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Conductive Education
"Tradition and Future"

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ESTEEMED AUDIENCE, DEAR FRIENDS AND COLLEAGUES

Welcome, at the 6th World Congress of Conductive Education in Gothenburg, Sweden.
I think the time has arrived to open an imaginary door, which can be entered from both directions.

As we all learned, from those who taught us, we all become enriched by exchanging thoughts, ideas with others.

The series of World Congresses in our young profession was launched in 1990 in Budapest, Hungary. It is now a great honour for Move & Walk AB to host the 6th World Congress on Conductive Education in co-operation with the International András Pető Association for Conductive Education.

The aim of the Congress is to give the possibility for everyone to learn from each other, to exchange ideas, to share recent developments in different areas concerning physical disability and Conductive Education.

I am very happy to inform you, that conductors, educators, members of medical and rehabilitation professions, challenged individuals and family members who are open to new ideas and are here now, and ready to exchange experiences.

I am much honoured to welcome all of you here, and hope you will enjoy the conference and your stay here in our city, Gothenburg.

2007, Gothenburg

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CONDUCTIVE EDUCATION
THE NECESSARY UTOPIA

In confronting the many challenges that the future holds in store, it should be seen Conductive Education as an indispensable asset in its attempt to attain the ideals of self, self-esteem, self awareness and development, and that Conductive Education has a fundamental role to play in personal and social development of children and adults, with brain function disorders.

One can not see Conductive Education as a miracle cure or a magic formula, myth opening the door to a world in which all ideals will be attained, but as one of the important means available to foster a deeper and more harmonious form of human development and thereby to reduce exclusion and ignorance of persons with CNS damages. At a time when educational, rehabilitation policies are being sharply criticized or pushed down - for economic and financial reasons - to the bottom of the agenda, we wish to share this conviction with the audience, through valuable discussions and recommendations. Does the point need to be emphasized?

I was thinking principally about the children and young people who will take over from today's generation of adults, the latter being all too inclined to concentrate on their own problems.

Conductive Education is also an expression of affection for children and young people, whom we need to welcome into society, unreservedly offering them the place that is theirs by right therein - a place in the education system, to be sure, but also in the family, the local community and the nation. This duty needs to be constantly brought to mind, so that greater attention is paid

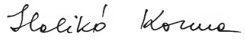
to it, even when choosing between educational-rehabilitation, political, economic and financial options.

Our century has been as much one of sound and fury as of economic and social progress - progress that in any case has not been equally shared.

At the dawn of a new century the prospect of which evokes both anguish and hope, it is essential that all people with a sense of responsibility turn their attention to both the aims and the means of rehabilitation and education.

It is the view of mine that, while Conductive Education is an ongoing worthy process of improving knowledge and skills, it is also - perhaps – became an exceptional means of bringing about personal development for both (exceptional children and adults with special needs, and the professionals, working with and for them) and building relationships among individuals, groups throughout the five continents.

In the words of a poet: *'The Child is father of the Man'*.



Ildikó Kozma
Professor of Conductive Education
President of the International András Pető
Association for Conductive Education

PLENARY ABSTRACTS

THE SWEDISH HABILITATION SYSTEM - FROM THE FIRST PHYSIOTHERAPIST TO A TEAM WITH HOLISTIC VIEW - 50 years perspective

by ARVIDSSON Jan
Habilitation Center, Jönköping, SWEDEN

The Swedish habilitation system will be described through its history during 50 years. 50 years ago 1957 the first PT Physiotherapist was recruited in Jönköpings County to work with cerebral movement disorders. The next five years it was a trend to establish regional institutes for children with CP and other movement disorders.

During the sixties institutions for education and physiotherapy in Sweden as Bräcke Östergård and Folke Bernadotte Hemmet were established. The pediatrician worked together with physiotherapists and teachers.

During the seventies it was a new trend with normalization and integration. The children left the regional institutions. In every county multi-professional teams were built up with a neuro-paediatrician specialized in child and youth habilitation The team consisted of four pillars of medical, psychological, social and educational knowledge. In every county special preschool for children with movement disorders were built up.

During the eighties it was the trend of coordinated habilitation. One child could have several disabilities. One organization should be able to take care of all disabilities as movement disorders, mental retardation (learning disabilities). The habilitation was decentralized but focused on the child or the young people as individuals.

During the nineties it was a broadened social view and individual service plan= ISP for habilitation was accepted. The WHO concept of disease, damage, function and handicap was implemented.

In the new millennium the ICF-model of interactions towards the goal of participation was accepted. Family-centred approach of the habilitation is in focus. Everyone has the right to get their own Habilitation plan. The team works in partnership with the family in a holistic way.

Some new results from research of intensive treatment and quality follow up in different ICF-areas and of health quality in a region (HEFa-model) will be presented.

CO-ORDINATION IN/AND CONDUCTIVE EDUCATION

by BALOGH Erzsébet
Honorary Chairman of the International Pető András Association,
HUNGARY

"Purposeful activity is the only road leading to active learning. ...we have only used the function in order that small pieces of coordination included in the function would be formed." *(Hári)*

The underlying mechanism for coordination of all movements is the cerebellar mechanism. It is true for the learned movements, for the training of movements, for the mental character of and voluntary movements and posture, for the correction of velocity and acceleration and deceleration of movements and for the stabilization of movements and posture. Coordination of agonist, antagonist, fixation and synergistic muscles during various posture, and both gross and fine motor movement could be secured through a cerebellar matrix which connects all – for movement important – peripheral and central parts of sensory-motor structures. Improved efficiency can be aimed through intention and repetition (learning), corrected, facilitated, goal oriented motor activity. The changes will occurred through changes at the molecular and synaptic levels. The Climbing Fibre System is seen as a dynamic oscillator in it, indicating when movement readiness (intention) happens, when a movement begins, when its velocity changed. Small brain will stabilize the movements, and adds the effect of mental set on posture and voluntary movements. The versatility to movements of drawing, painting, playing music instrument etc. will be supplied by excitatory and inhibitory afferents, with improving visual and acoustical influence.

"...small pieces of coordination are formed the functions must contain the short-term, 'microscopic' aims, which can only be achieved by internal reorganisation." "While the child achieves the goal set for him/her the new co-ordination evolves and, by knowing it the child will apply this newly emerging co-ordination." *(Hári)*

The newest findings in neuroimaginery reveal that attention and intention can not be separate, during both of them is an increased brain activity to see in the prefrontal cortical area intention and the co-ordination – during rhythmic movements – increase the brain metabolism at the prefrontal and cerebellar (axial) area at the same time.

