same manner as the FIM.

Barthel Index

This classification system can be regarded as the ancestor of daily living activity scales but it is still used today. It assesses ten everyday life activities: feeding, transfer to chair, grooming, toilet use, bathing, stairs, dressing, bowel control and bladder control. 0, 5, 10 or 15 points can be given depending on whether the activity is carried out independently or with help, the total score provides the index number and shows the independence rate of self-care .

Kiphard's sensorimotor and psycho-social developmental chart

This developmental chart to be used from age 0 to 4 years, was worked out by Ernst Kiphard, as mentioned in the preface of his book, based on observing the development of thousands of children. It is interesting that it was not made for scientific purposes but for the parents of underdeveloped infants and small children.[16]

The chart measures the development of 5 areas: sight and optical perception; grip, hand and finger dexterity; changes of positions, gross motor movement, body control; mouth movement and active speech; hearing and acoustic sensing (speech comprehension). The chart shows for all areas, in a breakdown by months, what can be expected from the child in the given area and at the given age. It is important to note that the chart contains minimum scores and no average figures, i.e. if the children cannot complete the task of the given month, it means that their development is slowed down or blocked. Using the chart requires no pre-qualifications.

---

cerebral-palsy/communication-function-classification-system-cfcs/

The tasks get more and more difficult from bottom to top, presuming that those who complete the tasks set for 2 years and 4 months can also complete the tasks of the previous months. Thus, although 240 tasks are listed, only the task completion relevant to the biological age must be checked with the child or asked from the parents. Should the children be unable to complete the task relevant to their age, one must step back in the grid six months and ask about the tasks specified there. However, using the chart is difficult for children living with CP. Children living with CP do not show a linear development so it may happen that the child completes the task pertaining to 2 years and 4 months but not the task pertaining to 2 years and 2 months. For this reason, the recommended assessment method cannot be used in their case, i.e. that the examination is started by assessing the tasks pertaining to the child's biological age and if the child is unable to complete them, one has to step back to the tasks pertaining to the period six months earlier. This may significantly extend the testing time, furthermore assessing the results also requires great care and using the measurement lines and the development chart needs practice.

Kiphard recommends that the chart should primarily serve as a basis for planning interventions, and it should serve the purpose of control only in the second place.[17]

MEASURING MOTOR FUNCTIONS

Gross motor function measure (GMFM 88/66)

A standardized measurement tool made in 2002 for assessing the gross motor functions of children aged 5 months to 16 years living with CP. Later it was also tried with children living with Down syndrome and the tool was also found suitable for their gross motor measurement and for tracking changes. However, only GMFM88 is recommended for the gross motor movement measurement of children with Down syndrome but not the shortened 66-item version.

GMFM covers a wide range of activities, from turning head when lying supine up to jumping from a stair, altogether in five areas: lying and rolling; sitting; crawling and kneeling; standing, walking; running and jumping. It has two versions: the original one with 88 items and the new one with 66 items. (The 66–item version contains the part of the 88–item version that proved to be one-dimensional.)

Each item can be assessed on a 4-point scale where 0 means "does not initiate movement" and 3 means "task is completed". Assessment is made in each area and also in a summarized form, which helps to set up a development curve to predict what development can be expected in each area among children in various GMFCS categories.

The results can be used both for setting the development targets of gross motor movement and for recording the achieved results.

Using the measuring line needs minimal tools, which are generally available in all intervention rooms and gyms. The time need covers 45–60 minutes on average, depending on the motor status, the age and the current condition of the child. The assessment needs no qualifications but the users need to learn the GMFM guidelines and the detailed instructions on scoring. hiányzik a hivatkozás!

The advantage of this measure line is that it is known and widely applied all over the world. The book is available in Hungarian on the internet:
https://doki.net/tarsasag/rehab/upload/rehab/document/GMFM_66_GMFM_88.pdf.

Quality of Upper Extremity Skills Test, QUEST)

This is also a measure line made for testing the upper extremity functions of children aged between 8 months and 8 years and living with CP. It offers the opportunity to test four areas in a task situation:

Dissociated movement, Grasp, Protective extension, and Weight Bearing. Assessment is done along two dimensions: "yes" (the task was completed according to the conditions), "no" (could not, or did not want to complete the task). In addition, the hand function, the rate of spasticity and cooperation is also recorded based on the observations of the assessor.

Using the test requires no qualifications. This measure line is less used internationally than the GMFM. The guideline is available only in English, it can be freely downloaded and used in a pdf format:
https://slpemad.files.wordpress.com/2015/06/1992_quest_manual.pdf

PROCEDURES TO TEST LEARNING ABILITIES

Diagnostic assessment of human figure drawing and visuo-motor coordination (Goodenough draw-a-person test)

When standardizing the method that was worked out almost 100 years ago, Goodenough used the drawings of thousands of children of various ages and nationalities. Goodenough based his theory and testing method on the fact that there is a strong relationship between intellectual maturity and the level of human figure drawing, i.e. the IQ (intelligence quotient) and the DQ (drawing quotient) are generally identical. If there is any significant difference between the two indicators, it refers to a disproportion between the child's maturity and psychic status and, as such, it can be used as a diagnostic indicator.

There is no such relationship in the case of children living with CP (what is more, it is a question how relevant the IQ result is for persons living with CP, some authors claim that it is not[16]), therefore great care must be taken in their case when assessing the human figure drawings and using the received results. It is not recommended to do the test with children who have a problem with sitting and holding their head and body or leaving a pencil mark on paper.

Upon the assessment the drawings are ranked into groups A and B according to whether the child drew a human figure that can be recognized or not. The assessment

[16] ESBEN 2003

scale was worked out under four aspects: 1) elaboration , 2) complexity, 3) proportions, 4) motor coordination.[17]

DIFER ability testing programme package

The programme package was made in the early 2000s as a result of further developing the previously used PREFER test system: It is a diagnostic development testing and criteria-oriented developing system for children aged 4–8[18].

DIFER assesses seven elementary skills that are essential for success at school and specifies – in a single number – the DIFER index that can be regarded as an indicator of maturity for school according to the tests. The index sets 65% as the level of school readiness.

Partial skills tested by DIFER:

- social ability
- writing motor coordination
- understanding empirical correlations
- hearing speech sounds
- empirical conclusion
- relation vocabulary
- basic counting

The goal of the programme package is to indicate ways for skills development. The programme package specifies 5 levels for each partial ability: preparatory, beginner, advanced, finishing and optimal level. Skills development must be continued, as recommended by the programme designers, until the child reaches the optimal development level. The optimal level is different according to the partial abilities, ranging between 85–90%.

In 2003, the Center for Research on Learning and Instruction of the University of Szeged organized research on a nationwide representative sample to track the development process of students. The result was that the DIFER calculation partial test co-related with the mathematical results at the end of the second year and the measured partial abilities altogether co-related with the text comprehension measured at the end of the second grade.

Another result of this research was that 78% of the school starters reached the critical 65% (school readiness) level. 5% of them are at a preparatory level (they fall behind by about 2 years in terms of age), and 17% at a beginner level (they fall behind by about 1 year in terms of age).[19]

Several tests prove that the DIFER programme package can also be used in special education, with children having learning difficulties, but in their case more detailed instruction and generally more time is needed for conducting the tests. When starting school, children having learning difficulties are at the level of the intermediate

[17] TORDA 1994
[18] NAGY 2004
[19] JÓZSA 2016

kindergarten group on average, and they reach the school readiness level in the fourth school year on average.[20]

The predictive value of the DIFER programme package was surveyed in 2018 by the "Measurements in conductive education" research group at the András Pető Faculty of the Semmelweis University and the programme package indicates learning difficulties accurately also for children living with CP. A thesis was made from the results of the survey.[21]

GMP

An age-specific (3–13 years) measuring instrument to survey the processes of speech perception and speech comprehension. The surveyed partial processes are as follows: speech perception fuctions, sentence comprehension, text comprehension, short-term verbal and visual memory, word activation process, central operations (cerebral hemisphere dominance), hand usage, ability to recognize directions. The test package also contains a recommended development package, and, if necessary, the recommended development covers a period from 6 months to 3 years. The test package can also be applied for measuring development, and it is recommended to make control measures maximum in every half year.

Using the package is subject to qualifications, which can be acquired in an accredited course.

It is true of all the below screening procedures indicating learning disabilities that task completion is often unsuccessful without targeted intervention for children living with CP, but the progress can be well measured after the targeted intervention, when the test is once again taken (six months or a year later). Those who still have a difficulty with task completion at this time will also have problems with reading and writing later. For this reason, the measurements should be repeated and the received results should be assessed in comparison with each other.

Edtfeldt

A procedure testing the perception of spatial positions, whereby it must be decided whether two figures in a square are the same and are also placed in the same direction. The advantage of the test is that it is quick and simple, it can also be done in a group, and it is simple to assess. The scores attained from the right and wrong answers show at what age level the child performs in perceiving the spatial positions.[22]

Dyslexia Prevention Test (DPT) – Letters and geometrical forms

A procedure worked out by Ildikó Meixner "to test the development of fine motor rhythm related to speech development, in addition to Gestalt vision, i.e. orientation in

[20] JÓZSA-FAZEKASNÉ 2006
[21] SZARKA 2019
[22] SZAUTNER 2008

spatial directions.[23] The test consists of two parts: A) a part testing the perception of spatial position, structured similarly to the Edtfeldt test, and B) a pattern-copying task. The test helps to measure whether the child perceives spatial directions and locations in a plane, and how well s/he is able to present it visually.

LIFE QUALITY TESTS

With a view to the already mentioned holistic human image, the assessment of people living with CP cannot stop with testing and measuring the functions. The conductor must also learn about the person's life situation and life quality in order to define and set up truly customized goals and to compile individual and group intervention plans together with the persons living with disability and with their families. Life quality tests were started in conductive pedagogy in this decade, but they proved to be popular with, and were positively accepted by the persons living with CP and by their families as well as by the specialists/by the representatives of associated professions. These tests will hopefully be more widely used in the future and will extend our knowledge about the everyday life and the difficulties of people living with CP, about their need for support and about the attitude of their environment.

Life quality tests were started in the second half of the last century, primarily in healthcare and at the beginning they were limited to adults. According to the WHO definition "the quality of life is an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. [...] It includes the person's physical health, psychological state, level of indepencence, personal beliefs, social relationships and their relationship to salient features of their environment".[24]

Measuring the life quality of people living with disabilities became a scientific interest for various reasons. The disability-related civil law movements started to demand that life quality should be measured and the individual life indicators should be monitored also for persons living with disabilities. Social and health policies also started to use the life quality indicators, primarily to measure the success of services. Last but not least, there was a change in the opinion about what produces a better life quality. While life quality was earlier expected to improve with the technical, scientific and medical developments, it has been recognized by now that this, in itself, will not produce a positive change in life quality, but it must also be accompanied by a change in environment and attitude, and the two must be in harmony.[25]

Focus was placed on measuring the life quality of children in the 1990s. Measuring children's life quality raised specific questions: whose aspect and opinion is more important – that of the child/adolescent, the parent or perhaps the specialist dealing with them? From what age can children give a reliable opinion about their life quality? Another specific aspect of questionnaires for children must be that they need to be adjusted to the children's age-related differences, therefore measuring various age

[23] PORKOLÁBNÉ BALOGH 1988, p. 175
[24] WHQOL Measuring Quality of Life, 1999
[25] SCHALOCK 2002

groups requires different question lines. Using the life quality measuring tools requires no special qualifications.

Cerebral Palsy Quality of Life (CPQOL)

As is already indicated by its name, this is a measuring tool developed for children and adolescents living with CP, which, in addition to general questions, also focuses on areas related to special needs. Two age groups are separated: A version for children aged 4–12 and a version for adolescents aged 13–18. Each questionnaire has a self-completion version and a proxy version to be completed by a parent or a primary carer. The self-completion question line for children can be answered from the age of 9, and only the proxy version can be used for measuring the life quality of younger children.

A special feature of the question line is that it measures the satisfaction of the surveyed child or adolescent about their participation in a given activity, their body functions as well as their built and social environment.

The answers can be recorded on the Likert scale, then the received results can be converted to a 1–100 scale. The indicator received in this manner shows the satisfaction of the child or the primary carer in the following fields:

- social wellbeing and social acceptance
- emotions related to functions
- participation and physical health
- emotional wellbeing and self-esteem
- access to services
- impact of pain and disability
- health of the family.

KIDSCREEN

The measure line was originally developed by pediatricians to compare the life quality of healthy children and children suffering from chronic diseases.[26] However, the question line can also be applied for children living with disabilities. There are three versions: a version with 52 questions in 10 dimensions, a narrower version with 27 questions in 5 dimensions and a short version with 10 questions. All the three versions also have a self-completion question line and a proxy question line to be completed by the primary carer. The Kidscreen dimensions are illustrated by figure 1.

[26] SCHIARITI 2014

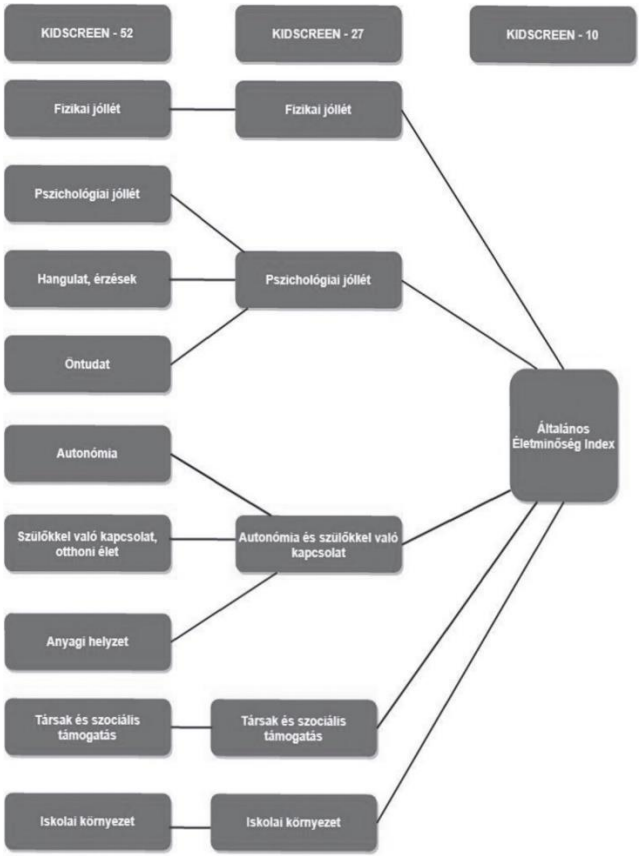


Figure 1: Relations of the KIDSCREEN dimensions in three versions[27]

KIDSCREEN – 52	KIDSCREEN – 52
KIDSCREEN – 27	KIDSCREEN – 27
KIDSCREEN – 10	KIDSCREEN – 10
Fizikai jóllét	Physical well-being
Pszichológiai jóllét	Psychological well-being
Hangulat, érzések	Moods and emotions
Öntudat	Self-perception
Autonómia	Autonomy
Szülőkkel való kapcsolat, otthoni élet	Relationship with parents and home life
Anyagi helyzet	Financial resources

[27] https://www.kidscreen.org/english/questionnaires/

Társak és szociális támogatás	Peers and social support
Iskolai környezet	School environment
Zaklatás	Bullying
Fizikai jóllét	Physical well-being
Pszichológiai jóllét	Psychological well-being
Autonómia és szülőkkel való kapcsolat	Autonomy and relationship with parents
Társak és szociális támogatás	Peers and social support
Iskolai környezet	School environment
Általános Életminőségi Index	General Life Quality Index

Personal Life Quality Index (PLQI)

The International Association for the Scientific Study of Intellectual and Developmental Disabilities published its definition of life quality in 2002. According to their concept, life quality is a holistic term covering 8 areas: personal development, self-determination, interpersonal relations, social inclusion, rights, emotional wellbeing, physical wellbeing, material wellbeing.[28] The specialists have special difficulties with measuring the quality of life that is defined subjectively by the surveyed persons living with intellectual disability. Schalock and his colleagues worked out a measuring tool that provides the opportunity to survey life quality expressly among people living with intellectual disability in the 8 above-mentioned areas. Accordingly, the question line has simple wording, and it is completed on a 3–point Likert scale. The question line has a self-completion and a proxy version, but Schalock and his colleagues point out that the surveyed persons must be asked about their life quality, and the opinion of the proxy respondent can only produce a limited result in itself.[29]

The questionnaire has also been tried out with, and found to be applicable for people living with other disabilities[30] and people not living with disabilities.[31] As can be seen, the question line can be used for surveying the subjective life quality of various groups, and the results of persons living with various disabilities and persons not living with disabilities can be compared to each other.

The question line arranges the above-mentioned 8 areas into 3 factors: independence, social participation and wellbeing. The summarized result of the three factors highlights the subjective life quality index of the surveyed person. The questionnaire can also be used for measuring the success of services as well as for creating and monitoring individual life courses. The Hungarian version was tested in January–February 2019 among persons living with physical disabilities.

[28] SCHALOCK 2002; KOZMA – SIMONOVITS – KOPASZ – BERNÁT 2016
[29] SCHLOCK – BOHNAM – VERDUGO 2002
[30] VERDUGO 2010
[31] GOMEZ 2012

Gross motor movements

The András Pető Primary School of the Semmelweis University (hereinafter: school) introduced the measurement of gross motor movements, in a phasing-out system, in September 2015. In the autumn of each year, children starting school go through input measurement and the earlier measured children are newly measured every year. The survey covers the results of the input measures of children starting school in the autumn of 2015 (16 students) and the results of two post-measures.

The survey covered the following aspects:

- distribution of the students according to the level of severity,
- GMFM results according to blocks and in a summarized form,
- Change in the summarized GMFM results according to the degree of severity, compared to the average change data found by the developers of the measure line.[32]

GMFCS

We have no Hungarian statistics about the distribution of children living with CP according to the level of severity, therefore, the distribution of children going to the educational-teaching institutions of the practicing area according to GMFCS levels has been compared to the results of a Canadian, an Australian and a Swedish survey. *(Figure* 2)

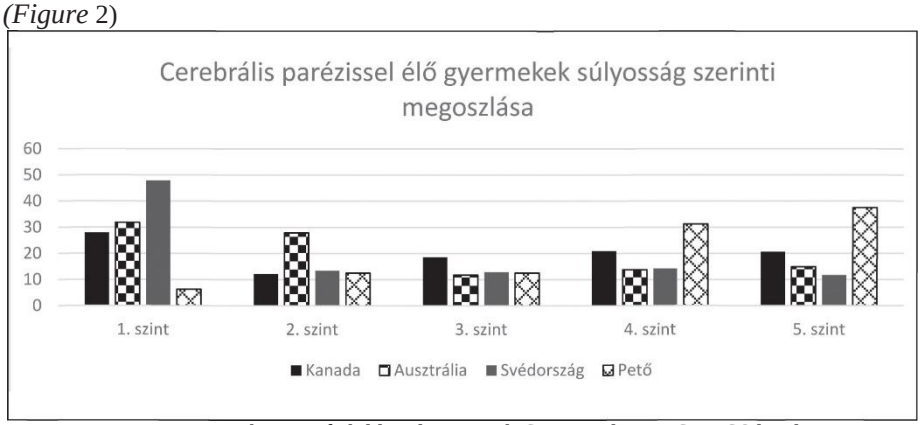


Figure 2 Distribution of children living with CP according to GMFCS levels

[32] RUSSEL- ROSENBAUM – MAVERY 2002

Translation of „figure 2" chart

Cerebráris parézissel élő gyermekek súlyosság szerinti megoszlása	Distribution of children living with CP according to the degree of severity
1-5. szint	Level 1-5
Kanada	Canada
Ausztrália	Australia
Svédország	Sweden
Pető	Pető

It can be seen that the breakdown by the level of severity is different in each country but it seems to be a trend that a higher percentage of persons living with CP (40–60%) have a lower degree of severity and a lower rate is scored by those living with a higher degree of severity (25–40%). However, this rate is just the opposite at our institution. 68.75% of the children starting school in September 2015 have a severe level of severity (GMFCS levels 4 and 5) and only 18.75% have a milder level of severity. The deviation between the distribution rates measured by us and abroad is not surprising as primarily those parents and families turn to us, as a segregated institution, whose children were not recommended to choose integrated education, or participation in integrated education was not successful for some reason, so the parents decided to take their child to a segregated institution.

GMFM

Figure 3 illustrates the input measures of children starting school in 2015 and the results of post measures over the next two years.

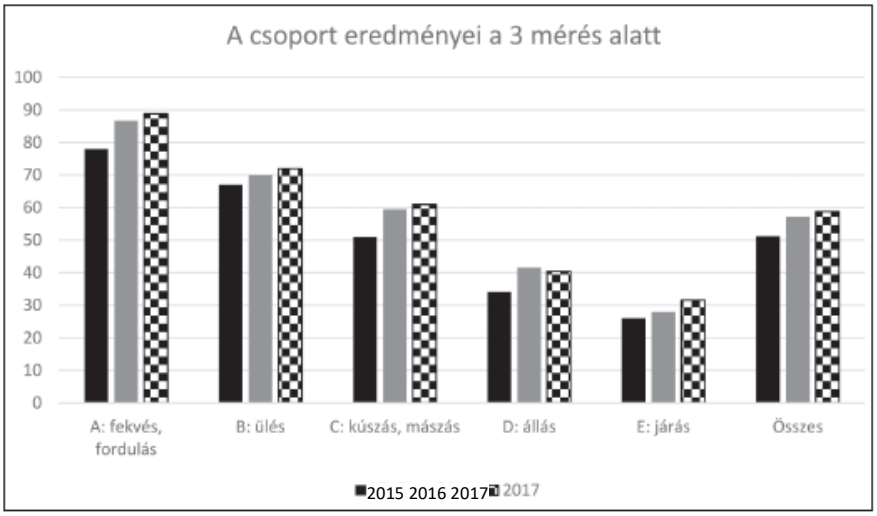


Figure 3: Development of the gross motor movement of children starting school in 2015 based on the results measured with

Translation of „figure 3” chart

A csoport eredményei a 3 mérés alatt	Group results in 3 surveys
A: fekvés, fordulás	A: lying, turning
B: ülés	B. sitting
C: kúszás, mászás	C: creeping, crawling
D: állás	D: standing
E: járás	E: walking
Összes	Total

Development was recorded in all gross motor areas. The largest development can be registered with lying and turning (10.8%), followed by sitting (9.9%) and standing (6.4%), and stagnation can already be perceived in this area between 2016 and 2017, walking (5.5%) and finally sitting (3.9%). The summarized result shows a 7.5% change in two years.

The results were compared to the rate of average change published by Russel and his colleagues.[33]

Figure 4 shows the results published by them under the name “relative average change”. It must definitely be kept in mind upon the data comparison that the results received about the school can mainly be regarded as an interesting fact but they are not relevant due to the very low element number of the sample.

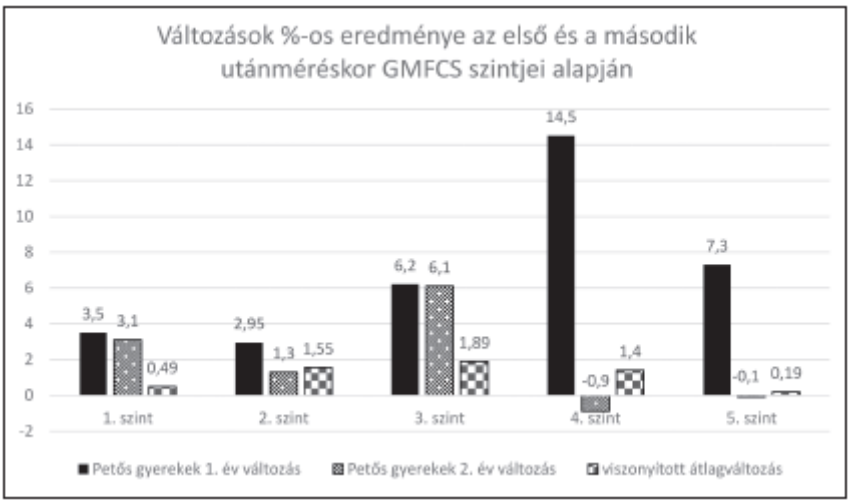


Figure 4 Percentage result of changes upon the first and second post measures based on the GMFCSlevels

[33] RUSSEL- ROSENBAUM – MAVERY 2002

Translation of "figure 4" chart

Változások %-os eredménye az első és a második utánméréskor GMFCS szintjei alapján	Percentage result of changes upon the first and second post measures based on the GMFCS levels
1. szint	Level 1
2. szint	Level 2
3. szint	Level 3
4. szint	Level 4
5. szint	Level 5
Petős gyerekek 1. év változás	Children at Pető, change in year 1
Petős gyerekek 2. év változás	Children at Pető, change in year 2
viszonyított átlagváltozás	relative average change

The figure shows that the results measured on the school differ at all severity degrees from the values that can be expected based on the average change.[34]

In the first 12 months the rate of changes significantly exceeded the expected rate of changes indicated by the authors. However, in the second 12 months only the development of levels 1 and 3 exceeded the expectable rate, those at level 2 were slightly behind this level, but the development of children with serious disability, levels 4 and 5, came to a halt, what is more, a slight decline can be seen with them. For the time being, we cannot give an explanation due to the already mentioned low number of data.

In summary, the András Pető Faculty does not yet have sufficient data for conducting wider surveys. The current experience shows that the introduced classification system (GMFCS) unified the institution's language and made the data comparable with the data of other institutions. On the other hand, using the GMFM measure line enabled the tracking and the comparability of changes. If sufficient data are available, the aspects of development of children living with CP can be surveyed in a breakdown by age levels. This will make it possible to more accurately define, if necessary modify, the development goals and hopefully to make interventions that are better adjusted to the individual characteristics and, thus, they become more successful.

The measuring profile of a child

Illustrating the measures on a diagram makes it possible to give a more accurate profile of a child's abilities and to show the changes in abilities. It helps the pedagogues dealing with the child (conductor, development teacher, special education teacher,

[34] The column "children at Pető, change in year 1" shows the change between the input measure (2015) and the first post measure (2016), and "children at Pető, change in year 2" shows the change between the first post measure (2016) and the second post measure (2017).

teachers in lower and higher grades etc.) to accurately specify the goals and tasks when working out the given child's individual intervention plan and to record the results in the individual development sheets.

Figure 5 shows the input results of a child, at the age of 7.3 months upon conducting the test and a year later, coping with moderate physical disability (GMFCS 3) and with serious learning difficulties.

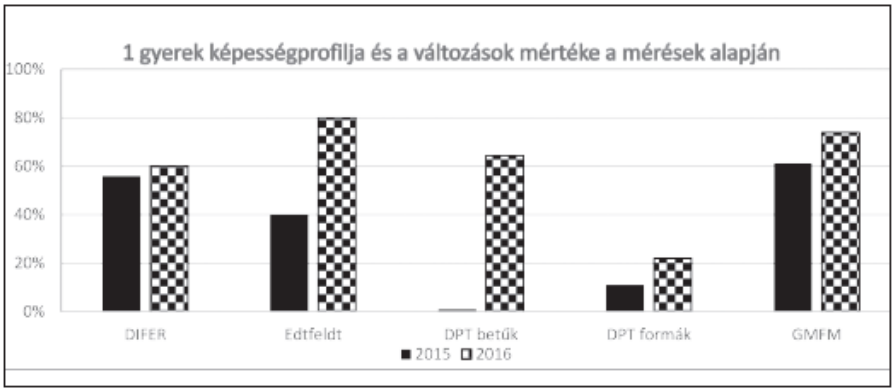


Figure 5: Results of a school child with medium physical disability

Translation of „Figure 5" chart

1 gyerek képességprofilja és a változások mértéke a mérések alapján	A child's ability profile and the rate of changes based on the measures
DIFER	DIFER
Edtfeldt	Edtfeldt
DPT betűk	DPT letters
DPT formák	DPT forms
GMFM	GMFM

It can be seen that the child achieved significant, higher-than-expected development in all areas. The gross motor development scores 12.7%, well exceeding the average 1.89% development measured by Russel and his colleagues in this age group.

The changes are significant in the field of learning abilities. When starting the elementary school of the András Pető Faculty, children enter the first foundation class, where the learning abilities are developed intensively in the first year and teaching in a traditional sense is only started in the following year. The child presented here also went to this class and the results well reflect how necessary it is to intensively develop the learning abilities of children living with CP in addition to their motor development. The input measures showed the failure of orientation in a plane (DIFER, Edtfeldt, DPT letters) and the inability to identify forms (DPT letters, DPT forms, Edtfeldt). There were problems with creating relations but good results were achieved in mathematical skills (DIFER). The changes within one year were outstanding and although they did

not reach the level required for school enrolment, they were near that level, ensuring that the school should not turn out to be the scene of failure.

Life quality assessment

The Hungarian version of the CPQOL life quality assessment tool was tested in the 2017/18 academic year with the children educated at the practicing institutions of the András Pető Faculty of the Semmelweis University and with their parents.[35] All in all, the results go to show that both the children and their parents reported a high life quality in both age groups (children and adolescents). It was tested which background variable exerts a bigger impact on life quality, however, no significant connection was revealed between the surveyed variables. No connection was highlighted either between the rate of disability (GMFCS levels) and the areas of life quality.

We compared the differences between the children's self-completion questionnaire and the version completed by the parents. Similarly to other surveys, [36] the parents found their children's life quality lower than their children. The 9–12 age group showed a significant difference in the area "The impact of pain and disability". The parents found their children's life quality much lower in this respect (average score: 53.13; the lowest average score in the parents' answers) than their children (average score: 82.72; the highest average score in the children's answers). This reveals that parents attach much more importance to the impact of pain and disability on their children's life quality than their children.

The life quality assessment can also be used for setting institutional targets. The input measures help to mark out the development goals of the group and the institute and to adjust the action plan accordingly, then the new results measured at the end of the action plan implementation period can be compared to the input results.

[35] VISSI 2019
[36] SHELLY-DAVIS-WATERS 2008

Summary of experience gained from a pilot research on the potential application of pulsed electromagnetic field therapy for cerebral palsy (CP) in children[1]

MÁRK ÁGOSTON PULAY – FEKETÉNÉ ÉVA SZABÓ – IBOLYA TÚRI

Introduction – Research background

The study programme of our pilot research was preceded by the Comparative Health Science Symposium titled "Outstanding Early Movement Development Methods". The Faculty of Health Sciences of Semmelweis University (Hungarian abbreviation: ETK) and the Pető András Faculty of Semmelweis University (PAK) have both participated in the symposium as speakers, and the idea of establishing research cooperation between these faculties has also been proposed here initially. The framework of the National Bionics Programme within Semmelweis University for the development of the so-called passive device assisted physical exercise methods can also be considered as a starting point, and a new research project of the ETK, resulting in significant results, investigating the possibilities for intervention with electromagnetic field treatment in cases of old age sarcopenia was also a key factor for us.

In the past year, in a research group jointly formed by ETK and PAK, we have reviewed the possibility to extend the research programme to children with cerebral palsy receiving conductive education. It is to be highlighted that experience has already been gained on rehabilitation treatment of such genetic origin childhood movement disorders as the Duchenne muscular dystrophy (DMD), the Becker muscular dystrophy (BMD) and the Spinal muscular atrophy (SMA), in relation to the application of the pulsed electromagnetic field (PEMF) stimulation method.

Our long-term research goal is to evaluate the efficacy of two supplementary therapeutic bionic tools, the PEMF treatment and the whole body vibration (WBV) therapy, and to compare their effectiveness in children living with cerebral palsy. Within the framework of the research initiated after the preparation of the research protocol and the acquisition of the research ethics approval, we conducted a pilot study on the applicability of the PEMF therapy and prepared a detailed meta-analysis of the experience gathered from WBV therapy in the aforementioned target group. This summary presents the experimental research and the results of the pilot research.

Electromagnetic field therapy

From the point of view of increasing physical activity, PEMF treatment can be seen as an effective form of "passive" physical activity controls, as a lifestyle, physical fitness

[1] Published in Hungarian: Tudomány és Hivatás, 2022/1. 61–69.

and therapeutic method. The book of Schweigmann and Rauch-Petz (2001) also reports on several positive results of the treatment over the last two decades, in terms of lifestyle as well as of the treatment of a number of diseases. The PEMF stimulation device (Sanza) used in the pilot research and developed by the company Santerra, delivers electromagnetic waves in two frequency bands (Figure 1).

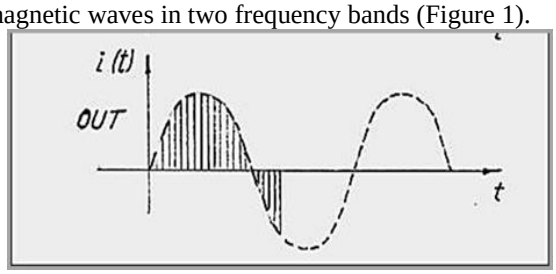


Figure 1. *Parameters of the Sanza device output signal: the sinusoidal envelope curve, corresponding to biospecific frequency ranges (EEG spectrum, treatment of pain and immune processes in the 4-25 Hz frequency range). On the other hand, the higher frequency (200 Hz) square wave pulse (below the sinusoidal curve), belongs basically to the EMG range and affects muscle function.*
The illustration is taken from a patent description (Bretz and Huber 2012).

The Sanza multifunctional therapy device emits low frequency (4-25 and 200 Hz) electromagnetic waves in various intensities (amplitude) (10-1250 micro-Tesla), grouped into various programmes (Vital, Relax, Sleep and Sport). Throughout life, our body loses energy for a variety of reasons, but the magnetic field regenerates and allows the energy potential to increase again. PEMF therapy is often used as a non-invasive supplementary treatment for various types of musculoskeletal disorders such as arthritis, abnormal muscle tone (SMS, muscular dystrophies) and osteoporosis (Yadollahpour & Rashidi, 2014).

Upon reviewing the literature of related research we found that most studies focused on the potential impact of pain relief after various spinal or back pathologies, such as low back pain, disc herniation, spinal herniation or even knee joint surgery (Adravanti et al, 2014; Elshiwi et al, 2019; Hattapoğlu et al., 2019; Krause et al., 2004). In terms of noteworthy biological effects of the pulsed electromagnetic waves, it shall be noted that they can stabilize the transport of electrolytes across the cell membrane, thus improving cell metabolism and regeneration.

For example, they activate osteogenesis, ie. the activity of the osteoblasts (Petecchia et al., 2015), reduce mRNA synthesis of enzymes involved in oxidative and pro-inflammatory processes, thereby reducing and solving the chronic inflammatory process (Kubat et al., 2015), and also reduce the concentration of pain stimulus transmitters (Mert, 2017).

Therapeutic effects can be achieved in a number of applications, such as plastic surgery, oedema and pain relief (Strauch et al., 2009), chronic wound healing (Akai et al., 2002), in the reduction of low back pain (Andrade et al., 2016) and knee joint arthritis (Bagnato et al., 2015), and in the healing of bone fractures (Yadollahpour et al., 2014), mainly for musculoskeletal disorders.

The Sanza device is also used in practice to treat several other diseases (see Knaf E.: Praxisbuch für Anwender, a therapeutic accessory for the Sanza device, which lists more than 200 diseases).

In the course of a systematic literature research, we found that currently there isn't any research report to have investigated the potential application and beneficial effects of the PEMF field therapy in cerebral palsy patients. Among other things, this finding has led us to consider the possibility of designing a clinical study focusing on this topic, but first of all, to conduct a pilot study within this population.

Research design and methodology

Method of selecting the participants

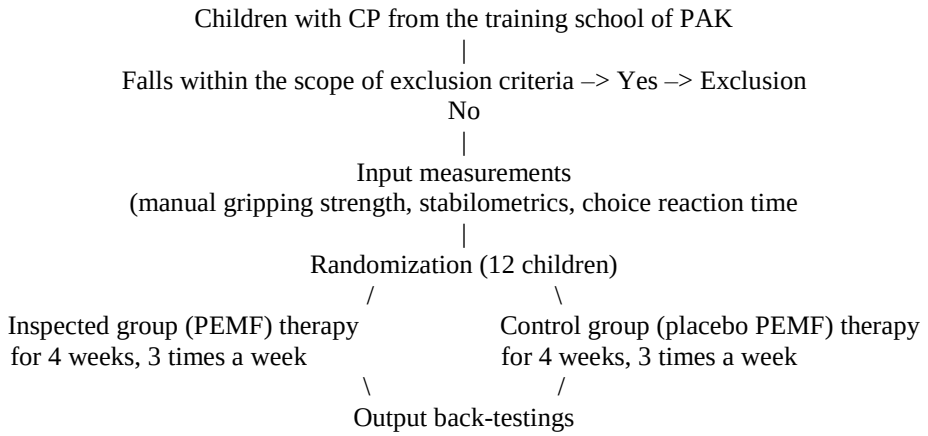
The participants were recruited on personal request from the Conductive Primary School of the András Pető Faculty of Semmelweis University. Those children were eligible for inclusion in the research sample who met the inclusion criteria in the table below (Table 1) and did not fall within the scope of exclusion criteria for participation in the study. Parents of the children signed a consent form, while verbal consent was obtained from the children who were informed on the study and its procedures prior to participation.

Inclusion criteria	Exclusion criteria
• Spastic CP diagnosis • GMFCS I–IV level motion state • age between 6-12 years	• Epilepsy • Shunt • Botulinum toxin injection < 6 months • Ortopaedic surgery < 6 months

Table 1. *Detailed inclusion and exclusion criteria for the participants*

Study participants were anonymised by means of a code number assigned to them prior to commencing the research, so that they could later on be identified anonymously. The names assigned to the code numbers were only accessible to research project managers.

Study results and personal data are stored separately and kept for 5 years from the completion date of the research. Data processing and use shall be in accordance with the provisions of the GDPR in force at the time. Our research has a double blind study design. Participants who met the input criteria were divided on the basis of a computer-generated randomisation procedure into two groups in a 1:1 ratio by two researchers who were not organically involved in the study. The classification key was not known by the participants (researchers, subjects) until the end of the research period. The figure below (Figure 2) illustrates the structure of the research.