THE ROLE OF CE IN THE DEVELOPMENTAL THERAPY OF RISK TERM AND PRETERM NEWBORN BABIES

by BEKE Anna – FEHÉRNÉ Márta***

1st Department of Obstetrics and Gynaecology,
Semmelweis University, Budapest, HUNGARY*

International Pető Institute, Budapest, HUNGARY**

Aims

Conductive education is basically such a developmental method which helps the disabled, by supporting their whole personality. The authors work in a team of the largest Department of Obstetrics and Gynaecology in Hungary. They deal with follow-up studies of pre-term and sick term newborn babies born and treated in Neonatal Intensive Care Unit. The goal of the presentation is to show the role of conductive education and therapy in the habilitation and rehabilitation of the movement disorders in infants.

Materials and methods

Patients of screening are 700-800 newborn babies yearly. The most important reasons to conductive education are: different forms of infantile cerebral palsy, hydrocephalus, different congenital anomalies and neurological disorders with movement disabilities, developmental delay. The protocol of follow-up studies was introduced twenty five years ago. The authors examined patients born in different years (1979, 1989, 1999) suffering in cerebral palsy: the neonatal factors, early and late outcome were compared. They found increasing survival rate of extremely low birth weight newborn babies. The authors compared the methods and effects of conductive therapy in the last fifteen years. In the second part of the study, comparative follow-up studies of extremely low birth weight (<1000 grams) infants born in three

time periods (Group I: 1990-1994, Group II: 1995-1999, Group III: 2000-2004) was made.

Results

Neurosensory impairments were present in almost the same percent in the three groups: severe intraventricular haemorrhage, periventricular white matter lesion, but the outcome -cerebral palsy-decreased significantly from 13,4% to 8,5%.

Conclusion

In the high risk population investigated, the early outcome is influenced by biological factors such as immaturity and early neurological and sensory injuries. At the late outcome, therapeutical and maternal factors are also considerable. The authors found the best results with the consequent conductive education, added sometimes with other, complemented methods.

CONDUCTIVE FACILITATION: THE INTENTION VERSUS THE TASK

by BROWN Melanie

The National Institute of Conductive Education, Birmingham, UK

Conductive facilitation is not only used in differing forms but also has a unique aim of changing intention rather than teaching function. However in many cases facilitation is used for completion of the task and little regard is taken of how this will and can change intention.

When we learn we follow a cycle from intention to action; intention is then changed according to the feedback from the action. Whilst feedback may be external it is also an internal process used in self-learning and self directed activity. The aim of CE is to create an orthofunctional personality; a person who is able to problem solve and more importantly able to continue learning through life. In order to achieve this, the person needs to learn how to change intention rather than action.

Implications for facilitation

Whilst there are many forms of facilitation this presentation will focus on the use of physiological facilitation and how this may be used to change intention. The conductive task will have the aim of creating new structures for controlling movement. This can only happen if intention = action. For the children and adults with motor disorders the intention does not produce the correct physiological response resulting in dysfunctional action. Equally, when facilitating the task the focus frequently becomes the task. In this instance the child or adult is then learning to function and perform rather than to learn. This prevents the application of learning into different situations and the child or adult is unable to apply learning into other areas of life.

By ensuring that facilitation is focussed on intention the true aim of CE can be realised. This presentation will discuss how this can be achieved and the implications of this in relation to methods of facilitation.

“THE MOTOR BRAIN - DEVELOPMENT OF MOTOR SKILLS IN CHILDREN WITH CP”

by FORSSBERG Hans

Stockholm Brain Institute / Karolinska Institute,
Stockholm, SWEDEN

Cerebral palsy (CP) is an umbrella diagnosis for various types of motor disorders emerging after disturbances of the brain during early life. From a motor control perspective CP can be characterized as a motor disorder constituted by various types of motor dysfunctions.

A subject with CP may have his/her unique individual blend of these motor dysfunctions. Basically, the motor dysfunctions of CP can be divided into two categories; “positive and negative”. John Hughling Jackson was the first to recognize that lesions of the CNS in adults result in both negative and positive motor signs. The positive signs are abnormal phenomena due to absent inhibition from cortical circuits and are often predominant in the clinical examination and included in most textbook chapters on CP. In CP these positive signs include spasticity and secondary musculoskeletal malformations, dyskinesis, hyperreflexia, and retained developmental reactions. In contrast, the negative signs reflect the loss, or absent development, of proper sensorimotor control mechanisms resulting in poor coordination of the movements (impaired motor programmes). Indeed, recent research has shown that a failure to develop proper sensorimotor mechanisms of various movement behaviours may be more deleterious for the motor function than spasticity and other positive signs.

In my lecture I will present the motor control perspective on CP and in particular focus on the central dyscoordination during hand motor control and object manipulation and on the sensorimotor mechanisms that are

disturbed. Evidence will be shown that the basic motor programmes, which provide gasp stability (by coupling the grip force and the lift force), never develop properly in CP. Likewise, studies will be presented that show that the mechanisms involved in the anticipatory programming of the actual force level based on sensorimotor memory representation achieved during previous experience fail to develop. By means of functional brain imaging studies in adults it has been possible to identify the bilateral cortical parietal – frontal - cerebellar network that is involved in the neural control of manipulation.

There are several reasons for applying a motor control perspective. A functional approach attempts to understand the neural deficits underlying the movement disorder, thereby offering a good base for the planning of individually tailored therapy. The finding that impaired programming of the movements in children with CP is detrimental for their motor functioning suggests that treatment, aiming at developing functional motor programmes, should be developed. That means including motor learning and motor training in the therapy of children with CP. The lecture will conclude with ongoing functional brain imaging research on motor learning and brain plasticity.

CPUP - SWEDISH NATIONAL HEALTH CARE QUALITY PROGRAMME FOR PREVENTION OF HIP DISLOCATION AND SEVERE CONTRACTURES IN CEREBRAL PALSY

by GUNNAR Hägglund
Department of Orthopaedics, Lund University Hospital, SWEDEN

Introduction

Children with cerebral palsy (CP) often have an increased muscle tone, muscle weakness and muscle imbalance. This gives them an increased risk for developing muscle contracture, hip dislocation and scoliosis. Hip dislocation in CP results in significant morbidity in terms of pain, contractures, and sitting, standing or walking problems, fractures, skin ulceration and problems with perineal care, pelvic obliquity and scoliosis.

Already fifty years ago the first report indicating that hip dislocation in CP is preventable was published. Based on this knowledge, in 1994 a cerebral palsy register and a health care programme for children with CP, CPUP, was initiated in southern Sweden. All children with CP born in the area since 1992 were included. The main goals are to prevent hip dislocation and severe contractures. Other aims of the programme are to describe the course of functioning and development in CP, evaluate treatment methods and increase cooperation between health care professionals.

CPUP – the CP follow-up programme

The health care programme includes a continuing standardised follow-up of each child with a recording form. The child's local physiotherapist and occupational therapist fill in the form twice a year until six years of age, then once a year. The recording form includes: the CP-subtype, the gross motor function (GMFCS[5]), the fine motor function (MACS[4]), measurements of passive range of motion, clinical findings, use of orthosies and treatment are

recorded. The results are computerised, and the local team receives a report showing the child's development over time. The programme also includes a standardised radiographic follow-up of the children's hips and spine. Since January 2007 all reports are administrated by Internet.

The information collected from the different reports and from the radiographic examinations gives a detailed picture of the child's development over time. With this information it is possible to early identify deterioration in gross or fine motor function, range of motion, degree of hip displacement or scoliosis et cetera. This is the prerequisite for early intervention to prevent the development of severe contracture, hip dislocation and severe scoliosis.

During the last years the participation in CPUP has been spread in Scandinavia. This year all counties in Sweden are connected. In Norway two counties, corresponding to half the population follows the programme. In Denmark there are plans introducing CPUP this year.

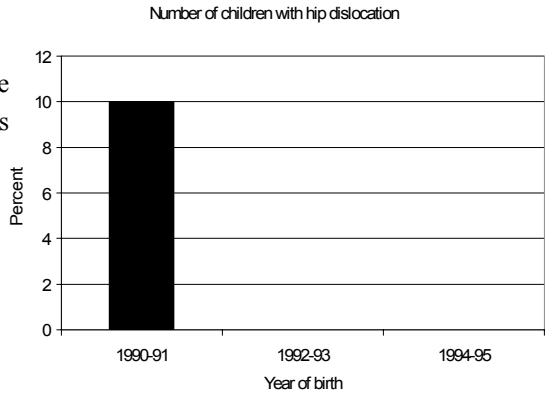
CPUP is since 2005 appointed by The National Board of Health and Welfare as a National health care quality register in Sweden.

Results

In Southern Sweden (the counties Skåne and Blekinge) the children born 1992 and later (included in CPUP) are compared with children born 1990-91 (representing the time before CPUP).

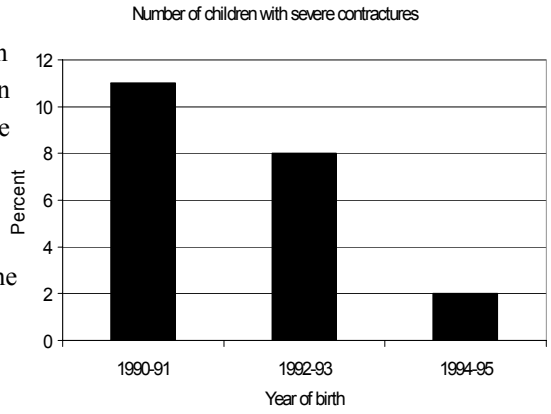
Hip dislocation

No child following the prevention program has developed hip dislocation. Before CPUP, 10% of the children developed hip dislocation[1].



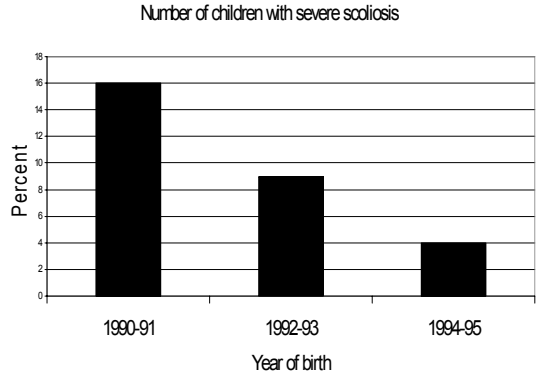
Contractures

The number of children with contracture has been reduced with 70% [2]. The number of children with windswept deformity has been reduced, as well as the severity of the deformity[3].



Scoliosis

The number of children with severe scoliosis has been reduced with 60%.



Discussion

Children with CP initially have no skeletal, joint or muscle disease. The development of hip dislocation and severe contractures should be regarded as a complication to the cerebral palsy, and should be prevented.

For early detection and treatment in a population, a cerebral palsy register and standardised follow-up programme is needed. The main challenge to run this follow-up programme is to early identify all children with CP in the population. The follow-up programme has been developed in collaboration with all local team members (neuro-paediatricians, physiotherapists, occupa-

tional therapists, orthotists) in the area and all interventions have the support of both the local team and the orthopaedic or hand surgeon.

It is of highest importance that the child with CP is involved in an organisation with routines and capacity for early treatment, and with competence to offer the best method of treatment. The many treatment options available make it very important that there is a good cooperation between all specialists. CPUP is the base for this cooperation.

Conclusion

With a cerebral palsy register, with identification of all children with CP in the population, and with a screening programme it seems possible to prevent or reduce the development of severe contractures, scoliosis and hip dislocation in children with cerebral palsy. Further information www.cpup.se

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PARADIGM OF FACILITATION

by HORVÁTH Júlia

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Studying the theory of the conductive education system (CES) we have found that many terms, which often occur in our 'vocabulary' and carry a specific meaning, have by now been transformed and re-interpreted (e.g. group, individual development). A number of principles, however, seen as the "golden rules" of conductive education (CE) have been preserved (Kozma, 2004).

One of these is the rendering of assistance, the concept of facilitation. Although the practice attached to the idea has been modified and reshaped during the past decade, in the International Pető Institute there has been no significant change in the related quantitative and qualitative criteria.

In physiology, facilitation means that the particular stimuli favourably impact i.e. enhance the effect of each other (Hári, 1971). The possible explanation for this phenomenon may be the spatial or temporal summation of stimulation processes. The significance of employing facilitation was recognised by Karl and Berta Bobath and also by Ester Cotton.

CE uses facilitation in a broader and much more differentiated sense, both in the practice and in the technical literature. In CE the term has a pedagogical rather than physiological meaning (Hári, Horváth, Kozma, Kőkúti, 1990; and Balogh, Kozma, 2003).

In the CES, facilitation includes all factors of the education process which promote orthomotoric solutions and the development of an orthofunctioning personality. This definition may seem quite loose but it may and must be narrowed.

Parallel with the dissemination of CE and the CES, concerning the interpretation and implementation of facilitation mutants started to emerge and individual adaptations appeared, often missing the original objective and sense.

Observations of age and symptom specific facilitation systems (Varga Kiss et al, 2005) and related analyses have revealed that further intra- and inter-disciplinary research is necessary to answer a series of questions.

Such issues are e.g.:

1. Is it possible to separate age specific and symptom specific facilitations and in their context specify ‘there and only there’ and ‘then and only then’?
2. What kind of individual somatosensory stimuli and situations could be employed to make the algorithmic implementation and the earliest possible elimination of facilitations possible?
3. Are we able to set up obligations and limitations for the group or just for the individual?

The not-hidden goal of the lecture is to generate a debate among professionals in order to develop an interpretation, according to identical criteria, of the common ‘glossary’ or ‘vocabulary’ in collaboration with the related professions. A few basic definitions will be given and rather perspectives and extremes presented.

This is already an essential element for mutual understanding and for making CE teachable. Evidence based observations and measurements, gradually becoming obligatory in CE also, and multinational (multi-central) cooperation will only be successful if a common language and identical interpretations are applied both in terms of adherence to the principles and pursuance of practice (facilitation) as appropriate for the principles.