Figue 2. *Flowchart of the research*

The PEMF device used in the research

The PEMF device used in the research (Sanza Profi System CRM Cell-Regeneration GmbH, Austria) is a therapeutic device emitting pulsing electromagnetic field (intensity: 10–300 μT) at various frequencies; in the pilot research we used cushion applicator (see: Figure 3.).

We started the four-week long interval of the present research with a low intensity program (20/200Hz and 150 μT intensity). The treatment time for the subjects of the inspected group was 3 x 8 minutes in the first week, 3 x 12 minutes in the second week and 3 x 16 minutes in the last two weeks. In a sitting position, the cushion was placed in the lap of participants of the PEMF therapy, holding both hands on the device.

Members of the control group were given the cushion in the same way with the only difference that the device was deactivated, thus switching on the device did not cause electromagnetic field energy to be generated.

3. *Sanza cushion design PEMF device*

Applied measurement instruments

The planned indicator measurements were taken per group at the initial date and immediately after the four-week intervention period. In the present research we used three different measurement instrumens.

We used a digital manual gripping strength meter (dynamometer) to measure changes in this parameter in the subjects. Subjects of the inspection were in a sitting position with their arms loosely hanging down beside their body and holding the device in their hands. Upon such instruction of the test administrator, the subject had to squeeze the device (separately with the right and left hand) three times per measurement with full force. The device measures the applied force in Newton metres (Nm) and the results were recorded digitally by the operator.

The other measuring device was a so-called stabilometer, which was used to measure the change in the ability to maintain balance. Postural stability – which is the means by which the body is kept in balance – means keeping the centre of gravity of the body above the support surface. Stabilometry is one of the methods for recording body swinging.

The device we used (ZWE-PII, Budapest), consisted of a force platform (dimensions: 0.5 m × 0.5 m × 0.1 m; range: 20-2000 N; linearity: ±1.5% hysteresis: ±1.5%), amplifiers, a microcomputer, a PC, a monitor and a unique software. COP (centre of pressure) data were sampled at 100 Hz.

The majority of subjects were not able to stand independently, therefore a stool was placed on the force platform during the measurement and we opted for a sitting position for the measurement. During the measurement, children sat on the stool with their feet placed parallel on the platform at hip-width and their palms resting on the stool next to their hips. The monitor was positioned at eye level and we ensured that the hips, knees and ankles were bent at 90 degrees.

Each subject had to perform two playful tasks. One of these trials was a colouring test, in which case the centre of pressure (COP) must be moved in a given area. In this test, a square appeared on the monitor and subjects had to move the COP within the square as a pencil in order to "colour" as much of the square as possible within the 20 seconds available. The obtained variable is the coloured area expressed as a percentage of the total area of the square.

The other exercise was the so-called "Christmas tree" test: the task here was to move the centre of pressure (COP) to the designated points. In this task, a Christmas tree with 7 candies was shown on the opening screen, and the COP appeared on the screen for the subjects as a small circle, which they had to place on the candies one by one, thus removing them from the Christmas tree. Variable: the score achieved, expressed as a percentage of the maximum number of candies available (7).

The third measuring tool examined the choice reaction time and the change of this ability between the values obtained at the beginning and at the end of the intervention. The measuring system for collecting data on the choice reaction time consisted of a computer and a push button. Green and red LEDs were used as the stimulus sources.

The subject had to respond by pressing the button once if the green light flashed, without any reaction to be given to the red light. We applied a total of 25 stimulus exposures. Failure to respond (when the light was green) and pressing the button (when

the light was red) were both considered as failure points. Variable: 1. CRT time: the time elapsed between the stimulus being activated and the button being pressed; 2. CRT error: the sum of missed or incorrect responses.

Results

Participants

12 participants (41,67% female, 58,33% male, average age: 9 years 2 months) were involved in the inspection. According to diagnostic data, 75% of the involved children fell in the spastic tetraparesis, and 25% in the spastic hemiparesis disease. Concerning GMFCS, 25% belonged to Level I, 16,67% to Level II, 25% to Level III and 33,33% to Level IV. One third of the children involved also had mild mental disability (33,33%).

Data analysis

The data obtained were processed using IBM SPSS Statistics 27. Descriptive statistics included mean and standard deviation. We performed iterated factorial analysis of variance while taking group membership into account. The significance level was $\alpha=0.05$.

Results of the measurements

The results of the study showed no difference of the manual gripping strength between the input and output measurements, neither in the inspected group, nor in the control group ($p>0.05$). However, it is worth noting that the stabilometric measurements indicated a significant change in the size of the coloured area in the inspected group ($p=0.049$), whereas results of the control group did not differ from the input measurement. Concerning the choice reaction time, similarly to the measurement of manual grip strength, no significant differences were found between the inspected and the control group.

Miscellaneous results

As described in the literature review, this was the first PEMF therapy trial conducted in a CP population, thus the primary aim of our pilot study was to ensure that children receiving the intervention would not be subjected to any side effects. To ensure this, the intensity of the treatment was started at a very low level and increased gradually, but in the light of the first measured results and the lack of significant differences between input and output measures as well as the observed trends, we believe that the dosage of the treatments should be revised in the future so that the timing (length of treatments) should definitely be extended, and the frequency (number of sessions per week), and the frequency level, should be multiplied.
It is a noteworthy result that this intensity was safe. It is considered as a further result

that the use of this therapeutic device could be integrated into the conductive daily schedule, that the right type of device (Sanza PEMF pad) could be found, and that such a test situation could be established in which the treatment is optimal and safe for participation even for tetraparetic CP children classified as GMFCS, Level IV.

Summary

The primary aim of our pilot study with a small number of cases was to investigate the applicability of the PEMF therapy in the CP population, and to prepare a more complex clinical trial of PEMF therapy that would allow for more robust comparative analyses in the future.

Therefore, upon working out and designing our study protocol, we focused on technical feasibility and on establishing the necessary and sufficient dose (i.e. intensity) of the therapy that ensures the safety of participation as well as measurability. On the basis of our initial results and experience, we are planning a longer and more intensive intervention and aim to increase the number of cases in our research sample. In terms of measurement tools, we continue to consider the measurement of muscle strength as important, even including the lower limbs, but based on our experience we will place more emphasis on the instrumental, objective measurement of spasticity by digital palpation. In the light of our results, we will omit the choice reaction time measurement.

Literature

Adravanti, P., Nicoletti, S., Setti, S., Ampollini, A., & De Girolamo, L. (2014): Effect of pulsed electromagnetic field therapy in patients undergoing total knee arthroplasty: A randomised controlled trial. Int. Orthopaedics, 38(2), 397–403. https://doi.org/10.1007/s00264-013-2216-7

Alotaibi, M., Long, T., Kennedy, E., & Bavishi, S. (2014): The efficacy of GMFM-88 and GMFM-66 to detect changes in gross motor function in children with cerebral palsy: a literature review. Disabil. Rehabilit. 36(8), 617-627. DOI10.3109/09638288.2013.805820.

Ancillao, A., Rossi, S., Cappa, P. (2017): Analysis of Knee Strength Measurements Performed by a Hand-Held Multicomponent Dynamometer and Optoelectronic System IEE Transactions on Intstumentation and measurement, 66(1)

Elshiwi, A. M., Hamada, H. A., Mosaad, D., Ragab, I. M. A., Koura, G. M., & Alrawaili, S. M. (2019): Effect of pulsed electromagnetic field on nonspecific low back pain patients: a randomized controlled trial. Braz J Phys Ther, 23(3), 244–249. https://doi.org/10.1016/j.bjpt.2018.08.004

Hattapoğlu, E., Batmaz, İ., Dilek, B., Karakoç, M., Em, S., & Çevik, R. (2019): Efficiency of pulsed electromagnetic fields on pain, disability, anxiety, depression, and quality of life in patients with cervical disc herniation: A randomized controlled study. Turkish J Med. Sciences, 49(4), 1095–1101.

Harries, N., Kassirer, M., Amichai, T., & Lahat, E. (2004): Changes over years in gross motor function of 3-8 year old children with cerebral palsy: using the Gross Motor Function Measure (GMFM-88). Israel Med Association J, 6(7) 408–411.

Hesse, S., Jahnke, M. T., Luecke, D., & Mauritz, K. H. (1995): Short-term electrical stimulation enhances the effectiveness of Botulinum toxin in the treatment of lower limb spasticity in hemiparetic patients. Neuroscien. Lett, 201(1), 37–40. https://doi.org/10.1016/0304-3940(94)12124-9

Howard, J., Soo, B., Graham, H., Boyd, R., Reid, S., Lanigan, A., et al. (2005): Cerebral plasy in Victoria: Motor types, topography and gross motor function. J. Ped. Child. Health, 41(9-10) 479-483 https://doi.org/10.1111/j.1440-1754.2005.00687.x.

Jeon, H.S., Kang, S.Y, Park, J.H, Lee, H.S. (2015): Effects of pulsed electromagnetic field therapy on delayed-onset muscle soreness in biceps brachii. Phys. Ther. Sport. 16(1) 34-39. doi: 10.1016/j.ptsp.2014.02.006. Epub 2014 Mar 7. PMID: 24906295.

Krause, P., Edrich, T., & Straube, A. (2004): Lumbar repetitive magnetic stimulation reduces spastic tone increase of the lower limbs. Spinal Cord, 42(2), 67–72. https://doi.org/10.1038/sj.sc.3101564

Leon-Salas, W. D., Hatem, R., Chenglin, M., Noah, W., Brotto, L., Abreu, E., Brotto, M. (2013): A Dual Mode Pulsed Electro-Magnetic Cell Stimulator Produces Acceleration of Myogenic Differentiation. Recent Patents on Biotechnology. 7(1), 71–81.

Melo, M. de O., Pompeo, K. D., Brodt, G. A., Baroni, B. M., da Silva Junior, D. P., & Vaz, M. A. (2015): Effects of neuromuscular electrical stimulation and low-level laser therapy on the muscle architecture and functional capacity in elderly patients with knee osteoarthritis: a randomized controlled trial. Clinical Rehabilitation, 29(6), 570–580.

Nyakas Cs, Téglás T, Dörnyei G, Bretz K. (2019): A pulzáló EMF stimuláció gerontokineziológiai alkalmazása és a passzív testedzés jelentősége időskorban. Idősgyógyászat. 4(1-2): 36–40.

Oskoui, M., Majnemer, A., Dagenais, L., & Shevell, M. (2012): The Relationship Between Gross Motor Function and Manual Ability in Cerebral Palsy. J Child Neurol, https://doi.org/10.1177/0883073812463608.

Pourazar, M., Mirakhori, F., Hemayattalab, R., & Bagherzadeh, F. (2018): Use of virtual reality intervention to improve reaction time in children with cerebral palsy: A randomized controlled trial. Dev. Neurorehabilit. 21(8). https://doi.org/10.1080/17518423.2017.1368730.

Pueyo, R., Junqué, C., Vendrell, P., & Narberhaus, A. (2009): Neuropsychologic Impairment in Bilateral Cerebral Palsy. Pediatr. Neurol., 40(1), 19–26. https://doi.org/10.1016/j.pediatrneurol.2008.08.003.

Rethlefsen, S., Ryan, D., & Kay, R. (2010): Classification System in Cerebral Palsy. Orthop. Clin. North Am. 41(4), 457-467 DOI: 10.1016/j.ocl.2010.06.005.

Richards, T. L., Lappin, M. S., Acosta-Urquidi, J., Kraft, G. H., Heide, A. C., Lawrie, F. W., Merrill, T. E., Melton, G. B., & Cunningham, C. A. (1997): Double-blind study of pulsing magnetic field effects on multiple sclerosis. J. Altern. Complement. Med., 3(1), 21–29. https://doi.org/10.1089/acm.1997.3.21.

Rosenbaum, P., Paneth, N., Leviton, A., Goldstein, M., & Bax, M. (2007): A report: the definition and classification of cerebral palsy – April 2006. Dev. Med. Child Neurol., 49 8-14. DOI10.1111/j.1469-8749.2007.tb12610.x.

Ross, S., & Engsberg, J. (2007): Relationships Between Spasticity, Streenth, Gait, and the GMFM-66 in Persons With Spastic Diplegia Cerebral Palsy. Phys. Med. Rehabilit. 88(9), 1114–1120
DOI:https://doi.org/10.1016/j.apmr.2007.06.011.

Sankar, C., & Munkdur, N. (2005): Cerebral palsy-definition, classification, etiology and early diagnosis. Indian J. Ped. 72, 875-868 doi:10.1007/BF0273117.

Stadskleiy, K. (2020): Cognitive functioning in children with cerebral palsy. Develop. Med. Child Neurol. 62(3), 283–289.
https://doi.org/10.1111/dmcn.14463.

Strauch, B., Herman, C., Dabb, R., Ignarro, L. J., & Pilla, A. A. (2009): Evidence-Based Use of Pulsed Electromagnetic Field Therapy in Clinical Plastic Surgery. Aesthetic Surgery Journal, 29(2), 135–143.

Sutbeyaz S. T., Sezer N., Koseoglu B. F. (2006): The effect of pulsed electromagnetic fields in the treatment of cervical osteoarthritis: a randomized, double-blind, sham-controlled trial. Rheumatol. Int. 26(4), 320-4. doi: 10.1007/s00296-005-0600-3. Epub 2005 Jun 29. PMID: 15986086.

Téglás T., Dörnyei G., Bretz K., Nyakas C. (2018): Whole-body pulsed EMF stimulation improves cognitive and psychomotor activity in senescent rats. Behav. Brain Res. 3;349: 163–168. doi: 10.1016/j.bbr.2018.04.036. Epub 2018 Apr 24. PMID: 29702177.

Yadollahpour, A., & Rashidi, S. (2014): Therapeutic applications of electromagnetic fields in musculoskeletal disorders: A review of current techniques and mechanisms of action. Biomed. Pharmacol. J., 7(1), 23–32.
https://doi.org/10.13005/bpj/448

Yeargin-Allsopp, M., Van Naarden B., Doernberg, N., Benedict, R., Kirby, R., & Durkin, M. (2008): Prevalence of cerebral palsy in 8-year-old children in three areas of the United States in 2002: A Multi Site Collaboration. Pediatr. 121(3), 547–554 doi:10.1542/peds.2007-1270.

Early intervention[1]

MÓNIKA GRUBER

The presence of conductive pedagogy in early intervention is continuous and natural; involving the relevant sensitive age group into intervention at the earliest date and teaching the parents were among the initial professional ideas of András Pető, and this was put into practice right from the beginning.

We drew up the professional protocol for our professional services in consideration of the legal regulatory background and started to apply the standard measuring tools. We join workshops in the spirit of openness and in cooperation with professional teams in order to support the efforts to find a unified path for children, transparent intervention aspects as well as common, inter-sectoral communication.

The arrival of a baby with impairement or whose the development came to a halt who had typical development beforehand will upset the family's life and the psyche of the parents, and siblings. They get scared of the task, they cannot handle their fears and problems, they worry about their child's life, their marital relationship also faces new challenges and the sibling(s) must also be prepared for the unusual situation. The parents face new and so far unknown tasks, they inevitably have to change their attitude and use their resources more effectively.

Targeted intervention must be started as soon as possible, in consideration of the importance of the sensitive periods and the family's opportunities. To that end, one needs to know the available methods, with special regard to the list of institutions providing pedagogical rehabilitation for free of charge. When checking the aspects of the specialists and the parents, it is typically a repeated question with regard to the known positive and effective methods: from where to where one can get, and how much time is needed for this.

THE IMPORTANCE OF PARENTAL COMPETENCES

The importance of impacts in the early childhood is significant compared to the later ages, therefore the first and most important step is to convince and involve the parent in the intervention process.

The importance of early intervention cannot be emphasized enough as the infant age is the critical period of brain plasticity. Infants accept new stimuli coming from their environment even without any conscious, directed attention. The primary and most important social medium is the family, the persons taking care of the child. The feedbacks and the reinforcements by the mother shape the importance of encounters

[1] Published in The manual of conductive pedagogy. More than practice. Editor in chief Éva Feketéné Szabó, Andrea Zsebe. Editor István Kollega Tarsoly. Semmelweis University András Pető Faculty, Budapest, [2020], 301–320.

with the stimuli. The new stimuli form and record the essential changes in the child's "brain map".

The presence of the nice, gentle, reliable and unconditionally accepting parent ensures the development of a safely bonding attitude in the child and that the child can establish balanced relationships in their later life. A condition for this is that the child's self-image develops realistically through the parents' reflective behaviour, and it is constantly built and shaped by further social connections and experiences. The nervous system of children goes through periodic development. New brain systems evolve as a result of stimuli and feedback deriving from important persons. Events taking place in the critical period of childhood are imprinted in the brain and influence the later quality of emotional life, empathic ability and social reactions. Learning through imitation and the consciously selected behaviour patterns are constantly imprinted in the brain, and this the parents' responsibility.

Working out appropriate habits needs practice and positive reinforcement, which the child learns in the primary social environment. The responsibility of specialists dealing with children with special educational needs is also undisputable besides the role of the family. Comprehensive intervention with the children who are entrusted with us needs a partnership between the family and the specialists with a view to effective education. The good health condition of children and their behaviour according to their mental age is connected to their feeling of comfort, which can be provided by a reliable, calm and stimulating environment.

EARLY INTERVENTION BY THE PEDAGOGICAL PROFESSIONAL SERVICE OF THE ANDRÁS PETŐ FACULTY

Subjects

The Pedagogical Professional Service run by the András Pető Faculty of the Semmelweis University is a unit of the Unified Conductive Education Methodology Institute.

Under the modification to decree no. 15/2013. (II. 26.) EMMI dated 1 January 2017, intensive interval education became officially accepted, and educational counselling can also be provided by conductors subject to their professional competences. This is typical in the case of prevention and children with late motor development, and it is mainly applied in follow-up.

According to its deed of foundation, the institution provides early conductive education and care, conductive pedagogical care and, if necessary, educational counselling in the case of central nervous system disease until the kindergarten age of the physically disabled infant or child.

Early childhood intervention, education and care are prioritized, key activities at the Pedagogical Professional Service. Within this framework, comprehensive psychomotor ability development is provided to infants and small children with different qualitative development from their birth due to central nervous system disorder, muscle tone difference or for another reason. It is necessary to test the babies' existing cognitive abilities, the quality and the pace of development from newborn age,

for which operative observation, the Kiphard development scale, anamnesis and the results of the neurological status must be considered, which is often started with screening completed by a neonatologist and a neurologist.

In the heroic days of our institute, education was focused, led by a strong social motivation, on children aged 3 to 6 years, who would be called today as multiple disabled. Later, the demand also increased on pedagogical testing and educating younger age groups, including infants. Led by András Pető, the conductors assisted mothers and children in finding the complex, common tone at the Parents' School, thus helping to adapt the institutional learning behaviour to the home environment. At this "small ambulatorium" Pető used the strengthening processes of group unity, the joy of common movement and the motivation from each other's appreciation. He set up spastic infant groups where he taught 5–7 children and their parents with simple intercommunication techniques. The comprehensive programme covered playful speech sound imitation exercises, basic and complex movement series for all limbs as well as tasks related to daily living activities. The number of children continuously grew and the demands extended. The importance of recognizing physically disabled infants as early as possible, teaching this to the conductor candidates and starting early care already began from 1947.

In the early 1960s, András Pető set up a "singing group" for infants and their mothers at the then National Institute of Motor Therapy. The institute became independent in 1963 and this was the only venue to provide comprehensive intervention for children aged 0–6 years, with central nervous system disorder. By 1973 already three School for parents were running in the country for disabled children under age three years and for their families. At the beginning, early counselling service was provided in collaboration with various hosting institutions.[2]

THE EARLY PERIOD OF CONDUCTIVE EDUCATION

The uniform management of the special, qualitatively different development process requires multi-dimensional teamwork, where the conductor is an active member *from the earliest age*. Supporting conscious parental behaviour and providing understanding and acceptance as general human necessities are closely attached to conductive education. Integration is a common goal in all walks of life.

Cerebral palsy is a developmental disorder of the immature brain, a status that does not progrediate but shows qualitatively different, changing symptoms.[3] Children with central nervous system disorder from birth have a different learning profile in addition to their special somatic and motor development. The disorder is static but the symptoms change with the development. The residual symptoms cannot be cured but the functional disorders can be moderated with intervention and education. The additional difficulties, the co-dysfunctions, the different quality of mental development, the learning disorders as well as the hearing, visual and feeding/eating problems require

[2] HÁRI 1997, pp. 153–154
[3] MEDVECZKY 2004

intensive and continuous intervention. These symptoms have a lasting impact on the children's socialization, on their everyday functions and on the quality of their life, and this status is also crucial from the viewpoint of family life.

Our institute provides complex conductive pedagogical intervention and education for children with CP and with special needs. Over the recent years, premature children were regularly born with lower and lower weight (in the 25th gestation week and under 450 g) and despite the direct and prompt help and placement in the Perinatal Intensive Centre (PIC) their development starts with different levels of sensomotor symptoms due to the serious immaturity of their nervous system. The ability profile of these children shows a special, typical pattern. Severe, multiple disabled children with motor dysfunction can have excellent mental abilities, and children who have speech disorders can prove with alternative communication methods that they follow the events around them. In the anamnesis of the children receiving conductive education at our institute the most frequent common factors are: fetal brain development disorder, prematurity, low birth weight, perinatal icterus, neonatal hypoxia, encephalopathia and neonatal convulsions. These joint symptoms make the integration efforts more difficult despite the fact that the inclusive approach is more and more typical at the pedagogical institutions and in the early care system. After leaving the segregated institution there is no assigned, uniform path for the children and there are no responsible specialists to keep track of the children's integration and future. The goal of conductive pedagogy is to reach orthofunction, the maximum development of motor and mental maturity within the individuals as well as comprehensive rehabilitation based on the children's activities, which can be implemented in diverse pedagogical environments and in various forms, according to the available intervention methods. We also run *intensive, interval-type* residential groups at the Pedagogical Professional Service in addition to the out-patient and whole-day intervention schemes. We regularly attempt to integrate children from the segregated institutional framework into the national conductive network, for special education development and into traditional kindergarten and later school education, according to their psychomotor development level. The study (analysis of a high case number of MR tests) conducted by Erzsébet Balogh, neurologist at the Pető Institute, revealed that prenatal disorders (52%) are much more typical of children with CP than the previously dominant perinatal damage.[4] This draws the attention to the importance of prevention, to *conscious parental behaviour and to the significance of providing preventive psychoeducative information* before and during pregnancy.

THE PRACTICE OF EARLY INTERVENTION

Recognition

The birth of children with special needs is in most cases a crisis situation that one cannot prepare for due to its unexpected nature. The arrival of a newcomer brings about change

[4] BALOGH E. – KOZMA 2000

in the family also in itself, but some kind of a health problem will multiply the required attention, time, energy and financial burden, which will pose difficulties to the family members. The whole family will undergo an increased psychic burden.

The Pedagogical Professional Service provides "follow-up" to help integrate the discharged, integrable children into the assigned and selected institutions. Individual counselling helps to discuss the current problems and, if necessary, to contact the pedagogues of the hosting institution. We organize the required medical controls by orthopaedic specialists and neurologists, issue certificates about the child's current status and make proposals for school education. There is a need for specialists who support co-education, visit the hosting institutions, assist integration and successful adaptation within the child's daily routine and keep contact with the pedagogues and parents in order to interpret and assist individual treatment. In addition, supportive guidance for multiple disabled children with serious physical damage is also necessary at home and in the family environment in order to prepare institutional placement. This covers practical counselling to help rearrange the home environment, working out the daily routine and teaching the proper use of aids.

Conductive pedagogical work is characterized by commitment to the holistic approach, which is a specific lifestyle that also involves the children's families. In addition to comprehensive intervention, our goal is to involve both the direct and the wider environment into the intervention work. The hosting institutions often employ psychologists subject to the special needs, and this task can be completed in many ways by the experts who have special skills and are familiar with the counselling techniques.

The conductor – being a helping, caring and rehabilitating pedagogue and therapist – carries out the intervention through a wide repertoire of activities, so *cognitive and motor development is handled as a complex event.* The conductors work as a homogeneous team in the institute's child groups but regularly check the plan and the schedule of intervention with the representatives of the associated professions.

The conductor may organize habilitation and rehabilitation sessions for health and/or pedagogical purposes if this is found necessary by the specialists of the expert committee.

At an early age, brain plasticity requires the most active intervention considering the age characteristics and the child's need for permanence within the daily routine, which can be done the best through "teaching" by the parents.

Prevention, screening, conductive counselling

Screening and counselling is a parallel teaching and practicing process, this holistic approach and complexity should be used for mapping the baby's sensory organ functions, perceptions and the early maturity of its nervous system, in close cooperation with the neurologist. The doctors, pedagogues, therapists, educators and intervention specialists focus on the special children in unity with the families around them.

Screening is the conductive assessment where we use our knowledge of neuroanatomy, neurological disorders as well as pathological and existing reflexes in order to check – through operative observation and manual tests – the baby's motor patterns, the development of sensory and perception organs, crying and direct reactions. Special professional activities are carried out with the consent and support of the

hosting institutions (e.g. pediatrician's surgery, health visitor service, PIC department). Local conductive pedagogical prevention counselling is provided at two clinics of the Semmelweis University and in the pediatrician and health visitor surgeries of the Budapest districts, in cooperation with the specialists working in primary care.

The goal of early screening is that those in need should be assigned to conductive education at the earliest possible date so that intervention with the infant can be started as soon as possible.

In justified cases it is also discussed upon the first assessment what help the child needs for starting personalized development as soon as possible. At the later sessions the parents and families learn in the course of psychoeducation how to actively help the children's optimal psychomotor development. The purpose is to mark out and launch the individual paths for development.

Early age symptoms and signs calling attention

The Pedagogical Professional Service supports the common learning processes of infants, babies and their parents through various professional activities from the earliest age up to six years of age. Early conductive education is recommended to premature infants with central nervous system disease, , with muscle tone difference and delayed psychomotor development.

Pediatric neurologists often send infants to the Pető Institute with generalized and constitutional hypotonia and psychomotor retardation, and it may lead to a central nervous system disorder as well as to specific learning disability if comprehensive intervention is not started without delay.

The proper functioning of the sensory channels is a condition to sensorimotor learning. After birth, the attention channels of various modalities are constantly reorganized, and their quality is determined by the quality of sensing, perception, application and processing. The cerebral cortex controlling process may be different from birth, and development may already be blocked at the fetal stage. The various quantitative indicators and quality attributes must be observed on several occasions and in many situations, and the development process must be evaluated in a complex form, in the knowledge of the development areas and the key factors. The early regulatory patterns of the infant as well as the underdevelopment of the system of internal regulation and adaptation to the circumstances indicate the developmental deviations and promote early recognition. The quality of the infant's mental health is the result of the mutual interaction of numerous factors. Psychomotor development is founded by the regulation of physical statuses, the process of mutual regulation, the characteristics of activities with objects and the features of the interaction patterns related to the environment.

The provision of care can be requested until the age of 18 months based on the diagnostic opinion and therapeutic recommendation by a pediatric neurologist, which requires no expert opinion. Children with a different development course can also receive early psychomotor intervention after the age of 3 if they cannot join kindergarten education. The features of vigilant statuses and self-comforting, sleeping, eating and feeding difficulties, issues related to the regulation of emptying and the special manifestation forms of regulating emotions may be signs for the specialists,

which must be analyzed jointly with the parents and further control and involvement must also be planned accordingly.

The conductive pedagogical assessment

The task and the goal of this special area is closely attached to the conductor-training content of the András Pető Faculty; it is connected to the primary proposal of the Member Institute of Motor Examination, Special Education Counselling, Early Intervention, Education and Care of the Budapest Pedagogical Professional Service and to the task of associated professions to give opinions and to make proposals. The purpose of the complex assessment of children at various ages and with various levels of physical disability is to decide whether conductive development is necessary and to make a proposal on the method, the form and the place of conductive care. The child's social behaviour, attachment style and spontaneous playing activities must be assessed upon the first observation.

Detailed and time-consuming diagnostic and symptom-revealing work is needed to decide whether the child needs intervention and what educational form is the most effective for him or her. Information must be gathered to see whether the motor and supplementary symptoms, the mental status facilitates *active, bilateral intervention work*. The medical precedence must be revealed through counselling, and a conduction-oriented anamnesis must be made to analyze the key events affecting the child's status from conception up to the current state.

Comprehensive intervention covers the launch of physical disability-related direct cognitive skills (sensing, perception) and indirect cognitive skills (attention, memory, thinking) as well as speech, communication and social skills. Besides dynamic intervention with infants, children actively influence their environment and their own development. In the case of different motor asymmetries, the other side must be practiced by improving self-initiated motor patterns, by confirming the correct solutions with positive feedback. The constructive components pervade the everyday routine activities and the planned sessions based on a unified approach.

We provide the baby with independently made movements and with the feeling of success up to one year of age, and thus the mother can also experience success. We presume congenital, operable brain programmes, and, based on this, build our individual intervention plans after mapping the strengths and weaknesses. At the sessions, the infant experiences the environment, the human language, the social contacts and its own impact on the external world with the help of the conductor. The process leads to common learning. The creative intellectual, physical and emotional components also retroact to the operation of genes through a consciously controlled cooperation strategy. Efforts must be taken to harmonize the behaviour controlling mechanisms by stimulating the nervous system, through conscious conditioning and based on internal motivation. The memory traces are made permanent by playful

learning, curiosity and creativity. The goal of early intervention is a development programme compiled with conductive pedagogical awareness and its adaptation to the home environment.

The brain function must be consciously programmed with purposes differentiated within the group, and adaptation to the environment must be promoted. The injured brain areas are "re-wired" by practicing the tasks. The connections between the neurons get stronger by applying the learned skills in various contexts. Attempt must be made for an effective, deep learning-recalling process through internal motivation. The basis for developing thinking is that the child acquires action-based experience about their direct environment. Efforts must be taken to provide – through the joy of group sessions – basic, age-conform circumstances that are needed for effective learning: to create a stimulating environment, human language and active listening, social connections, own impact on the outside world and the feeling of success.

Balanced regulation processes are promoted through planned sessions: releasing inhibited activity, obtaining direct, multi-channel information, balanced attachment, setting the daily routine, the periodicity of sleep and being awake, learning independence and eating, sensory integration, emotional development, communication and speech development, acoustic and visual perception and basic motor skills.

Partnership and common learning become effective and trustful through the unified work of the child, the parent and the conductor, which also mobilizes social cognition in order to reach the set goals.

"The task of early intervention is comprehensive intervention and prevention in early childhood: to promote the child's development from the time when the eligibility for care is established."[5] A prioritized programme is to strengthen the family competences and own resources, to provide all-round support and concrete counselling, to make preparation for providing a special environment deriving from the specific tasks in the interest of the special child.

The Pedagogical Professional Service of the András Pető Faculty uses the *Kiphard test* development chart to survey the child's sensorimotor development and current, specific condition based on the development level of five functions. Its goal is the early detection of development disorders as well as to survey underdeveloped areas, strengths and weaknesses and the operation of sensory organs and motor functions from the first month up to the 48th month. The result of the completed tasks provides the approximate development age of the child, the development quotient (DQ) and, based on this, the rate of the age and the development level. DQ under 100 shows development with a pathological disorder. Each specialist contributes their own expertise to the accurate diagnosis according to their specific competences. In the course of the diagnostics process, the conductor explores in details and supplements the symptoms, the problems with the sensory organs and with perception as well as the child's strengths and weaknesses.

[5] Decree No 15/2013. (II. 26.) EMMI on the operation of the pedagogical assistance service institutions

Key forms of intervention:

- the special form of conductor counselling, screening, prevention
- first conductive pedagogical test, counselling in early intervention and care
- individual sessions in pair situation
- group session, baby-mother group based on age and psychomotor development level.

Regular sessions must be organized individually and in groups for the sake of effective intervention. Individual sessions are recommended if the child's psychomotor level and age does not reach the level of group sessions yet. When making preparations for the group session, we learn – besides sensitizing the parent – the child's temperament, individual features, motor status and willingness to cooperate. Group sessions must be scheduled on a weekly basis, according to the children's age and motor development.

The plan and the schedule of intervention in the Institute's child groups must be regularly checked with the representatives of the associated professions (speech therapist, neurologist, orthopaedic physician, ophthalmologist, dentist, teacher, psychologist). Coordinated work is important between various fields (social area, health, public education, child protection, child welfare, health visitor network).

The positive impacts of conductive education at infant age

We use the modular, multi-channel method of gaining experience in order to deepen the learning process and to make it permanent within the consciously worked out daily routine. This helps effective information processing and the interaction of motor and cognitive functions. The components of planned group intervention help to mature the highest order of cognitive functions that can be attached to the frontal area.

The abilities needed for learning are founded by the first year of age. We provide the baby with independently carried out movements and the feeling of success, thus the mother also has the feeling of success. The infant experiences the environment, the human language, the social contacts and his/her own impact on the external world with the help of the conductor. The process leads to common learning.

Comprehensive education provided within the framework of early intervention covers the development of motor activities, cognitive functions and daily living habits, in close cooperation with the direct family members. Special emphasis is laid on developingmanipulation, playing activities and communication channels, building the body scheme, extending the child's knowledge and experience and setting tasks to prevent the pathological progress of the main dysfunction.

The goals of the baby-mother groups as well as individual and pair interventions are as follows: assisting education in the family, actively processing the stimuli of the environment and encouraging successful adaptation to them as well as preparing the children for kindergarten and school life.

We lay emphasis on prevention in order to flexibly adopt various conditions and attempt to prevent co-dysfunctions and to ease the existing lack of abilities by customizing the individual development plans. At the individual and group sessions, the tasks agreed in order to reach the set goals are conveyed by the parent to the child

with the conductor's direct, guiding and instructive help. In the course of the interactive cooperation we teach the parents to apply and use the learned motor skills according to the age characteristics. At the counselling sessions we discuss the individual features of the child and the beneficial impact of the environmental conditions adapted to their temperament and encourage the parents and the environment to adopt an accepting attitude. The conductor, the parent and the child develop in a threefold unity as a result of the wide repertoire of activities.

The child will gain knowledge of the environment from the mother's behaviour. The mother's repertoire – which means the face, the voice and a variety of expressions – has an important role. The child's behaviour is arranged into a uniform motor pattern based on the feedbacks and the reflection. In this period the child's brain is 80-90% of the adult's brain and its body is 18% of the adult's body. After the balanced development in the uterus, the brain development is influenced by the quality of attachment to, and harmony with the parent.

The basic, constructive components and methods of early intervention

- planned group impact embedded into a daily routine
- individual differentiation
- multi-channel repetition
- rhythmical intendation, rhymes
- motor coordination
- songs, didactic games
- intensive partnership with the parents

Early intervention aims at teaching and sensitizing babies and mothers to the professional programme in a small community, individually and in groups, using the positive group impacts, from the earliest, optimal date. The counselling sessions and the common intervention programmes reduce stress in the family members, they will put more trust into the future, the quality of interaction will improve within the family and the family will function at a higher level after the counselling session. They will realize that they are not left alone with their problem but they can share it with families coping with other, similar issues.

The importance of group intervention can be experienced through the participants' cooperation and satisfaction in the course of everyday work. Dynamic group planning is matched to the current needs. There is a circular process from adaptation to the development to discharge, which is closed with a control session until the integration in the community.

SENSITIVE LIFE STAGE

The sensitive life stage is a receptive period when the optimal environmental impacts can most effectively develop certain cognitive functions. In the given period, development takes place according to a regulation schedule and the early sensitive period offers a common observation framework for the children's development. The body scheme of the brain and the related functions can be shaped plastically according to the usage under the "use it or lose it" principle, and the development can be tracked

through the whole life. Children develop themselves and get adapted to the local circumstances. They attempt to contact the external world based on their internal features, and this quality determines the development of the nervous system, which is of key importance at the early age. The conductor organizes the optimal learning environment in conformity with the child's age and condition. The appropriate emotional and social attributes must be improved during the group work. We presume a *flexible intellect* and various levels of the ability of attention, which can be stimulated at the beginning by improving the quality of attachment. We support the dynamic maturation and development of the brain along the key milestones of the given life stage, in consideration of the individual needs and qualitative deviations. The complex methods of the conductive pedagogical system and the brain plasticity strengthen each other. According to the conductor competences, we support the maturation processes with targeted, customized practice, feedback and reinforcement, in harmony with the age characteristics. In practice, the conductors integrate their neurological and neurophysiological skills into the children's daily routine by designing the task series in conformity with the age characteristics. The cortical reflections are dynamic and can be changed, the body scheme of the brain can be shaped plastically according to the usage. In the course of the imaginary practice the person believes that s/he is able to carry out the action. Supporting the process of becoming a parent, the professional responsibility for the first three years, the knowledge and consideration of the milestones of children's socialization and development at infant age is a part of the planned conductive pedagogical programme.

GROUP SESSIONS

Parent and child groups

The goal of the parent and child groups as well as individual and pair intervention is to assist education in the family and to prepare the child for kindergarten and for later school life. The group session form, one of the basic principles of conductive education, is already applied by the specialists at an early age. The condition on joining the group is the completed 6 months of age as well as appropriate physical and mental maturity. It is important that both the children and their parents should be ready for the group sessions before joining the group. The parents meet other parents facing similar problems, they learn to manage their child's needs, to accept themselves and to pick up new ways of dealing with the difficulties. The children's socialization develops through spontaneous and motivated activities.

The conductor conveys faith through the wide range of activities and the parents reflect positive emotions to their babies. We plan, prepare and presume self-initiated task completion, the conductor simultaneously holds the hand of the child and the parent, praises and encourages them, speaks, shows, provokes and appreciates at the same time. The parents can try themselves and can also gain experience about themselves. The happy time spent together makes the participants calm and brings them forward, seriously disabled children are also capable of paying directed attention and actively participating in their own development at their current level. Communication

– as a tool – is essential in our work. Explaining, interpreting, calming as well as affectionate mimicry radiated to the child will involve all participants into the interaction processes.