Same as conductive education as a whole had to pursue a long way to find its identity, we need to establish the role and position of facilitation with a rather analytical research, to be extended to international level, which has been elaborated and will be set forth in detail by our colleagues.

MOVE & WALK – THE TRIPLE GOAL - SYSTEM

by HORVÁTH TÓTHNÉ Eszter
Move & Walk AB, Göteborg, SWEDEN

Move & Walk was established 10 years ago as conductive educational centre in Sweden.

As the data shows there are no differences between Sweden and the rest of Europe in respect of figures. World famous epidemiological research was done in Sweden since many decades (Bengt and Gudrun Hagberg, Uvebrandt and co-workers).

Two children in a 1000 are born with CP. There are approximately 4300 children with CP altogether under the age of 19. Unfortunately, there is no concrete number available of how many adults have CP in Sweden but it is definitely more than 4000 people.

CP is the most common motor-disability for children and youth. 40% of the motor-disabled below the 15 years of age is the diagnosed with CP.

30% of the CP children and youth with CP have cognitive, 50% has speech/language/communication difficulties. 25% has epilepsy and more than 50% has some kind of visual impairments. The rate between girls and boys is 10 to 13. (Hjälpmedelinstitutet)

The Move & Walk Organisation and its co-workers have the possibility to see 1255 members of this CP population, those with the need of special education. More than two third of the introduced children and adolescents were younger than 18 years of age.

1083/1255 of them have the finalised diagnosis of a CP form:

- 125 persons with *Hemiplegia,*
- 288 persons with *Diplegia,*
- 410 persons with *Tetraparesis,*

- 180 persons with *Athetosis,*
- 67 persons with *Ataxia,*

172 attendants have other diagnosis than CP (e.g. autism, Wolf-Hirscholm syndrome, stroke, etc.)

During the 10 years of our work we could offer 3231 conductive educational month (an item is a 4-week- training – period). The corner stones of the decade of CE can be characterising as follow:

- 1997, inclusion to the existing healthcare system.
- Introduction of the interval conductive educational system (1-2 times a year).
- Parents, family (social system – personal assistants) participation in the training.
- To coordinate and optimalise of the everyday presence of the three level interest of the participants (children, parents and helpers as conductors as well) – with their different emotional, professional goals.

Goals of participant

- Parents' goal. My child is happy, learning something, developing, integrating into the society etc.
- To understand children's goal we have to know the psychological, cognitive, physical, and social development in a holistic approach. We have to know that children's goal depends on their somatic age, their mental/cognitive age, motivation, intention (neurological development). By knowing the steps of developing the consciousness of task we have to be aware of the fact that playing is children's goal before the consciousness of task has developed.
- The goal of the conductor in the concept of conductive education with the operative observation, through the complex program, group, facilitation, rhythmical intention is to conduct the children towards development.

Conclusion

As a result of having so many training periods, diagnoses, families with their special situations we came to the conclusion that the only way to reach the goal of the conductor, with other words the children's complex education is

through the children's goal. In the practise of conductive education at Move & Walk some basic miles stones have changed:

- Through another type of intention in those groups where the mental age of children has not developed to the level of consciousness of task yet, intention comes through time, rhythm; verbal series in our way, every movement/exercise has a song connected with its special music, easily understandable text. These songs come in use together with the movement through the whole day/complex program but in different positions. In this case the songs function as a recall for an "AHA" feeling for the children and make the reproduction easier.
- Through building another type of complex program the exercises/movements have been replaced with appropriate playing according to the children's cognitive ability.

CRUCIAL THOUGHTS AND TERMS IN CONDUCTIVE EDUCATION (CE)

by KOZMA Ildikó

The President of the International András Pető Association,
Professor of CE, Budapest, HUNGARY

This paper aims to clarify crucial terms used in CE world by professionals working with exceptional children and by non CE professionals around them. A literature scan of how crucial terms are used in publications was scanned and a series of meetings for consultation with knowledgeable people across the CE settings was carried out also. Terms such as " rhythmical intention", "complex program", aims and certain forms of "facilitation", "CE groups", "integration", "orthofunction" and other important terms used in connection with CE.

Confusion or at least distortion about what such terms originally means is increasing, how and why they may be similarly and/or differently used was not discussed yet.

Question of the candidates of CE worldwide is on the table of this century too. More than 1000 out of less than 1500 diploma of conductors and conductor teachers were discharged in the last two decades, less than 500 for conductors and more than 1000 for conductor-teachers, this means, that we should pay attention to the case of the training. It is the time for stronger and wider consensus in a few, basic, training related questions also.

While Conductive Education is developing, still looking for its identity. This type of mixing up its fundamental thoughts is not helping to save its integrity.

DO WE HAVE TO SACRIFICE FUNCTIONAL ACTIVATION WHEN WE GO TO INCLUSIVE EDUCATION?

by LEBEER Joseph

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According to UNESCO (2002), inclusive education is "a system of education in which all the pupils with special educational needs are enrolled in ordinary classes in their district schools, and are provided with support services and an education based on their forces and needs. Inclusive schools are based on the basic principle that all schoolchildren in a given community should learn together, so far as is practicable, regardless of their handicaps or difficulties". Inclusive education has become a world-wide movement grounded in a human rights discourse, promoted by United Nations declarations, parents' organizations and official policy by many governments. It fits into the modern WHO social definition of disability, whereby functioning and degree of disability are seen as a function of the degree of participation in mainstream society, including school education. Inclusive education claims to be better for general cognitive development, academic skills achievement and development of social skills. There are widespread differences in understanding and in practices of inclusive education throughout Europe. While some countries like Italy and Norway have implemented total inclusive education for every child, others like Sweden and the UK promote it but leave a choice, in many countries it is still in an embryonic phase, meeting opposition from teachers in special as well as mainstream education, parents' pressure groups, financial and legal obstacles. Even for those who are, there are many practical and theoretical difficulties: do we limit inclusive education objectives to shared social activities or do we make efforts to make curricula more accessible? Is a class with special needs children within a

mainstream school a step towards inclusive education, or is it a barrier? What are the conditions to organize good inclusive education? Are special schools still needed or can one do without?

For children with cerebral palsy, particularly those with moderate to severe degrees and with multiple disabilities, inclusive education represents quite a challenge. There is a genuine concern that total inclusion will be at the expense of development of functional improvement and autonomy, of academic skills learning and of social relationships and well-being. However, this does not need to be necessarily so. In fact, this has less to do with the place where a child is educated than with the vision and methodology of the education and rehabilitation team. The risk is very real however, when inclusive education is not well understood, not well organized or accompanied. Analysis of "examples of good practice" - which will be illustrated in this presentation - shows that a synthesis can be found between the need to develop functional communication, mobility, cognition and academic learning and the need to participate and develop social feeling of belonging. This requires a new orientation of mainstream and special needs teachers, therapists, assessment psychologists, parents and medical consultants. Static tests of intelligence which used to be a main criterion whether to mainstream or not, will not be of use anymore, because they assume that educational achievement is mainly determined by the child's intelligence, supposedly a constant child's characteristic. However, the success of inclusive education does not depend on the child's characteristics, but is a function of the child's ecology: curriculum adaptation, teacher's and peers attitudes, therapeutic and educational support team, parents etc (Lebeer, 2003). Also, social construction theories of intelligence as well as evidence of environmental brain plasticity see a child's cognitive functioning as dynamically contingent upon environmental input, particularly on the mediation to the child of the world around (Lebeer & Rijke, 2003). Therefore dynamic and functional forms of assessment of learning potential are more suitable to plan educational intervention.

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ONE MORE TIME!

(PARENTS AND HABILITATION TEAMS' CONCEPTIONS OF CONDUCTIVE EDUCATION AND SUPPORT TO CHILDREN WITH MOTOR DISABILITIES)

by LIND Lena

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The aim of this study has been to increase the knowledge about support to children with CP injuries and to find out what they and their families need, expect, desire and can hope to receive. The aim was also to describe conductive education and investigate what ideas and experiences children, parents and habilitation staff have of it. The studies were carried out via observations, interviews and questionnaires.

The habilitation staff members see conductive education as merely intensive movement training. The parents taking part in courses at Move & Walk see in addition, that the education includes all of the child's functions and they can get support from the conductor at the same time, they are playing and training with their child. They do not have to turn too many different various professionals. They see that their child and other children make progress in different areas, including communication, cognition and social skills.

The habilitation staffs feel that the strength of the team lies in being able to see things from different points of view and thus can utilize the different bases of knowledge, with and competence of the various professional groups. One physiotherapist means that they leave the "different pieces" to the professional groups which is most knowledgeable in the function in question, but that all the "pieces are needed, but at different points of time". Some of the team members say that they understand that there can become too many people and efforts involved for the children and parents to be able to cope. The team members are of the opinion that the teams are highly knowledgeable, but with few possibilities for each and everyone to work to the extent and the manner that they would like to. One of the physiotherapist pointed out that the organisation is based on the fact that they are consultants and not ones to apply treatment. Psychologists and pedagogues point out that they are

dependent on whether or not they are let in by the parents and other members of the team. On the whole, the team members are of the opinion that disabled children are the field of the physiotherapist and often refer to their knowledge and opinion. When parents to children with CP injuries asking for support, they almost always first ask for help from a physiotherapist.

It is compelling to see how unanimous Swedish habilitation staff and conductors are in their opinions of what support they feel children and parents need. They see play as fundamental instrument in making children active. The habilitation stuff and conductors have the same view that training in a playful way always provides results in the long run. The Swedish physiotherapists are of the opinion that conductors set high goals for the children, which leads to them seeming more moderate in their expectations concerning the child's development. Conductors mean that a positive expectation is necessary. Low expectations lead to a different and sometimes more passive way to educate the child who in turn affects the motivation, both of the child, parents and the teacher.

The comprehensive view within conductive education is aimed at one person having a comprehensive view of all the child's functions, a team instead having this comprehensive perspective together. Perhaps parents, when attending courses in conductive education, experience that they themselves acquire a comprehensive view of what their child and they, themselves, need at present and in the future.

BRIDGES

by MAKÓI Zita

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and College for Conductor Training, Budapest, HUNGARY

During the process of becoming a conductor, first the mind is engaged. With experience, hopefully the heart is involved as well. For most who have taken it up, it has provided a lifetime of involvement.

1. Bridge to the birth of the method.
2. Bridge to the recent scientific results.
3. Bridge to the recent professional needs.
4. Bridge to the need of society.
5. Bridge to the need of conductors.

Bridge to the birth of the method

- the diagnoses for which the Pető method can be useful,
- basic elements of the system or method,
- basic equipments of the method,
- basic human resource need of the method,
- special vocabulary.

Bridge to the recent scientific results

The quality of experience before term may alter not only the brain function but also brain structure (NIDCAP).

Cerebral initiation of a spontaneous, freely voluntary act can begin unconsciously, that is, before there is any (at least recallable) subjective awareness that a „decision" to act has already been initiated cerebrally. This introduces certain constraints on the potentiality for conscious initiation and control of voluntary acts. Experience shapes human brain development and function: stimulating environments lead to enhanced brain growth, learning and intelligence. (Human developmental plasticity.) Importance of „evidence-

based" practice, outcome determination in children with developmental disabilities.

Bridge to the recent professional needs

- our service should answer to recent needs of the society,
- our clients -- the children and adults -- are the focus (paradigm shift),
- market standing, profitability,
- cost efficiency,
- to prove the efficiency of the method (evidence-based scientific method),
- carry on scientific research, international scientific research about certain elements of the Pető method which have not yet been studied,
- active participation in scientific for of other professions, e.g.: perinatology, early intervention, rehabilitation, occupational therapy, education for children with special needs, etc.,
- more publications about the results of conductive education in international journals,
- application of a quality assurance system in conductive education and teaching, (gap between the written policy and everyday practice)
- dialogue about the application of Pető method in different culture,
- develop the outline of the standard of conductive education (architecture, equipment, HR standards, cooperation with different specialties, professional standard of conductive education, competency),
  - which can provide legal and professional protection of Pető system,
  - which can provide an opportunity to include the results of recent scientific discoveries,
  - which can provide a platform lifelong learning for the conductors and other specialists,
  - which can promote cooperation between conductors inside the country and internationally,
  - which can promote cooperation with other specialists.

Bridge to the needs of the society

- fulfil the need for information for families,
- providing proper service,
- family centred approach,
- communication with parents,
- emotion management,
- handle the dynamics of emotions between the client and the conductor, between the family and the conductor, between the family members and the child or the client,
- support the set up of a sustainable life strategy for the children,
- promote the adjustment of children to the „external" world, to the community outside of Pető,
- support the organization of routine daily of medical care, e.g.: appointments with the ophthalmologist, orthopaedic surgeon, urologist, dietician, etc.,
- provide access to accurate legal information about children with special needs instead of relying on a belief system,
- promote the development of family support groups.

Bridge to the needs of conductors

Our changed world;

- need to develop new emotional and mental attitudes,
- enhance the process of personal development,
- find the solution instead of blaming the external world or someone else, discover the choices instead of insisting on one's own opinion, accept different beliefs, thoughts, hypotheses,
- take responsibility for one's own physical, emotional, and mental wellbeing lifelong learning,
- balance giving and getting during our every day work,
- role of informal communication, like gossip, someone's own perception,
- role of positive thinking,

- development of business mentality,
- development of written culture,
- changed concept of management and directing.

CHOICE OF UPPER SECONDARY SCHOOL FOR PUPILS WITH SEVERE MOTOR DISABILITIES - RESULTS FROM A RESEARCH REVIEW

by MALMQVIST Johan

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Jönköping, SWEDEN

Decreasing numbers of pupils with severe motor disabilities have attended adapted education in national schools for pupils with motor disabilities since 2000. A narrative research review has been done to examine factors important for this group of pupils when they choose upper secondary school they wish to attend. 35 research studies dealing with this or a closely related issue were found.