The groups must be designed based on age and motor status, they are interoperable and built on each other. The groups have 4–6 children, which also conforms with the laws. Beginner and advanced groups, groups to prepare walking and walking groups for typically developed children, children with delayed motor development and children with muscle tone distribution disorder. We run a kindergarten preparation group for children with central nervous system disorder, thus giving the chance of successful integration in the community. Children with multiple disability / severe motor status are placed in small groups and are treated with individual differentiation. Special emphasis is laid on teaching independence and on preparation for kindergarten life. It is a basic task to work out a confidential relationship with the parents, to teach the bases of the method, to shape their attitude and to sensitize them, to encourage them to regularly applying what they have learned.

Residential and outpatient parent and child group (intensive, interval education)

The "residential and outpatient parent and child group" operated in the area of the Pedagogical Professional Service is a special unit of conductive education. Family-centred care is provided within the framework of special, interval conductive pedagogical education, while the required conductor skills and competences are also taught to the conductor-students of the András Pető Faculty through their internship.

Within three week sessions there is an opportunity to observe the child in details, to draw up an individual development plan, to set long-term goals according to the child's temperament and individual learning pattern, and on this basis the specialists can carry on individual intervention at the child's residence until admission to kindergarten.

This intervention situation offers the chance to build social relationships, to set up parental self-support groups and to experience accepting and unconditional love. All this can be provided at one place, under appropriate material and professional conditions. There is an opportunity to observe the child in details, to draw up an individual intervention plan, to set long-term goals according to the child's temperament and individual learning pattern, and on this basis the specialists can carry on development at the child's residence until admission to kindergarten. The individual goals must be modified and reassessed as well as the home experiences and doubts must be clarified in the course of the next admission. Family-centred care is provided within the framework of conductive pedagogical education.

Comprehensive and intensive intervention is recommended for intensive movement and cognition development and for quick success, whereby the children and their parents learn together how to adapt themselves to each other and how to repair the symptoms of the impaired and qualitatively different development process. This intervention situation offers the chance to build social relationships, to set up parental self-support groups and to experience accepting and unconditional love as outpatients for those living in Budapest and as residents for those living outside Budapest. At an

early age, brain plasticity requires the most active intervention, considering the age characteristics and the child's need for permanence within the daily routine, which can be done the best through "teaching" the parents.

Communication with the parents

Many of the varied symptoms of early childhood – that derive from the different development tracks of children – disturb the establishment and the development of a balanced parent-child relationship. Earlier, treating regulatory disorders and symptoms related to eating, sleeping and behaviour was the competence of the health care system. Over the recent years, the associates of the pedagogical professional services have encountered the complex problem of this age group and their parents and families, often arising from a psychic background, that may also be manifested in a connection or communication disorder. The team work of the associates of the pedagogical professional services and the presence of the psychologist provides the opportunity of therapeutic care to children, parents and family members within the organisational framework of educational counselling. Trust and open – first problem-focused and later connection-oriented – consultation with the responsible person or with the specialist is indispensable when defining the parental needs, whether concerning child care, own difficulties or the undeveloped path of the child.

Controlled discussions with the parents on the interventions belong to the conductors' daily routine. Based on the detailed analysis of the child's current status we make a proposal on family interactions, on the daily routine and on jointly working out a solution to the difficulties and problems arising from the child's disability and different development.

Consulting and providing information to the families covers psychological, educational, pedagogical and health issues related to the child's special status and different development. Rendering assistance and counselling on enforcing interests is an important aspect. In justified cases, outpatient care and intervention can be provided to children until the age of 6 years. From among the communication forms, special emphasis is laid on parent group discussions, parent-specialist consulting and individual counselling upon personal enquiry. Trained specialists run mental hygiene sessions in the intensive group on a weekly basis.

The members of the conductor team also attend the case consultations and discussions in order to work out successful and trustful parent-specialist connections.

The *mental container* function is a psychological term, a tool that helps to deal with the hard reality, to process the child-related anxieties and to accept the situation. The conductor gives physical and emotional responses to modulate the parents' unmanageable feelings and provides feedback that they are understood together with the causes that evoked their anxiety and contradictory emotions. They can experience that they are not alone, there is support, acceptance and help.

Types of parental questionnaires

Parents are addressed with our questionnaires in various ways, for various reasons:

1. As a part of pedagogical, management and institutional inspection for quality assurance.
2. Parental satisfaction questionnaires upon closing the intensive intervention.
3. Connected to thesis topics
   - prejudice, integration
   - status of the disabled child in the family
   - the role of siblings, the impact of the special child on the family members
   - quality of the care system, difficulties, fighting techniques.
4. Satisfaction questionnaires in baby-mother groups before discharge.
5. In prevention and screening, as a part of cooperation with health visitors.
6. To survey needs in parental mental hygiene groups.
7. Sensory and motor experiences from the viewpoint of parents.

OUTLOOK

When preparing the keynote material entitled "Communication with the parents in professional service covering special education counselling, early intervention and care" we summarized the experience of the joint work at the tertiary education workshop focused on early intervention. We reached the following consensus about conductive education:

The conductors and the conductor candidates spend the most time, and are in the closest contact with the children and their families upon the training.

At the András Pető Faculty of the Semmelweis University parent groups are run by trained specialists with mental hygiene and psychoeducation content.

As a good practice, intensive interval education is carried on with active cooperation between parents and specialists (by also using the opportunities provided by the current legal regulatory background), where parents and children learn together for three weeks.

The relationship between specialist training and practice is regularly extended and transformed in conformity with the needs. The faculty issued a guide for professional field practice so that knowledge and the collected experience can be passed on. The training institution receives a lot of indirect information on early intervention through the new practice fields. The students can directly learn about the "controlled family education" model, which develops their basic pedagogical competences, active listening, empathy and social attitude. The presence of the practice leader mentor protects the parent-child rights and ensures that undisturbed care is provided beside training. The attention of the practice leader attending the groups is divided between the children, the families and the students. Conductors with a special exam have direct experience and integrate their skills into theoretical training.

There is a true demand on cooperation between sectors and on communication between professions with a view to effective and optimal intervention. This is supported by using the common professional language, the client-centred, system-

oriented approach, the interdisciplinary teamwork as well as the knowledge and respect of the competence limits. The planned processes are all advanced by equal-rank communication, partnership with the parents, assertive counselling and the elaborated forms and rules of online communication. It is important to educate parents within the institution and through official projects and to make them aware of their experience, furthermore to process problems and to provide professional presence on important information platforms.

The educational strategies of early intervention:

- clear and easy-to-understand definition of tasks and goals
- emphasis on open and supportive communication and positive feedback
- elaborating the system of consistent and uniform pedagogical and family requirements
- respecting children's rights, creating a safe environment
- regular control, monitoring the educational principles
- strengthening family resilience
- creating a safe and loving background
- stimulating the independent acquisition of experience and forms of self-initiated movement
- respecting individual features, developing the quality of complex behaviour patterns

Present focus

Now is time to approach the results of the conductive educational system from a scientific point of view. Our practical experience must be made comparable with the measuring results of associated sciences, and recognizing the common points can serve as a basis for professional cooperation in order to help special children and their families. The *uniform system approach* can help the associated professions to learn more about each other's work and to supplement each other's activities.

There is a need for a common, modern approach, for a professional language and for uniformly interpreting the holistic approach. The special development process – which differs in terms of quality – requires multi-dimensional team work, where the conductor is an active member also with children at the earliest age. Support to conscious parental behaviour as well as providing understanding and acceptance as general human necessities are closely attached to conductive education. Integration is a common goal in all walks of life. Understanding, love and patience form the basis of all caring professions, and the representatives of various methods are differentiated from each other by the diverse ways of treatment and support. There are method-specific differences between the caring professions.

Better learning each other's work extends the circle of early interventions and methods available to the parents and helps to create a truly supportive, retaining professional network, where the conductors of early conductive education are active and recognized representatives of the profession.

Professional milestones in the rehabilitation of adults[1]

PÁSZTORNÉ ILDIKÓ TASS

When I was asked to give this celebratory lecture today, I started thinking about how and in what way I could best honour the memory of Dr Hári, who worked in her quiet and humble way on accomplishing her "Pető"-like lifework until her death. Everyone within the walls of this Institute knows how important the "AIM" was to Dr Hári. This is how she always used to speak about preserving the values of conductive pedagogy and conductive education. She passed this approach on to us, and for us, her descendants, it is an elevating mission comprising high responsibility to carry on our spiritual heritage while preserving the values. In this mission, the importance of preserving the principles of conductive education in the broadest sense, and of implementing them in the daily practice, both for the congenitally and for the acquiredly handicapped, was natural for her.

Conductive education is effective even in case of adult neurological injuries. In the adult groups, the methodological results have been preserved in a consistent form. The symptom- and dysfunction-specific composition of the groups is intentional to facilitate the application of targeted rhythmical intentionality in solving the typical tasks, in accordance with such symptoms and dysfunctions.

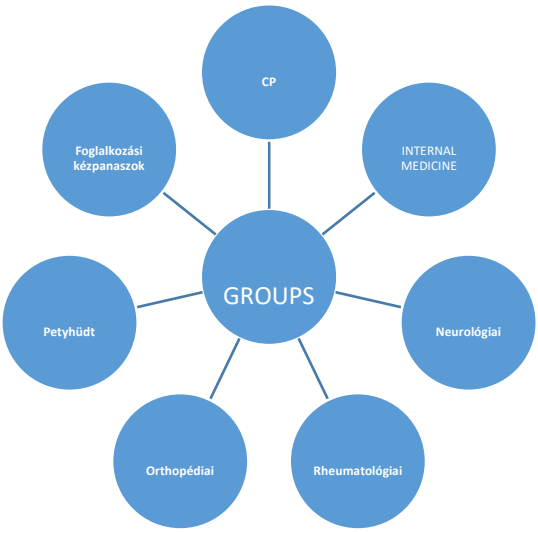
In this celebratory presentation of today, I would like to illustrate our work through non-statistical data. From the history of the last 71 years, I would like to highlight the professionally significant milestones that have defined and significantly influenced our work in adult rehabilitation, and without which the current practice would not exist.

The beginning: conductive education as part of the health care system – 1950–1963[2]

The practice of conductive education and the training of professionals for conductive education have developed in parallel and simultaneously. "The National Institute of Movement Therapy was opened on 1 February 1950, under the leadership of Mr. Pető, in recognition of the effectiveness of the conductive movement therapy method. Anna Ratkó, the Minister of National Welfare, appointed Dr. András Pető on 23 February 1950, with retroactive effect from 1 September 1945". [3]

Interest was huge, 160 children and adults were accommodated in the institute right after the opening, while the outpatient clinic started working with 150-200 people a day, in the framework of 1-2 hour-long sessions. The news about Pető's practice spread quickly, and in addition to working with children, he was also efficient in

[1] Read out at the Mária Hári Professional Symposium on 13th October 2021.
[2] Pásztorné Ildikó Tass (2018): A konduktív nevelés helye és szerepe a rehabilitációban. Múlt-jelen-jövő. *Tudomány és Hivatás,* online periodical of Semmelweis University, András Pető Faculty, 2018., Issue 2, pp. 11–29.
[3] Hári, Mária (1997): A konduktív pedagógia története. Bp., p. 44.



providing "adults with chronic complaints with movement and complex therapy".[4] As a result, in addition to the groups for patients with central nervous system injuries, Pető set up special ambulatory groups for people going to school and work.[5]

In the 1950s, "as a department of the College for Teacher Training in Special Education, the National Institute for Movement Therapy was obliged, as a teaching institution, to deal with all kinds of "diseases" that could be treated with movement exercises or in the treatment of which movement exercises played a dominant role (neurology, paediatric neurology, orthopaedics, rheumatology, internal medicine, occupational diseases)."

Certain elements of conductive education were already recognisable in this period, although many other elements did not exist at that time. Nor did the terminology correspond to those expressions we use today in conductive education. There were no conductors yet, instead, there were *movement therapist nurses* working in the institute, who used the so-called *treatment rooms* to carry out a *series of exercises*, which were, in form, content and level of elaboration, not even similar to the series of tasks we use today. The range of clients was wider than today, resulting in plenty of experience accumulating over the decades. Today these can mostly be recognised in the adult task sets and the facilitation methods used there. In addition to a large number of spastic and flaccid paraplegic groups, Heine-Medin hand and foot groups as well as Dystrophy groups were also launched in the Institute, many of which were run as residential.

As a doctor, Pető knew that movement also has a great impact on the functions of the internal organs, as it positively influences the corticovisceral and the functional, regulatory balance, which has an impact in vegetative disorders. He intended to improve the symptoms emerged due to internal problems in the vegetative, circulatory and respiratory groups. In addition to organic problems, complaints may also be resulted by functional disorders, and the developed series of exercises were designed to address these.

Through these series of exercises, the participants learned correct, rhythmical breathing, conscious and appropriate modification of the tone, voluntary relaxing,

[4] Hári, 31.
[5] Hári, 44. Nowadays we do not use the term patient so that we would not reinforce disease awareness.

stretching and rhythmical movement in such a manner that these would together create the correct functions of the autonomic nervous system. Inserted breathing exercises gave colour to the sequence of exercises that engaged the whole body. All large movement exercises involved fine movements of the hands and feet.

The sequence of exercises had to include gradually accelerating, fast, very fast, gradually decelerating, slow, soft, loose movements from big swings to the finest ones. Pető knew that the internal organs could not be controlled consciously, but ideatorial relaxation was still possible (we taught the patients to relax their limbs so that they hung almost lifelessly, like a rope, and fell, so to speak, with their own weight after every movement).[6] Milán Füst and Imre Pán (art writer, poet) also attended the vegetative group. Although some sessions were filmed, unfortunately these have not survived.

The origin of complaints of *circulatory group patinets* is not functional. Their exercises aimed at reducing circulatory-related disorders. They can be used to help recovery from serious illness in patients for whom the acute, in-hospital, internal medicine treatment has been completed. Furthermore, patients who are lying immobile with serious illnesses may also need to improve their circulation. In case of the group with such diagnosis, exercises had to be done very slowly. Care had to be taken in order to avoid fatigue. They were not even allowed to speak out the exercises loud, only within themselves. Intentions were given by the leader of the exercises. The sequence of exercise consisted of short active periods and longer resting phases, circulation improving movements and low-amplitude peripheral movements. In order to improve the circulation and the ability to move simultaneously, Pető considered the setting of circulatory exercises coupled with breathing to be the first task. He expressly recommended performing the exercises outdoors. The heart rate and the tension needed to be monitored regularly. The application of rhythmical massage was also part of the programme.

Programmes of the *respiratory group* helped patients with various respiratory disorders, asthma and cardiac asthma. The series of exercises composed by Pető for other groups of illnesses (smooth, staggered, with pinched nostrils, buzzing, Valsalva, singing, arm lifting, breathing capacity increasing, etc.) also included numerous breathing exercises of various types, as proper breathing is essential for relaxation and for learning to speak as well as in case of chest deformities, scoliosis and Scheuermann's disease. Exercise sequences have influenced different respiratory disorders through teaching inhaling and exhaling. Exhalation is particularly important because if we do not let out the right amount of air, the lungs may stagnate for a while, which can cause damage. In cases of asthma, bronchospasm, difficulty in emptying phlegm, weakness and stiffness of the chest movements cause the symptoms. Exhalation is particularly difficult. The aim of the programme was to increase breathing capacity, prevent choking phenomena, teach coughing and expectoration, teach exhalation, relieve spasms, increase sympathetic nervous system tone, improve chest volume and movement, and set up a fear-free lifestyle.

[6] Hári, Mária: A konduktív pedagógia története. Budapest, 1997, 47.

A large group of patients were *orthopaedic cases*. On an individual basis and for small groups, Pető also created personalised series of exercises for groups with scoliosis, rib hump, sloppy posture, Scheuermann's disease and luxation. Some of the programmes dealt only with deformities of the foot (flatfoot, clubfoot, peroneus).

Another series of exercises related to the field of rheumatology. The *joint group* comprised a variety of joint problems. The waist-arm-leg groups (abbreviated as DKL), the spine-arm-leg groups (GKL) and the joint groups were also very popular. Descriptions of exercise series for patients with periarthritis (a specific inflammation of the connective tissue around the shoulder joint) have also survived. He set up several groups for patients with Bechterew's disease.

During this period, special series of exercises were developed. The special hand exercises were designed for people with peripheral and occupational complaints (typists, violinists, pianists). Shoulder, elbow, wrist and finger movements were included in all these exercises. Arm movements were complemented by leg movements on the same side and finally by arm and leg movements on the opposite side. The tempo was accelerating, decelerating, slowing, slow, fast, or variable, as the rhythm and tempo themselves were also facilitating. With the exercises developed, very good results could be achieved. He also worked with well-known people. Imre Antal pianist also asked for Pető's help. So far, the set of exercises prepared for him has not been found.

In the *facial groups*, the series of exercises prepared by Pető addressed the consequences of peripheral and central facial paralysis. In these exercises he relied on the cooperation of the feet, mouth, hands and eyes. The mouth and the gazing movement interact, the movement of the mouth and various head positions, movements in the same direction also have a facilitating effect. For example, he facilitated the closing of the eyes by turning the head. He considered it important to provide continuous feedback. For this purpose he used touching by thumb as well as mirrors, wand, blowing on the hand, and also took advantage of the potential in passive movements.

In addition to the clientele programmes described above, which are no longer part of our current practice, outpatient groups for people living with adult neurological conditions (Parkinson's disease, Sclerosis Multiplex, post-stroke state, post-traumatic brain injury, spinal cord injury) were in operation as early as the 1950s. Based on practical experience, it can be stated that thanks to this complex and systemic approach working with systems based on each other, adult neurological patients with central neurological disorders can be successfully rehabilitated through conductive education.

The professional achievements of the 1950 to 1963 period continue to influence our work today. During this period, the theoretical foundations of conductive pedagogy (for children and adults) were extensively tested. A large number of *excercise series* were developed, the experience of which has been preserved, particularly in the adult task series. *The first version of the integrated, complex programme was created.*

New Era

The Institute for the Education and Training of the Disabled was established in 1963 as a new institution of the administration of education. The tasks of the institution are supplemented by the training of teachers (conductors) for the education of the disabled,

the rehabilitation of the disabled using special (conductive) methods, the education of children under the age of compulsory schooling and the provision of nursery education, the education of children in the age of compulsory schooling and the in-school and professional education of minors and adults above the age of compulsory schooling. Furthermore, the requirement to conduct scientific research in relation to the use of the conductive method has also emerged.

Over these decades, the clientele was under constant transformation, while the range of services was narrowed down to the conductive education of children with CP and adults with neurological impairments. The sophistication level of the programmes has steadily improved. The early excercise series used to be rather sketchy, requiring supplementary verbal instruction and training for their application. Their implementation required personal supervision. The documentation of processes was also inadequate. As a result, reproducibility was not ensured. In the interest of quality, these concerns needed to be addressed. This requirement could only be satisfied through detailed specification of the tasks for individuals or groups and through the clear definition of what is to be done, when and in which position, furthermore, if the purposes of using certain methods (in a lying, sitting or standing position) are also clarified. The documentation shall also clearly specify how rhythmical intentioning is used in a targeted and condition-specific way depending on the diagnosis/dysfunction. In addition, individual solutions and differentiations used shall also be recorded. The document compiled this way is recognized as a task list and provides the necessary basis and support for its implementation, while also meeting the requirement of reproducibility.

Differentiation and perfection of rhythmical intention

Rhythmical intentionality itself also has a facilitating effect. It involves two important factors: the volitionalisation of the activity and the rhythm associated with it. It is used appropriately for different diagnoses, in different ways depending on the diagnosis, dysfunction and condition. In addition to a precise definition of "what to do and how", we also need to define the tempo that appropriate, not only for the individual concerned, but also for the whole group, and provide clear instructions on the appropriate rhythm to use. The proper use of rhythmical intentioning is also very important for children with CP. In daily practice, however, it is mostly in the adult group setting that we see different ways of application based on diagnosis-dysfunction and state of the patient.

For stroke groups, there is a significant difference in the implementation of rhythmical intentioning between beginner and more advanced groups. In beginner groups, the tempo is very slow and sluggish. The rhythm is steady. The use of tone is also very important. It is very monotonous because it is expected to achieve relaxation. In the intermediate group, the tempo is slightly faster, the rhythm is still steady and the tone is monotonous. In the advanced group, the tempo is even faster and the aim is to develop rope-like limb movements in the so-called "swing" groups.

In the SM (Sclerosis Multiplex) groups, tempo is faster than in the stroke group, but much slower than in the Parkinson's group. Rhythm here is steady again. In advanced groups the tempo can be further increased.

The rhythmical intentioning used in the Parkinson's groups is the most unusual of all. The tempo is fast even in the beginners' group, the rhythm is varying and very dynamic throughout. The most unusual part is the use of accents: the first and last counts are accented. The reason for this is that for people living with Parkinson's disease, starting and finishing the movements are both difficult. This is why correct and purposeful intentioning in such cases looks like that.

Breakthrough in funding: adult rehabilitation activities financed by the National Health Insurance Fund of Hungary (Hungarian abbreviation: NEAK)

In the historical antecedents of conductive education, specialised excercise series for adult neurological pathologies appeared as early as the 1950s. From the beginning, the institute ran groups for Parkinson's and Multiple Sclerosis patients, appropriate to the level of their condition. People with hemiparesis could participate in the rehabilitation work of conductive groups in the framework of beginner, intermediate and advanced programmes. Aphasia related and Parkinson's speech programmes also have a long tradition. Groups for people with traumatic spinal cord injury and traumatic brain injury have also been present in our care programme from the beginning.

In case of children, the status of conductive education has been clarified for decades with legal regulations providing the background, and the way and mode of access is also clear. In case of adults, on the other hand, the circumstances, conditions, place and the role of conductive education within rehabilitation was unclear. In Hungary, rehabilitation services (*narrowed down to the field of musculoskeletal rehabilitation*) are developing rapidly. The most important changes have occurred in the institutional system and health strategy of medical rehabilitation. Preventive, healing, rehabilitative and supportive strategic elements have now appeared in the strategic directions.

After the integration of Semmelweis University and Pető András College on 1 August 2017 (*subsequently called Pető András Faculty*), the *Pető András Rehabilitation and Health Care Supply Department* was established. Upon designing the structure of the organisation, the effective legislation and the specificities of the operation have all been taken into account. The two distinct functions of the department are managed by two heads of department: while the medical staff is supervised by a head of department with a medical degree, the conductors' head of department has a conductor's degree. The Department is a coordinating organisational unit, which means that, similarly to the clinics, the András Pető Rehabilitation and Health Care Supply Department is simultaneously controlled by the András Pető Faculty (under the control of the Dean) and the Clinical Centre (under the control of its President). The University has applied to the *National Health Insurance Fund* (NEAK) for additional capacity in order to operate an outpatient clinic for paediatric and adult rehabilitation and to carry out related paediatric and adult rehabilitation activities. The licence have been granted and thus, since 27 August 2018, conductive education provided in adult groups has been financed by NEAK. It's been a long road, and it is a major step forward in our adult rehabilitation history.

Youth education: pedagogical rehabilitation as a new specialization

Students of our conductor training programme get acquantied with all adult rehabilitation related aspects, theory and practice of conductive education. However, as per the decision of the András Pető Faculty of Semmelweis University, from September 2020, the existing two specialisations of BA conductor training have been supplemented with a third specialisation, called Pedagogical Rehabilitation. Conductors finishing the pedagogical rehabilitation specialisation of the conductor basic training will be professionals trained in the conductive development of children and adults with central nervous system injuries. After graduation, they can be employed in the specialised institutions, kindergartens and schools, in paedicatric and adult rehabilitation centres. They will be able to work in rehabilitation-oriented development work either independently or as part of a team. During their training, students will spend a significant part of their continuous professional practice time learning about and mastering rehabilitation work with adults. In addition, our students will also gain new, up-to-date knowledge and experience through external rehabilitation practices.

Pandemics – innovation

The epidemiological measures in Hungary have severely affected the adult care services of the András Pető Rehabilitation and Health Care Unit (PAREEO), as until the date of these measures (mid-March 2020), adult rehabilitation participants attended group sessions in person. Due to their age and chronic illnesses, among other reasons, these rehabilitation patients fall in a group of patients with increased risk. As the duration of the crisis situation was unpredictable, an alternative solution had to be developed.

The possibility of online training has raised several questions: how can these real time sessions be adapted to the online space? How and through what modifications is it possible to have elements of conductive education implemented without face-to-face presence? How and in what form can online trainings be implemented? What technical conditions are needed to provide online sessions? Will our clients, despite their generally higher age, be able to cope with the use of ICT (Information and Communication Technology) tools? Are there, and if so, what are the negative effects of working in the online space? If necessary, who should be and who should not be recommended to start working in this way?

The András Pető Rehabilitation and Health Care Supply Department (PAREEO) reacted quickly to the pandemic situation. As a result of the epidemiological measures, we got prepared to adapt the face-to-face sessions to the online space and to implement the modified programmes in just 4 weeks from mid-March to mid-April 2020.

With an extraordinary solution born out of an extraordinary crisis, we managed to cope with the pandemic interval. Our personal experience shows that even in the future, this solution can also be used as a viable alternative.

Over the past 71 years of adult rehabilitation, professional milestones cannot always be linked to a precise date or era. Although they are very different in nature and impact, we would not be at our current level of professional development without them.

The effects of taletelling and story reception on preschool children and atypical features of taletelling processes of children with cerebral palsy associated multiple disabilities (Summarizing study)[1]

HENRIETT PINTÉR

In this paper, I summarize all factors that influence the taletelling processes of preschoolers and describe atypical processes of taletelling and story reception among children with cerebral palsy associated multiple disabilities.

Taletelling is an interaction between the taleteller and the listener that maintains a constant vigilance between the two of them. However, in children with central nervous system impairments, due to their multiple motor dysfunctions and associated cognitive partial dysfunctions, the maintenance of attention develops differently during taletelling. In the practice of conductive pedagogy in kindergartens, this shall be paid special attention in order to trigger the excitement in preschoolers with a central nervous system injury as (story) recipients, which will arouse their interest in the story. Professionals of conductive education have been dealing with taletelling for decades, seeking for ways of making stories receivable accessible to children who are barely communicating or unable to speak or listen. Parents of children with central nervous system injuries also try to tell their children stories that can be experiential for them. However, these efforts have not been publicised or published, these have remained preserved in the oral tradition of the professional community of conductive education. For several years, I have been preparing students in the Conductive Education specialization on how to convey stories to preschoolers with atypical developmental trajectories (cumulative injuries, central nervous system) in order to facilitate reception. Some of them have reported in publications on the effectiveness of their own taletelling activities back in their student years (see, for example, Jobbágy, 2013; Sághy, 2014; Schuller, 2015). Since no work has been published so far on the elements and characteristics of taletelling in the practice of conductive pedagogy in kindergartens, hereby I will attempt to fill this gap. In the present study, I will focus on the effects of taletelling and story reception, especially on the means of effective taletelling and the conditions for reception. I do not deal with the selection of stories suitable for preschool children and the design of story activities. In the first part, I will define the concept of taletelling, then I will discuss the criteria for good taletelling based on the literature, then I will analyse the processes that take place in the listener. Finally, I will briefly summarize the features that can help taletelling and the taleteller in making taletelling accessible to preschoolers with multiple central nervous system injuries, and which influence the taletelling process among preschoolers with multiple disabilities, especially those with central nervous system injuries.

[1] Published in Hungarian in Tudomány és Hivatás 2019/1.

Interpretations of taletelling

Literature on taletelling offers a wealth of possibilities; on the basis of the sources reviewed, I interpret the concepts of taletelling and story reception from a linguistic, psychological and folkloristic approach.

Taletelling (telling tales) and tale (language) are seen as combined concepts (Bódis, 2003), and in this interpretation they can be seen as communication: the fairy tale (the language), the sender, the taleteller is the channel of transmission, and the receiver is the listener (Bódis, 2003). Tolcsvai (2001) argues that as a linguistic text, the fairy tale makes patterns on various representations in the complex system of the world, while Lovász (2007) claims that it represents the system of our world, realising the created world (Lovász, 2007). For children, fairy tales are not simple stories, but works with a strict grammar and structure. As "a second mother tongue" (Andrásfalvy, 1992), they help socialisation into the culture and norms of the community through means of emotional expression (Papp, 2018).

As creators, taletellers convey narrative schemes and conventions, which are transformed into coherent texts through speech; the recipients (the listeners) are supported by the same cultural schemas in the process of understanding (László, 1999).

In a psychological sense, taletelling takes place on a spiritual-psychic plane, and this communicative process is easier to detect in the listener of the tale; a pervasive force and effect that is created during the telling of and listening to the tale (Bódis, 2003). Some researchers of taletelling present it in the context of interaction related to the relief of souls and the exchange of thoughts, where the taletelling process is the guidance of the soul (Bálint, 2016).

The social cognition of taletelling is the reinterpretation of personal understanding and conventions (Bódis, 2003). Taletelling creates a sense of togetherness, which goes beyond the taleteller's monologue, trying to achieve the effect and the catharsis through proven, well-rehearsed text variations and the magic of the spoken word (Bálint, 2016). The taleteller – tale-teller is the interpreter of this process, in which they are enabled to practice the technique of "selfhood" (see Foucault, 1999): to change themselves through various internal cognitive operations and to achieve a sense of happiness and purity (Bálint, 2016).

Taletelling has visually perceptible concomitants (Utely, 1974; cited in Bódis, 2006, 79) that takes the form of a creative collaboration between the taleteller and their community, argues Bódis (2006). According to Kovács (1987), the taleteller projects a kind of internal movie, enriching the effect with elements of reality, thus making all the elements of their story perceptible (Kovács, 1987; cited in Bódis, 2003; 2006). Tancz (2009), in his study summarising the role of taletelling in the communicative functions of the mother tongue, considers the fairy tale – based on its traditional definition – to be a possible world of miracle and fantasy, in which the boundaries between real and fictional human knowledge are blurred.

In a folkloristic context, taletelling is sacral communication, which can be related to the concept of Lovász (2002). The channel of sacral communication consists of the verbal and non-verbal elements, whereas the signs bearing cultural traits (e.g. hairstyle, dress, ornaments) are additional message carriers. The verbal elements of the tale (or language) reach the transcendent through the verbal channel. According to Lovász

(2002), the means of sacral communication are: non-verbal elements, vocal communication (paralinguistic signs such as sniffling, crying, coughing), the communicative function of non-speaking and silence (e.g. meditation), mimic communication, expression of face, smells (e.g. incense smoke), movements, gestures, posture, proxemics (spatial control), kinesthetic communication and touch.

Taletelling in the process of impact and catharsis

In the process of traditional taletelling, the taleteller engages several sensory functions (visual, auditory, kinesthetic, tactile) in order to achieve a complex effect for the recipient, and is thus involved in the process of sacral communication (Bódis, 2006).

As a recipient, the child recognizes and anticipates the genre related characteristics of the tale, and expects repetitive events such as the dynamics of desire fulfillment, the motif of danger and escape, the compensatory effects, and the sequence of causality (Tancz, 2009). The visual images of taletelling play a significant role in helping the child listening to the story to pay attention, instead of the correctness of the text to the gestures and facial expressions that accompany the text of the story (Bódis, 2003; 2006).

Creating a story space is also an important element of good taletelling. The traditional roots of this are preserved in folklore, and the taleteller can use it as a tool to create an effect (for example, candle light). The sacred space of the tale can be separated from the profane world (Kovács, 1987; Bódis, 2003; 2006). However, in expressive taletelling, the presence of light and darkness in the tale space plays a less important role.

In this transcendental process, taletelling as sacral communication can convey the story through both its verbal and non-verbal messages (Stallings 1988; Boldizsár 2010; Lovász, 2002). In addition to contents and acoustic means, body language (e.g. posture, hand, face) helps to maintain attention (Sándor, 2017); exaggerated gestures, dynamic volume and various tones of voice are all assets of sacral communication (Kovács, 1974; Lovász, 2002; Tancz, 2009).

Deepening of the tale experience and catharsis can be facilitated by taletelling by heart. (Although I am not aware of any national research on the effects of taletelling by heart.) The power of the presentation is enhanced by the triggering of internal images provided by the linguistic-stylistic means of the tale. In a text told by heart, the linguistic turns, the typical means of expression and stylistic devices enhance the experience, and hence, in order to achieve an aesthetic effect, it is always worth presenting the story from the beginning to the end, without any interruptions (Tancz, 2009). According to many experts, a tale told by heart is half the directness of a narrative that has the power of reality (Nádai, 1999) and also the catharsis of children listening to the tale with their mouths open (Voight, 1999; Papp, 2018). The taleteller performer and creator, as well as the linguistic means of expression of the oral tradition create the possibility not to reproduce and recite a learned text, but to recreate it each time the story is told, according to the inspiration of the moment (for example, the place, the situation, the reactions of the people present or even unexpected external circumstances). Eye contact with the taleteller plays a crucial role in maintaining attention (Sándor, 2017).

In the process of taletelling, attention of the audience may decreased or be lost, and in order to maintain and keep it, the taleteller must also be vigilant to their listeners: if they wander away, help must be given to return back to the right track (Sándor, 2017). To maintain or regain attention, they must convey such stimuli that are sufficiently relevant to the taleteller so that it would be “worthwhile to put operational effort in the interest of achieving the expected mental contextual effect. The communicator, on the other hand, should apply the most relevant stimulus expectable by their abilities while telling the story" (Papp, 2018).
At the same time, listening to a story is cultural learning as well: in the encoding process of the taleteller (tale teller, communicator) and the decoding process of the recipient (listener, partner), the taleteller tries to make their own intentions known to the recipient. The taleteller tries to assert this intention by sending stimuli to the recipient. If the stimulus sent is appropriate, the recipient makes a cognitive effort to understand the expected mental contextual effect and the story. The taleteller (communicator), on the other hand, must apply the best possible stimulus during the taletelling (Papp, 2018). This is the optimal relevance (Sperber & Wilson, 1995 cited in Papp, 2018): the chosen stimulus (stimulus or incentive) must reach the partner in order to trigger the understanding of the story and to lead to a positive effect (e.g. catharsis). Sperber and Wilson (1995) call these stimuli ostensive stimuli. What are these ostensive stimuli? In the interpretive domain of sacral communication and linguistics, these are the verbal and nonverbal devices of the taleteller (see Tolcsvai, 2001; Lovász, 2002). " In relevance theory, an input is relevant to an individual when its processing yields such positive effects." (Wilson & Sperber, 2002: p. 3). The effects of inclusion are contextual operations that are the cognitive efforts of the recipient made to achieve the effects of inclusion (and also comprehension) (Wilson & Sperber, 2002).

Cognitive and affective processes in the listener

Neither listening to, nor telling stories is an innate gift. These are skills that can be and should be learned. According to Papp (2018), the taleteller's task was made easier in traditional taletelling communities, where unwritten rules essential for the taleteller to focus on the taletelling and for the listeners to focus on the story existed and were followed (Papp, 2018). The tale influences the listener through emotional-impulsive characteristics and behavioral motives; they shape the taleteller's behavioral system, goal-oriented or defensive strategies and internal control (e.g. self-image, social image, conscience) (Tolcsvai 2001: 121). According to Mérei & V. Binet (1970), the child processes the tale experience in analogies with real people and events; identification with the hero is created by “contemplative comovement”. The tale affects the child’s imagination, and through this, it promotes imitation, role learning and this is how the child benefits from the stories of the socio-cultural group (Papp, 2018).

Psychological summaries in Hungary, including those discussing children’s reception of tales (see, for example, Mérei – V. Binet, 1971), call the attention to the parallels between playing and listening to fairy tales, since these activities both involve immersion (Nádai, 1999). Taletelling and listening to tales are both artistic activities (Nádai, 1999), and fairy tales are a means of artistic education: “a good taleteller plays on the strings of their listener’s interest like Orpheus does on the strings of his magic

cithara. With each chord, a string vibrates with him in the listener's soul." (Nádai, 1999: 36; cited in the study of Papp, 2018). Examples for the external characteristics of children and adults in such an intensely focused state of attention include calm face, alertness, physical stillness, mental activity, relaxed breathing, open gaze, bright eyes and smoothed wrinkles (Boldizsár 2010: 319; cited in the study of Papp, 2018).

In the process of taletelling, the listener's attitude is perceivable and visible to the external observer: a joint attentional scene of the taleteller and the listener (Tomasello, 1999, cited in Büky, 1999). The activation of the physical cues of this focused attention (Lengyel – Komlósi – Ivaskó 2013; Ivaskó – Papp 2017) is a function of well-chosen taletelling (Büky, 1999). Csíkszentmihályi (1997) interprets attention as selecting the relevant ones from "millions of possible information units", "...attention is focused on stimuli that are relevant at the moment, and the perfect experience appears" (Csíkszentmihályi, 1997, p. 32), an important feature of which is that it merges with whatever is being done. These are flow-activities that reward us with pleasurable experiences, and thus enable us to become autotelic personalities (Csíkszentmihályi, 1997). This concentration is also present in the child listening to the fairy tale, and is expressed, for example, in the tale-listening behavior, in withdrawal from the domain of everyday actions, in experiencing the wonderful and the moment of the unusual, in the triggering of a process of empathy (Mérei, V. Binet, 1981, 236-237. cited in the study of Papp, 2018).

Moving along the focused attention of the tale-listener, we reach to the trance state of that listener (Stallings, 1988; Boldizsár, 2010). The conditions for reaching this trance state are the application of the entirety of verbal and non-verbal means of sacral communication discussed above, serving the taletelling and listening process. Boldizsár (2010) notes that inducing the story-listening trance state can also be used in education, as he hypothesizes that learners in this state will be able to take in information more easily and will be calm, alert and focused, but this intense attentional state can only be achieved if it urges the listener to perform personal, real and intense emotional work (Stallings, 1988; Boldizsár, 2010; cited in the study of Papp, 2018). The interpretative framework for taletelling and listening is summarised in Table 1.

Table 1: *interpretative framework of taletelling and listening*

Interpretations	Taletelling – taleteller	Listening – tale-listener
Conceptual denomination	Tale+taleteller (Tolcsvai, 2001) Taleteller as creator (László, 1999) The tale is a type of communication: taleteller as conveying medium in the process of tale telling (Bódis, 2006). Interpretator (Bálint, 2016) Story teller(Papp, 2018) Communicator (Papp, 2018)	Befogadók mint hallgatók (Papp, 2018; László, 1999) The tale as a type of communication: the receiver as (tale) listener (Bódis, 2006). Partner (Wilson – Sperber, 1986;1995; Papp, 2018)

Linguistic	The linguistic text of the tale is modeling the world in a complex system of representations (Tolcsvai, 2001).	Receivers as transmitters (Bódis, 2003).
Folkloristic	Taletelling is sacral communication (Lovász, 2002). Cultural learning, optimal relevance (Sperber et Wilson, 1985; Papp, 2018)	A second mother tongue (Andrásfalvy, 1992)
Psychological	A psycho-spiritual process, intuitive effect created through the taletelling process (Bódis, 2003). "Relief of the souls" and "exchange of thoughts" are interrelated (Bálint, 2016).	Taletelling as a process: the psychic layer can be tracked more easily in the listener (Bódis, 2003). Tale-listening trance state (Stalling, 1988; Boldizsár, 2010).

I have interpreted the concept of taletelling in linguistic, psychological and folkloristic terms. Although in a linguistic interpretation this term is a static entity, in folkloristic and psychological sense it does have a process-like feature. Taletelling is a communicative process in which the taleteller and the listener are in an interdependent relationship. The taleteller sends ostensive stimuli to the listener in order to make it worth for the listener to make cognitive efforts to decode the story. Ostensive stimuli can be considered as sacral communication, consisting of verbal and non-verbal cues sent to the receiver of the tale. The aim is to achieve optimal relevance that helps the receiver to understand and to get into a receptive trance state. In this trance state, the child listens in a focused manner and displays affective and physical signs of reception all over their body, such as open eyes, a smoothed face, and in case of children, a gaping mouth.

The potential for supporting personal development through listening to tales, in the light of the Hungarian practice of research

As linguistic activities, listening to tales and taletelling develop gradually (Gósy, 1997; cited in the study of Ivaskó – Papp, 2017). The impact of continuous listening to taletelling in childhood is invaluable for the motor, affective, cognitive and social development of the personality. In Hungary, research has been conducted (see Nagy, 2009) on the impact of frequent listening to taletelling and related talking during the preschool age on children's ability to collect experience and to find context, in addition to the spontaneous developmental effects. In the development of children who listened to tales regularly, there was a developmental difference of about one and a half years compared to preschool children who rarely listened to taletelling (Nagy, 1980). Nyitrai's (2009) research findings have proven that frequent listening to tales and

experience-based thematic group discussions about tales can support the development of contextual processing, comprehension of information and understanding of linguistic structures, and especially, the disconnection from current temporal and spatial circumstances and the understanding of various relational systems. During the developmental phase of a child's linguistic and cognitive maturation, regular taletelling and discussions on the stories can help preschool children to use the parts of a coherent story not only as separate units but also in accordance with the valid sequence of events in that story (Nagy, Nyitrai & Vidákovich 2009).

Based on the ostensive-inferential communication-concept of relevance theory (see Sperber-Wilson 1995), Ivaskó and Papp (2017) investigated children's increased likeliness, in case of tales told appropriately, to extract the relevant information from the story and to recall the content. They intended to find out how the presence or absence of ostensive stimuli influences preschool children's story processing performance (Ivaskó – Papp, 2017, 21.) During the experiment, children listened to tales through a screen, along with different ways of applying ostensive stimuli. For example, there were tale listening sessions where several stimuli were applied (nursery language, eye contact) and there were sessions where children listened to tales performed in a neutral tone, without any stimuli. In their study, they concluded that if children were given ostensive stimulus to support processing (in this case, the use of nursery language or eye contact) during listening, they performed better on the tasks afterwards; the use of nursery language helped children to process the story and to recall important content elements. When the nursery language was omitted, children's time spent in a focused attention state shortened, and therefore their comprehension performance also deteriorated (Ivaskó – Papp, 2017, p. 30).

Personality related factors inhibiting the reception of tales in children with multiple cerebral palsy

Due to the complex nature of cerebral palsy, in the 2000s there were also some summarizing studies on the interpretation of this technical term both in the international (e.g. Bax et al., 2005) and in the domestic field. Even in the context of conductive pedagogy, there are some summarizing works (e.g. Balogh & Kozma, 2009) that deal with the meaning and topic of cerebral palsy. Since various language processing operations play a significant role in the process of taletelling, in this paper I rely on the summarizing study by Bax et al. (2005) within the relational framework of the meaning of cerebral palsy, and highlight those features of cerebral palsy that may hinder children with multiple impairments in listening to tales. Among other things, sustained attention, the cognitive effort required for reception and the ability to enter into a trance state (catharsis) are prerequisites for comprehension. The inadequate functioning or absence of these factors may impede the process of listening to the tale. From the features of cerebral palsy, as classified by Bax, Goldstein, Rosenbaum, Leviton & Panet (2005), I have highlighted perceptual deficits, the inadequate functioning of attention, disorder in the interpretation of information, perceptual disorders, and adverse or faulty perception. Perceptual disorders may affect auditory, visual and sensory modalities. Attention deficit can both affect global (whole body functioning)

or specific (a single skill area) functioning. Impairment of the expressive or receptive functions of communication may also be present (Bax, et al. 2005: 271-272).
Children with cerebral palsy may have a speech processing disorder in the field of speech comprehension: limited, inaccurate speech identification, inaccurate, uncertain comprehension, impaired interpretation. They are unable or only partially able to process verbal utterances addressed to them; in everyday communication, their reactions are incomplete or incorrect, they often ask back. In the group of preschool children receiving conductive education, many times there are children with multiple disabilities who are unable to perform reception or understand short, simple stories or narratives appropriate for their age level (Ványi – Róth, 2008).

Lessons for conductive education

From a theoretical summary of taletelling and listening, the most important identifiable cognitive conditions affecting the child as a receiver are: sustained attention and listening, entering the trance state, experiencing catharsis, effort made in order to understand the story and to live the experience. The question arises as to whether these cognitive and affective conditions are all operative in cerebral palsy affected children with cumulative impairment and area-specific symptoms. In the kindergarten of conductive pedagogy, there are ongoing efforts made by professionals in order to develop children with symptoms across an increasingly broad spectrum. There are advances in particular in processes supporting taletelling and tale reception. Certain analytical works have also been done to assess preschool children with cerebral palsy (see, for example, Pásztorné, 2018). However, there is still a need to involve and study such research papers on neurodevelopmental and language processing operations that also investigate language processing by slowly advancing children with language processing difficulties.

Because there are dilemmas arising for children with cerebral palsy in learning situations such as when a child hears (perceives) a tale: the taleteller sends the ostensive stimuli (non-verbal elements), but what is going on in the child's mind in the meantime? This leads to the assumption of whether the process is working but we don't see it, or the process is not working and that is why we don't see it. We may seek for the answers for the following questions: What do we know about these brain processes in children with cerebral palsy related multiple disabilities? How does it happen in them (for example, do they understand the tale, are they affected by it)? Are these processes happening in them too, although we don't see it? Or is it not working at all and that is why we don't see it (there is no visible sign) in case of the children concerned? In the Hungarian domain, there have also appeared some research reports that investigate language processing through imaging techniques (see for example Lukács – Kemény – Ladányi – Csifcsák – Pléh, 2014).

As in the field of special education, so in the field of conductive pedagogy, there is an increased need for analysis and evaluation of work in pedagogical and rehabilitation practices. It would also be desirable for the professionals working in conductive pedagogical groups to publish their innovative methods of working with children with multiple disabilities and to make these accessible to the general public as Jobbágy (2013), Sághy, (2014) and Schuller (2015) have done. If these effective

methods are only present in the practice of conductive pedagogy at the level of word of mouth, they will fade into the "obscurity of old glory".

Literature

Andrásfalvy Bertalan (1992): A másik anyanyelv. In: Győri-Nagy Sándor – Kelemen Janka (szerk.) Kétnyelvűség a Kárpát-medencében II. Pszicholingva Nyelviskola – Széchenyi Társaság. Budapest. 5–10.

Balogh E. – Kozma, I. (2009): A konduktív nevelés gyermekneurológiai indikációja. Ideggyógyászati Szemle, 62 (1–2.), 12–22.

Bax, M. – Goldstein, M. – Rosenbaum, M. – Leviton, A. – Panet, N. (2005): Proposed definition and classification of cerebral palsy. Developmental Medicine and Child Neurology. 47, (8) ProQuest Medical Library. 571–576.

Bódis Z. (2003): Mese és szakrális kommunikáció. A meseszövés változatai. In: Bálint Péter (szerk.): Közelítések a meséhez. Didakt Kiadó, Debrecen

Bódis Z. (2006) A mesemondás szakrális lehetőségei. Fordulópont 46. 73–82.

Boldizsár I. (2010): Meseterápia. Mesék a gyógyításban és a mindennapokban. Magvető Kiadó, Bp.

Gósy M. (1997): A magyar beszéd tempója és a beszédmegértés. Magyar Nyelvőr, 121(2), 129-139.

Ivaskó L. – Papp M. (2017): A kulturálisan releváns információk átadása mint az emberi nyelvhasználat egy sajátos lehetősége. In: Szécsényi Tibor – Németh T. Ernő (szerk.): Stratégiák és kultúrák (Tanulmányok Kenesei István 70. születésnapjára). JatePress Szeged, 21–35.

Jobbágy L. (2013): A katarzis élményének elmélyítése a mozgássérült gyermekeknél: Tehetséges pedagógusjelöltek a Pető Intézetben. Óvodai Nevelés, 66 (6) 26–27.

Kovács Á. (1987): Mesemondás egy kalotaszegi faluban. In: Rózsafiú és Tulipánleány – Kalotaszegi népmesék, Akadémiai Kiadó, Budapest, 237–248.

Lengyel Zs. – Komlósi B. – Ivaskó L. (2013): „Now I'll be the taleteller" – Children's innate capacity to recognize and produce the pragmatic patterns of taletelling. Előadás: 13th International Pragmatics Conference (Narrative Pragmatics: Culture, cognition, context) New Delhi

Lovász A. (2007): A jelenidejű holnemvolt. Magvető Kiadó, Budapest

Lukács Á. – Kemény F. – Ladányi E. – Csifcsák G. – Pléh Cs. (2014): A nyelv idegrendszeri reprezentációja. In: Pszicholingvisztika. Akadémiai Kiadó, 1110-1153.

Nagy J. (1980): 5–6 éves gyermekeink iskolakészültsége. Akadémiai Kiadó, Budapest

Nagy J. (2009, szerk.): Fejlesztés mesékkel. Az anyanyelv, a gondolkodás fejlődésének segítése mesékkel 4−8 éves korban. Mozaik Kiadó, Szeged

Nagy J. – Nyitrai Á. – Vidákovich T. (2009): Az anyanyelv, a gondolkodás fejlesztése mesékkel 4–8 éves életkorban: módszertani segédanyag óvodapedagógusoknak és tanítóknak. In: Nagy, J. (szerk.): Fejlesztés mesékkel. Az anyanyelv, a gondolkodás fejlődésének segítése mesékkel 4−8 éves korban. Mozaik Kiadó, Szeged

Nádai Pál (1999): A mesélésről. Fordulópont 4. 36–45.

Nyitrai Á. (2016): Mese és mesélés. Iskolakultúra, 26 (4), 75–83.
Papp, M. (2018): Az osztenzív stimulusok szerepe a mesék átadásában és megértésében. Anyanyelv-pedagógia, 4. sz. http://www.anyanyelv-pedagogia.hu/cikkek.php?id=756
Pásztorné. P., I. (2018): Óvodás életkorú mozgássérült gyermekek fejlődési eredményei konduktív nevelés során
Különleges Bánásmód, (3) 55-70.
Sághy, K. (2014): Láncmese befogadása központi idegrendszeri sérült óvodásoknál. 67 (1), Óvodai Nevelés, 27-28.
Schuller, V. (2015): A lókötő róka című mese dramatizálása egy integrált óvodai csoportban. Óvodai Nevelés, 68 (9), 28-29.
Sándor Ildikó (2017): A mesemondás három aranyalmája. Előadás a Magyar Olvasástársaság és a Hagyományok Háza által szervezett népmese konferencián, 2017. szeptember 22. Pécs.
Sperber, D., – Wilson, D. (1986): Relevance: Communication and cognition (142). Cambridge, MA: Harvard University Press.
Stallings, F. (1988): The web of silence. Taletelling's power to hypnotize. The National Taletelling Journal, 1, 1–35.
Szapu M. (1985): Mesemondó és közössége Kaposszentjakabon – Ciganisztikai tanulmányok 4. MTA Néprajzi Kutatócsoport, Budapest.
Tancz T. (2009): Népmesék az óvodai anyanyelvi-kommunikációs nevelésben. Anyanyelv-pedagógia**, (**2)
http://www.anyanyelv-pedagogia.hu/cikkek.php?id=161
Tolcsvai N., G. (2001): A magyar nyelv szövegtana. Nemzeti Tankönyvkiadó. Bp.
Tomasello, M. (2010). Origins of human communication. MIT press.
Utely F. L. (1974): A folklór és a vizuális befogadás. In: Voigt Vilmos (szerk.): A szájhagyományozás törvényszerűségei. Akadémiai Kiadó, Budapest.
2013.
Ványi, Á. & Róth, M. (2008): Sérülésspecifikus eszköztár beszédfogyatékos gyermekek, tanulók együttneveléséhez. Educatio, Budapest, 2008
Wilson, D., & Sperber, D. (2002): Relevance Theory. In: Handbook of Pragmatics. Blackwell.
Voigt Vilmos (1999): A mese neve. *Fordulópont* 4. 5–12.

The importance of musical education in conductive pedagogy[1]

LÁSZLÓ MATOS

THE MUSICAL DEVELOPMENT OF SMALL CHILDREN

The general features of development and intervention

The fetus can already perceive sounds and noises. Newborn babies react to the light sooner than to sounds. They pay attention to musical sounds only from the age of 2–3 months by keeping still, or perhaps by turning to the source of sound. They vividly react to the (vestibular) stimuli affecting their sense of balance from birth. They respond to rocking and swinging them, by jigging and kicking very actively. Small babies already try to make various sounds when lying in the cot. They play with their tongue and saliva almost unconsciously. They start babbling at the age of 4–6 months. Babbling usually goes together with movement. After some time, the mother can tell from the melody of crying and babbling what the baby wants and when. The babies also understand from the melody and the intonation of the speech what the adults want from them. Of course, this goes together with the adult's mimicry and smile. If the adults imitate the baby's babbling sounds, the babies can already communicate at the age of 4–6 months, and they will answer with some delay.

The babies' set of sounds is varied and irregular, just as their movements at this age. If the babies are calm and well-balanced, they feel safe in their lying position, they move and "sing" a lot. The reason is that these sounds are much more similar to musical sounds than to talk.

The voice set of the baby at this age is variable and irregular similarly to her movements. When the baby is calm, balanced and feels safe in his/her lying position, he/she moves a lot and "sings". Those voices are more similar to musical sounds than to speech.

In the second half of year, they already make rhythmic and swinging movements in varied positions. They rock forward and back while kneeling on all fours, sitting, or standing , stretch or bend their arms while standing and grabbing a rail and in the meantime "singing" along with those movements . They already manipulating with objects, at the age of 6–8 months, they knock cubes together and shake a rattle. They play with toys that are very fashionable these days and make various sounds upon pushing or pulling, they pay attention to the sounds and various tones and sooner or later imitate them if they hear them a lot.

---

[1] Published in The manual of conductive pedagogy. More than practice. Editor in chief Éva Feketéné Szabó, Andrea Zsebe. Editor István Kollega Tarsoly. Semmelweis University András Pető Faculty, Budapest, [2020], 343–361.

Babies at the age of 9–10 months already try to respond with a melodic phrase at the same pitch. Spontaneous babbling and humming will ease a bit at the beginning of independent walking, because the babies have to deal with new experiences and new discoveries. Their attention is much more focused on this.

If you teach them, they can imitate the sound of animals and objects. This is of great importance in speech development. The babies' emotional reactions will change if they learn a new tone, for instance, loud crying or the sound of an unknown music instrument.

At the age of one and half years, they repeat the same word but with different stresses. We must understand from this that they reject or ask for something. On such occasions, when they feel uneasy, you can calm them down with rhymes or with singing. Children at the age of 20 months already start singing if they hear a lot of singing in their environment. If they hear music, they try to follow the pulse of music with rhythmical movement. They love listening to songs, they ask for the picture book and show which song or rhyme we should perform. They memorize what they hear, and they know much more than what they can perform on their own.

At the age of two or three years, they also sing lullabies to their doll if their mother regularly sings songs to them when whishing good night in the evenings. They move along with the happy, playful songs and lapsit or knee-bounce rhymes, movement makes fun and in the meantime they get used to the rhythmical motions.

At the age of three years, children can sing only in a narrow range due to the small size of the vocal cords (5 mm) and the underdeveloped muscle movements. The child's independent singing – as an intellectual activity and focused internal work – presumes the earlier imprinted melodies. The brain remembers the melody in global unity with the words, which helps the baby to recall the song. This independent singing usually starts at the age of three but there may be deviations in a positive or negative direction. This song is still close to speech, it covers a three-sound range, and the child usually repeats 2–3 motifs. As they mainly move together with singing, a part of the air meant for singing is needed for movement so they generally take a breath on every fourth pulse. The tempo is slow or fluctuating. The volume is also varied.

For small children, listening to music means singing together "silently". The larynx and the vocal cords instinctively move together with the singer. They listen to music by nodding, tapping and sometimes join with humming. They create without any inhibition and come up with a melody for any rhythmical words. The above described musical development can generally be observed with all babies with typical development.

At birth, we have specific anatomical, physiological etc. characteristics and natural aptitudes. Natural aptitude is a set of features that the person is born with. Ability develops as a result of the activity that is carried out in society in conformity with the given ability. There is no direct analogy between natural aptitude and ability: high level abilities may be developed with less natural aptitude and the opposite is also true: natural aptitude is, in itself, not enough for attaining high level abilities. The high level ability developed in a certain field of activity is called talent.

Let us take a closer look at what is needed for musical activities!

1. Perception, i.e. the proper operation of the analyzers.
2. Motor skills:
   - proper breathing,
   - proper larynx movement,
   - coordinated movement,
   - good manipulation when learning to play on a music instrument.
3. Retaining and reproduction skill:
   - music memory,
   - inner hearing,
   - imagination.

Thus, each of the above skills are needed for singing and playing an instrument. Of course, the development can be experienced during the musical impact and regular music activities. The plasticity of the nervous system is the highest at infant age, so teaching babies must be started in due course.

Difficulties with the musical development of handicapped children

After learning the skills needed for dealing with music activities it is easy to specify the disadvantages of our children who need conductive education.

As is known, the impairment of the corticospinal tract leads to chewing, swallowing and salivation problems. Upon the impairment of the extrapyramidal tract, irregular and involuntary movements appear, affecting the speech, respiratory and facial muscles.

If the operation of the vocal cords is hindered, the resonance needed for speech and singing is also missing. The length and the intensity of the sound also depend on proper breathing.

The dysfunction is the reduction or disorder of the adaptation skills, i.e. it is a regulatory problem affecting the whole personality. “Secondary” intellectual disability may also evolve due to the central nervous system disorder and to the severe physical disability. We also have children whose anamnesis already mentions mental development disorder at infant age. Attention must also be paid to the existing disadvantages of our children with mild and moderate intellectual disability. These can be: shallow, gasping breathing, husky voice, dull, monotonous speech, incorrect sounds and articulation, less developed inner hearing, poor music memory, undeveloped fine motor movement, fixed mindset.

Sometimes these are also associated with behavioural disorder.

Music expresses emotions, addresses the soul and enriches the personality. Children with intellectual impairement react to beauty sensitively and they generally like music. Even if they may never be able to walk or drum to the rhythm or read sheet music. Therefore, both giving and accepting knowledge are restricted in certain areas, similarly to children who have an age appropriate intellect but severe physical impairment.

The conceptual basis for musical education

The educational concept of Zoltán Kodály was introduced to the Hungarian schools from 1940. A lot of significant results and success were achieved over the past 80 years, and the "Kodály method" has become famous all over the world.

In 1943, Kodály edited the "Song collection for schools" in cooperation with György Kerényi, and published 630 melodies in a music pedagogical arrangement. In 1948 he published a schoolbook series with Jenő Ádám, which were edited again in 1960 and in the 1990s. We know his principles and instructions from his writings and presentations and from interpretations by his students. We must know that Zoltán Kodály did not write any par excellence methodology or teaching guide!

What is the essence of the Kodály concept? First of all, the focus on singing! Voice is an "instrument" available for everyone, it is the most natural music instrument. Another important feature is that the child's musical education must be started with folksongs, which is the musical native language. Monophonic singing must be extended with polyphonic singing as soon as possible so that the child can learn to intonate clearly from the unison! The school lays emphasis on everyday musical education, daily "music classes", frequent encounter with music, which also develops several other skills of the child. In order to terminate "musical illiteracy" he worked out the method to read and write music, and the tonic solfa was a tool for this. As for the curriculum, it is important that education should go together with valuable and high-standard teaching materials.

In addition to the Kodály method, the work of Carl Orff is becoming more and more popular these days. He became especially known in some Western European countries and in the United States. For this reason, he seems to be more valuable than the Hungarian concept for some people in Hungary. This confusion of values can be often perceived these days. Kodály himself said: "Don't believe that everything is bad if we don't do it the way the neighbour does."

Our Kodály heritage must be maintained, renewed and protected, but it must also be saved from becoming "fossilized".

The beginning of musical education

Katalin Forrai wrote in her article "The personality-shaping power of music and singing": "Rhythm, the words of the song, the magic of the melody and the warmth of the singing mother are like mother's milk for the child's balanced development"[2]

The impacts of music in early childhood are important even if our child will not be a musician as an adult. The child should be surrounded with a pleasant "sound atmosphere". Human voice is the most important, not canned music! Human talk, soft and tender voice, and within this nurse language (hami, pá-pá etc.) is necessary for a while. Our speech should be colourful, with high and low tones!

[2] FORRAI 1984

All sorts of natural sounds are suitable for the child to learn about their environment.

Just as in the case of education in general, musical education is also based on a happy and cheerful, personal adult-child relationship. The regular pulse and many repetitions of rhymes and simple songs convey pleasure. The image, the word and the singing together develop the child's intellect and vocabulary.

The intonation and the rhythm of songs and words taken from folklore are similar to the Hungarian speech. Songs in a narrow voice range are like speech "at a higher tone". There are some short songs and rhymes that were written for children by famous writers and composers (Ágnes Nemes Nagy, Sándor Weöres, Zoltán Kodály, Sándor Szokolay).

Singing is intimate. Permanent canned music in the background makes personal, human relations dull, and it is nothing but "a buzzing noise" – wrote Katalin Forrai. A jukebox will not place the child on the lap, and will not play and sing happily with the child like a mother. If the mother sings, she focuses on her child and ignores everything else, and the child will ask her again and again to repeat the song.

Directing the child's attention to the sounds and the silence of nature is a live experience, although not real music: for example, listening to the rustling leaves, the song of birds, the sound of rain etc. In this way the child will be more responsive to musical sounds.

The role of musical education in conductive pedagogy[3]

Musical education has two roles in conductive pedagogy. On the one hand, it must begin, as soon as possible, to develop the musical abilities needed for accepting and interpreting music. On the other hand, it is an important tool for children with physical disability to become orthofunctional. This means that musical education is both a purpose and a tool!

Children acquire up-to-date musical skills when they become acquainted with their environment, the same way as the personality of children with physical impairment develops as a result of their daily repeated conductive work and thus their appropriate motor ability improves. The ideas of Zoltán Kodály and András Pető about learning were similar. Both thought that the demand for music and active movement will pervade into the child's soul during the regular daily activities. A well-organized activity means happiness and experience for little kids, which they want to experience again later, at their adult age. In order to realize their ideas, hard work is needed both by the educator and educated. Naturally, the interactions of music and movement as well as the other transfer effects of musical education should be used as much as possible. What does it mean? "Music is born from movements and inspires to move" wrote Klára Kokas (1980). Every task in music education should be accompanied with movement, the songs should be taught while playing, thus music and movement become an organic unity. I primarily mean the connections between singing and physical development.

---

[3] ŐRFALVY 1999

1. The operation of the vocal organs gets improved, respiration gets regulated and the breathing capacity grows. Learning proper deep breathing is especially important with regard to loose spasticity.
2. Correct articulation and correct breathing while speaking can also be learnt through singing.
3. The posture will improve.
4. Coordinated movement and later rhythmical movements will be created and the fine motor activities also improve.
5. The development of body weight and body length is also influenced.

The above-mentioned favourable effects of singing can naturally be achieved only by creating proper singing customs.

Zoltán Kodály and his students, including Klára Kokas, proved in several papers that the daily engagement in music and singing significantly and favourably affects the cognitive abilities as well. Studies into the cerebral functions have revealed that musical activities are mental collaborations of several cerebral areas. Various musical activities are controlled by the following cerebral areas:

- rhythm – brain stem,
- auditive comprehension – the temporal part of the cortex,
- conscious comprehension – the frontal lobe,
- emotional reactions – the basal ganglions.

The required abilities (communication, cognitive and acting skills) develop during singing and making music. It is striking to note that singing develops the verbal side of the communicational abilities, but we can also see its role in the development of non-verbal communication. The development of thinking through analysis, synthesis, comparison, relations, etc. must be especially pointed out in the field of cognitive abilities. Musical activities are mainly carried out in rhythmical tasks that improve the measure, rhythm, tempo, dynamism etc. of the activities as well as accuracy, concentration and the ability to share attention – among many other things.

Cleaner speaking resulting from proper singing habits helps to improve the reading technique, grammatical spelling also gets better as a result of hearing expansion and the capacity to understand relations improves during permanent rhythmical exercises, which is also important in learning mathematics.

We should also note the emotional effect of music. We know how motivating is a joyful rhyme or a song performed before or during the movement tasks. Positive feelings (love, friendship, joy etc.) come into the foreground through the song's textual contents. Singing or playing together also motivates: one becomes happier and the inhibitions can be released, which helps to create community behaviour while it is a very good disciplinary force, as well.

Our folksongs teach the children to love traditions, the nation, the native language and the motherland. We can do a lot for our children's aesthetic development by explaining the songs and the musical compositions. Musical compositions and fine arts are the artistic expressive forms of human feelings and thoughts. We should carefully select the curriculum, while naturally we should also develop our own taste, because our value judgment also forms that of the child. We should listen to any sort of music,

either at home or with friends, but it must be valuable. Therefore, it is important to draw the attention to real values. Kodály said: "music is not just amusement but the daily food needed for the soul."

The tasks and the specific methods of teaching singing and music in the conductive group

0–3 years of age

Kodály said: "The song is children's spontaneous and natural language, and the younger they are the more they want to move with it."

Children, parents and relatives who participate in the early intervention groups and residential parent and child groups first hear children songs or rhymes. The song, especially the mother's or father's singing is a positive, relaxing stimulus and it relieves stress. At the same time, a conditional relationship develops between the words, the melody and movement by frequently repeating the songs and rhymes. When the known tune is heard, some independent activities may occur already at a very young age. Onomatopoeic words matching the child's age and mental development level as well as poems and songs illustrated with animal puppets make the children interested in some activities or imitations.

The joint singing or rhyme gives rhythm for task performance. For our task series we generally use rhymes with time signature of four and songs which are made of 2–3 sounds. We strongly emphasize the quarters, if necessary, in a slow tempo.

At this age, rhythmical movements primarily cover the limbs and the head, including nodding the head, raising and bending the arms, clapping hands, knocking sticks and rings together, raising and bending the legs, keeping objects with the legs etc.

First, the musical instruments draw the attention, then work as sources of sounds inspiring manipulation activities . Young children turn towards the sound or turn their head to that direction. We ask them where this sound comes from? In the meantime we change our place. Later we also change the music instruments, however, never too fast as the children should learn or get used to the tone of the instrument in question.

We start making sounds with rhythm instruments: drums, cymbals and triangle. Then we get instruments that play a melody: recorder, metallophone, xylophone, harmonica, Jew's harp etc. In all cases we name the instruments and we may try to get each child to sound the instruments with the mother's help. The conductor's singing and the sound of the instruments help to develop timbre hearing (good distinction of tones).

Kindergarten age

Children who go to kindergarten for conductive and integrated education have various musical abilities. We already know that the abilities are not born with us, we just bring the disposition in our genes and it depends primarily on our own environment and education which capacities develop in us at a higher level. According to Kodály, "children's musical education should begin 9 months before they are born." Unfortunately, during the pregnancy mothers do not do too much for their joy, calmness

and mental balance, and they do not talk or sing to their babies although it is an already proved fact that the embryo can hear.Generally, small children first meet live music and children's songs in the nursery or in the kindergarten group or in our parent–child group, therefore it is important what and how the educator should teach.

Before preparing the annual conductive work plan for the given group, we should get to know the children and should assess their musical abilities. The following questions should be clarified:

- What musical impressions have they individually acquired until today?
- What are their physical conditions? Type and grade of impairment ?
- Can they breathe through their nose? Can they give a sound at all? Can they talk? Can they produce a singing voice?
- What about their ear for music? Can they recognize the higher or deeper sound (in octave, fifth or major/minor third interval)?
- Can they intonate? Can they give a sound at the same pitch as the teacher's voice?
- Is there any muttering child in the group?

The best way is to watch them while singing well-known children's songs, and as soon as they are happy to sing together and they are relaxed, we can try to play an "echo game" with them individually.

What is your name? We ask this through so-so-mi notes, expecting the answer with the same tonality. If it is difficult, we should tell so-mi notes slowly, repeatedly, in a syllabic way, for example:

ba-ba ma-ma al-ma ci-ca (ba-by; mom-my; app-le; kit-ty) etc.
so-mi so-mi so-mi so-mi etc.

The word's keynote should be F^1, G^1 or A^1! If the child is muttering at a deeper sound, we can go below to his/her pitch and we can try to "speak" to him/her in a minor third interval. We can start assembling the work plan only if we get a picture about the individual abilities of the group members (the movement status is just as important).

Development of rhythmical abilities

a) Expansion of the sense for meter

Rhythmical activity is a form of movement to accompany active singing. The easiest way to practice is what is called "dissembling rhythmical games", i.e. with motions corresponding to the text: with swinging, mowing, hoeing, puppy seed smashing, dandling etc., later on with clapping, knocking or together with an instrument. In the small group we can practice in a sitting position, with motions of the body or the arms. It is important to practice, repeat the same motions for a longer time, during several beats! In intermediate and older kindergarten groups the suggested movements are: clapping on a table, bumping sticks together, "playing the piano" (poking with two fingers into the palm of the left hand), "playing the violin" (imitation of the motion); and using real instruments (cymbal, drum, triangle).

We should pay attention to the stable sitting position, the child should not fear falling from the chair or stool, because then they are afraid of properly using their hand!

Naturally, we can sound the measure with rhythmical word pairs: bimm-bamm, piff-paff etc.

It is also a good exercise for expanding abilities when the children themselves sound the measure at the first part of a rhyme or song and they stop it at the second part, then they repeat it the other way around (naturally, the conductor continues to sound the measure). It is more difficult if they clap the measure at the first part, but they change at a given signal: they knock or stamp (the conductor also continues sounding the measure).

For small kids, singing with a slow number of meter (66–80) is natural due to their age, and in an older group it can be a bit faster, up to 92–108. Conductors tend to use an even slower tempo even if the children do not accompany it with rhythmical movement. However, the given song will lose its character or mood when slowed down extremely. It is fine to do it slowly while we are teaching it, but as soon as the kids learn it, we should sing it at the suitable pace!

The kids should learn how to keep the tempo, and in an older group they should get a feel for tempo change as well.

We should also allow children with athetosis to try to sound a measure by themselves: if they sense the pulsation, they can produce it independently! We need to help to get a feel for proper pulsation only at the beginning. However, it is a mistake if we always sit next to them and work with them holding their hand. If the measuring does not work, let's try sounding the accents, and the child should always beat on the first!

b) Sounding a rhyme or rhythm of a song

We should show at a rhythm accompaniment that we clap as we say a rhyme or sing! Each syllable gets a clap or a tap. We should syllabify with a heavier tone while learning! By using either the meter or the rhythm, the rhythm always sounds as an accompaniment during any joint singing or rhyme. It is absolutely meaningless to drum or to tap in itself at command. There is no abstract rhythm teaching! Only a rhyme or a song has a rhythm. If we can see that the small child does not tap or clap properly, we should immediately help by "directly transmitting the rhythm": get hold of their hand and let them feel the pulse! At a rhyme: let us start by saying one-two, go; or one-two start! We should give the meter of several beats in advance, the children will take it over and only then should we give the command!

Rhythmical activities, the "accompaniment" must not restrain the musical essence, it should not be too loud!

Body sounds like clicking, slapping the thigh, poking the palm etc. all create various sounds and they don't offend the musicality. In an older group we can already vary the accompaniment, for example: tap on the thigh at 1, clapping at 2, or clapping at 1, clicking at 2 etc.

The right way of using a musical instrument is when the conductor introduces how it should be used, what sort of sound it creates, and, at the same time, s/he watches who is clapping or tapping the rhythm exactly and passes on the instrument to him/her upon the next singing. It is important that the sound of the instrument should accentuate the proper sounding! Only one music instrument with a different tone should sound together with a clapping group! There is no need for a big cacophony or a loud clatter! We

have to offer a musical experience and we should let them observe the musical manifestations! It is not the purpose of this musical activity to have all the children complete simultaneous manipulation tasks, we can give them this opportunity at the end of the session or during the break, but then everybody should get an instrument in their hand!

c) Highlighting the accent

We do not tell the children that this is the accent of the measure or a pulsation of 2, but we have them sense it with 1 loud and 1 soft beat, or only by emphasizing the first syllable: Bi-bici Pan-na, Rá-kezdi Vin-ce: Hin-ta, palin-ta etc.

d) Connecting the measure and the rhythm of the song

When connecting the measure and the rhythm of the song it is good to use different tones: for example, clicking-clap; cymbal-drum; triangle-clap etc. When the activities with two parts are already well practiced, we can try three parts as well: stamp-clap-singing!

Practicing various sorts of activities at the same time needs concentration, however, it is also a practice of arranged consciousness.

Let's try to involve each child into the activities. Non-verbal children, for example, may get a blue-red disk to signal the various rhythmical accompaniments. Do not forget: in the kindergarten we do not name the rhythm with ta–ti–ti, only with big–small, long–short, or with any other playful expressions!

Developing the singing abilities

Proper singing habits should already be developed at the beginning: we should not allow the child to shout and should not let the vocal cords be stretched! We should sit loosely, with the head bent forward and with a straight back. Do not force all children to sit at the table with the arms stretched, only those should do so who need it for secure sitting! The reason is that already a tense condition would be created in this way: the child would also lift his/her head more than required and would force out the sound. Loose sitting with hands in the lap is more natural. Diaphragmatic breathing, the correct forming of the melody, can already be learned from a very early age (see the chapter about breathing).

We should work individually as well with those who shout or uninhibitedly sing out of tune as well as with those who mutter.

Expanding the sense for pitch, improving a good ear for music"

Muttering" children who sing the two kinds of intoned sound pitches at a deeper voice need special attention. Go down to their pitch and gradually extend the voice range upwards during our practices! Those who "sing" only with one tone and do not feel the difference should practice the rhyme as follows: let the children repeat the rhyme slowly and several times at the same pitch, then they should repeat it at different pitches! Later, let them sing the longer syllables a bit higher and the shorter ones deeper, getting closer and closer to the minor third interval. Our purpose should be a clean intonation of the so-mi interval. Both need patient, individual work.

If the group generally sings also at a deeper voice together, go down to their level, and try to gradually extend the range of voice! This means that the conductor occasionally starts the songs one note higher or lower. According to the methodology books, the "ideal" starting note of songs beginning with 'so' is A^1.

Small children can sing as many notes as the number of their years. Attention: the voice range of a 3-year-old child is 3, which is natural for them. A 5-year-old child's vocal cord is 5 mm long, and it will start extending only after the age of 6. A clean singing voice can only be expected after the age of five. We should consider this, and should not expect the children to perform beyond their limits as it would do more harm than good!

Children's voice range at kindergarten age is between D^1 and H^1, perhaps in the oldest group we can go up to C^1–C^2 if their range was gradually extended earlier. This is why it is important what kind of songs we teach at kindergarten. We may have colleagues who sometimes consider the play songs offered in the Forrai or in the Törzsök books too dull, and they replace them with many other, difficult hit songs of foreign origin. Unfortunately, only a couple of children's songs can be heard in the groups and they are repeated until they get boring. Don't spare the efforts, look for new songs!

There are ones with a small range of voice in the collection of folklore children's plays and in recent songbooks for schools.

Nice singing is supported by the playful repetition of known songs, which is very important for correct articulation, but always with the same syllables, for example pam-pam, csip-csip, bamm-bamm, du-du, zümm-zümm, la-la, csön-csön (pam–pam, chip–chip, bamm-bamm, du–du, zumm–zumm, la–la, chon–chon) and so on. It is not easy to sing by humming, but the correct sound direction can be learnt in this way. As we tell them and show: "it is nicely tuned when you send the sound in advance".

The musical hearing can be very well improved by recognizing parts of well-known songs from humming, lala-ing, and later from its rhythm.

To "hide" a melody is also a very good task for improving the ear for music: at a signal given by the conductor we only sing mutely (while the conductor continues to sound the measure!), then after a given signal we sing again aloud. "Answering games" also develop the musical hearing since they must answer by staying within the key or, in the beginning, with the same sounds.

Timbre hearing is an important area of improving musical hearing

In the kindergarten curriculum we gradually introduce the children to the sounds of the "world": noises, animal sounds, the human voice etc.: these are all different timbres. Children start recognizing the differences between vocal and musical sounds. Who is speaking? Who is singing (man, woman, child)? Alone? With others? We know several children's plays, where they must recognize blindfolded which child is singing or talking.