The factors, mainly derived from interview studies with pupils with severe motor disabilities, have been related to changes in several back ground factors of importance for providing various options for educating this group of pupils. Examples of changes in back ground factors are technical improvements, changes in handicap politic, altered accessibility of habilitation services etc.

Habilitation during school days was emphasized as a main reason for establishing the national schools with adapted education for pupils with severe motor disabilities. The results, however, show a great variation of motives among the heterogeneous group of pupils when they choose education at secondary school level. Habilitation is, according to the reviewed studies, a seldom mentioned motive for the pupils when they choose studies in upper secondary schools.

TO BE YOUNG WITH PHYSICAL DIASABILITIES: THE SITUATION FOR THE CHILD AND IT´S FAMILY IN SWEDEN

by MBUYAMBA Agnetha

Chairman of the board of The National Association
for Disabled Children and Adolescents, SWEDEN

The National Association for Disabled Children and Adolescents (RBU) is a Swedish organisation that works towards a vision of a fair society and a life of development for children and adolescents with a disability. RBU has 40 associations and over 13,000 members all over Sweden. RBU brings families together that have adolescent and young children with various disabilities such as cerebral palsy (CP), ADHD, Spinal Dysraphism/hydrocephalus, brittle bone disease (OI), muscle diseases, Prader Willi-syndrome, dwarfism, plexus brachialis and multiple disabilities.

RBU members receive companionship, support and advice, information, the magazine called "Rörelse" (Movement), as well as discounts to conferences and activities in the association for the entire family.

An important element of the association's activities is to monitor the legislation that affects our members in different ways. Support from society is of decisive importance for many children and adolescents with a disability in terms of being able to live a positive life. Support from society is also very important for their families, and we believe it is important that this support is neither worsened nor stopped.

One of the most significant events in Swedish disability policy occurred at the end of the 1980s, when an extensive inquiry committee was appointed. The committee was tasked with reviewing the support provided by society to individuals with disabilities. Among other things, it became clear that indi-

viduals with disabilities had received a very small share of Sweden's prosperity development. It also became clear from the inquiry that families with disabled children often experience difficult living conditions. For example, it emerged that every other family with a disabled child almost never sleeps an entire night. A number of shortcomings in society's efforts related to disabled individuals also became clear during the course of the inquiry. It was decided, therefore, that efforts related to creating more reasonable living conditions for this group must be enriched and intensified.

The inquiry resulted in a proposal for a new law. In everyday language, the act is called the disability act. Sweden took an important step towards improving living conditions for disabled individuals with the act. The aim of the act is to prevent and reduce the effects of disabilities. The act should not only help disabled individuals achieve an acceptable living situation. These individuals are assured positive living conditions. The basis of the act is that disabled individuals must be able to a live like other people. However, not everyone can be granted the assistance provided by the act. Only individuals who have disabilities of a certain scope and severity are comprised.

Ten different types of assistance are regulated by the act. Several of them are very important for disabled children and adolescents. Assistance entails for, example, the possibility of going to camps with other children of the same age, being able to take part in free time activities and having a housing situation that is adapted to the needs of the child. The various types of assistance are naturally very important for the entire family's situation.

One of the most significant types of assistance provided by the act is personal assistance. Personal assistance means that a disabled individual has the right to have a limited number of people who help tend to the needs that she/he has as a result of the disability and which she/he is unable meet alone. A personal assistant might, for example, help the individual get dressed or cook, but it might also be an issue of enabling play and spending time with other children. This type of assistance has helped disabled individuals gain much more influence over their own lives. Personal assistants have helped disabled children and adolescents create the conditions necessary to develop into independent individuals.

Parents of disabled children are entitled to Governmental financial aid. The aim of financial aid is to compensate parents so that children can be taken care of at home by their parents. Financial aid is given in part to compensate parents for the nursing care they provide and in part to compensate the additional costs that arise as a result of the child's disability. Examples of additional costs are more expensive food and housing. The financial aid can be said to reflect what in Sweden an important principle is: that the Government must compensate the additional work and expenses that are associated with a disability.

Parents lose their right to receive financial aid when the child becomes a young adult. If the disability prevents the individual from working, she/he can receive financial aid to pay for living expenses. The aid is paid as long as the person is unable to work, and it is often the only income that many people with severe disabilities have until retirement.

In addition to the social support I just described, there are several other types of assistance. For example, a disabled child can receive free taxi travel. Parents are also given the opportunity receive financial aid to purchase and adapt a vehicle. Sweden also has a general law to ensure that no one ends up in a situation that is socially or financially unacceptable; the law also applies to individuals with a disability.

There are thus several different laws in Sweden that regulate support to disabled individuals. Many of the laws have a very good aim, but fall short in application. The disability act in particular is not applied in the manner in which it was intended, with the result that it does not live up to its aims. Decisions that are made according to the act can be appealed in a court of law, but the appeal process can be much too burdensome for parents of disabled children. The intention has never been for individuals to have to fight to receive rights that are prescribed to them by law, and we believe it is important that efforts are made to improve the way in which the laws are applied.

Another important issue for my organisation, RBU, is accessibility. An accessible society means that disabled individuals are able to partake in social life in the same manner as other people. Sweden currently has a plan of action for its handicap policy. One of the most important elements of the plan is to improve accessibility in society. The objective is by 2010 for Swe-

den in principle to be completely accessible. This applies to disabled children as well.

It is, of course, very important that children are also taken into account in efforts related to accessibility. It is a well known fact that disabled children often experience a feeling of not belonging from a very early age. I have experienced first hand what this means to a child who feels left out as a result of deficient accessibility.

A little boy in a wheelchair and I were on our way to a playground a few years ago. On the way there, the little boy was filled with the kind of joy that only a child can experience. Full of enthusiasm, he described everything he was going to do at the playground. When we reached the playground, however, his wheelchair prevented him from entering the playground, much less playing there. The little boy's joy disappeared. He looked at me, and with a dejected voice he said: "I want to go home now. I didn't really want to play."

RBU has initiated a campaign for playgrounds in the country to become more accessible so that children will not have to experience situations such as the one I just described. The campaign has been successful, and we know that construction has begun on several accessible playgrounds. At the same time, old playgrounds are being renovated to make them accessible to everyone.

In conclusion, I would like to mention RBU's work with the UN Convention on the Rights of the Child. We want disabled children first and foremost to be children. We actively work for the principles of the Convention to be taken into account for all decisions that concern children. We want what is best for children to be taken into consideration first, and we want children always to be given the opportunity to be heard. Disabled children have the same needs and desires as other children. Sitting in a wheelchair does not mean the desire to swing disappears, and being short does not mean that one does not long for friends. For this reason, we believe in the importance of realising the principles stipulated by the Convention on the Rights of the Child.