Children love guessing the sound of various instruments placed behind a screen (glass, spoon, wooden stick etc.). The differences in dynamics should also be taught already at kindergarten age. Children should show with us the change in volume horizontally: open palms moving away – forte, getting near – piano!

"Moving kindergarten"

This term has been used at "Pető" since ancient times. This means that the children apply the learned walking patterns and independent walking while playing games. As the name also shows: this session works well if it provides everyone with the chance of movement as well as relaxed singing and playing. This is the area where the children can express themselves, can play roles, can sing and can reproduce what they learned in music and movement. Kodály said: "The organic relationship between music and movement, playing and singing outdoors has been the greatest joy in children's life since ancient times." This definitely means happiness even if it is not always done outdoors. The positive experience is stimulating and encourages further activities. For this reason, the session must be prepared with great care to make it a real experience. The children will be unhappy if the task is too easy or too difficult.

Important aspects of organizing the moving kindergarten:

- there should be enough space for circle games,
- play should be arranged by standing or walking in a circle or in a line, with appropriate objects,
- when assigning roles, it must be ensured that the children can actually complete their task,
- many repetitions should ensure the change of roles, repetition is not boring for children, the more often they do it, the more they enjoy it,
- children should have the chance to use their individual walking task in the game,
- use counting rhymes for assigning roles,
- make symbols and customs for the roles (hoe, hat, crown, apron etc.)
- the range of games should be gradually extended,
- play with them but do not sing louder than them,
- make sure that sometimes they can vote for playing their favourite games!

The words "standing" and "walking" are not highlighted by accident, they are important from the viewpoint of conductive work. We are still worried: the children play by sitting as we claim that "they get very tired". They get tired if we never place a load on them! While they play, they do not even notice that they have to stand, it is only for a few minutes and we can also take a break in the meantime. If they complete their task well several times, we should praise them so they will know that they have achieved results!

Listening to music

This area of musical education is a bit ignored in our institutional groups although it is an important part of teaching concentration and focus and developing the imagination.

Unfortunately, children are used to "canned music" in the background both at home and with us. However, they must learn to be able to direct their attention to the musical phenomenon. At the beginning they have to listen to live music!

Listening to music should be 2–3 minutes in the young group and maximum 5 minutes in the older group. The first, most evident way of listening to music is when

the conductor presents the song as a fun experience. Initially it should be a song that is well-known and they can follow it easily! Talk about its contents and its mood. Discuss if they liked it and why! We can use pictures and puppets and we can also dance for the presentation. It is great fun for small children if they see, know and love the person who sings. The direct and powerful impact of music will work.

After the solo singing you can also present the known children's songs with solo instruments: recorder, metallophone, xylophone, violin, guitar etc.). More and more conductor students can play instruments and they learn music so make use of this opportunity! Instrumental music is more abstract for small children but once they learn the sound of the instrument and the instrument itself, they will pay attention to what the conductor plays. In older groups two conductors can already sing songs with a wider voice range and with two parts, or even longer folk songs and especially art and dance music extracts. The book entitled Listening to music at kindergarten, written by Béla Törzsök gives support in selecting the appropriate compositions. The goal is to acquire acoustic experience. Give a specific aspect to observe about the music work. After listening, give a few calm minutes to ensure that music can convey its impact, that the children can learn the joy of music and they can give their answer to the observation aspect! There are two important aspects of listening to music: if music played from a tape recorder or a record player, it is better if the child cannot see the machine as it may distract their attention from the music. The other aspect is: before taking the machine to the session, try it and set it and learn as much as possible about the details of the composition so you can answer as many of the child's questions as possible!

Teaching proper deep breathing

What do we know about breathing in general? Let us recall what we learned about it!

Physiological breathing: unconditional reflex, its function is the exchange of gases (O_2 és CO_2), it provides comfort.

Silent breathing, via the nose, consisting of three stages, to the following time proportions:

inhaling	– exhaling	– break
1:	1:	0.5

The organs of the chest cavity take an active part in the muscular activity of respiration, the speech organs (larynx, vocal tract) let in or release the air passively. Primarily the respiratory muscles extend the chest, then the air flows into the lungs. This means that it is not the air that extends the lungs but air flows in as a result of suction by the lungs. The rhythm of silent breathing is generally slow, about 500 cm^3 of air is exchanged. The nostril hair filters dust particles, warm up the air and protects the oral cavity from drying.

Mixed deep breathing: this belongs to silent breathing, but already three muscles work here: the diaphragm, the abdominal muscle and the intercostal muscles. It is also called abdominal breathing but this is incorrect because the air does not get into the stomach, although the abdominal muscle has an important role, as we breathe with the respiratory muscles located in the lower part of the chest. As a result of the downwards movement of the diaphragm the stomach protrudes because the whole waist section gets filled with air.

Speech breathing conditional reflex. Breathing has two parts, with the following periods:

in	*out*
active	active
1:	5

Silent breathing follows our speech intention. Breathing in and out will also be active and the break disappears. During speech we breathe both through the mouth and the nose. We can breathe in basic air through the nose before starting to talk, but during the speech breathing is already required through both the nose and the mouth. The quantity of exchanged air may increase to 2000-2500 cm^3.

Technical breathing: Sándor Fischer says that "it is the conscious, developed version of speech breathing". Deep breathing is the only right breathing method that is needed both for correct speech and singing. However, this can only be re-learned with regular practice because, as we know, we all breathe correctly and deeply at infant age. The support needed for speech and singing is given by the pressure going upwards from the diaphragm: larynx, air column and the diaphragm. This pressure is generally gradual during speech and singing because in the meantime the respiratory muscles narrow the volume of the air column until taking the next breath.

"Proper breathing depends on the right muscle sense." – said Dr. Seyffart. The muscles around the waist are involuntarily activated when practicing proper deep breathing. This is very important with our spastic children also in order to relax the muscles around the waist. The reduced operation of the respiratory muscles is also a problem with many children. The breathing practice carried out in a group has regularly preceded all daily activities in conductive pedagogy already from the beginning. The conductors and the students regularly control and manage these tasks. Perhaps we do not always think about which task we complete and for what purpose during the daily routine work. Which child has a difficulty with what task? Which is the correct order? These tasks are just as important as the lying, sitting and standing task series. Once the child has passed the "basic level", we can design diverse task series from older task collections. Working out the basic level also needs permanent and repeated practice. It should also be considered whether it is useful to have the children do the exercises directly at a window open during the time of the exercise (2-3 minutes). It would be much more useful to properly air the room during changin the room .

Silent breathing can be done as a relaxing task before or during the lying tasks. Tell the children to place their hands loosely on both sides of the stomach. Get them to notice that the whole waist extends and their stomach protrudes if they breathe properly! You can also place a bean bag on the stomach to illustrate this. In the next step slowly breathe out the air with an "sss" sound.

Proper deep breathing, the movement of the diaphragm can be felt even better in a sitting position. For example, you breathe in when sitting at the table and laying your head on your arm placed on the table. We need to feel that the whole waist area protrudes all around. The movement of the diaphragm can also be felt well by imitating cough or by "dog panting" while sitting. To illustrate breathing out, you can slowly blow a light cloth placed in front of your mouth or you can "warm" your palms by holding them in front of your mouth.

The breathing practice done with lifted arms cannot produce deep breathing as the

air gets into the upper part of the chest, the shoulders raise, the air column gets shorter, the whole body becomes tight and there is a large pressure on the larynx. This practice method is not suitable for tasks connected to speech and voice training. Of course, silent breathing exercises can be done in order to practice arm lifting and shoulder movement for conductive purposes – if the children already know how to do it – but it should not be done at the singing sessions!

Nasal breathing is a problem for most of our children. It is important to sit in a relaxed manner, with the hands on the lap or on the hip. Mouth-closing must be checked. The children can also help with their hands if they cannot close it naturally. Nasal breathing can be practiced in the following ways (we give the task and its time in seconds):

a) in through the nose – out through the nose
   3 3 (repeat it several times)
b) in through the nose – out through the mouth
   3 3 (repeat it several times)
c) in through the mouth – out through the nose
   3 3 (repeat it several times)

The same tasks can be repeated by holding back the air. The period of holding back the air is extended gradually by seconds, and the period of task performance also increases accordingly. The timing of the above tasks can change with the period of hold-back:

3 1 3
3 2 3
5 3 5

Make sure that the long hold-back should not be longer than 5 seconds as it is bad for the child's lungs and the big air pressure damages the larynx. This practice element cannot take longer than 5-6 seconds at school age either. The hold-back should not be tense, do not hold back the air up in the throat but down at the waist!

Breathing out cannot only be done by saying "sss" – as was the case in the lying position – but also by using other syllables: mi, mé, má, mó, mú or hi, hé, há, hó, hú. As can be seen, the order of vowels is identical in the two syllable lines. This means that the order of vowels is not indifferent: start with a high vowel and gradually move towards the deepest one, which helps the outflow of air the best.

It is important that breathing out should be quiet and slow! First try a speech sound, then a melody sound! This develops both the resonance and the correct articulation.

It is the best if we do the breathing exercises while standing. We should definitely apply this position with children who can safely stand! In this case, both palms should be on the waist, so they can feel that the whole belt part is protruding! A student said this sentence at a teaching practice in order to help proper muscle sense: "If you breathe properly, you can feel your belt tighten."

When doing the breathing exercises we always need to know our target with the given exercise and we also need to tell it to the children. For example:

- feeling the proper muscle movement (see the above examples),
- increasing the breathing capacity (1 phrase, 1 melody line upon one breath),
- developing articulation (relaxed jaw dropping, correct diction),

- voice training (bringing the sound forward to the proper formation place and resonance development).

Pachiarotti said: “Those who can properly breathe and articulate can sing well.” It is very important to nicely talk and sing but it is more important to promote the better and healthier operation of our whole body through proper breathing.

People with motor impairement in the world of handcrafts in Hungary and abroad[1]

RÓBERT MASCHER

The employment of people with reduced work capacity is also very important for society as the state's social spending will be reduced if a formerly passive, dependent person with reduced work capacity finds employment and becomes a self-sufficient taxpayer. People become more open if they can see that disabled people are also able to work, and this also strengthens mainstream social acceptance.

The purpose of motor development through conductive education is ab ovo to promote social integration, and thus to facilitate employment. A large number of our students are suitable for manual work as the world of labour can primarily integrate those disabled people who are able to travel independently, or at least to use their limbs independently. Doing intellectual work in an office is also a typical career for young people leaving Pető, but extended learning in this direction is difficult for many of them so it is more likely that they will have to prepare for simple assembly tasks and semi-skilled work.

The task is to look for workplaces, factories and companies that employ people with reduced work capacity, to assess their needs and to prepare people for activities that are relevant to them. For this important first step, it is also worth checking the list of workplaces expressly compiled for people living with disability.

REMARKABLE DOMESTIC EXAMPLES

Employing people with reduced work capacity is useful for the employers from many aspects. Profit-oriented ventures can cut their expenses with the received allowances and they can also use further subsidies. However, full accessibility at work is the most important issue for the employers and the biggest problem for physically disabled persons. We could also say that accessibility is a barrier for the employers.

Despite this, more and more enterprises employ people living with disabilities but numerous organisations have been set up expressly in accordance with their interests and aspects.

The scope of this writing does not allow for a thorough mapping of institutions and organisations active in the field, however, we can present a few vocational rehabilitation institutions where the people with disability have the opportunity to work actively in craft workshops. Their example highlights the significance of handcraft

[1] Published in The manual of conductive pedagogy. More than practice. Editor in chief Éva Feketéné Szabó, Andrea Zsebe. Editor István Kollega Tarsoly. Semmelweis University András Pető Faculty, Budapest, [2020], 363–372.

sessions in the field of rehabilitation efforts and employment. As a result of the continuous monitoring, the following companies proved to be suitable for the young people taught at the Pető Institute as they offer the most comprehensive knowledge and help for independent work.

KÉZMŰ Non for profit Ltd., ERFO Non for profit Ltd.

„KÉZMŰ" and „ERFO" " are Hungary's largest state-owned companies employing people with reduced work capacity. Their goal is to offer rehabilitative employment for people with reduced work capacity and to promote their successful and permanent placement in the labour market. Their rehabilitation professionals assist their employees' employment, training and social rehabilitation, and provide – through customized consulting – an accessible work environment complying with the employees' health status and special needs. Their activities cover the production of leather gifts, printing, manufacturing various papers and packaging materials, broom making and running a sewing workshop.

"Napsugár" Integrated Social Centre

The Kaposvár-based institution deals with aquaponic plant production but also runs a sewing workshop, makes special flower boxes out of crushed stone and produces gifts and fridge magnets. This diversity provides the Centre with continued business and offers a varied working time to the resident disabled workers.

MEREK

It is the goal of the Rehabilitation Centre for Physically Disabled People (MEREK) – run by the General Directorate for Social and Child Protection – to rehabilitate people with physical disability and to promote their social integration. MEREK provides comprehensive rehabilitation services whereby it considers the individual needs and necessities as well as relies on close cooperation in working out and implementing the rehabilitation programme. It provides various types of provision to disabled persons, for example, residential care for people suitable for rehabilitation, and runs two temporary homes to prepare independent life. The services improve the residents' physical condition, develop their independence as well as support their education, special training and employment, in addition to striving for as much independence as possible. Upon occupational rehabilitation, MEREK also provides labour market services to employers and job seekers with reduced work capacity, assists preparations for work, seeking and trying jobs as well as offers mentoring after employment. The Guruló (Rolling) Workshop Network was also created with workshops already available in all regions of the country. The work of mechanics with reduced work capacity is assisted by a rehabilitation specialist and a physiotherapist at all the seven venues under coordination by the workshop manager. The professionals who are active in the workshops are prepared for all work phases, from minor repairs to the customized transformation of medical aids. The centre's director is Johanna Fóris, a former Pető worker.

Csömör rehabilitation centre

The institution is run in Csömör and at 16 small regional points in Hungary with the cooperation of the "Összefogás az Esélyegyenlőségért Nonprofit Kft." („Collaboration for Equality" Non for profit Ltd) and the "Egyenlő Esélyekért! Foundation for Equal Opportunities". The first organisation provides work opportunities and the latter provides accommodation to the workers. Initially, the institute had 13 employees, and now there are 300. Most of the workers involved are persons live with severe multiple intellectual and physical impairment but there are a few persons only with physical impairment or with minor intellectual impairment and people with Down syndrome. Care is provided at various levels. Independent persons have the chance to go to the institute as a workplace in a day system. In addition, the condominium recently built next to the centre provides home for them and their relatives. The primary goal of the centre is to provide work. There is a strict daily routine, work is done in the morning, and the disabled persons can attend leisure time sessions and special courses from 4 p.m. Work is given by the workshops covering numerous activities. Everyone can decide which workshop they want to work in, this is followed by the training period, which is a condition on work. The workplace can be changed at most three times a year. The workers can make their own products in the candle-making, weaving, sewing and clay workshops. They can also work in the garden centre, but hired assembly, selection or packaging work can also be done for external partners.

Those persons make their own objects (products) in the workshops whose intellectual abilities enable them to deal with longer and more complex work processes as well as their movement and hand use is less affected. In the clay workshop they make dishes, jugs and statues in moulds, which are then burned and painted according to the ordered sample and individual idea. In the weaving and sewing workshop they mainly make rugs from residual textile materials. These, together with the candles, are sold at charity fairs.

An example for an external customer: "Fruit of care" Non for profit Ltd.

The specialty of the brand that has been in the market since 2009 is given by the combination of three basic values: innovative design, quality handcraft work and social responsibility. Their products cover items made from paper and wood as well as handcrafted soaps and candles. Disabled people use their hands and various handcraft technologies to make products planned by persons like Áron Jakab, founder and designer. The design shows high-level expertise, the workmanship is an individual and fine imprint of human touch and the implementation reveals the value-creating skills of disabled people.

Salva Vita Foundation

The foundation was set up by Andrea Dávid, who started to support people with intellectual impairment in the field of independent lifestyle and employment. The goal of the foundation is to help disabled people with social integration through employment. Various programmes are to be used to help these young people to school

because the school system does not prepare them for employment. The foundation launched two programmes in 1996 and they have been in operation ever since. The self-developed "Programme of Practice at Work" was introduced to specialized secondary schools where young people with intellectual impairment learn professions. The point is that young people can spend a part of their professional practice at workplaces already during their school period, thus they can get acquainted with various professions and workplaces.

In 2010 the Ministry of Human Capacities launched the Shop with Heart programme in order to draw the public attention to products and services made in cooperation with people living with disabilities. The programme has been coordinated by the Salva Vita Foundation since 2013; the programme's trademark was also registered in the same year. The trademark can be used by accredited, protected employers employing people with reduced work capacity, certifying that these products were made in cooperation with people with reduced work capacity.

The Salva Vita Foundation has also developed numerous services for employers because supplying information to them and preparing them is indispensable for appropriately employing disabled people with reduced work capacity. Services are provided to the employers in numerous areas, from recruitment, through job analysis and sensitization to training schemes.

FOREIGN CONDUCTIVE INSTITUTIONS OFFERING WORK OPPORTUNITIES

Pfennigparade and WKM conductive workshop

In the autumn of 2012, the first conductive workshop was opened in collaboration between Phoenix GmbH and WKM (Werkstatt für Körperbehinderte München GmbH – Workshop for Physically Impaired People, Munich, Germany) to provide work opportunities for physically impaired people. The group carries out work that requires reduced concentration, such as creative paperwork as well as manufacturing and sorting gift wrapping.

The conductive work group works every day from 8 a.m. until 4 p.m. 8–12 people are active in the same workshop under control by a conductor as group leader. The daily workshop routine is subject to the basic conductive principles, i.e.: providing appropriate work conditions, taking up and keeping secure sitting positions, motivation as well as developing fine motor skills and attention.

The development of the full personality plays an important role in everyday life. The disabled persons working there will immediately transfer the learned and practiced motor skills into their work activities. This creates a diverse daily routine that provides joy and success to the employees. The interaction of the cheerful company and the individual skills as well as the production of practical and art objects are the factors that motivate the workers.

The Tsad Kadima conductive craft brewery

Founded in 1987 by the parents and professionals, of the Israeli organisation "Tsad Kadima" ("One Step Ahead") with the aims at providing educational and rehabilitation services to children and adults with cerebral palsy and other physical impairments. The institution applys conductive pedagogy, which was established in their country in cooperation with the Pető Institute.

Within their rehabilitation program, they came up with the idea of opening a brewery workshop for the members of „The Adults Day Center". The concept of the brewery came in 2017 by Dr. Rony Schenker, scientific director of Tsad Kadima, and the owner of a prominent local brewery liked the idea. His staff volunteered to train the candidates in the brewing process, and sponsors helped with the purchase of the equipment.

The project does not only enable young adults with CP due to central nervous system disorder to do fashionable, interesting and meaningful work and to learn a new job, but also to make some money. Physically impaired adults can actively participate in different stages of brewing, from planning, through production to marketing. The programme provides the chance to gain new experience and to learn a new way of employment. The program enables a complex activity that simultaneously develops various interdependent areas such as motor and cognitive functions, communication, social and emotional abilities.

Three stations were set up for the work process: the sterilizing bath and drier, the filling station and the bottling station. Everything was carefully planned as filling the bottles was also a challenge for the young people because the pipe has to be placed into a narrow hole. For example, the wheelchair of the colleague forwarding the bottles to the filling station was equipped with a bottle holder. In addition to its excellent taste and quality, Kadima beer is special and popular because it is produced by young people who overcome their own physical impairment.

THE TASKS OF EDUCATION AND CONDUCTOR TRAINING FOR THE EMPLOYMENT OF THE PEOPLE WITH PHYSICAL IMPAIREMENT

The Pető Institute promotes the career orientation and the employment of disabled people by updating the contents of the technical classes and through further targeted handcraft sessions with regard to the tools and the nature of the work process observed at the institutes in Csömör and Kaposvár (Hungary).

It is important for the András Pető Faculty to prepare the future conductors for such tasks. The scene of the handcraft sessions covers the subject *technology and its subject pedagogy* as well as various teaching practices. The sessions organized upon the teaching practice are also effective for maturing the lessons that prepare manual work and for selecting the most suitable techniques. The group leader conductor and the practice leader conductor also attend the sessions in addition to the lecurer of the methodology subject. This set-up is expedient as a new, upcoming technique and method must be tried out. If it is feasible with such a group of 6–8 disabled children,

the innovation may also be applied in technical education over the next academic years after correcting the eventual errors.

Personal procedures and curricula that refresh the training and that are based on the techniques known to the given student from the past are in regular use. Due to their personal nature, they authenticate the given lesson for the children and help to achieve the conductive purpose wrapped into the session. Many times, the novelty only covers differentiation at such a session because well-considered, multi-stage differentiation is one of the most important characteristics.

The first version of the planned vocational school is the "gift making" profession. Upper-level students should be prepared for this direction through a variety of targeted, differentiated development sessions. The idea can be illustrated by presenting a concrete example assignment, which can be implemented not only in the lower classes but also in the upper grades and in the Creative Group of the adult rehabilitation unit with the help of our students and conductors.

Manufacturing clay bowls. Working with clay provides a huge opportunity for developing the manipulation and the creativity of students with physical impairment and also for using their imagination. The work processes of the session take place at a table, but many differentiation options are available in the solutions.

Rolling the clay. Differentiating between the applied tools and using a rolling pin with ball bearings also makes rolling possible with two hands for those with one-side impairment. In addition, stretching the fingers can be helped by moving the traditional rolling pin downwards from top. Thinner, lighter as well as thicker and heavier rolling pins are also used. Rolling can also be done by standing, then the work becomes more effective with a lighter rolling pin if more weight put on the table. If you roll the clay by sitting at the table, you should use a heavier rolling pin as less force is needed for it.

Many diverse tools must be used for *decorating the clay*. For example, lace curtain pieces, which can be patterned into the clay with the rolling pin. You can also decorate the clay with smaller or bigger shells or patterned buttons. Rolling stamps are also available. Bowls and dishes can also be formed in various ways. The clay can be placed into a mould or can be shaped by turning up the edges.

Candle making. Two types of candle making techniques can be applied: submersion and casting. The process consists of few steps so there is much scope for differentiation by diagnosis / symptom. Choosing a task matched to the abilities can help to build a sense of success.

Submersion can also be done with one hand, which is simpler, but submersing into hot wax or into cold water for a certain time needs special attention. The conductor students have the chance to try and practice this technique every year on the study tour organized to the Skanzen (Szentendre, Hungary).

Casting is more complex, keeping the mould, dipping the spoon or pouring from the dish already needs the use of both hands, so it presumes better manipulation skills than submersion. The clay can be poured into the negative mold directly from the dish or by using a spoon or a ladle.

Making creative cards. For making a pop-up card only a template is needed that is drawn around on a folded paper and cut out along the lines, then folded in the appropriate direction along the broken line. The task needs verbal instructions and

corrections. Everyone does the required gluework independently by using liquid glue. Finally the cards can be coloured and decorated by the children according to their own taste.

Success is guaranteed by the fact that all the specialized student teachers learn how to make the pop-up cards, so any card can be made, for example, for Christmas (with a sledge, Christmas tree etc.).

Spatula bird feeder construction. The preparation of the bird feeder is easy, everyone can work independently, oral guidance is sufficient in most cases. The feeder is based on a square cardboard , so in the first step a premade pattern is drawn around, then cut out. 20-20 spatulas per person are glued to the cardboard with a glue gun or simple, liquid, universal glue. From time to time, the children should be warned to place the spatulas properly on one another.

Introducing these techniques, the most important development areas by presenting these tasks and by highlighting the available topics, however, it is also noteworthy that in the course of the creative activity the manipulation skills are further developed with continuous, active and independent task solving. Everyone can experience which task is best suited to them, which one is challenging and how they can be compensated and solved. The joy of creating together, which is one of the most important general goals, cannot be neglected either.

FORMS OF COOPERATION TO INVOLVE WORKSHOPS

In addition to motor development, the children who go to the András Pető Teaching Practice Primary School attend classes in most part of the day. Therefore, it would be evident if motor development were especially focused on developing manipualtion in the last academic years of the primary school as most children will be mainly able to do light, manual physical work instead of eventual brain work. Greater success could be achieved in the employment of children leaving primary school, sometimes aged 17–18 years, if more emphasis were placed on learning the activity forms of certain professions. This could also be achieved within the framework of handcraft sessions, according to the vocations that provide potential job opportunities to the children, so that the students can learn about the possible ways within their own limits, and what type and extent of movements will they need for this. Are the jobs in conformity with their expectations? It would be easier for them to plan their future and further education. It would be a great solution to build a programme that connects the children with companies active in different vocational or professional fields. The main goal of the programme would be to ensure that the students at the Pető Institute can learn about as many vocation or professions, and as profoundly, as possible. There could be two ways to get external help for this:

*Visits by company representatives, presentation of vocations or professions.*In one form of assistance, representatives of various companies could organize presentations to show what types of jobs young people can apply for, and what profession they can recommend. A great advantage of these visits would be that personal contacts can be established between the representatives and the children,

which is much more informal than a job interview, still the expectations and useful questions can be discussed by the employer and the future employee. The companies could make presentations for the students, they can bring employees who also live with disabilities but they can render full assistance to certain work processes of the company.

Workshop visits. According to the other cooperation model the children could pay visits to the partner workshops. The visits could be organized for the children in groups, in classes or perhaps based on vocational/professional orientation and they could ask questions from the staff at each work phase. They could attend presentations, they could see the stages of production and they can even try some roles that would later offer them a work opportunity.

Opportunities available to the András Pető Faculty

The vision of the institution focuses on both adult rehabilitation and school development. It is also planned to set up an independent workshop within the framework of daytime sessions. Opening the faculty's vocational school is nearer to completion; although IT activities would be taught to the children in the beginning, the further goal is to teach manual professions. Faster results could be achieved with a company that trains its own technology or with a cooperating vocational school. The experience shows that such a preparation program can work and develop the most effectively if it is based on partners and on their infrastructure. It is important to support and advance employment in a targeted manner, by focusing on appropriately selected handcraft activities. On the other hand, we need to make it possible for the employers to meet the students and to introduce the world of labour to the children with disability at the Institute.

Internet sources

www.egyenloeselyekert.hu; www.erfo.hu; www.fruitofcare.hu; www.gurulo.hu; www.kezmu.hu; www.martonlakootthon.hu; www.megvaltozott.hu; www.merek.hu; www.napsugarkozpont.hu; www.revitaalapitvany.hu; www.salvavita.hu; www.pfennigparade.de/arbeit-und-beschaeftigung; www.pfennigparade.de/images/stories/pdf/2016/2016_phoenix_konduktivewerkstatt.pdf; www.jpost.com/Magazine/The-most-unusual-brewery-544521; http://tsadkadima.org.il/en/homepage/what-wedo/special-programs/homebrewing/; http://semmelweis.hu/peto-ekpmi/gyakorlo-altalanos- iskola-bemutatkozas/; http://semmelweis.hu/pak/konduktiv-fejlesztes/felnott-nevelesi-egyseg-fne/

Adaptive sports activities for the recreation of children living with CP[116]

IBOLYA TÚRI – ZSOLT DOMOKOS

The Constitution of the World Health Organization (WHO), founded in 1948, defined health as follows: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Disability does not exclude health."[117] We know several dimensions of health: biological health, which means the proper operation of our body; spiritual health, i.e. balance with ourselves, peace and calmness; and another dimension is mental, emotional and social health.

Recreation is an opportunity to achieve all this, i.e. renewing physical, mental and spiritual performance ability, achieving comfort and well-being through resting, physical exercise and playful social activities. This was defined in 2011 as follows: "any cultural, social, playful and physical activity carried out in leisure time with a view to active resting in order to relieve fatigue and tension caused by the main daily activity as well as to restore and enhance the physical-spiritual-mental performance ability. We differentiate physical and mental recreation depending on the type of the activity and on the required tools. However, it is rather difficult to separate them, on the one hand, due to the above, comprehensive interpretation and, on the other hand, due to the complexity of various activities. Physical activities are beneficial to our mental and spiritual refreshing, recharge and balance. Therefore, creating somatic, psychic or social well-being as well as reaching and renewing the creative, active and optimal performance ability is regarded as a recreational form of behaviour.[118]

In the case of children and young people with central nervous system disease, the prioritized goal is to educate them to become persons capable of leading an active, independent life. The basic purpose of conductive education is preparation for independent life and for successful integration into community and society. Conductive education interprets impaired persons and defines their basic educational concept as a coherent system and based on the principle of holism.[119] The impairment of the sensory, psychic and motor functions resulting from central nervous system disorder is not regarded as a disease but it is interpreted as a disorder of the learning process, which can be successfully influenced and terminated through education, teaching as well as psychological and pedagogical methods.

In the case of physically disabled children we regarded recreation, on the one hand, as an opportunity for well-being and physical-spiritual-mental renewal and, on the

---

[116] Published in The manual of conductive pedagogy. More than practice. Editor in chief Éva Feketéné Szabó, Andrea Zsebe. Editor István Kollega Tarsoly. Semmelweis University András Pető Faculty, Budapest, [2020], 437–442.

[117] WHO 1948

[118] FRITZ 2011

[119] FÖLDESI 2014; FÖLDESI 2017; BALOGH 2017; SCHAFFHAUSER 2018

other hand, as a substitute for earlier absent self-experiences and success as well as the acquisition of new experience. Our decisions on setting up and expanding recreational programmes were affected by the recognition that the activities can also provide the children with a special "me time" when they can take part in interesting, motivating and inspiring activities. Whether it is sports or arts, they can encounter their own feelings, power, they can test the limits of their abilities and personality; they can get a taste of freedom given by the programmes and the experience of self-fulfilment that helps them to recharge, thus their personality will also change and their self-image will get a new colour.

The young school age period is also important because it serves as a basis for the further acquisition of knowledge and, on the other hand, it is essential for further developing and optimizing the basic and partial abilities needed for learning. Our measuring results have proved several times the multiple presence of the co-symptoms of cerebral palsy among our students.[120] All this led us to conclude that our subjects may need to participate in further programmes that can successfully influence the co-symptoms that also influence learning.

The above experience helped to plan and launch the recreational, sport and art activities and talent care programmes and to connect them to conductive education.

Our recreational programmes

As is the case with the educational process in general, conductive education does not make any sharp distinctions between the various educational phases either: the acquisition of experience and knowledge as well as practice and application are in close interaction. The professional programme of conductive practice at the András Pető Faculty has been extended with more and more leisure, sport and art activities in order to provide extensive recreational activities for the students and to support all-round personality development, self-fulfilment and talent care.

Sports form one of the groups within the recreational programmes. Our currently available or recently organized sport programmes are as follows:
swimming, boccia, fencing, adaptive rowing, kid athletics, balance bike, weight-lifting and arm-wrestling, para-football, taekwondo and other programmes (horse therapy, orienteering etc.).

The swimming programme has long traditions with us, it is suitable for relieving and positively influencing CP-related symptoms, for example, increased muscle tone as well as supporting coordinated movement, physical condition, stamina, attention and sense of rhythm.

The opportunities provided by water are worth using as water is beneficial for the nervous system and it gives a calm, relaxing experience as most children – just like adults – love swimming and being in water.

---

[120] Éva Feketéné Szabó – Judit Liptákné Papp – Tímea Vissy: Objective numbers about conductive education. Celebrating Hungarian Science, Pető Science Day Conference, Bp., 2017

Boccia is a sport specialized for people with central nervous system disease. With the help of its rules and tools, even people with serious motor symptoms are able to make successful targeting and motor coordination and, as a result, to score points. It is an activity requiring extreme concentration and attention and presuming strategic thinking, which also provides children with a feeling of success and effectiveness. It helps the participants to recharge mentally and to find their spiritual balance.

Adaptive rowing has been offered in the school sport programme for more than ten years. After adapting this sport that was especially developed for sportspeople with paraplegia and not yet introduced to Hungary at that time, our children with CP also had the opportunity to try this special form of water sports. Rowing typically works on all muscles, moves all the four limbs, strengthens the core muscles, improves the motor coordination, the physical condition, the rhythm and co-movement ability, lasting concentration as well as the own body and movement image. By rowing in the boat and using the rowing machine it is also possible to develop secure sitting position, grip, holding the grip as well as active gross and fine motor movement. Rowing on free water and in a natural environment, the neighbouring flora and fauna, the water and its environment provide the children with unique experience as well as mental, spiritual and physical well-being.

Fencing was launched about two and a half years ago. In addition to cognitive competences (like attention, concentration, planning) and motor competences (secure sitting position, grip, dynamic gross motor movement, targeting movements, dynamic body movements, movement coordination), it effectively influences the reaction time, the reflexes, the rhythm of movement, perception and lateralization. The dynamism and the special character of fencing demands creative solutions as well as fresh intellectual decisions.

The events organized within the framework of *kid athletics* work on a wide range of motor abilities (coordinated movement, direction changes, loads, gross and fine motor movements, lateralization and perception, balance etc.); moreover, they effectively develop the cognitive and social areas. The colourful and diverse activities require cooperation, attention to each other and provide a chance for social and spiritual recharge.

The *balance bike, arm-wrestling, weight-lifting, taekwondo and para-football* sport programmes also develop and improve the participants' general physical condition and stamina, motor coordination, the sense of rhythm, reaction time and persistence and help them to feel the experience and the inspiring power of competition individually or in teams. In their reports, the kids confirm, record and look forward to these occasions as they help them to recharge, refresh and renew physically, spiritually and mentally.

The sports activities organized for our subjects continuously evidence the beneficial impact of sports in the field of cognitive, affective and motor areas. Sports help to work out balanced, calm and creative forms of conduct and behaviour and enhance the ability to tolerate stress, failure and to manage conflicts. The programmes develop the children's physical condition and the motor competences but also improve

their planning, organizing and time management skills, their attention and concentration, which in many cases also improves their study results. The sport programmes enhance the social competences, cooperation with, and attention to each other, strengthen connections and friendship with the other children, and the sport communities established in this manner keep and shape their members.

Another group of leisure and recreation programmes covers *art programmes*: drawing sessions, art talent care, art therapy, drama class, folk dance, choir and music group, music afternoons, literary talent care, contemporary film club. Arts have a helping and educating function: art activities motivate, bring joy and give the feeling of success. Arts offer the chance for self-development and self-fulfilment, we can gain experience about ourselves and we can also learn the world that surrounds us. The personality-developing power of arts is undisputable; the creating process positively affects various skill areas (movement, communication, attention, social competences) and helps to step over the internal limits as well as to experience success and equality.

Our experience is positive and progressive with regard to both the offer and the organisation of sport and art programmes and the benefits of their results. All these results can be recycled into our conductive education and into the preparation for integration and can be used as a foundation for the future. Participation in the programmes requires that everything that was learned in conductive education is recalled and put into practice.

Our practical experience confirmed that undertaking to organize recreational programmes is the right way to follow.[6] These programmes develop and strengthen the self-image of physically disabled children and young people and help them to truly learn themselves. These activities complement conductive education and offer a good chance to use what was learned in conductive education. They can open paths towards communities that provide access, on the one hand, to their own, larger community living with disability and, on the other hand, towards the healthy community and actually show the way towards successful integration. And what is, in fact, the most important: our recreational programmes help and support physical, mental and spiritual renewal and recharge, satisfaction and personal well-being, which is necessary for physically disabled people, both children and adults.

Literature

COMPILED BY: ISTVÁN KOLLEGA TARSOLY

BOOKS, ARTICLES FROM PERIODICALS

ÁDÁNY 2011
Róza Ádány: Megelőző orvostan és népegészségtan. TÁMOP 4.2.5 pályázat könyvei, 2011

ADLER 1947
Adler, A.: The Practice and Theory of Individual Psychology. Hart Court Brace, New York, 1947

AINSCOW 2000
Ainscow, M.: The next step for special education: supporting the development of inclusive practices. *British Journal of Special Education,* 2000 (27), pp. 76-80

AINSCOW – BROWN 1999
Ainscow, M. – Brown, D.: Guidance on improving teaching, Lewisham, LEA, London, 1999

ÁKOS-ÁKOS 2012
Ákos Károly – Ákos Magda: The enigmatic Dr Pető. In: András Pető. Szerk. Maguire, Gillian – Sution, Andrew. Conductive Education Press. Birmingham, 2012, pp. 83-97

ALLPORT 1977
Allport, Gordon W.: Az előítélet. Gondolat, Bp., 1977

ANTALOVITS – JÓKAI 2010
Antalovits Miklós – Jókai Erika: A támogató technológiák osztályozása. In: Rehabilitációs támogató technológiák. Typotex, Bp., 2010, pp. 14-38

ANTTILA 2008
Anttila, H. – Suoranta, J. – Malmivaara, A. – Mákelá, M. – Autti-Rámö, I.: Effectiveness of physiotherapy and conductive education interventions in children with cerebral palsy: a focused review. *American Journal ofPhysical Medicine and Rehabilitation,* 2008 (87) 6, pp. 478-501

ARANY 2011
Arany Zsuzsanna: Az életrajzírás művészet(-)e(?) *Kortárs Online,* 2011 https://www.kortarsonline.hu/archivum/2011/07/az-eletrajziras-muveszet-e.html (Utolsó letöltés: 2019. 01. 14.)

ARANY 2012
Arany Zsuzsanna: Az életrajz mint tükör. Közelítések egy műfajhoz. Irodalomtörténet, 2012 http://www.irodalomismeret.hu/files/2012_3/arany_zsuzsanna. pdf

ARANY 2014
Arany Zsuzsanna: Stevenson rémálma. *Irodalomismeret,* 2014 http://www.irodalomismeret.hu/files/2104_3/arany_zsuzsanna.pdf (Utolsó letöltés: 201. 05. 11.)
ASUMAH – NAGEL 2014
Diversity, Social Justice, and Inclusive Excellence – Transdisciplinary and Global Perspectives. Szerk. Asumah, S. N. – Nagel, M. State University of New York Press, Albany, New York, 2014
ATKINSON 2002
Atkinson, A. B.: Social inclusion and the European Union. *Journal of Common Markét Studies,* 2002 (40), 4. pp. 625-643
ATKINSON – HILGARD 2005
Atkinson, Richard C. – Elilgard, Ernest R.: Pszichológia. 3. átdolgozott kiadás. Osiris, Bp., 2005
BACH 1999
Bach, H.: Grundlagen dér Sonderpádagogik. Bern-Stuttgart, 1999
BÁBOSIK – BOROSÁN – HUNYADY – M. NÁDASI – SCHAFFHAUSER 2011
Bábosik István – Borosán Lívia – Hunyady Györgyné – Schafíhauser Franz: Pedagógia az iskolában. A szociális életképesség megalapozása. ELTE Eötvös, Bp., 2011
BÁBOSIK 1994
Bábosik István: A nevelés elmélete és gyakorlata. In: Neveléstan. Szerk. Bábosik István – Mezei Gyula. Telosz, Bp., 1994, pp. 13-162
BÁBOSIK 1997
A modern nevelés elmélete. Szerk. Bábosik István. Telosz, Bp., 1997
BÁBOSIK 2004
Bábosik István: Neveléselmélet. Osiris, Bp., 2004
BALLÉR 1978
Alapelvek az általános iskola nevelő és oktató munkájában. Az általános iskolai nevelés és oktatás terve. Szerk. Ballér Endre. I. OPI, Bp., 1978, pp. 11-33
BALOGH B. 2018
Balogh Brigitta: Egész-volt a tökéletlenségben. Az egészség nem-mechanikus felfogása, a szellem fogalma és a konduktív pedagógia. Új Pedagógiai Szemle, 2018 (68) 3-4., pp. 32-46
BALOGH B. – FENYVESI 2017
Új Pedagógiai SzemleBalogh Brigitta – Fenyvesi Márk: A megtestesült szellem. Az „egész" ember újrafelfedezése Hegel antropológiájában. Reformpedagógia és életreform – elméleti megközelítések, új kutatási eredmények tudományos szimpózium. Reformpedagógia és életreform – recepciós tendenciák, intézményesülési folyamatok c. OTKA kutatás. Absztrakt. Eger. 2017, pp. 20-21

BALOGH B. – FENYVESI 2018
Eszmélet-gondolat-mozdulat. Dienes Valéria filozófiája. Szerk. Brigitta Balogh – Márk Fenyvesi. Bp., 2018
BALOGH E. 2003
Balogh Erzsébet: Ciliid neurologist's indication for conductive education. *Occasional Papers,* 2003,10. pp. 25-34
BALOGH E. – KOZMA 2000
Erzsébet Balogh – Ildikó Kozma: Cerebralis paresis. In: Gyermekneurológia. Szerk. Rozália Kálmánchey. Medicina, Bp., 2000, pp. 139-154.
BALOGH E. – KOZMA 2009
Erzsébet Balogh – Ildikó Kozma: A konduktív nevelés gyermekneurológiai indikációja. *Ideggyógyászati Szemle,* 2009, (62) 1-2, pp. 12-22
BALOGH E. – MEDVECZKY 2003
Erzsébet Balogh – Erika Medveczky: A Pető-módszerről a gyermekneurológus szemével. *Gyermekgyógyászati Továbbképző Szemle,* 2003, (8) 6, pp. 264-267
BALOGH M. 2014
Margit Balogh: Dr. Hári Mária mint szerző és mint könyvtáralapító. In: Emlékkönyv. Dr. Hári Mária 1923-2001. Szerk. István Kollega Tarsoly. Pető András Főiskola Bp., 2014, pp. 36-53
BÁNFALVY 2008
Csaba Bánfalvy: A mai integrációs folyamatok és azok előzményei. In: Az integrációs cunami. Tanulmányok a fogyatékos emberek iskolai és társadalmi integrációjáról. Szerk. Csaba Bánfalvy. ELTE Eötvös, Bp., 2008
BÁNFALVY – SZAUDER – ZÁSZKALICZKY 2006
Gyógypedagógus történetek. Beszélgetés magyar gyógypedagógusok félmúltjáról. Szerk. Csaba Bánfalvy – Erik Szauder – Péter Zászkaliczky. ELTE Eötvös, Bp., 2006
BARCZY – DIÓSI – RUDAS 1996
Magdolna Barczy – Pál Diósi – János Rudas: Vélemények a másságról – előítéletek a fiatalok körében. Egy empirikus társadalomkutatás zárótanulmánya. Animula, Bp., 1996
BÁRDOSSY 2006
Ildikó Bárdossy: A befogadó iskola és környezete. *Új Pedagógiai Szemle,* 2006, 3.
BARKÓCZY – PUTNOKY 1967
Ilona Barkóczy – Jenő Putnoky: Tanulás és motiváció. Tankönyvkiadó, Bp., 1967
BÁTHORI 1987
Zoltán Báthori: Tanítás és tanulás. Tankönyvkiadó, Bp., 1987
BELLER, S. – BELLER, E. K. 2009
Beller, S. – Beller, E. K.: Systematische sprachliche Anregung im Kindergartenalltag zur Erhöhung der Bildungschancen 4- und 5-jähriger Kinder aus sozial

schwachenund Migrantenfamilien. Ein Modell dér pädagogischen Intervention. Absclussbericht des Projekts. 2009 http://www.stiftung-jugendmarke.de/upload/pdf/Berich- te/2009/Abschlussbericht-52-36-06-INA.pdf, (Utolsó letöltés: 08.04.2019)

BENCZÚR 2000

Miklósné Benczúr: A mozgáskorlátozott gyermekek szomatopedagógiai nevelése az óvodában és az iskolában. In: Gyógypedagógiai alapismeretek. Szerk. Sándor Illyés. ELTE Bárczi Gusztáv Gyógypedagógiai Főiskolai Kar, Bp., 2000, pp. 535- 560

BENCZÚR 2003

Adaptált testnevelés és sport. I. kötet. Speciális szükségletű tanulók adaptált iskolai testnevelése és sportági felkészítése. pp. 35–52 II. kötet. Fogyatékos személyek sportja. pp. 17–53 Szerk. Miklósné Benczúr. Fogyatékosok Nemzeti Sportszövetsége, Bp., 2003

BENCZÚR 2017

Az adaptált testkultúra és sport fogyatékosspecifikus alapismeretei. Szerk. Miklósné Benczúr. ELTE Eötvös, Bp., 2017

BENYOVSZKY 2016a

Andrea Benyovszky: A konduktív pedagógia permanens jelenléte az Amerikai Egyesült Államokban (Aquinas College, Grand Rapids, MI, USA). Egy 14 éves retrospektív vizsgálat eredményei. ELTE PPK Neveléstudományi Doktori Iskola, Bp., 2016

BENYOVSZKY 2016b

Andrea Benyovszky – Erzsébet Balogh – György Benyovszky: A konduktív nevelés jelöltjeinek (2000-2006) néhány jellemzője a Conductive Learning Center és a Mozgássérültek Pető András Nevelőképző és Nevelőintézete adatai alapján. In: Tanulmányok a konduktív pedagógia köréből. A Hári Mária-pályázat gyűjteményéből. Szerk. Adrienn Deák – István Kollega Tarsoly. Pető András Főiskola Bp., 2016, pp. 73-96

BERÉNYI – KATONA 2014

Marianne Berényi – Ferenc Katona: Fejlődésneurológia. Medicina, Bp., 2014

BERGESON 2006

Bergeson, S. C., – Dean, J. D.: A Systems approach to patient-centered care. *Jama,* 2006 (296) 23, pp. 2848-2851

BERGSON

Bergson, H.: Teremtő fejlődés, Akadémiai Kiadó, Bp., 1987

BERNOLÁK 2006

Béláné Bernolák: Inkluzív nevelés. Ajánlások mozgáskorlátozott gyermekek kompetencia alapú fejlesztéséhez. Sulinova, 2006, pp. 5-15

BIEWER 2009

Biewer, G.: Grundlagen der Heilpädagogik und inklusiven Pädagogik. Klinkhardt,

Bad Heilbrunn, 2009
BINTINGER – EICHELBERGER – WILHELM 2002
Bintinger, G. – Eichelberger, H. – Wilhelm, M.: Eine Schule für dich und mich. Inklusiven Unterricht, inklusive Schule gestalten. Studien Verlag, Innsbruck-Wien-München-Bozen, 2002
BÍRÓ 1971
Katalin Bíró: Nevelők nevelése a konduktorképzés során. *Felsőoktatási Szemle,* 1971 (20) 7-8, pp. 487-490
BÍRÓ 1996
Katalin Bíró: A komplex nevelési gyakorlat célkitűzései. Kézirat. MPANNI, Bp., 1996
BÍRÓ 2005a
Katalin Bíró: A konduktív nevelés alapelvei. Conductive-Education.org.uk (Utolsó letöltés: 25.05.2005)
BÍRÓ 2005b
Katalin Bíró: A speciális és az általános pedagógia kapcsolata. In: Hári Mária (1923-2001). Szerk. Margit Balogh. MPANNI, Bp., 2005, pp. 66-72
BÍRÓ – HORVÁTH 1992
Katalin Bíró – Dezsőné Horváth: A konduktív pedagógiáról röviden. *Óvodai nevelés,* 1992 (45) 8, pp. 269-270
BÍRÓNÉ NAGY 2011
Edit Bíróné Nagy: Sportpedagógia. Dialóg Campus, Bp., 2011
BLAUW-HOSPERS – HADDERS-ALGRA 2005
Blauw-Hospers, C. H. – Hadders-Algra, M.: A systematic review of the effects of early intervention on motor development. *Developmental Medicine and Child Neurology,* 2005 (47) 6, pp. 421-432
BLEIDICK 1994
Bleidick, U.: Zum Begriff der Behinderung in der sonderpädagogischen Theorie. In: Sonderpädagogische Theoriebildung – Vergleichende Sonderpädagogik. Szerk. Bürli, A. Luzern, 1994, pp. 29-45
BLEIDICK 1999
Bleidick, U.: Behinderung als pädagogische Aufgabe. Behinderungsbegriff und behindertenpädagogische Theorie. Kohlhammer, Stuttgart, 1999
BLEIDICK 2009
Allgemeine Behindertenpädagogik. Szerk. Bleidick, U. Beltz, Weinheim-Basel, 2009
BLESS 2007
Bless, G.: Zur Wirksamkeit der Integration. Forschungsüberblick, praktische Umsetzung einer integrativen Schulform, Untersuchungen zum Lernfortschritt. Haupt Verlag, Bern-Stuttgart-Wien, 2007

BOBAN – HINZ 2008
Boban, I. – Hinz, A.: „The inclusive classroom“ – Didaktik im Spannungsfeld von Lernprozesssteuerung und Freiheitsberaubung. In: Reflexive Didaktik – Annäherungen an eine Schule für alle. Szerk. Ziemen, K. Athena. Oberhausen, 2008
BOCHNER 1999
Bochner, S. – Center, Y. – Chapparo, C. – Donelly, M.: Howeffective are programs based on conductive education? A report of two studies. *Journal of Intellectual and Developmental Disability,* 1999 (24) 3, pp. 227-242
BOOTH – AINSCOW 2002
Booth, Tony – Ainscow, Mel: *Index for Inclusion: Developing Learning and Participation in Schools.* Centre for Studies on Inclusive Education, 2002
BOOTH – AINSCOW 2009
Booth, Tony – Ainscow, Mel: Inkúziós index. Útmutató az inkluzív iskolák fejlesztéséhez. Csefkó Mónika, Csepregi András és a Mozgáskorlátozottak Békés Megyei Egyesülete, Békéscsaba, 2009
BORBÉLY 1961
András Borbély: Az aktivitás a fejlődésben és a nevelésben. In: Tanulmányok a neveléstudomány köréből. Szerk. Árpád Kiss – Sándor Nagy – József Szarka – István Szokolszky. Akadémiai, Bp., 1961
BOROS 2010
Erzsébet Boros: A rehabilitációs orvoslás története. In: Rehabilitációs orvoslás. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2010
BOYD 2001
Boyd, R. N. – Morris, M. E. – Graham, H. K.: Management of upper limb dysfunction in children with cerebral palsy. A systematic review. *European Journal of Neurology,* 2001 (8), pp. 150-166
BONNECHERE 2014
Bonnechere, B. – Jansen, B. – Omelina, L. – Degelaen, M. – Wermenbol, V. – Rooze, M. – Jan, S. V. S.: Can serious games be incorporated with conventional treatment of children with cerebral palsy? A review. *Research in developmental disabilities,* 2014 (35) 8, pp. 1899-1913
BÖDDI 2017
Zsófia Böddi: Az óvodai integrált nevelés vizsgálata (az eredményességet növelő tényezők és az óvóképzés fejlesztésének fókuszával). PhD-értekezés, ELTE Neveléstudományi Doktori Iskola, Bp., 2017
BRINKMANN 2008
Brinkmann, Erika: Leseförderung durch Differenzierung. In: Kinder- und Jugendliteratur für Risikogruppen? Aspekte der Leseförderung. Szerk. Knobloch, J. Kopaed Verlag, München, 2008

BRÜGELMANN 2006
Brügelmann, H.: Noten sind nutzlos und unnötig. 2006 http://www.gmnd-schulverband.de/fileadmin/grundschulverband/Download/aktuell/Pubhlik-Forum_14.706.pdf, (Utolsó letöltés: 05.01.2010)
BUBER 1988
Buber, M.: Én és Te. Európa, Bp., 1988
BUDA BÉLA 1994
Béla Buda: Mentálhigiéné. Animula, Bp., 1994
BUDA BÉLA 2003
Béla Buda: A lélek egészsége. A mentálhigiéné alapkérdései. Nemzeti Tankönyvkiadó, Bp., 2003
BUDA M. 1997
Mariann Buda: A nevelési rendszerek elemzésének szükségességéről. *Új Pedagógiai Szemle,* 1997. november
BUSCAGLIA 1975
Buscaglia, Leó: The Disabled and their Parents. A Counseling Challenge. Slack, New Jersey, 1975
BUTLER 1998
Butler C.: AACPDM Methodology for developing evidence tables and reviewing treatment outcome research. American Academy fór Cerebral Palsy and Developmental Medicine, 1998 www.aacpdm.org (Utolsó letöltés: 01.07.2019)
BUYTENDIJK 1956
Buytendijk, F. J. J.: Allgemeine Theorie der menschlichen Haltung und Bewegung. Als Verbindung und Gegenüberstellung von physiologischer und psychologischer Betrachtungsweise. Springer, Berlin-Göttingen-Heidelberg, 1956
BUYTENDIJK – PLÜGGE 1963
Buytendijk, F. J. J. – Plügge, H.: Über die menschliche Bewegung als Einheit von Natur und Geist. Hormann, Stuttgart, 1963
BÜCHLER 2011
Júlia Büchler: Leltár a lomtárban. Saxum, Bp., 2011
CANS 2007
Cans, C. – Dóik, H. – Platt, M. J. et ah: Recommendations from the SCPE collaborative group for defining and classifying cerebral palsy. SCPE Collaborative Group. *Developmental medicine and child neurology,* Supplement. 2007 Feb; 109, 35-38. p. http://onlinelibrary.wiley.eom/doi/10.llll/j.1469-8749.2007.tbl2626.x/ pdf
CASE-SMITH 2013
Case-Smith, J. – Clark, G. J. F. – Schlabach, T. L.: Systematic review of interventions used in occupational therapy to promote motor performance for children ages birth-5 years. *American Journal of Occupational Therapy,* 2013 (67)

4, pp. 413-424
CATANESE 1995
Catanese, A. A.- Coleman, G. J. – King, J. A. – Reddihough, D. S.: Evaluation of an early childhood programme based on principles of conductive education. The Yooralla project. *Journal of Paediatrics and Child Health,* 1995 (31) 5, pp. 418-422
CEREBRALIS PARESISRŐL 2009
Az Egészségügyi Minisztérium szakmai protokollja a cerebralis paresisről (CP). Készítette: Csecsemő- és Gyermekgyógyászati Szakmai Kollégium és a Rehabilitációs Szakmai Kollégium. *Egészségügyi Közlöny,* (LIX) 21, pp. 2996-3016
CLARKE 1973
Clarke, J. – Evans, E.: Rhythmical intention as a method of treatment for the cerebral palsied patient. *Australian Journal of Physiotherapy,* 1973 (19) 2, pp. 57-64
CLARK – DYSON – MILLWARD – ROBSON 1999
Clark, C. – Dyson, A. – Millward, A. – Robson, S.: Theories of inclusion, theories of schools: deconstructing and reconstructing the 'inclusive school'. *British Educational Research Journal,* 1999, 25, pp. 157-177
COCHRANE – HUR 1995
Cochrane, R. – Hur, J.: Academic performance of children with cerebral palsy. A comparative study of conductive education and British special education programmes. *The British Journal of Developmental Disabilities,* 1995 (41) pp. 33-41
COLEMAN 1995
Coleman, G. J. – King, J. A. – Reddihough, D. S.: A pilot evaluation of conductive education-based intervention for children with cerebral palsy. The Tongala Project. *Journal of Paediatrics and Child Health,* 1995 (31) 5, pp. 412-417
COOK 2018
Cook, B. G. – Lloyd, J. W. – Mellor, D. – Nosek, B. A. – Therrien, W. J.: Promoting open Science to increase the trustworthiness of evidence in special education. *Exceptional Children,* 2018 (85) 1, pp. 104-118
COOK – CAMPBELL 1979
Cook, T. D. – Campbell, D. T.: Quasi-Experimentation. Design and Analysis. Issues for Field Settings. Houghton and Mifflin, Boston, 1979
CRAFT 2001
Craft, A.: little c' creativity. In: Creativity in Education. Szerk. Craft, A. – Jeffrey, B. – Leibling, M. Continuum, London, 2001, pp. 45-61
CRAFT 2005
Craft, A.: Creativity in Schools. Tensions and Dilemmas. Routledge, New York,

2005
CZIBERE – FARAGÓNÉ BIRCSÁK 2006
Csilla Czibere – Márta Faragóné Bircsák: Ajánlások sajátos nevelési igényű gyermekek, tanulók fejlesztéséhez. Bevezető az életpálya-építési kompetenciaterület ajánlásaihoz. SuliNova, Bp., 2006
CSÁNYI 2003
Yvonne Csányi: Az integráció kihívásai. Sajátos nevelési igényű gyermekek a többségi iskolában. Tanári kézikönyv. Raabe, Bp., 2003
CSÁNYI 2007
Yvonne Csányi: *Integráció és inklúzió. Nemzetközi és hazai körkép. In: Inkluzív nevelés – a tanulók hatékony megismerése. Kézikönyv a pedagógusképző intézmények részére. Szerk. János Girasek. Sulinova, Bp., 2007, pp. 138-163*
CSAPÓ 2004
Benő Csapó: Tudás és iskola. Műszaki, Bp., 2004
CSÉPE 2005
Valéria Csépe: Kognitív fejlődés-neuropszichológia. Gondolat, Bp., 2005
CSERNÁTONI 2008
Katalin Csernátoni: Intézményi helyzetkép. Kultúraépítés a befogadó iskola/óvoda intézményében. In: Milyen világot kínálunk gyermekeinknek? Befogadás a „Maci" Alapítvány gyermekintézményeiben, 1993-2008. Bp., 2008
CSERTI CSAPÓ – ORSÓS 2013
Tibor Cserti Csapó – Anna Orsós: A mélyszegénységben élők és a cigányok/ romák helyzete, esélyegyenlősége. In: Esélyegyenlőség a mai Magyarországon. Szerk. Aranka Varga. Pécsi Tudományegyetem BTK NTI Romológia és Nevelésszociológia Tanszék, Pécs, 2013, pp. 99-120
CSÍKOS 2015
Csaba Csíkos: Randomizált pedagógiai kísérletek a 21. században. In tempore opportuno. *Neveléstudomány,* 2015 (3) pp. 53-62
CSÍKSZENTMIHÁLYI 2001
Mihály Csíkszentmihályi: Flow. Az áramlat. A tökéletes élmény pszichológiája. Akadémiai, Bp., 2001
CSÍKSZENTMIHÁLYI 2008
Mihály Csíkszentmihályi: Kreativitás. A flow és a felfedezés, avagy a találékonyság pszichológiája. Akadémiai, Bp., 2008
CSÍKSZENTMIHÁLYI 2010
Mihály Csíkszentmihályi: Tehetséges gyerekek. Flow az iskolában. Nyitott Könyvműhely, Bp., 2010
CSUKA – NÁDASI – KELEMEN 2014
Viktória Csuka – Zsófia Nádasi – Anna Kelemen: Cerebrális parézissel élő gyermekek szorongásának és viselkedésének felmérése integrált és speciális iskolai

környezetben. *Gyógypedagógiai Szemle,* 2014 (42) 1, pp 37-47

CSŰRIK 1939

Dénes Csűrik: A testnevelés szellemi hatásai. Stephaneum, Bp., 1939

DAMASIO 1996

Damasio, A. R.: Descartes tévedése. Érzelem, értelem és az emberi agy. Aduprint, Bp., 1996

DANIS – FARKAS – HERCZOG – SZILVÁSI 2011

A koragyermekkori fejlődés természete – fejlődési lépések és kihívások. Szerk. Ildikó Danis – Mária Farkas – Mára Herczog – Léna Szilvási. Nemzeti Család- és Szociálpolitikai Intézet, Bp., 2011

DARRAH – WATKINS – CHEN – BONIN 2004

Darrah, J. – Watkins, B. – Chen, L. – Bonin, C.: Conductive education intervention for children with cerebral palsy. An AACPDM evidence report. *Developmental Medicine and Child Neurology,* 2004 (46) 3, pp. 187-203

DAUT – KIENLE – LELGEMANN – RIMROTH 2010

Daut, V. – Kienle, D. – Lelgemann, R. – Rimroth, A.: Teilhabe und Partizipation verwirklichen. Neue Aspekte der Vorbereitung auf die nachschulische Lebenssituation körper- und mehrfachbehinderter Menschen. Athena, Oberhausen, 2010

DÁVID IMRE 2011

Imre Dávid: „Jó szóval oktasd...” Módszertani kézikönyv oktatóknak. Magyar Tehetségsegítő Szervezetek Szövetsége, Bp., 2011

DEÁK 2007

Adrienn Deák: Érvek és ellenérvek a mozgássérültek integrált nevelésével kapcsolatban. Empirikus vizsgálat Spanyolországban és Magyarországon. PhD-disszertáció, ELTE, Bp., 2007

DEÁK 2016

Adrienn Deák: Elfogadás vagy elutasítás. In: Tanulmányok a konduktív pedagógia köréből. A Hári Mária-pályázat gyűjteményéből. Szerk. Adrienn Deák – István Kollega Tarsoly. Pető András Főiskola, Bp., 2016, pp. 117-132

DÉVAI 2005

Júlia Kálmánné Dévai: Emlékeim. In: Hári Mária (1923–2001). Szerk. Margit Balogh. MPANNI, Bp., 2005, pp. 46-52

DÉVAI 2012a

Dévai, Júlia: Personal memories from the days of the beginning of Conductive Education. In: András Pető. Szerk. Maguire, Gillian – Sutton, Andrew. Conductive Education Press, Birmingham. 2012, pp. 45-70

DÉVAI 2012b

Júlia Dévai: Egyszer volt, s ma is van: a sokarcú Pető. A konduktív nevelés kezdetei. In: Negyedszázad a kommunikáció bűvöletében. Szerk. Zsófia Kálmán. Bliss

Alapítvány, Bp., 2012, pp. 73-101
DEVEREAUX – YUSUF 2003
Devereaux, P. J. – Yusuf, S.: The evolution of the randomized controlled trial and its role in evidence-based decision making. *Journal of Internal Medicine,* 2003 (254) 2, pp. 105-113
Dl BENEDETTO 2008
Di Benedetto, D.: Második esély típusú intézmények és programjaik. 2008 http:// www.orszagostranzit.hu (Utolsó letöltés 2019. 06. 12.)
DIRKS 2011
Dirks, T. – Hadders-Algra, Mijna: The role of the family in intervention of infants at high risk of cerebral palsy. A systematic analysis. *Developmental Medicine and Child Neurology,* 2011 (53) pp. 62-67
DOIDGE 2011
Doidge, N.: A változó agy. Park, Bp., 2011
DOIDGE 2016
Doidge, N.: Hogyan gyógyul az agy? Park, Bp., 2016
DREHER 1998
Dreher, W.: Vom Menschen mit geistiger Behinderung zum Menschen mit besonderen Erziehungsbedürfnissen. Kézirat. Cologne, 1998
EBERWEIN 1998
Eberwein, Hans: Sonder- und Rehabilitationspädagogik – eine Pädagogik für „Behinderte" oder gegen Behinderungen? Sind Sonderschulen verfassungswidrig? In: Behindert sein oder behindert werden? Interdisziplinäre Analysen zum Behinderungsbegriff. Szerk. Eberwein, Hans – Sasse, Ada. Luchterhand, Nem wied-Berlin, 1998, pp. 66-95
ENDREI – ÁGOSTON – BONCZ 2015
Dóra Endrei – István Ágoston – Imre Boncz: Az egészségügyben használatos adatbázisok és kódrendszerek. Pécsi Tudományegyetem Egészségtudományi Kar, Pécs, 2015 EubenHasznalatosKodrendszerek_20151208k.pdf (
EPSTEIN – STREET 2011
Epstein, R. M. – Street, R. L.: The values and value of patient-centered care. *Annals of Family Medicine,* 2011 (9) 2, pp. 100-103
ESBEN 2003
Esben, P.: „New CP" Cerebral Palsy – hold to the light. The Danish Society for Cerebral Palsy, 2003
EYSENCK – KEANE 1997
Eysenck, M. – Keane, M.: Kognitív pszichológia. Tankönyvkiadó, Bp., 1997
FATALIN 2004
Andrea Fatalin: A sajátos nevelési igényű gyermekek integrált neveléséről – szülőknek. 2004 http://www.ofi.hu/tudastar/sajatos-nevelesi-igenyu/sajatos-nevelesi-igenyu-090617-4, (Utolsó letöltés: 19.02.2010)

FEJES 2006
József Balázs Fejes: Miért (nem) fontosak a hátrányos helyzetű tanulók? *Új Pedagógiai Szemle, 2006,*8/9
FEKETÉNÉ SZABÓ 2007
Éva Szabó Fekete: A konduktor-tanító képzés speciális feladatai a mozgássérült gyermekek integráló nevelése érdekében. PhD-disszertáció, ELTE, Bp., 2007
FEKETÉNÉ SZABÓ 2011
Éva Feketéné Szabó: A szakmai együttműködés lehetősége, felelőssége a központi idegrendszeri sérültek ellátásában a konduktív nevelés keretei között. *Budapesti Nevelő,* 2011 (47) 3-4, pp. 75-87
FEKETÉNÉ SZABÓ 2013
Éva Feketéné Szabó: A konduktív nevelés új feladatai. In: Az iskola optimalizálásának lehetőségei. Szerk. István Bábosik. Eötvös József Könyvkiadó, Bp., 2013, pp. 154-162
FEKETÉNÉ SZABÓ – BŐSENBACHER 2019
Éva Feketéné Szabó – Tímea Bősenbacher: A konduktív nevelés. In: A gyermekrehabilitáció sajátosságai. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2019, pp. 315-317
FEKETÉNÉ SZABÓ – GRUBER 2018
Éva Feketéné Szabó – Mónika Gruber: Opportunities of conductive education in early intervention. Developments in Health Sciences, 2018 (1) 1, 30-32. p. https://akadémiai.com/doi/pdf/10.1556/2066.1.2018.11 (Utolsó letöltés: 06.07.2019)
FEKETÉNÉ SZABÓ – HORVÁTH – KOZMA – ÖRKÉNYINÉ DEÁK 2004
Éva Feketéné Szabó – Dezsőné Horváth – Gyuláné Kozma – Adrienn Deák Örkényiné: A konduktor-tanítóképzés lehetséges modelljei (1988-2003). *Conductive Education. Occasional papers,* (Suppl. 5), 2004, p. 83
FEKETÉNÉ SZABÓ – SCHAFFHAUSER 2012
Éva Feketéné Szabó – Schaffhauser Franz: A konduktív nevelés. Kézirat. MPAN-NI Konduktív Pedagógiai Intézet, Bp., 2012
FEKETÉNÉ SZABÓ – VARGÁNÉ KISS 2017
A Pető András Főiskola Gyakorlóintézményei protokolljának kézikönyve 2014-2020. Kézirat. Szerk. Éva Feketéné Szabó – Anna Kiss Vargáné: Pető András Főiskola, Bp., 2017
FÉNYES 2016
Eszter Fényes: A drámapedagógia módszereinek beillesztése a konduktív nevelésbe. In: Tanulmányok a konduktív pedagógia köréből. A Hári Mária-pályázat

gyűjteményéből. Szerk. Adrienn Deák – István Kollega Tarsoly. Pető András Főiskola, Bp., 2016, pp. 9-19
FERENCZI – CSÁKVÁRI 2015
Szilvia Ferenczi – Judit Csákvári: Új megközelítések a koragyermekkori intervenció témakörében. *Esély,* 2015 (5), pp. 103-113
FERGUSON 2008
Ferguson, D. L.: International Trends in Inclusive Education. The Continuing Challenge to Teach Each One and Everyone. *European Journal of Special Needs Education,* 2008, pp. 109-120
FEUSER 1989
Feuser, G.: Allgemeine integrative Pädagogik und entwicklungslogische Didaktik. *Behindertenpadagogik,* 1989 (28) 1 FEUSER 1994
Feuser, G.: Grundlagen und Voraussetzungen für integrativen Unterricht in der Schule der 10- bis 15jährigen. In: Integration in der Schule der 10- bis 14jährigen. Szerk. Hug, R. Österreichischer Studienverlag, Innsbruck, 1994, pp. 125-162 FEUSER 1995
Feuser, G.: Behinderte Kinder und Jugendliche zwischen Integration und Aussonderung. Darmstadt, *1995* FEUSER 1997
Feuser, G.: Aspekte einer integrativen Didaktik unter Berücksichtigung tätigkeittheoretischer und entwicklungspsychologischer Erkenntnisse. In: Handbuch Integrationspädagogik Kinder mit und ohne Behinderung lernen gemeinsam. Szerk. Eberwein, Hans. Beltz Handbuch, Weinheim-Basel, *1997* FEUSER 2001
Feuser, Georg: Arbeit – und Bildung für geistig schwerstbehinderte Menschen. In: Jeder Mensch kann lemen. Perspektiven einer kulturhistorischen (Behinderten-) Pädagogik. Szerk. Jantzen, W. Luchterhand, Neuwied, 2001, pp. 300-323 FEUSER 2002
Feuser, Georg: Behindertenpädagogik und Allgemeine (integrative) Pädagogik – Der Traum vom Paradigmenwechsel. In: 1. Görlitzer Heilpädagogische Tage – Tagungsband. Görlitz, 2002, pp. 2-14
FEUSER – MEYER 1987
Feuser, G. – Meyer, H.: Integrativer Unterricht in der Grundschule. Solms-Obiel, Jarick, 1987 FEYERER 2002
Feyerer, E.: INTEGER – Lehrerinnenbildung für eine kindgerechte Schule. In: Eine kindgerechte Schule für alle. Szerk. Feyerer, E. – Prammer, W. Universitätsverlag Rudolf Trauner, Linz, 2002
FEYERER 2007
Feyerer, E.: Integration an (ober-) österreichischen Hauptschulen Eine Standortbestimmung für das Projekt Schulentwicklung durch Schulprofilierung. *Zeitschriftfür Inklusion,* 2007, 1.

FEYERER – PRAMMER 2003
Feyerer, E. – Prammer, W.: Gemeinsamer Unterricht in der Sekundarstufe I. Anregungen für eine integrative Praxis. Beltz, Weinheim, 2003
FEYERER – SCHAFFHAUSER 2005
Feyerer, E. – Schaffhauser Franz: Az „inkluzív nevelés" mesterfokú képzés európai tanterve. Bp., 2005
FIDEL-SZABÓ 2018
Fidel-Szabó, Benjámin: A sport hatása a konduktív nevelésben résztvevő tanulókra. In: A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások – 9th World Congress on Conductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 143-150
FNO 2004
A funkcióképesség, fogyatékosság és egészség nemzetközi osztályozása. Medicina, Bp., 2004
FORRAI 1982
Katalin Forrai: A zene és az ének személyiségformáló ereje. In: Gyermekeink gondozása, nevelése. Szerk. László Velkey. Medicina, Bp., 1984
FORRAI 2017
Katalin Forrai: Ének az óvodában. 2. kiadás. Móra, Bp., 2017
FORRAI J. 1999
Judit Forrai: Memoirs of the Beginnings of Conductive Pedagogy and András Pető. Új Aranyhíd Press, Foundation of Conductive Education, Birmingham- Bp,, 1999
FÖLDESI 2014
Renáta Földesi: Pető András szellemi köre és személyes kapcsolatai. In: Továbbélő utópiák. Reformpedagógia és életreform a 20. század első felében. Szerk. András Németh – Béla Pukánszky – Veronika Pirka. Gondolat, Bp., 2014, pp. 302-316
FÖLDESI 2016
Renáta Földesi: Pető András és a konduktív nevelés gyökerei. *Tudomány és Hivatás,* 2016/1. pp. 6-14
FÖLDESI 2017
Renáta Földesi: A képelemzés lehetőségei a konduktív pedagógiában. *Gyermeknevelés,* 2017,1 (5) pp. 143-157
FÖLDESI 2018
Renáta Földesi: Pető András és a Heilkunst. In: Reformpedagógia és életreform – recepciós tendenciák, intézményesülési folyamatok. Szerk. Ágnes Boreczky – Beatrix Vincze. Gondolat, Bp., 2018, pp. 81-109
FÖLDESINÉ SZABÓ 2009
Gyöngyi Földesiné Szabó: Szabadidősport – életmód – sportpolitika. Hazai és nemzetközi tendenciák. Útban a sportoló nemzet felé? Bp., 2009, pp. 17-28

FRANK 2018
Tamás Frank: Konduktorhallgatók természettudományos műveltségének mintázata. Földrajzi alapismeretek. In: A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások – 9th World Congress on Conductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 123-128
FRANKI 2012
Franki, I. – Desloovere, K. – De Cat, J. – Feys, H. – Molenaers, G. – Calders, P. - Vanderstraeten, G. – Himpens, E. – Van den Broeck, C.: The evidence-base for conceptual approaches and additional therapies targeting lower limb function in children with cerebral palsy. A systematic review using the international classification of functioning, disability and health as a framework. *Journal of rehabilitation medicine,* 2012 (44) 5, pp. 396-405
FRANKL 1946
Frankl, Viktor Emanuel: Arztliche Seelsorge. Grundlagen der Logotherapie und Existenzanalyse. Deuticke, Wien, 1946
FRANKL 1987
Frankl, Viktor Emanuel: Logotherapie und Existenzanalyse. Piper, München, 1987
FRANKL 2005
Frankl, Viktor Emanuel: Az ember az értelemre irányuló kérdéssel szemben. Jel, Bp., 2005
FREHE 1990
Frehe, H.: Thesen zur Assistenzgenossenschaft. *Behindertenzeitschrift,* 1990, LOS, 26.
FREUD 1893
Freud, Sigmund: Zur Kenntnis der zerebralen Diplegien des Kindesalters (im Anschluss an die Little'sche Krankheit). In: Beiträge zur Kinderheilkunde, 3. Szerk. Kassowitz, M. Deuticke, Leipzig-Wien, *1893*
FREUD 1897
Freud, Sigmund: Die infantile Cerebrallähmung. A. Hölder, Wien, 1897
FREUD – RIE 1891
Freud, Sigmund – Rie, O.: Klinische Studie über die halbseitige Cerebrallähmung der Kinder. Perles, Wien, 1891
FRIM 1884
Jakab Frim: Hülyeség és a hülyeintézetek különös tekintettel Magyarország hülyéire. Bp., 1884
FRITZ 2011
Péter Fritz: Rekreáció mindenkinek I. Mozgásos rekreáció. Bába, Szeged, 2011

GARAI 2015
Imre Garai: Tudománypolitika és felsőoktatás Magyarországon 1948-1951. In: Neveléstudomány és tudományos elit a 20. század második felében. Szerk. András Németh – Zsuzsanna Hanna Biró – Imre Garai. Gondolat, Bp., 2015, pp. 165-176
GÁSPÁR 1997
László Gáspár: Neveléselmélet. Okker, Bp., 1997
GEDDES 1999
Geddes, J.: Asking structured and focused clinical questions. Essential first step of evidence-based practice. *Evidence-Based Mental Health,* 1999 (2) 2, pp. 35-36
GEGENWARTH 2007
Gegenwarth, T.: I have a Conductive Biography – Who Else? Independent Living and Supported Employment, 2007 http://www.ce-congress2007.com/vl/content/2/scientific.html?lang=en (Utolsó letöltés: 22.02.2010)
GERŐ 2017
Zsuzsa Gerő: Klinikai gyermekpszichológiai tanulmányok és más írások. Flaccus, Bp., 2017
GIAMBONA – VASSALLO 2013
Giambona, F. – Vassallo, E.: Composite Indicator of Social Inclusion for European Countries. Springer Science – Business Media, Dordrecht, 2013, pp. 269-293
GLASENAPP 1958
Glasenapp, v. H.: Die Philosophie der Inder. Kröner, Stuttgart, 1958
GOLEMAN 2008
Goleman, Daniel: Társas intelligencia. Nyitott Könyvműhely, Bp., 2008
GOLL – LILIENTHAL – ZAPP 1998
Telearbeit für behinderte Menschen. Szerk. Goll, S. – Lilienthal, T. – Zapp, M. Bundesministerium für Arbeit und Sozialordnung, Bonn, 1998
GOMEZ 2012
Gomez, L. E. – Arias, B. – Verdugo, M.Á. – Navas, P.: An Outcomes-Based Assessment of Quality of Life in Social Services. *Social Indicators Research,* 2012 (106) 1, pp. 81-93
GORDOSNÉ SZABÓ 2000a
Anna Gordosné Szabó: Történeti áttekintés. In: A gyógypedagógiai oktatás helyzete az ezredforduló Magyarországán. Projektvezető Mária Salné Lengyel. OKI PTK, Bp., 2000
GORDOSNÉ SZABÓ 2000b
Anna Gordosné Szabó: A magyar gyógypedagógus-képzés története. Bp., 2000
GREEN – WILSON 2014
Green, D. – Wilson, P.: Applications of VR Technologies for Childhood Disability. In: Virtual Reality for Physical and Motor Rehabilitation. Szerk. P. L. Weiss – E. A. Keshner – M. F. Levin. Springer, New York, 2014, pp. 203-217