Finally, RBU works towards a vision of a fair society and a life of development for children and adolescents with a disability.

THE TOPICALITY OF CONDUCTIVE EDUCATION

by MEDVECZKY Erika

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The topicality of conductive education (CE) is based on three main elements: the plasticity of the brain, the dynamic conductive learning process, and the connection between personal/environmental factors and output/outcome.

1. There is a „boundless" capacity in the central nervous system (CNS) by learning-methods, like CE is. The functional principles of learning-based CE by *plasticity*: the development of CNS, perception, stability of synaptic connections and networks, association, facilitation and reverberation.
2. The *dynamic conductive learning process* depends on the onset of investigation in childhood at the ideal „given" time („How early is too late?").
3. The prognostic factors characterised the *outcome*, as the level of activation (enough amount context of stimuli), pedagogical/educational environment, memory practicing, and cognitive mapping/storing in hyppocampus, practicing/repetition/training.
4. The reorganisation of the adult's central nervous system is a compensative process. There is an „opened genetic model" by cortical mapping, reorganisation and reactive synaptogenesis.
5. Life long learning gives the chance for life long adaptivity.
6. The conductive groups at any age support the social cognition by conductive multisided environmental effects.

Determination of output of CE

It makes possible by assessing the severity of neurological damage together with details of functional capacity. Prognostic factors of the rehabilitation of the CNS are self care in the area of daily activities (ADL), cerebral impair-

ments, psychic aftermath, decrease of cognitive functions, change in personality, disturbance of emotional life, which may limit the favourable prognosis of neuro-rehabilitation and CE. The patient's personality and his/her environment have a primary impact on prognosis, with regard to their effect on the extent of the limitation of activities. It is important to define the long-term characteristics of prognosis, the limitation of the individual's daily activities and social participation.

The outcome of motor dysfunction (disability) is an interaction between the individual with a change in health condition and the environment. But never forget personal factors as age, gender, and ethnic group, other health condition, education, upbringing, habits, social background, life experience, coping styles and character. ADL and participation are the most important prognostic factors in CE. The capacity of the patents are the „internal talent", witch is related to the execution of a task action. Independent of environment: measuring possible in usual (standard) environment is compared against the capacity of a person without a similar (pathological) health condition.

Summary of tasks for the near future:

- Prognostic factors can be put to practical use.
- Time-consuming, appropriate use takes practice.
- International cooperation going on to develop condition specific core sets.
- Algorithm may support the use of qualifiers.
- Utilisation may promote a deeper knowledge of impairments and dysfunctions.
- May serve as a basis for statistics on disability.

Abbreviations: conductive education CE, central nervous system CNS, nervous system NS, activity of daily living ADL

PARTICIPATION, ANTICIPATION, EMANCIPATION?

by SCHENKER Rony

Tsad Kadima, the Association for the Advancement
of Conductive Education in Israel, Jerusalem, ISRAEL

Introduction

In the last four decades, emphasis has been placed on mainstreaming children with special needs into regular school settings. Participation in school can be viewed as the essential condition for learning to occur, making it a significant variable to be measured. Do mainstreamed students with cerebral palsy (cp) really participate in the inclusive school environment?

Aims

1. To compare participation, activity performance, assistance and adaptations and social function between mainstreamed students with cerebral palsy and typical classmates in elementary school settings.
2. To explore the relationships between participation, activity performance, tasks supports and social function among mainstreamed students with cerebral palsy in elementary school.

Subjects

Participants were convenience sample of 248 elementary school students (mean age 9.7 years) within three study groups:

(a) 100 students with cp, fully included within regular schools,

(b) 48 students with cp in self contained classes within inclusive schools,

(c) 100 typical peers matched by class and gender to the fully included group.

Materials

A quantitative study was performed, using group comparison design with correlation analyses of intra-group variables.

All participants were assessed using the School Function Assessment (SFA), The Children Sense of Coherence (CSOC), Friendship Quality Questionnaire and Loneliness and Social Dissatisfaction Questionnaire.

Results

1. Participation between all groups was significantly different ($p<0.01$).
2. Significant differences ($p<0.0001$) were identified in both physical and cognitive/behavioural activity performance among all three groups.
3. Participation, activity performance and social function correlated in the inclusive groups.
4. Physical activity performance and loneliness were identified as significant predictors for participation in the inclusive groups.

Conclusions

These findings highlight the gap between the concept of inclusion and the practical physical and societal limitations of school to enable full participation of students with physical disabilities. Moreover, the relationship between participation and physical performance of students with cp stress the importance of intervention designed to remove existing barriers within the inclusive environment.

ABSTRACTS

COOPERATION WITHIN THE NORDIC COUNTRIES

by ABONYI János
Nordic Forum for Conductive Education, Älvsjö, SWEDEN

Introduction

This group was formed at the 5th World Congress in Budapest. Today several organizations are cooperating within the Nordic Forum. The Nordic group is an example of how different countries can work together to help to spread Conductive Education and it's thinking, philosophy and at the same time helps each other in different ways.
Questions that we have discussed:

- What is a conductor? A special teacher or a therapist?
- What is CE? Special Education or a method of treatment?
- How can the elements of Conductive Education that are lacking in the Scandinavian educational system be most successfully incorporated?

Aims

Since 2004 we've had three Nordic Conferences. At the last conference (Sept 2006) we decided upon the group's possible short and long time goals.
A few concrete goals that we are going to work with:

- Common webpage for the Forum.
- Joint strategies for future Scandinavian conductor students.
- Having the existing organizations as practice places for the future students in Scandinavia.
- A tighter cooperation between the conductors who are currently working in Scandinavia.

Presentation

The paper will present why we in the Nordic Countries feel that it is necessary to cooperate, and what the group has done. We would also like to provide an international model for co-operation within Conductive Education.

PERSONAL ASSISTANTS AND CONDUCTIVE EDUCATION

by ABONYI János
Joriel School, Älvsjö, SWEDEN

At Joriel School the conductors are not working in a multidisciplinary team in a classical sense i.e. with speech, occupational and physiotherapists.

In Sweden individuals with disabilities (young and old) according to the law have the right to a so called personal assistant. The result of this is that 87% of the pupils at Joriel School have personal assistants, who are NOT employed by the school but at the same time play a vital role for the children/students during their school day.

The personal assistants are most often young people who have just graduated from secondary school. Because of their young age and curiosity for new experiences they do not often stay for a long period of time at the school as personal assistants. The result of this is that during one school year a child can have up to 3-4 new assistants. From a conductor's point of view it means that we constantly have to have information days about CE. We have to update them, support them and in a way challenge them.

I believe there are many conductors worldwide who are facing a similar challenge in their daily work.

In my lecture I am going to talk about how we at Joriel School are trying to face this sometimes very complex challenge. I am going to discuss what the consequences are because the assistants are not employed by the school, what we have done at Joriel School and look at some of the results we have reached.