GUYATT 2004
Guyatt G. – Montori V. – Devereaux P. J. – Schünemann H. – Bhandari M.: Patients at the center. In our practice, and in our use of language. *ACP J Club.* 2004, 140 (1) A pp. 11-12
GYÖRKÉNÉ MÖLCS 2009
Mária Györkéné Mölcs: Ütban az inklúzió felé. A pedagógusok sajátos nevelési igényű tanulók iránti attitűdjei egy szombathelyi iskolában. *Fejlesztő Pedagógia,* 2009, 3
HALÁSZ 2009
Gábor Halász: Tényekre alapozott oktatáspolitika és oktatásfejlesztés. In: Kié az oktatáskutatás. Tanulmányok Kozma Tamás 70. születésnapjára. Szerk. Gabriella Pusztai – Magdolna Rébay. Csokonai, Debrecen, 2009, pp. 187-191
HÁMORI 1996
József Hámori: Agyi aszimmetriák. Jannus Pannus Tudományegyetem, Pécs, 1996
HATOS 2018
Pál Hatos: Az elátkozott köztársaság. Az 1918-as összeomlás és forradalom története. Jaffa, Bp., 2018
HARGREAVES – FULLAN 1998
Hargreaves, A. – Fullan, M.: What's worth fighting for out there? Teachers College Press, New York, 1998
HÁRI 1980
Mária Hári: Mit ismer meg a hallgató a képzése folyamán? Kézirat. Mozgássérültek Nevelőképző és Nevelőintézete, Bp., 1980
HÁRI 1981-1982
Mária Hári: Az orthofunkció kialakítása. 4-5. szám. Konduktív pedagógia II. Bp., 1981, 1982
HÁRI 1991
Mária Hári: Intendálás: a konduktív pedagógia alapvető hipotézise. *Lege Artis Medicinae,* 1991, 1. (9-10) pp. 542-550
HÁRI 1997a
Mária Hári: A konduktív pedagógia története. MPANNI, Bp., 1997
HÁRI 1997b
Mária Hári: Die konduktive Pädagogik. Conductive Education Occasional Papers 1. Trentham Books, International Pető Institute, 1997
HÁRI 2000
Mária Hári: Konduktív nevelés az óvodában és az iskolában. In: Gyógypedagógiai alapismeretek. Szerk. Sándor Illyés. ELTE Bárczi Gusztáv Gyógypedagógiai Főiskolai Kar, Bp., 2000, pp. 561-571
HÁRI 2008
Mária Hári: Összehasonlító konduktív pedagógia. MPANNI, [Bp.] 2008

HÁRI – ÁKOS 1971
Mária Hári – Károly Ákos: Konduktív pedagógia. Tankönyvkiadó, Bp., 1971
HÁRI – ÁKOS 1988
Mária Hári – Károly Ákos: Conductive education. Routledge, London-New York, 1988
HÁRI – KOZMA – HORVÁTH – KÖKŰTI 1991
Mária Hári – Ildikó Kozma – Júlia Horváth – Márta Kőkúti: A konduktív pedagógiai rendszer hatékony működésének alapelvei és gyakorlata. Nemzetközi Pető Intézet, Bp., 1991
HÁRI – TILLEMANS 1984
Mária Hári – Tillemans, T.: Conductive Education. Management of disorders of children with Cerebral Palsy. Szerk. D. Scrutton. *Clinics in Developmental Medicine* No. 90, Spastics International Medical Publications, Oxford, 1984, 20-35
HEAL 1972a
Heal L.: Evaluating an Integrated Approach for the Management of Cerebral Palsy. (1) 4, Eau Claire, University of Wisconsin, 1972
HEAL 1972b
Heal L.: Evaluating an Integrated Approach to the Management of Cerebral Palsy. An Analysis of the Evaluation and Follow-up Data from the Institute for Movement Therapy in Budapest, Hungary. (4) 4, Eau Claire, University of Wisconsin, 1972
HEBB,
D. O.: Drives and the C.N.S. (Conceptual Nervous System.) *Psychological Review*, I. 1955 (62) pp. 243-251
HECKMANN 2007
Heckmann, F.: Illegal Migration. What Can we Know and What Can Explain? The Case of Germany. Rethinking migration. In: New theoretical and emperical perspectives. Szerk. Portes, A. Berghahn Books, New York, 2007
HENSLE –VERNOOIJ 2000
Hensle, U. – Vernooij, M. A.: Einführung in die Arbeit mit behinderten Menschen I. Theoretische Grundlagen. Quelle & Meyer, Wiebelsheim, 2000
HERGENRÖDER – BLANK 2009
Hergenröder, H. – Blank R.: Subjective well-being and satisfaction with life of adults with spastic cerebral palsy. A pilot study of randomized sample. *Develop-mentáiMedicine and ChildNeurology.* http://onlinelibrary.wiley.com/doi/10.llll/ j. 1469-8749.2008.03169.x/full (utolsó letöltés: 25.11.2018)
HICKMAN 2018
Hickman, L. D. – DiGiacomo, M. – Phillips, J. – Rao, A. – Newton, P. J. – Jackson, D. – Ferguson, C.: Improving evidence based practice in postgraduate nursing programs. A systematic review. Bridging the evidence practice gap (Bridge project). *Nurse education today,* 2018 (63) pp. 69-75

HINZ 2008
Hinz, A.: Dekategorisierung in der Inklusion und Fallarbeit in der schulischen Erziehungshilfe – wie passt das zusammen? Überlegungen zu inklusiven Perspektiven in der schulischen Erziehungshilfe in sieben Thesen. *Behindertenpadagogik,* 2008 (47) pp. 98-109
HOLLÓDY 2019
Gyermekneurológia. Szerk. Elollódy Katalin. Medicina, Bp., 2019
HORKHEIMER – ADORNO 1990
Horkheimer, M. – Adorno, T. W.: A felvilágosodás dialektikája. Filozófiai töredékek. Gondolat, Bp., 1990
HORVÁTH D. 2016
Dezsőné Horváth: Lemaradásokkal az óvodában. In: Tanulmányok a konduktív pedagógia köréből. A Hári Mária-pályázat gyűjteményéből. Szerk. Adrienn Deák – István Kollega Tarsoly. Pető András Főiskola, Bp., 2016, pp. 21-66
HORVÁTH D. – FÖLDESI 2013
Dezsőné Horváth – Renáta Földesi: The way András Pető was teaching In: 8th World Congress on Conductive Education: Rhythm and balance. Abstract book. International Pető Association, München, 2013, p. 61
HORVÁTH J. 1991
Júlia Horváth: A konduktív pedagógiai rendszer hatékony működésének alapelvei és gyakorlata. Nemzetközi Pető Intézet, Bp., 1991
HORVÁTH L. 1961
Lajos Horváth: A tanulók aktív részvételének megvalósulása az új anyag feldolgozásában. In: Tanulmányok a neveléstudomány köréből. Bp., 1961
HORVÁTH P. 2013
Péter Horváth: A fogyatékossággal élők. In: Esélyegyenlőség a mai Magyarországon. Szerk. Aranka Varga. Pécsi Tudományegyetem, Pécs, 2013, pp. 173-194
HORVÁTHNÉ KÁLLAY 2012
Zsófia Horváthné Kállay – Zsófia Nádasi – Franciska Gál – Erika Kolumbán – Andrea Benyovszky: Doktori kutatások a Pető Intézetben. *Iskolakultúra,* 2012 (22) 4, pp. 20-34
HORVÁTHNÉ KÁLLAY 2017
Zsófia Horváthné Kállay: A konduktív nevelés a mozgássérültek pedagógiai rehabilitációjának szolgálatában. *Képzés és Gyakorlat,* 2017 (15) 4, pp. 105-114
HORVÁTHNÉ KÁLLAY 2018a
Zsófia Horváthné Kállay: A konduktív nevelés cél- és hatásrendszere, vagyis az ortofukció kialakításának folyamata. *Különleges Bánásmód,* 2018 (4) 3, pp. 73-92 https://gygyk.unideb.hu/sites/default/files/upload_documents/kb_2018_3_horvathne-kallay-zsofia.pdf (Utolsó letöltés: 18.06.2019)

HORVÁTHNÉ KÁLLAY 2018b
Zsófia Horváthné Kállay: A konduktív nevelés célrendszerének fejlődése az 1950-es évektől napjainkig. In: A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások – 9th World Congress on Conductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 41-48
HORVÁTHNÉ KÁLLAY 2018c
Zsófia Horváthné Kállay: Pető András és a konduktív mozgásterápiái koncepció. Tudomány és Hivatás. 2018 (2) pp. 40-50 http://semmelweis.hu/pak/files/2019/01/Tudomany-es-Hivatas.pdf (Utolsó letöltés: 26.05.2019)
HOYNINGEN-SÜESS 2007
Hoyningen-Süess U.: A gyógypedagógia tudományának közös svájci és magyar gyökerei. *Gyógypedagógiai Szemle,* 2007, 3.
HUR 1997
Hur, J. J. A.: Skills for independence for children with cerebral palsy. A comparative longitudinal study. *International Journal of Disability, Development and Education,* 1997 (44) 3, pp. 263-274
HUR – COCHRANE 1995
Hur, J. – Cochrane, R.: Maternal stress and level of satisfaction with treatment for children undergoing conductive education. *International Journal of Special Education,* 1995 (10) pp. 54-62
HOUWEN – PUTTEN – VLASKAMP 2014
Houwen, S. – van der Putten, A. – Vlaskamp, C.: A systematic review of the effects of motor interventions to improve motor, cognitive, and/or social functioning in people with severe or profound intellectual disabilities. *Research in developmental disabilities,* 2014 (35) 9, pp. 2093-2116
ILLYÉS 1999
Sándor Illyés: Másság és emberi minőség. *Új Pedagógiai Szemle,* 1999,1
ILLYÉS 2001
Sándor Illyés: Az eszmény, a törvény, a tradíció és a feltételek a közoktatás megújulásában. *Új Pedagógiai Szemle,* 2001, 7/8
JAHNSEN 2006
Jahnsen, R. – Aamodt, G. – Rosenbaum, R: Gross Motor Function Classification System used in adults with cerebral palsy. Agreement of self-reported versus professional rating. *Developmental Medicine and Child Neurology,* 2006 (48) 9 pp. 734-738
JIANG 2016
Jiang, B. – Walsta, J. – Reid, S. M. – Davis, E. – Reddihough, D.: Quality of life in young adults with Cerebral Plasy. *Disability and Health Journal* 2016 (9) 673-681

JÓZSA 2016
Krisztián Józsa: Kihívások és lehetőségek az óvodai fejlesztésben. *Iskolakultúra,* 2016 (26) 4.
JÓZSA – FAZEKASNÉ 2006
Krisztián Józsa – F. M. Fazekasné: A DIFER programcsomag alkalmazási lehetősége tanulásban akadályozott gyermekeknél I. rész. *Gyógypedagógiai Szemle,* 2006 (34) 2.
JUDGE – COLVEN 2006
Judge, Simon – Colven, David: Switch access to technology. A comprehensive Guide. Manual. ACE Centre, Oxford, 2006, pp. 1-10
JUHÁSZ 2019
Éva Petra Juhász: Szolgáltatások útvesztőjében. A kora gyermekkori intervenciós ellátórendszer a szülők szemével. Szakdolgozat, ELTE Bárczi Gusztáv Gyógypedagógiai Kar 2019
JUNG 1966
Jung, C. G.: Über die Psychologie des Unbewussten, In: Jung, C. G.: Gesammelte Werke 7. Walter Verlag, Olten, 1966
KÁLI – ACSÁDY 2003
Szabolcs Káli – László Acsády: A hippocampusfüggő memória neurobiológiai alapjai. In: Kognitív idegtudomány. Szerk. Csaba Pléh – Gyula Kovács – Balázs Gulyás. Osiris, Bp., 2003, pp. 359-388
KÁLMÁN – KÖNCZEI 2002
Zsófia Kálmán – György Könczei: A Taigetosztól az esélyegyenlőségig. Osiris, Bp., 2002
KÁLMÁNCHEY 2000
Gyermekneurológia. Szerk. Rozália Kálmánchey. Medicina, Bp., 2000
KARIKÓ 2015
Sándor Karikó: Nevelésfilozófiai kérdések a pedagógiai kudarcról (Nicolai Hartman Nyomán). *Iskolakultúra,* 2015 (25) 9, pp. 90-100
KATONA 2006
Ferenc Katona: Klinikai fejlődésneurológia. Medicina, Bp., 2006
K. B. 2011
Jegyzőkönyv a Gyermekek Háza iskolában végzett hospitálásról. Készítette K. B. egyetemi hallgató, ELTE PPK, 2011
KELEMEN 1986
László Kelemen: Pedagógiai pszichológia. Tankönyvkiadó, Bp., 1986
KELEMEN 2018
Anna Kelemen: Intention, attention and preparatory motor control. An old concept with a new meaning in conductive education. In: A 9. Konduktív Pedagógiai Világkongresszus. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 225-235

KEMÉNY 2004
Péter Kemény: Integráció a Prizma Általános Iskolában. 2004 www.onfejlesztois-kolak.hu/Xikonf/eloadas/prizma.pdf (Utolsó letöltés: 22.02.2010)
KEREKI 2017
Judit Kereki: Utak. ELTE Bárczi Gusztáv Gyógypedagógiai Kar, Bp., 2017
KEREKI – KISPÉTERNÉ 2018
Judit Kereki – Lászlóné Kispéter: Családközpontúság és ágazatközi együttműködés a kora gyermekkori intervencióban. *Egészségfejlesztés,* 2018 (59) 5, pp. 34-54
KEREKI – SZVATKÓ 2015
Judit Kereki – Anna Szvatkó: A koragyermekkori intervenció, valamint gyógypedagógiai tanácsadás, korai fejlesztés, oktatás és gondozás szakszolgálati protokollja. Educatio, Bp., 2015
KIBÉDI VARGA 1994
Áron Kibédi Varga: Az irodalomtörténet válságai. *Literatura,* 1994/1. pp. 101-108
KIBÉDI VARGA 1997
Áron Kibédi Varga (1997): A realizmus alakzatai. In: Az irodalom elméletei. Szerk. Beáta Thomka. Pécs, 1997, pp. 131-149
KINSELLA – SENIOR 2008
Kinsella, W. – Senior, J.: Developing inclusive schools: a systemic approach. *International Journal of Inclusive Education,* 2008 (12) 5-6, September-November, pp. 651-665
KIPHARD 1977
Kiphard, E.: Mennyire fejlett a gyermek? Útmutató az érzékszervi és mozgásfunkciók vizsgálatához. Modernes Lernen, Dortmund, 1977
KIS 2010
Erika Kis – Éva Dobos – Éva Nagy – Lajos Kemény – Andrea Rita Horváth: A bizonyítékokon alapuló orvoslás gyakorlata. *Bőrgyógyászati és venerológiai szemle,* 2010 (86) *4,* pp. 103-107
KIS 2011
Kis Erika: Methodological approaches to evidence based guidelines in burn injury. Doctoral dissertation. Department of Dermatology and Allergology Albert Szent-Györgyi Clinical Center University of Szeged, 2011 http://doktori. bibl.u-szeged.hu/1073/l/Kis_E_PhD.pdf (Utolsó letöltés: 03.07.2019)
KISNÉ CZIRJÁK 2019
Zsuzsa Kisné Czirják: Rehabilitációs lehetőségek kommunikációs zavarokban, augmentatív és alternatív kommunikáció (AAK). In: A gyermekrehabilitáció sajátosságai. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2019. pp. 352-357
KLAFKI 2000
Klafki, W.: Kritisch-konstruktive Pädagogik. Herkunft und Zukunft In: Weder erwartet noch gewollt – Kritische Erziehungswissenschaft und Pádagogik in der

Bundesrepublik Deutschland zűr Zeit des kalten Krieges. Szerk. Eierdanz, Jürgen – Kremer, Armin Baltmannsweiler, 2000

KLEIN 2016

Anna Klein: A konduktív nevelés alapelvei. In: A konduktív nevelés. Kézirat. Pető András Főiskola, Konduktív Pedagógiai Intézet. 2016, pp. 21-25

KOBI 1994

Kobi, E. E.: Modelle und Paradigmen in der heilpädagogischen Theoriebildung. In: Sonderpädagogische Theoriebildung – Vergleichende Sonderpädagogik. Szerk. Bürli, A. Luzern, 1994, pp. 13-28

KOCSISNÉ KÁLLÓ – TURINÉ GÁL – RUZSICS 2019

Veronika Györgyi Kocsisné Kálló – Anikó Túriné Gál – Ilona Ruzsics: Kommunikáció fejlődése és fejlesztése értelmileg akadályozott személyeknél. Jegyzet. Szeged, 2019

KOKAS – LAKATOS 2013

Dóra Kokas – Szilvia Lakatos: A nők. In: Esélyegyenlőség a mai Magyarországon. Szerk. Aranka Varga. Pécsi Tudományegyetem, Pécs, 2013, pp. 151-162

KOLLEGA TARSOLY 2014

Emlékkönyv. Dr. Hári Mária 1923-2001. Szerk. István Kollega Tarsoly. Pető András Főiskola, Bp., 2014

KOMLÓSI 2001

Annamária Komlósi, V.: A személyiség értelmezései. (Erikson modellje a pszichoszociális fejlődésről.) In: Fejezetek a pszichológia alapterületeiből. Szerk. Antal Bugán – Attila Oláh. ELTE Eötvös, Bp., 2001, pp. 400-405

KONDUKCIÓ ALAPJAI 1965

Kondukció alapjai. Képzés tananyaga. I. témacsoport. Mozgássérültek Nevelőképző és Nevelőintézete, Bp., 1965

KOSA 2001

Éva Kosa: A szociális fejlődés alapkérdései (Csecsemő- és kisgyerekkor) In: Fejezetek a pszichológia alapterületeiből. Szerk. Antal Bugán – Attila Oláh. ELTE Eötvös, Bp., 2001, pp. 283-295

KOZMA 1990

Ildikó Kozma: A konduktorképzés speciális tartalma, minősége és struktúrája. Első Konduktív Pedagógiai Világkonferencia. MPANNI, Bp., 1990

KOZMA 1995

Ildikó Kozma: The basic principles and present practice of conductive education. *European Journal ofSpecial Needs Education,* 1995 (10) 2, pp. 111-123

KOZMA 2002

Ildikó Kozma: Az intenció értelmezése a konduktív pedagógiában. Kézirat. 2002, SE PÁK Hári Mária Kari Könyvtár és Forrásközpont

KOZMA – BALOGH 1995
Ildikó Kozma – Erzsébet Balogh: A brief introduction to conductive education and its application at an early age. *Infants and Young Children,* 1995 (8) 1, pp. 68-74
KOZMA – SIMONOVITS – KOPASZ – BERNÁT 2016
Á. Kozma – B. Simonovits – M. Kopasz – A. Bernát: Az intézményi férőhelykiváltási programok értékelésének lehetőségei. Az egyéni életminőség mérésének módszertani kérdései fogyatékossággal élő felnőttek körében. 2016 http://www.esely.org/kiadvanyok/2016_5/Esely_2016-5_5-l_Kozma_et_al_Intezmenyi_ferohely.pdf (utolsó letöltés: 14.03.2018)
KÖNCZEY 2009
György Könczei: A funkcióképesség, a fogyatékosság és az egészség nemzetközi osztályozása. Egészségügyi Világszervezet. ELTE Bárczi Gusztáv Gyógypedagógiai Kar, Bp., 2009
KŐPATAKINÉ MÉSZÁROS 2003
Befogadó iskolák, elfogadó közösségek. Szerk. Mária Kőpatakiné Mészáros. OKI, Bp., 2003
KŐPATAKINÉ MÉSZÁROS 2008
Mária Kőpatakiné Mészáros. A pályán. 2008 http://www.onfejlesztoiskolak.hu/2008/XVIkonf/eloadasok/MeszarosMaria.pdf (Utolsó letöltés 22.02.2010)
KRATZMANN – SCHNEIDER 2009
Kratzmann, J. – Schneider T.: Social Inequality, Child Care Attendance, and School Start in Germany. *Smollers Jahrbuch, Journal of Applied Social Studies,* Duncker-Humblot, Berlin, 2009
KSH 2018
Magyarország 2017. KSH, Bp., 2018
KSH 2019
Magyarország 2018. Oktatási adatok 2018/2019. KSH, Bp.,2019
KULLMANN 2000
Lajos Kullmann: A mozgáskárosodás. In: Gyógypedagógiai alapismeretek. Szerk. Sándor Illyés. ELTE Bárczi Gusztáv Gyógypedagógiai Főiskolai Kar, Bp., 2000, pp. 117-136
KULLMANN 2019
Lajos Kullmann: A funkcióképesség, fogyatékosság és egészség nemzetközi osztályozási rendszerének alkalmazhatósága és sajátosságai gyermekkorban. In: A gyermekrehabilitáció sajátosságai. Szerk. Zsuzsanna Vekerdy-Nagy. Bp., 2019
KULLMANN – KUN 2004
Kullmann Lajos – Kun Helga: „...el kell-e felejtenünk az orvosi modellt...?" A fogyatékosság jelensége az orvostudományban. In: Tágabb értelemben vett gyógypedagógia. A fogyatékosság jelensége a gyógypedagógia határtudományaiban. Szerk. Péter Zászkaliczky – Tamás Vedres. ELTE, Bp., 2004

KUN 2004
Miklós Kun: Kedves Hilda. Egy elmeorvos az elmebeteg huszadik században. Medicina, Bp., 2004
LANDRUM 2002
Landrum, T. J. – Cook, B. G. – Tankersley, M. – Fitzgerald, S. F.: Teacher perceptions of the trustworthiness, usability, and accessibility of information from different sources. *Remedial and Special Education,* 2002 (23) 1, pp. 142-148
LÁNYINÉ ENGELMAYER 1992
Ágnes Lányiné Engelmayer: A külföldi integrációs modellek tanulságai a hazai alkalmazás számára. *Új Pedagógiai Szemle,* 1992/4. pp. 52-60
LASHLEY 1963
Lashley, K. S.: Brain mechanisms and intelligence. Dover Publications, New York, 1963
LEBEL 2018
LeBel, E. P. – McCarthy, R. J. – Earp, B. D. – Elson, M. – Vanpaemel, W.: A unified framework to quantify the credibility of scientific findings. *Advances in Methods and Practices in Psychological Science,* 2018 (1) 3, pp. 389-402
LÉNÁRT – SZEMENYEI 2015
Zoltán Lénárt – Eszter Szemenyei: A cerebrális pár etikus gyermekek, fiatalok számára kifejlesztett FNO kategóriakészletek alkalmazhatósága. *Gyógypedagógiai Szemle,* 2015 (93) 3-4, pp. 200-209
LENGYEL 2018
János Lengyel: A Pető Intézet, a Pető-módszer ismertsége és alkalmazása a sérült emberek rehabilitációjában Oroszországban. *Tudomány és Hivatás,* 2018 (2), pp. 51-56
LEONTYEV 1964
Leontyev, A. Ny.: A pszichikum fejlődésének problémái, Kossuth, Bp., 1964
LEVIN – O'DONNELL – KRATOCHWILL 2003
Levin, J. R. – O'Donnell, A. M. – Kratochwill, T. R.: Educational/psychological intervention research. In: Handbook of Psychology, (7) Educational Psychology. Szerk. W. Reynolds – G. Miller. John Wiley & Sons, Hoboken, 2003, pp. 557-581
LEZAK 1995
Lezak, M. D.: Neuropsychological Assesment. 3. kiad. Oxford University Press, New York, 1995
LIND 1998
Lind, L.: Conductive education – an alternative method for supporting children with cerebral palsy. *Eurorehabilitation,* 1998 (3-4), pp. 13-20
LIND 2000
Lind, L.: Parents' views of the efhcacy of conductive education in Sweden. *European Journal of Special Needs Education,* 2000 (15) 1, pp. 42-54

LINDMEIER 1993
Lindmeier, Ch.: Behinderung – Phänomen oder Faktum? Klinkhardt, Bad Heilbrunn, 1993
LILIENTHAL 1999
Lilienthal, T.: Telearbeit als zukünftiges Arbeitsfeld behinderter Menschen: Chancen, Risiken, strukturelle Voraussetzungen. In: Zukunft der beruflichen Rehabilitation und Integration in das Arbeitsleben, Interdisziplinäre Schriften zur Rehabilitation. Szerk. Seyd, W. 1999, 8
LIPTAK 2005
Liptak, G. S.: Complementary and alternative therapies for cerebral palsy. *Mental retardation and developmental disabilities research reviews,* 2005 (11) 2, pp. 156-163
LITT 1952
Litt, Th.: Der lebendige Pestalozzi, Quelle-Mayer, Heidelberg, 1952
LORING 1978
Loring J.: Integrated therapy, education and child care. In: Care of the Handicapped Child Szerk. Apley, J. *Clinics in Developmental Medicine,* London, 1978 (67) pp. 25-30
LŐKÖS 2019
Regina Lőkös: A korai beavatkozás jelentős faktorai rizikó csecsemők és családjuk ellátásában. 0-6 éves korú cerebrál paretikus gyermeket nevelő szülők kompetenciaélmény és stressz szint vizsgálata. Szakdolgozat. ELTE, Bárczi Gusztáv Gyógypedagógiai Kar. 2019
LUHMANN 1998
Luhmann, N.: Die Gesellschaft der Gesellschaft. Suhrkamp, Frankfurt/M., 1998
LURIJA 1961
Lurija, A. R.: The Role of Speech in the Regulation of normal and abnormal Behavior. Pergamon, Oxford, 1961
LURIJA 1963
Lurija, A. R.: Restoration of Function After Brain Injury. Pergamon, Oxford, 1963
LURIJA 1966
Lurija, A. R.: Higher Cortical Functions in Man. Pergamon, Oxford, 1966
LURIJA 1975
Lurija, A. R.: Kis könyv a nagy emlékezetről. Válogatott tanulmányok. Bp., 1975
MAKK 2011
Makk, Leslie: A Doctor’s Journey: A Hungarian’s Realization of the American Dream. Kindle Editions, 2011
MÁRKUS 2019
Eszter Márkus: A kora gyermekkori intervenció ágazatközi fejlesztése. EFOP-1.9.5-VEK0P-16-2016-00001, 2019

MARTZ 2005
Martz, Ervin: An exploratory study on attitudes toward inclusive education in Russia. *International Journal of Rehabilitation Research,* 2005 (28) 2, pp. 141-147
MASLOW 2003
Maslow, Abraham: A lét pszichológiája felé. Ursus Libris, Bp., 2003
MÁTÉ 2017
Olga Máté: A fogyatékossággal élő gyermekek. Bp., 2017 www.parlament.hu/in-foszolgalat
MÁTRAI 2016
Szilvia Mátrai – Vera Bálint – Ágnes Ispánki – Györgyi Zemplényiné Megtért – Anikó Menyhárt – Tamásné Ruttai – Erzsébet Mészárosné Gyurka: Gyakorló Óvoda, Komplex megfigyelési táblázat. Kézirat. SE Pető András Kar, Bp., 2016
MATURANA – VARELA 1992
Maturana, H. R. – Varela, F. J.: The tree of knowledge. The biological roots of human understanding. Shambhala, Boston, 1992
MCDONNELL 2003
McDonnell, R: Development in special education in Ireland. Deep structures and policy making. *International Journal oflnclusive Education,* 2003 (7) pp. 259-269
MEDVECZKY 2003
Erika Medveczky: A konduktív nevelés, mint a fejlesztés egyik speciális pedagógiai módszere. PhD-értekezés, Semmelweis Egyetem Doktori Iskola, 2003
MEDVECZKY 2004
Erika Medveczky: A konduktív nevelés mint a neurorehabilitáció pedagógiai módszere. GraphiTech, Bp,, 2004
MEDVECZKY 2010
Erika Medveczky: Konduktív pedagógia a rehabilitációban. In: A rehabilitációs orvoslás. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2010, pp. 261-263
MELERO 2000
Melero, M.: Ideologie, Vielfalt und Kultur. Vöm Homo sapiens sapiens zum Homo amantis – Eine Verpflichtung zum Handeln. *Behinderte,* 2000, 4/5, pp. 11-34
MESTERHÁZI 1997
Zsuzsa Mesterházi: Gyógypedagógia. In: Pedagógiai Lexikon I., Szerk. Zoltán Báthory – Iván Falus. Keraban, Bp., 1997
MEZEI 2005
Károly Mezei: „... Az agy a Teremtő műve...” Freund Tamás professzorral beszélget Mezei Károly. Kairosz, Bp., 2005
MILE 2016
Anikó Mile: Gyógypedagógiai szakértelem, szerepek és kompetenciák az együttnevelés szolgálatában. PhD-értekezés. ELTE PPK Neveléstudományi Doktori Iskola, Bp., 2016

MITTLER 2000
Mittler, R: Working towards Inclusive Education. Fulton, London, 2000
MORENO, J. L.
Moreno, J. L.: Group Psychotherapy, Beacon House, New York, 1945
MORENO, J. L. 1964
Moreno, J. L.: Das Stegreiftheater, Kiepenheuer, Potsdam, 1923,1964
MORENO, J. L. – MORENO, Z. 1945
Moreno, J. L. – Moreno, Z.: Spontaneity Theory of Child Development, *Sociometry,* 7,1945
MYRHAUG 2014
Myrhaug, H. T. – Ostensjo, S. – Larun, L. – Odgaard-Jensen, J. – Jahnsen, R.: Intensive training of motor function and functional skills among young children with cerebral palsy. A systematic review and meta analysis. *BMC pediatrics,* 2014 (14) 1, p. 292
MYRHAUG 2015
Myrhaug, H., T.: Characteristics and effects of intensive training in young children with cerebral palsy and parents' experiences of family-centred Services investigated in a survey, a systematic review and a randomised controlled trial. Faculty of Health Sciences. Oslo and Akershus University College of Applied Sciences Faculty of Medicine University of Oslo. Thesis submitted for the degree of Doctor of Philosophy to the University of Oslo, 2015
MYRHAUG 2018
Myrhaug, H. T. – Odgaard-Jensen, J. – óstensjo, S. – Vollestad, N. K. – Jahnsen, R.: Effects of a conductive education course in young children with cerebral palsy. A randomized controlled trial. *Developmental neurorehabilitation,* 2018 (21) 8, pp. 481-489
MYRHAUG 2019
Myrhaug, H. T. – Odgaard-Jensen, J. – Jahnsen, R.: The long-term effects of conductive education courses in young children with cerebral palsy: a randomized controlled trial. *Developmental neurorehabilitation,* 2019 (22) 2, pp. 111-119
N. KOLLÁR – SZABÓ 2004
Pszichológia pedagógusoknak. Szerk. Katalin N. Kollár – Éva Szabó. Osiris, Bp., 2004
NÁDASDY – FISER 2008
Zoltán Nádasdy – József Fiser: A tanulás biológiai és mesterséges neurális hálói. In: Kognitív idegtudomány. Szerk. Csaba Pléh – Gyula Kovács – Balázs Gulyás. Osiris, Bp., 2003, pp. 171-201
NÁDASI 2012
Zsófia Nádasi: Conductive Education, as the pedagogy-based developmental System of habilitation and rehabilitation for patients with Cerebral Palsy. 7th

World Congress for Neurorehabilitation. Innovations in neurorehabilitation. Melbourne, 2012

NÁDASI 2016

Zsófia Nádasi: Személyiségfejlesztő játékfoglalkozások új tematikájának alkalmazása a konduktív iskolában. In: Tanulmányok a konduktív pedagógia köréből. A Hári Mária-pályázat gyűjteményéből. Szerk. Adrienn Deák – István Kollega Tarsoly. Pető András Főiskola, Bp., 2016, pp. 133-147

NAGY 2004

J. Nagy et ah: DIFER programcsomag: Diagnosztikus fejlődésvizsgáló és kritériumorientált fejlesztő rendszer 4-8 évesek számára. Mozaik, Szeged, 2004

NAHALKA 1998

István Nahalka: A tanulás. In: Didaktika. Elméleti alapok a tanítás tanulásához. Szerk. Iván Falus. Tankönyvkiadó, Bp., 1998

NAHALKA 2004

István Nahalka: A komprehenzív iskola breviáriuma. Sulinova, Bp., 2004

NÉMETH 2004

Esély az együttnevelésre. Szerk. Szilvia Németh. Országos Közoktatási Intézet, Bp., 2004

NÉMETH 2013

András Németh: Az életreform társadalmi gyökerei, irányzatai, kibontakozásának folyamatai. In: Az életreform és reformpedagógia – recepciós és intézményesülési folyamatok a 20. század első felében. Szerk. András Németh – Veronika Pirka. Gondolat, Bp., 2013, pp. 11-54

NÉMETH 2014

András Németh: Életreform kommunák és a reformpedagógia – recepciós folyamatok a 20. század első felében. In: Továbbélő utópiák – a reformpedagógia és életreform a 20. század első felében. Szerk. András Németh – Béla Pukánszky – Veronika Pirka. Gondolat, Bp., 2014, pp. 22-60

NORWICH 1996

Norwich, B.: Special needs education or education for all: connective specialisation and ideological impurity. *British Journal of Special Education,* 1996 (23) pp. 100-104

NOSEK 2017

Nosek, B. A. – Errington, T. M.: Making sense of replications. *ELife,* 2017 (6) https://elifesciences.org/articles/23383 (Utolsó letöltés: 03.07.2019)

NOVAK 2014

Novak, I.: Evidence-based diagnosis, health care, and rehabilitation fór children with cerebral palsy. *Journal ofchild neurology,* 2014 (29) 8, pp. 1141-1156

ODOM 2005

Odom, S. L. – Brantlinger, E. – Gersten, R. – Horner, R. H. – Thompson, B. – Harris,

K. R.: Research in special education: Scientific methods and evidence-based practices. *Exceptional children,* 2005 (71) 2, pp. 137-148

ODOM 2013

Cook, B. G. – Odom, S. L.: Evidence-based practices and implementation Science in special education. *Exceptional children,* 2013 (79) 2, pp. 135-144

OECD 2007

OECD: Glossary of statistical terms, 2007, p. 390

OKTATÁSI HIVATAL 2017

Ministry of Education A tanulási eredmények (Learning outcomes). 2017 https://www. oktatas.hu/kepesiteseknyito/kepesitesek/tanulasi_eredmeny (Utolsó letöltés: 13.05.2019)

OLECHOWSKI – WILHELM 2006

Olechowski, R. – Wilhelm, M.: Dilemmák az alapfokú iskolával kapcsolatban – az iskolafejlesztés lehetséges útjai és akadályai. In: Az iskola optimalizálása – a struktúra változtatása nélkül. Szerk. István Bábosik. PEM Tanulmányok – IV. Urbis, Bp., 2006

OLLÉ – KRISTÓF 2013

János Ollé – Zsolt Kristóf: Learning, teaching and developing in Virtual education. ELTE Eötvös, Bp., 2013, pp. 12-17

ORAVECZ 2016

Adrienn Oravecz: A gyógypedagógia két meghatározó Máriája: Maria Montessori és Hári Mária. *Különleges Bánásmód*, 2016 (2) 4, 35-47.

ORAVECZ 2018

Adrienn Oravecz: A konduktív nevelés adaptációs formái a nagyvilágban. In: A 9. Konduktív Pedagógiai Világkongresszus: Válogatott előadások – 9th World Congress on Conductive Education: Selected lectures. Szerk Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 129-140

OVERDICK-GULDEN 1997

Overdick-Gulden, M.: Unbehindert und schön wie Apoll? Reílexionen zum Thema Behinderung. Kevelaer, Butzon-Bercker, 1997

ÖDMAN – ÖBERG 2005

Ödman, P. – Öberg, B.: Effectiveness of intensive training fór children with cerebral palsy. A comparison between child and youth rehabilitation and conductive education. *Journal of rehabilitation medicine,* 2005 (37) 4, pp. 263-270

ÖDMAN – ÖBERG 2006

Ödman, P. E. – Öberg, B. E.: Effectiveness and expectations of intensive training: a comparison between child and youth rehabilitation and conductive education. *Disability and rehabilitation,* 2006 (28) 9, pp. 561-570

ÖDMAN 2009
Ödman, P. – Richt, B. – Öberg, B.: Parents' conceptions of intensive group training. The case of cerebral palsy. *Disability and rehabilitation,* 2009 (31) 4, pp. 293-301
ÖRFALVY 1999
Aladárné Őrfalvy: Ének-zenei nevelés a konduktív pedagógiában. Kézirat. MPANNI, Bp., 1999
ÖRKÉNYINÉ 1997
Adrienn Örkényiné Deák: Az ortofunkció alkalmazása. Jegyzet. MPANNI, Bp., 1997
PALISANO – ROSENBAUM – BARTLETT – LIVINGSTON 2007
Robert Palisano – Peter Rosenbaum – Doreen Bartlett – Michael Livingston: Gross Motor Function Classification System Expanded and Revised. CanChild Centre for Childhood Disability Research, McMaster University, 2007
PAPAVISILOU – PANTELIODIS 2011
Papavasiliou, A. – Panteliodis, C. P.: Clinical characteristic. In: Cerebral palsy a multidisciplinary approach. Szerk. Christos P. Panteliadis. Dustri Verlag Dr. Kari Feistle, München-Orlando, 2011
PAPP 2004
Gabriella Papp: Tanulásban akadályozott gyermekek a többségi általános iskolában. Comenius, Pécs, 2004
PAPP 2012
Gabriella Papp: Az integráció, inklúzió fogalmak tartalmi elemzése gyógypedagógiai megközelítésben nemzetközi és magyar színtéren. *Gyógypedagógiai Szemle,* 2012 (40) 4-5, pp. 295-304
PARACELSUS 1915
Paracelsus, alias Hohenheim, Th.: Sieben Defensiones und Labyrinthus medicorum errantium 1538. Barth, Leipzig, 1915
PARKES 2011
Parkes, J. – Caravale, B. – Marcelli, M. – Franco, F. – Colver, A.: Parenting stress and children with cerebral palsy. A European cross-sectional survey. *Developmental Medicine and Child Neurology,* 2011
PÁSZTORNÉ TASS 2018a
Ildikó Pásztorné Tass: Konduktorok és a teammunka. In: A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások – 9th World Congress on Con- ductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 63-71
PÁSZTORNÉ TASS 2018b
Ildikó Pásztorné Tass: Óvodás életkorú mozgássérült gyermekek fejlődési eredményei konduktív nevelés során. *Különleges Bánásmód,* 2018 (3) pp. 55-70

PÁSZTORNÉ TASS 2018c
Ildikó Pásztorné Tass: A konduktív nevelés helye és szerepe a sérült gyermekek és felnőttek habilitációjában és rehabilitációjában. *Tudomány és Hivatás,* 2018 (2) 2,pp. 11-29. p.
PAVLOV 1932
Pavlov, I. P.: The replay of a physiologist to psychologists. *Psychological Review,* 1932 (39) 2, pp. 91-127
PEDERSEN 2000
Pedersen, A. V.: Conductive education – a critical appraisal. *Advances in Physiotherapy,* 2000 (2) pp. 75-82
PESTALOZZI 1959
Pestalozzi, J. H.: Pestalozzi válogatott művei I—II. Tankönyvkiadó, Bp., 1959
PETŐ [é. n.]a
Pető András (é. n.): „Mozgástan és mozgásterápia elmélete", kézirat
PETŐ [é. n.]b
Pető András (é. n.): „Konduktív mozgásterápia", kézirat
PETŐ [é. n.]c
Bärnklau, Karl Otto [András Pető]: Gibt es unheilbare Krankheiten? Neinl, Rudolphsche Verlagsbuchhandlung, Lindau-Bodensee [é. n.]
PETŐ [é. n.]d
András Pető: Nachgelassene Schriften Holzingers. Kézirat I-V. kötet [é. n.]
PETŐ [é. n.]e
Wachtelborn, X. [András Pető]: Das Leben des Mannes Nachtigall. Kézirat [é. n.]
PETŐ 1953
András Pető: Szovjet mozgásterápiai módszerek. In: A magyar gyógypedagógia a nervizmus szemléletében. Tankönyvkiadó, Bp., 1953
PETŐ 1955
András Pető: A konduktív mozgásterápia, mint gyógypedagógia. *Gyógypedagógia,* 1955 (1) 1, pp. 15-21
PETŐ 1957a
Pető András és mtsai: Mozgásterápiai tájékoztató. Felsőoktatási Jegyzetellátó, Bp., 1957
PETŐ 1957b
Pető András és mtsai: Kollokviumi témák. Kézirat. 1957
PETŐ 1962
András Pető: Mozgásterápiái Tanszék programtervezete, 1962; idézi: Mária Hári: A konduktív pedagógia története. MPANNI, Bp., 1997
PETŐ 1963
András Pető: Bevezető a konduktív mozgáspedagógiába Pető András előadási és gyakorlati bemutatói alapján. Tankönyvkiadó, Bp., 1963, 1998

PETŐ 1964
András Pető: Felsőoktatási képzési terv, 1964; idézi: Mária Hári: A konduktív pedagógia története, MPANNI, Bp,, 1997
PETŐ 1965a
Bärnklau, Karl Otto [András Pető]: Unfug der Krankheit, Triumph der Heilkunst, Schustek, Hanau-Main, 1965
PETŐ 2017
András Pető: Versek. Összeáll. Renáta Földesi. Pető András Főiskola, Bp., 2017
PIAGET 1923
Piaget, Jean: Le langage et la pensée chez l'enfant. Libraire Alcan, Delachaux-Niestlé, Paris-Neuchâtel, 1923
PIAGET 1993
Piaget, Jean: Az értelem pszichológiája. Gondolat, Bp., 1993
PINKER 2001
Pinker, Steven: Hogyan működik az elme? Osiris, Bp., 2001
PINTÉR G. 1990
Gábor Pintér: A pszichoterápia és a terápiás képzés hatékonysága a személyközpontú modell keretében. Kandidátusi értekezés, MTA, Bp., 1990
PINTÉR G. 2004
Gábor Pintér: Jacob Levi Moreno and András Pető. *Conductive Education,* 2004
PINTÉR G. 2014
Gábor Pintér: Hatótényezők és kompetenciák a pszichodrámában. *Pszichodráma Újság,* 2014
PINTÉR G. 2015
Gábor Pintér: Psychodrama training and research. Research workshop on trainer competencies. Federation of Psychodrama Training Organisations, Research Committee, Semmelweis University, Bp., 2015
PINTÉR H. 2010
Henriett Pintér: 8. osztályos mozgássérült tanulók írásbeli véleményalkotásának vizsgálata. *Iskolakultúra,* 2011 (21) 8-9, pp. 146-158
PINTÉR H. 2013
Pintér, Henriett: Az írásbeli kommunikáció fejlesztése a konduktív nevelésben. *Gyógypedagógiai Szemle,* 2013 (41) 2, pp. 140-153
PINTÉR H. 2017
Henriett Pintér – Adrienn Kovács – Gizella Bacsó – Franciska Gál: Az algoritmikus lépések tanulási módszerével segített szövegértés és tanulás eredményességének vizsgálata a központi idegrendszeri sérült tanulók körében. *Tudomány és Hivatás,* 2017 (1) 2, pp. 19-42

PINTÉR H.- GÁL 2010
Henriett Pintér – Franciska Gál: A pedagógusszakma differenciálódása Magyarországon a kilencvenes évektől napjainkig. *Képzés és Gyakorlat,* 2010 (8) 3-4, pp. 143-158
PLATTE 2007
Platte, A.: Didaktische Fundierung inklusiver Bildungsprozesse: Wie viele Seiten hat ein Ding? In: Integrationsforschung und Bildungspolitik im Dialog. Szerk. Demmer-Dieckmann, I. – Textor, A. Klinkhardt, Bad Heilbrunn, 2007
PLATTE 2009
Platte, A.: Das Recht auf Bildung und das besondere Recht auf Bildung. In: Neue deutsche Schule, 5, 2009
PLÉH 2010
Csaba Pléh: A lélektan története. Osiris, Bp., 2010
POLÓNYI 2017
István Polónyi: A válasz: az IKT az iskolában – de mi volt a kérdés? *Educatio,* 2017 (26) 2, pp. 257-271
POPPER 2005
Péter Popper: Holdidő. Saxum, Bp., 2005
PORKOLÁBNÉ BALOGH 1988
Katalin Porkolábné Balogh: Iskolapszichológia. Tankönyvkiadó, Bp., 1988
POTTS 2002
Inclusion in the City: A Study of Inclusive Education in an Urban Setting. Szerk. Potts, P. Routledge Falmer, London-New York, 2002
PREUSS-LAUSITZ 1988
Preuss-Lausitz, U.: Schritte zur Integration – jenseits der Sonderschulen. *Die Grundschulzeitschrift,* 1988, 2
PREUSS-LAUSITZ 2004
Schwierige Kinder – schwierige Schule. Szerk. Preuss-Lausitz. U. Beltz, Weinheim-Basel, 2004
PULAY 2015
Márk Pulay: Eye-Tracking and EMG Supported 3D Virtual Reality – An Integrated Tool for Perceptual and Motor Development of Children with Severe Physical Disabilities. A Research Concept. In: Assistive Technology. Building Bridges. Szerk. Cecília Sik-Lányi és mtsai. IOS Press, Amsterdam, 2015, pp. 840-847
PULAY 2019
Márk Ágoston Pulay: Infokommunikációs technológiák (IKT) alkalmazása sérüléssel élő gyermekek körében. In: A gyermekrehabilitáció sajátosságai. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2019, pp. 402-406
RACSMÁNY 2003
Mihály Racsmány: Az emlékezet kognitív neuropszichológiája. In: Kognitív

idegtudomány. Szerk. Csaba Pléh – Gyula Kovács – Balázs Gulyás. Osiris, Bp., 2003, pp. 459-485

RADVÁNYI 2013

Katalin Radványi: Legbelső kör: a család. Eltérő fejlődésű vagy krónikus beteg gyermek a családban. ELTE Eötvös, Bp., 2013

REDDIHOUGH 1998

Reddihough, D. S. – King, J. – Coleman, G. – Catanese, T.: Efficacy of programmes based on conductive education for young children with cerebral palsy. *Developmental medicine and child neurology,* 1998 (40) 11, pp. 763-770

RIENER – HARDERS 2012

Riener, R – Harders, M.: Introduction to Virtual Reality in Medicine. In: Virtual Reality in Medicine. Szerk. Riener, R. – Harders, M. Springer, New York, 2012, pp. 1-11

REISER 2002

Reiser, H.: Der Beitrag der Sonderpädagogik zu einer Schule für alle Kinder. *Behindertenpädagogik,* 2002 (41) 4, pp. 402-417

RÉTHY 2002a

Endréné Réthy: Integrációs törekvések Európában. In: *Összehasonlító pedagógia. Szerk.* István Bábosik – Andrea Kárpáti. BIP, Bp., 2002

RÉTHY 2002b

Endréné Réthy: A speciális szükségletű gyermekek nevelése, oktatása Európában. Az integráció és inklúzió elméleti és gyakorlati kérdései. *Magy.Pedagógia,* 2002. 3

RÉTHY 2013

Endréné Réthy: Befogadás, méltányosság, az inkluzív pedagógia rendszere. Comenius, Pécs, 2013

RÉTHY – SCHAFFHAUSER 2000

Mária Réthy – Franz Schaffhauser: Changes of Motivation in Teacher Education, Integer-Konferenz, Wien, 2000

RÉVAI 2007

Gábor Révai: Beszélgetések nem csak gyerekekről Ranschburg Jenővel és Vekerdy Tamással. Park, Bp., 2007

RIGLER 2004

Endre Rigler: Sportjáték-elmélet I. SE Testnevelési és Sporttudományi Kar, Bp., 2004

ROGERS 1951

Rogers, C. R.: Client-Centered Therapy. Houghton Mifflin, Boston, 1951

ROMMELSPACHER 2006

Rommelspacher, B.: Wie wirkt Diskrimierung? Am Beispiel der Behinderteneindlichkeit. 2006 http://www.birgit-rommelspacher.de/wie_wirkt_ diskriminie- rung.pdf (Utolsó letöltés 2010. 04. 07.)

ROSENBAUM – PANETH – LEVITON
Rosenbaum, P. – Paneth, N. – Leviton, A. [et al.]: The Definition and Classification of Cerebral Palsy. *Developmental Medicine and child neurology,* 2007 February, (49) Issue Supplements 109, pp. 2-43
ROUSSEAU 2006
Rousseau, D. M.: Is There Such a Thing as „Evidence-Based Management?" *The Academy of Management Review,* 2006 (31) 2, pp. 256-269
RÓZSÁNÉ CZIGÁNY 2013
Enikő Rózsáné Czigány: A gyógypedagógiai szemlélet integrálódása a budai tanítóképzésbe. *Gyermeknevelés,* 2013 (1) 1, pp. 23-31
RÖDLER 2000
Rödler, P.: Geistig behindert: Menschen, lebenslang auf Hilfe anderer angewiesen? Grundlagen einer basalen Pädagogik. Luchterhand, Neuwid-Berlin, 2000
RUNCO 2003
Runco, M. A.: Education for Creative potential. *Scandinavian Journal of Educational Research,* 2003 (47) 3, pp. 317-324
RUNCO – JOHNSON 2002
Runco, M. A. – Johnson, D. J.: Parents' and teachers' implicit theories of children's creativity. *Creativity Research Journal,* 2002 (14) 3-4, pp. 427-438
RUSSEL – ROSENBAUM – MAVERY 2002
Russel, D. J. – Rosenbaum, P. L. – Mavery, L.: Nagymotoros Funkciók Vizsgálata (GMFM-66 & GMFM-88). Felhasználói kézikönyv. McMaster University, Hamilton (Ontario), 2002
SACKETT 1996
Sackett, D. L. – Rosenberg, W. M. – Gray, J. A. et ah: Evidence based medicine. What it is and what it isn't. *British Medical Journal,* 1996 (312) 7023, pp. 71-72 www.ncbi.nlm. nih.gov/pmc/articles/PMC2349778/pdf/bmj00524–0009 (Utolsó letöltés: 01.07.2019)
SAKZEWSKI 2014
Sakzewski, L. – Ziviani, J. – Boyd, R. N.: Efficacy of upper limb therapies for unilateral cerebral palsy. A meta-analysis. *Pediatrics,* 2014 (133) 1, pp. 175-204
SALAMANCA 2006
Salamancai nyilatkozat és cselekvési tervezet a sajátos nevelési igényű tanulók számára. UNESCO, Spanyolország 1994. Bp,, 2006
SALNÉ LENGYEL – KŐPATAKINÉ MÉSZÁROS 2001
Mária Salné Lengyel – Mária Kőpatakiné Mészáros: Fogyatékos gyermekek és tanulók helyzete az ezredfordulón. Az együttnevelés. (Egy kutatás tapasztalatai.) *Fejlesztő Pedagógia,* 2001/3.
SANDSTRÖM 2004
Sandström, K. – Alinder, J. – Oberg, B.: Description of functioning and health and

relations to a gross motor classification in adults with cerebral palsy. *Disability and Rehabilitation,* 2004 (26) 17, pp. 1023-1031

SÁRINGERNÉ 2007

Zsuzsanna Sáringerné Szilárd: Testnevelés óvodás és kisiskolás korban. Főiskolai jegyzet. SB, Bp., 2007, pp. 44-56

SÁRINGERNÉ 2010

Zsuzsanna Sáringerné Szilárd: Benefits of Virtual sports. Wii-Sport activity for children with cerebral palsy in the Pető Institute. In: Rehabilitation. Mobility, Exercise and Sports. 4th International State-of-the-Art Congress. IOS Press, Amsterdam, 2010, pp. 288-290

SÁRINGERNÉ 2012

Zsuzsanna Sáringerné Szilárd: A Wii játék fejlesztő hatása az értelmi sérültek körében. *Gyógypedagógiai Szemle,* 2012 (40) 2, pp. 188-195

SÁRINGERNÉ 2017

Zsuzsanna Sáringerné Szilárd: A testmozgás és a sportolás lehetőségei megváltozott teljesítőképességgel élő emberek számára. Habilitációs értekezés. Magyar Testnevelési Egyetem, Bp., 2017

SÁRINGERNÉ – NÁDASI2010

Zsuzsanna Sáringerné Szilárd – Zsófia Nádasi: Sportjátékok személyiségfejlesztő hatása mozgássérült gyermekekre. *Iskolakultúra,* 2010 (20) 9, pp. 34-42

SÁRKÖZI 2003

Mátyás Sárközi: Levelek Zugligetből. Kortárs, Bp., 2003

SÁSKA 2007

Géza Sáska: A magyar közoktatás 1945-85 között. In: Rendszerek és váltások. Szerk. Géza Sáska. Új Mandátum, Bp., 2007, pp. 10-32

SÁSKA 2009

Géza Sáska: A szocialista neveléstudomány kialakulása és függőségbe süllyedése – a didaktika példáján. In: A magyar neveléstudomány a XX. század második felében. Szerk. András Németh – Zsuzsanna Hanna Bíró. Gondolat, Bp., 2009, pp. 98-130

SÁSA 2015

Géza Sáska: A neveléstudományi elit viszonya a politikai marxizmushoz az ötvenes években. In: Neveléstudomány és tudományos elit a 20. század második felében. Szerk. András Németh – Zsuzsanna Hanna Biró – Imre Garai. Gondolat, Bp., pp. 177-212

SATIR 1999

Satir, Virginia: A család együttélésének művészete. Coincidencia, Bp., 1999

SCHÄFFER 2016

Katalin Schäffer: A konduktor. In: A konduktív nevelés. Kézirat. Pető András Főiskola, Konduktív Pedagógiai Intézet, 2016, pp. 26-32

SCHAFFHAUSER 2000
Franz Schaffhauser: A nevelés alanyi feltételei. Telosz, Bp., 2000
SCHAFFHAUSER 2004
Franz Schaffhauser: „Az ember mindig több mint a fogyatékosságai." A fogyatékosság jelensége a neveléstudományban. In: Tágabb értelemben vett gyógypedagógia. A fogyatékosság jelensége a gyógypedagógia határtudományaiban. Szerk. Péter Zászkaliczky – Tamás Vedres. ELTE, Bp., 2004
SCHAFFHAUSER 2014
Franz Schaffhauser: A konduktív pedagógia nevelésfilozófiai alapjairól. In: Breakpoints and Bridges. Punti di rottura e ponti di Pedagogia Umana. Szerk. Costantino, D. Edizioni Centro Studi Erickson, Trento, 2014. pp. 81–87
SCHAFFHAUSER 2016a
Franz Schaffhauser: Meaning and importance of the holistic principle in the conductive education by András Pető and Mária Hári. In: „Welcome to the Home of Conductive Education." Szerk. Erzsébet Balogh – Gabriella Földiné Németh. Abstracts of 9th World Congress on Conductive Education. Bp., 2016, p. 67
SCHAFFHAUSER 2016b
Franz Schaffhauser: A fogyatékosság jelentése a neveléstudományban. In: Tágabb értelemben vett gyógypedagógia. Szerk. Péter Zászkaliczky – Tamás Vedres. ELTE Eötvös – Bárczi Gusztáv Gyógypedagógiai Kar, Bp., 2016, pp. 207-231
SCHAFFHAUSER 2018
Franz Schaffhauser: A mozgás, a ritmus és az egyensúly alapfogalmai Pető András gondolatrendszerében. *Kellék,* 2018 (60), pp. 23-38
SCHALOCK 2002
Schalock, R. L. – Brown, I. – Brown, R. – Cummins, R. A. – Felce, D. – Matikka, L. – Parmenter, T.: Conceptualization, Measurement and Application of Quality of Life fór Persons With Intellectual Disabilities: Report of an International Panel of Experts. *Mental Retardation,* 2002 (40) 6, pp. 457-470
SCHALOCK – BOHNAM – VERDUGO 2002
Schalock, R. – Bohnam, G. – Verdugo, M.: The concenptualization and measurement of quality of life: Implications for program planning and evaluation in the field of intellectual disabilities. *Evaluation and Program Planning,* 2002 (31) 2, 181-190
SCHIARITI 2014
Schiariti, V. et al: Comparing contents of outcome measures in cerebral palsy using the international classification of functioning (ICF-CY). A systematic review. *European journal of paediatric neurology,* 2014 Jan (18) 1, pp. 1-12
SCHIARITI 2015
Schiariti, V. et al: International Classification of Functioning, Disability and Health Core Sets for Children and youth with cerebral palsy. A consensus meeting. *Developmental Medicine and Child Neurology,* 2015 (57) pp. 149-158

SCHIFFER 2008
Csilla Schiffer: Az inklúzió fogalmának értelmezései és azok ellentmondásai. In: Az integrációs cunami. Tanulmányok a fogyatékos emberek iskolai és társadalmi integrációjáról. Szerk. Csaba Bánfalvy. Eötvös, Bp., 2008
SCHIPPER 2004
Schipper, W.: Leistungsheterogenität und Bildungsstandards. *Grundschule,* 2004 (10) pp. 16-20
SCHÖNWIESE 2000
Schönwiese, W.: Grundfragen der Arbeit in der Behindertenpädagogik. *Schule und Gesellschaft,* 2000,4/5, http://bidok.uibk.ac.at/library/beh4-5-00.html (Utolsó letöltés 07.03.2010)
SCHUSTER 2006
Schuster, Martin: A kreativitás fogalma és a hétköznapi kreativitás. *Psychiatria Hungarica,* 2006 (21) 4, pp. 279-287
SEITZ – KORFF 2009
Seitz, S. – Korff, N.: Früh einsteigen: Inklusive Pädagogik in Kindertageseinrichtungen mit unter Dreijährigen. In: Perspektiven auf Entgrenzung. Erfahrungen und Entwicklungsprozesse im Kontext von Inklusion und Integration. Szerk. Jerg, J. et al. Klinkhardt, Bad Heilbrunn, 2009
SENGE 1994
Senge, P.: The fifth discipline fieldbook. Strategies and tools for building a learning organisation. Brealy, London, 1994
SENGE 2008
Senge, P.: Necessary Revolution. *How Individuals and Organizations Are Working Together to Create a Sustainable World.* Doubleday, New York, 2008
SHELLY – DAVIS – WATERS 2008
Shelly, A. – Davis, E. – Waters, E. et al: The relationship between quality of life and functioning for children with cerebral palsy. *Developmental medicine and child neurology* 2008 (50) pp. 199-203
SIEBES 2002
Siebes, R. C. – Wijnroks, L. – Vermeer, A.: Qualitative analysis of therapeutic motor intervention programmes for children with cerebral palsy. An update. *Developmental medicine and child neurology,* 2002 (44) 9, pp. 593-603
SIGAFOOS 1993
Sigafoos, J.: Short-Term Conductive Education. An Evaluation Study. *British Journal of Special Education,* 1993 (20) 4, pp. 148-151
SPECK 2003
Speck, O.: System Heilpädagogik. Eine ökologisch reflektierte Grundlegung. Reinhardt, München, 2003

SKRTIC 1995
Skrtic, T. M.: Disability and democracy. Reconstructing (special) education for postmodernity. Teachers College Press, New York, 1995
STERN 2000
Stern, D: A csecsemő személyközi világa a pszichoanalízis és a fejlődéslélektan tükrében. Animula, Bp., 2000
STILLER 2003
Stiller, C. – Marcoux, B. C. – Olson, R. E.: The effect of conductive education, intensive therapy, and special education Services on motor skills in children with cerebral palsy. *Physical and occupational therapy in pediatrics,* 2003 (23) 3, pp. 31-50
SZABÓ 2007
Inkluzív nevelés – Kooperatív tanulás. Kézikönyv a pedagógusképző intézmények számára. Szerk. Ákosné Szabó. SuliNova, Bp., 2007
SZABÓ Á. 2009
Ágnes Szabó: A (szabadidő) sport alapfogalmai és kutatott területei. Műhely-tanulmány Budapesti Corvinus Egyetem, 2009. szeptember http://unipub.lib.uni-corvinus.hu/201/2/Szabo115.pdf
SZARKA 2019
Dániel Szarka: DIFER program csomag által jelzett eredmények korrelációja a későbbi tanulási eredményekkel. Szakdolgozat. SE Pető András Kar, Bp., 2019
SZAUTNER 2008
Gizella Szautner Jánosné Szigeti: Képességfejlesztő program a kisiskoláskori tanulási zavarok korrekciójához I. Marketing Műhely, Bp., 2008
SZEMENYEI – VÉGH 2013
Mariann Szemenyei – Zoltán Ákos Végh: A gyerekek. In: Esélyegyenlőség a mai Magyarországon. Szerk. Aranka Varga. Pécsi Tudományegyetem, Pécs, 2013, pp. 121-150
SZOKOLSZKY Á. 2004
Ágnes Szokolszky: Kutatómunka a pszichológiában. Osiris, Bp., 2004
SZOKOLSZKY I. 1961
István Szokolszky: Az aktivitás elve mint általános pedagógiai elv. In: Tanulmányok a neveléstudomány köréből. Szerk. Árpád Kiss – Sándor Nagy – József Szarka – István Szokolszky. Akadémiai, Bp., 1961
SZUHAJ 2016
Eszter Szuhaj: Konduktív pedagógia és GMP-diagnosztika. In: Tanulmányok a konduktív pedagógia köréből. A Hári Mária-pályázat gyűjteményéből. Szerk. Adrienn Deák – István Kollega Tarsoly. Pető András Főiskola, Bp., 2016, pp. 161-197

SZVATKÓ 2016
Anna Szvatkó: Billenések. Tanulmányok a dinamikus szenzoros integrációs terápia köréből. Oriold és Társai, Bp., 2016
TAUSCH 1989
Tausch, R.: Gesprächspsychotherapie. Hogrefe, Göttingen, 1989
TELEARBEIT FÜR MENSCHEN
Telearbeit für Menschen mit Behinderung. MIRTI Handbook http://www.telework-mirti.org/handbook/tedesco/essay/2disable.htm (Utolsó letöltés 2018. 03. 15.)
TERRY 2000
Terry J. Fadem: A kérdezés művészete. HVG, Bp., 2000
THOMAS – VAUGHAN 2004
Thomas, G. – Vaughan, M.: Inclusive education: readings and reflections. Open University Press, Maidenhead, 2004
TICHTENER 1983
Titchener J.: A preliminary evaluation of conductive education. *Physiotherapy* 1983 (69) pp. 313-316
TORDA 1994
Ágnes Torda: Példatár az emberalak-ábrázolás és a vizuo-motoros koordináció diagnosztikus értékeléséhez. Ember-rajz vizsgálat (Goodenough). Bárczi Gusztáv Gyógypedagógiai Tanárképző Főiskola, Bp., 1994
TORGYIK 2006
Judit Torgyik: Az iskola optimalizálása a leszakadó rétegek számára a struktúra változtatása nélkül. In: Az iskola optimalizálása – a struktúra változtatása nélkül. Szerk. István Bábosik. Urbis Kiadó, Bp., 2006
TÖRÖK 1966
Sándor Török: A legkisebb isten. Magvető, Bp., 1966
TÖRÖK 1979
Sándor Török: Egy kis kertet szerettem volna. Magvető, Bp., 1979
TRINGER 1992
László Tringer: A gyógyító beszélgetés. VIKOTE, Bp., 1992
TUERSLEY-DIXON 2010
Tuersley-Dixon, L. – Frederickson, N.: Conductive education. Appraising the evidence. *Educational Psychology in Practice,* 2010 (26) 4, pp. 353-373
TŰRI 2017a
Ibolya Túri: Konduktori szakértelem a hallgatói nézetek tükrében. *Tudomány és Hivatás,* 2017 (1) pp. 46-56
TÚRI 2017b
Ibolya Túri: Vizsgálat a konduktorképzésre vonatkozó hallgatói nézetek körében. In: Válogatott tanulmányok a pedagógiai elmélet és szakmódszertanok köréből. Szerk. János Karlovitz. International Research Institute, Sturovo, pp. 76 -82

TÚRI 2018a
Ibolya Túri: Hallgatói nézetek a konduktori szerepre és tevékenységre vonatkozóan. In: A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások – 9th World Congress on Conductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 73-90
TÚRI 2018b
Ibolya Túri: Konduktorjelöltek nézetrendszerének alakulása a konduktorképzés folyamán. PhD-disszertáció. ELTE, Pedagógiai és Pszichológiai Kar. Neveléstudományi Doktori Iskola, Bp., 2018
TÚRI 2018c
Ibolya Túri: A CP-s gyermekek rekreációjának fontosságáról. Sport- és művészeti tevékenységek a Pető András Kar konduktív iskolájában. *Tudomány és Hivatás,* 2018 (2) 2, 59-65. p. http://semmelweis.hu/pak/files/2018/12/Tudomány-és-Hivatás_2018_2.pdf#page=59 (Utolsó letöltés: 06.07.2019)
UNESCO 1995
Review of the Present Situation in Special Needs Education. UNESCO, Paris, 1995
UNESCO 2009
Policy Guidelines on Inclusion in Education. United Nations Educational, Scientific and Cultural Organization. UNESCO, Paris, 2009
VADÁSZ 2018
Zsuzsanna Vadász: Mozgássérült óvodás gyermekek rajzi vizsgálata. In: A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások – 9th World Congress on Conductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 171-179
VÁG 1994
Ottó Vág: Az óvodai nevelés története Magyarországon. Magyar Óvodapedagógiai Egyesület, Miskolc, 1994
VARGA 2015
Aranka Varga: Lemorzsolódás vagy inklúzió. In: Kudarcok és megoldások. Iskolai hátrányok, lemorzsolódás, problémakezelés. Szerk. Anikó Fehérvári – Gábor Tornász. Oktatáskutató és Fejlesztő Intézet, Bp., 2015, pp. 77-92
VARGÁNÉ MEZŐ 2004
Lilla Vargáné Mező: Sajátos nevelési igényű tanulók együttneveléséről pedagógusoknak, intézményvezetőknek. OKI, Bp., 2004
VEKERDY 1992
Tamás Vekerdy: Álmok és lidércek. T-Twins, Bp., 1992
VEKERDY-NAGY 2010
Rehabilitációs orvoslás. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2010

VERDUGO 2010
Verdugo, M. – Ária, B. – Gómez, L. E. – Schalock, R. L.: Development of an objective instrument to assess quality of life in social Services. Reliability and validity in Spain. *International Journal of Clinical and Health Psychology,* 2010 (10) pp. 105-123
VERNOOIJ 2005
Vernooij, M.: Erziehung und Bildung beeinträchtigter Kinder und Jugendlicher. Schöningh, UTB, Padernborn, 2005
VÉRTESI 2004
Lázár Vértesi: Oral history. A szemtanúként elbeszélt történelem lehetőségei. *Aetas,* 2004 (20) 1, pp. 158-72
VIGOTSZKIJ 1967
Vigotszkij, L. S.: Gondolkodás és beszéd. Akadémiai, Bp., 196Z
VILÁGKONGRESSZUS 2016
A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások. Budapest, 2016. december 10-13. – 9th World Congress on Conductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018
VIRÁG 2013
Irén Virág: Tanuláselméletek és tanítási-tanulási stratégiák. Eszterházy Károly Főiskola, Eger, 2013
VIRÁNYI 2013
Anita Virányi: Sajátos nevelési igényű tanulók tanulásszervezésének és tanulás-támogatásának specifikus szempontjai az információs társadalomban. In: Oktatás-informatikai módszerek, tanítás és tanulás az információs társadalomban. Szerk. Öllé János és mtsai. ELTE Eötvös, Bp., 2013, pp. 133-150
VISCHNU-NARAYANA 1923
Vischnu-Narayana: Texte zur indischen Gottesmystik. E. Diederich, Jena, 1923
VISSI 2018
Tímea Vissi: Nagymotoros funkciók osztályozása és mérése. In: A 9. Konduktív Pedagógiai Világkongresszus. Válogatott előadások – 9th World Congress on Conductive Education. Selected lectures. Szerk. Erzsébet Balogh – Éva Feketéné Szabó – Dezsőné Horváth – István Kollega Tarsoly – Andrea Tenk Miklósné Zsebe. Semmelweis Egyetem Pető András Kar, Bp., 2018, pp. 151-158
VISSI 2019
Tímea Vissi: Szubjektív életminőség-mérés az SE Pető András Karának gyakorló óvodájában és gyakorló általános iskolájában. *Tudomány és Hivatás,* 2019/1. 21-34
Wachtelborn lásd Pető András

WANG – JONG 2004
Wang, H. – Jong, Y.: Parental stress and related factors in parents of children with cerebral palsy. *The Kaohsiung Journal of Medical Sciences,* 2004 (20) 7, pp. 334-340
WEIß 2009
Weiß, Hans: Kinder in Armut – eine weitere Herausforderung inklusiver Bildung und Erziehung. 2009 http://www2.uni-siegen.de (Utolsó letöltés 2018. 04. 08.)
WERNING – LÖSER – URBAN 2008
Werning, R. – Löser, J. M.- Urban, M.: Cultural and Social Diversity: An Analysis of Minority Groups in German Schools. *Journal ofSpecial Education,* 2008 (42) 1, pp. 47-54
WHO 1948
Constitution of The World Health Organization. http://www.who.int/governance/eb/who_constitution_en.pdf (Utolsó letöltés 2019. 10. 07.)
WHO 1980
International Classification of Impairments, Disabilities and Handicaps – ICIDH. World Health Organization, Geneva, 1980
WHO 2001
International classification of functioning, disability and health. ICF. World Health Organization, Genf, 2001 https://apps.who.int/iris/bitstream/handle/10665/78691/eer15.pdf(Utolsó letöltés: 03.07.2019)
WHO 2009
A funkcióképesség, fogyatékosság és az egészség nemzetközi osztályozása. World Health Organization. ELTE BGGYK, Bp., 2009 WHO 2011
World Health Organization: World report on disability, 2011. pp. 169-200
WINNICOTT 1999
Winnicott, D. W.: Játszás és valóság. Animula, Bp., 1999
WOCKEN 2007
Wocken, H.: Fördert Förderschule? Eine empirische Rundreise durch Schulen für „optimale Förderung". In: Integrationsforschung und Bildungspolitik im Dialog. Szerk. Demmer-Dieckmann, I. – Textor, A. Klinkhardt, Bad Fleilbrunn, 2007
WOOLFSON 1999
Woolfson, L. H.: Using a model of transactional developmental regulation to evaluate the effectiveness of an early intervention programme for pre-school children with motor impairments. *Child: care, Health and development,* 1999 (25) 1, pp. 55-79
WÖHLER 1980
Wöhler, K.: Behinderung, sonderpädagogisches Handeln und Erziehungsziel: Paradigmen der Behinderung in Aktion. *Zeitschrift für Heilpädagogik.* 1980 (31) 12, pp. 803-815

WRIGHT 2005
Wright, F. V. – Boschen, K. – Jutai, J.: Exploring the comparative responsiveness of a core set of outcome measures in a school-based conductive education programme. *Child: care, Health and development,* 2005 (31) 3, pp. 291-302
ZALABAI 2005
Péterné Zalabai: Foglalkoztatáspolitika, munkaerőpiac, esélyegyenlőség. Motiváció Alapítvány, Bp., 2005
ZALABAI PÉTERNÉ – VIZVÁRDI 2003
Péterné Zalabai – András Vízvárdi: Az élő otthon. Motiváció Alapítvány, Bp., 2003
ZANDER 2008
Zander, M.: Armes Kind – starkes Kind? Die Chance der Resilienz. VS Verlag für Sozialwissenschaften,, Wiesbaden, 2008
ZAPP 2004
Zapp, N.: Ich kann mehr, als man sieht. In: Existenz und Logos. *Zeitschrift für sinnzentrierte Therapie, Beratung, Bildung,* 2004, 9.
ZÁSZKALICZKY 2002
Péter Zászkaliczky: Az egyéni deficittől a társadalmi felelősségig. Gyógypedagógia a közoktatásban és a társadalomban. *Új Pedagógiai Szemle,* 2002 (52) 4, pp. 52-63
ZÁSZKALICZKY 2004
Péter Zászkaliczky: A gyógypedagógiai antropológia a gyógypedagógia diszciplínarendszerében. PhD-disszertáció, ELTE, Bp., 2004
ZÁSZKALICZKY 2013
A társadalmi és iskolai integráció feltételrendszere és korlátái. Szerk. Péter Zászkaliczky. ELTE Eötvös, Bp., 2013
ZIGMOND 1997
Zigmond, N.: Educating students with disabilities. The future of special education. In: Issues in educating students with disabilities. Szerk. Lloyd, J. W. – Kameenui, E. J. – Chard Mahwah, D., NJ, Lawrence Erlbaum. 1997, pp. 325-342
ZIMONYI 2016
Nóra Zimonyi: Média és a gyermek. Médiahasználati szokások a serdülőkorú cerebrál paretikus gyermekek körében. In: Tanulmányok a konduktív pedagógia köréből. A Hári Mária-pályázat gyűjteményéből. Szerk. Adrienn Deák – István Kollega Tarsoly. Pető András Főiskola, Bp., 2016, pp. 415-436
ZRINSZKY 1991
László Zrinszky: Aki gyerekeket akar nevelni, tönkre akarja tenni őket. *Új Pedagógiai Szemle,* 1991 (41) 12, pp. 12-21
ZSEÁK S.
Sándorné Zseák: Minimális kedvezmény – maximális segítés. In: Kőpatakiné Mészáros Mária (szerk.): Befogadó iskolák – elfogadó közösségek. Http://www.oki.hu/oldal.php? tipus=cikk&kod=befogado-05-Zseak-Minimalis (Utolsó letöltés: 08.04.2019)

ZSEBE 2005
Andrea Zsebe: Üj lehetőségek a központi idegrendszer sérülésének következtében mozgássérültté vált 6-10 éves gyermekek hatékony iskolai integrációja érdekében. PhD-értekezés. ELTE, Bp., 2005
ZSEBE 2008
Andrea Zsebe: Mozgássérült gyermekek inkluzív nevelését elősegítő új pedagógiai program hatékonyságának vizsgálata 6-10 éves gyermekek körében. In: Az iskola korszerű funkciói. Szerk. István Bábosik. OKKER, Bp., 2008
ZSEBE 2009a
Andrea Zsebe: Szülői attitűdök az együttnevelésben. Lépések a sikeres inkluzív nevelés megvalósulásáért című tanulmánysorozat. *Budapesti Nevelő,* 2009 (45) 4, pp. 100-112
ZSEBE 2009b
Andrea Zsebe: Lépésről-lépésre a sikeres iskolai együttnevelésért. Helyzetfelmérő vizsgálat 8-11 éves tanulók körében. Lépések a sikeres inkluzív nevelés megvalósulásáért című tanulmánysorozat. *Budapesti Nevelő,* 2009 (45) 1, pp. 124-140
ZSEBE – FEKETÉNÉ SZABÓ 2019a
Andrea Zsebe – Éva Feketéné Szabó: A konduktorképzés. In: A gyermekrehabilitáció sajátosságai. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2019, pp. 16-18
ZSEBE – FEKETÉNÉ SZABÓ 2019b
Andrea Zsebe – Éva Feketéné Szabó: A konduktív pedagógiai ellátó rendszer. In: A gyermekrehabilitáció sajátosságai. Szerk. Zsuzsanna Vekerdy-Nagy. Medicina, Bp., 2019, pp. 556–562