CONDUCTIVE EDUCATION AT JORIEL SCHOOL

by ABONYI János – CARLSTEDT Ingrid
Joriel School, Älvsjö, SWEDEN

Joriel School is a primary school; with integrated special and training school with classes from preschool to the 9th and 10th grades. The school's profile is Conductive Education. The school follows the Swedish National Curriculum.

The school is working with a holistic approach, which shows through the children's schooldays. The lessons are built upon Conductive Education which goal is to lead the children to learn to know, to understand and use their own bodies in the everyday situations.

The children also take part in P.E. lessons, woodwork, art and music lessons and FMT = Functionally Orientated Music Therapy on top of the basic subjects. We are also laying stress on communication and on the ability for children to be able to reflect, to argue and to express their feelings.

Today we are working with 49 pupils in seven classrooms. The classes have between 6 and 9 children. Often the children have their own individual teaching programmes, many have their own computers and almost all the pupils have a personal assistant.

The children are also divided into eight different Conductive Education groups. Every child takes part in a Conductive Education lesson twice a week. These lessons are guided by qualified conductors. Every fourth week there is a so called practical Conductive Education week. During these weeks the conductors have possibility to visit the classrooms and work as mentors in order to help and to support both the staff and children/students and their personal assistants.

A NEW FORM OF SERVICE IN CONDUCTIVE EDUCATION

by ABONYI Krisztina
Beginning Steps to Independence, San Jose, California, USA

Beginning Steps to Independence (BSTII) is a Conductive Educational Center in the United States (San Jose, California). It is also a vendor for the local regional center (SARC) that registers all the local families who have children with special needs under the age of three years. BSTII has three to four conductor-teachers and two aides who run parallel services.

The services include:

- Center Based Programs: All Day Class for children 4-6 years old, two Mommy and Me Groups for children less than 3 years of age, and After-School Program.
- Home Based Program: A new embodiment of CE, which includes a special collaboration with the local regional centre.

SARC provides free diagnostic services, including an assessment, to determine eligibility for any child less than three years old believed to have a developmental disability. It also offers a choice of suitable services and provides funding for the chosen service. Eligibility requires a special-needs diagnosis, which initially is usually CP. The diagnosis typically changes from enrolment till discharge.

BSTII's program is just one out of several options offered to the families. In the long term, families generally seek a reasonably nearby program. The majority of BSTII's students come from the local area; just a few travel in order to participate in CE for a short period of time.

Collaboration with SARC exists on multiple levels, such as: establishing CE goals, offering an acceptable setting and schedule for the family, and providing a CE program. The child's development is continuously monitored throughout the program, with revisions to the child's and his/her family's

goals every six months. The revisions are implemented by setting up appropriate written goals in cooperation with the student's family and a regional center's caseworker (Individual Family Service Plan). The CE Program is thus continually adapted to the child as needed.

The two options for receiving CE are the Home Based Program (HBP) and the Center Based Program (CBP).

As the latest trend in American special education is to keep the child in her or his natural environment, BSTII receives referrals for the HBP, but not for the CBP. The view of CE on the effectiveness of group versus individual sessions is well known. However, there are cases when the HBP (individual setting) is indicated.

Questions regarding the HBP include:

- What can be taught?
- How can the parents benefit?
- What difficulties arise?

It will be introduced the existing option for transitioning from the HBP to the CBP. Creative facilitative equipment in BSTII's families' homes is shown on photos. A Case Study will be shown on a video presentation.

Conclusion

Conductive Education is a service to the community. In order to function, the service provider (the Conductive Education Center) needs to find ways to meet the local area's requirements without sacrificing the values of Conductive Education. In the case of BSTII, the staff goes to families' homes to maintain service, but the program is not significantly different from that in the Center Based Individual Sessions. However, as soon as the child is ready to leave the home, an effort is made to convince the parents to join the Center Based Program, which has longer and more frequent sessions and which provides superior socialization and support for parents. The BSTII reports on the students' goals and progress presented to SARC and to the parents illustrate the resulting harmonious collaboration.

When a good collaborative relationship is established, and some children are transitioned successfully to the Center Based Program, at parental request, the great benefits of the Center Based Program are proven to SARC and the parents. Because of these successful transitions, BSTII recently started getting referrals straight to the Center Based Program.

CONDUCTORS AND OTHER PROFESSIONALS WORKING AS A MULTIDISCIPLINARY TEAM

by AIRAKSINEN Leena – GÖRANSSON Pia – TIAINEN Riitta
Ruskeasuo School, Helsinki, FINLAND

Introduction

Ruskeasuo School is a state-funded special school in Finland for physically disabled, multi-disabled, and chronically ill students. We have had a great challenge to combine curriculum and habilitation aims during the school day. Our traditional organisation based on leading own professional groups have not fully supported our aims. In 2005 we got our first conductor who started his work in a multi-professional team. Now we have two.

Aims

We have tried a new approach to support our staff working in a multi-professional team. Our definitive aim is to create a harmonious and integrated school day where the children have a possibility to reach their fully potential both in motor and academic skills.

Materials and Methods

The basement of the results have been a motivated, open-minded staff, re-thinking and reconsidering traditional ways of doing things, confidence and trust in each others and passing a lot of information.

Results and conclusions

We have done a lot with setting up clear and functional aims for the children but in the same time we are still on our way to something better. Children's school days have become more whole and integrated. We are still stumbling along with creating an integrated day for staff. Our duties during the school day have changed and nurses and assistants have experienced changes the most because conductors and physiotherapists have come to share their daily work.

MUSCULOSKELETAL FEET PROBLEMS

by ALBERICH RUIZ Mónica – ESTELLÉS SANTAMARIA Elena – WAUQUIER COSTA MªJosé – GUAITA ALBERTA Lucía – CAMPOS ZAPATA Estrella

Valencian Foundation of Neurorehabilitation, Valencia, SPAIN

A 95% of the 200 children observed in this work have musculoskeletal problems. More than half of them suffering other associated disorders. We distinguish these disorders according to their seriousness, as:

- Grade 1 disorder, which don't cause deformities generally. They affect a 40%.
- Grade 2 disorders, which can cause light functional alterations. They affect a 30%.
- Grade 3 and 4 disorders, which refer to the most important orthopaedic deformities, affecting a 25%.

We have also made a classification of the most common musculoskeletal alterations according to the neurological pathology, and the patient's age.

Objectives

Early detection of the alterations and watching the pathologic postures those lead to a short-term muscular and osteoarticular adaptation. Our goal is to put the preventive measures into effect as soon as possible.

- Prevention. The preventive treatments have to be put into effect quickly. Non-pharmacologic measures:
  - Rehabilitation. The preventive treatment of the musculoskeletal alterations involves the reduction of the motive disorders, and the supervision and correction of the postures kept by the child during the day.
  - Orthopaedic preventive measures. The most used in our Centre being AFO special shoes and inside keepers for valgus feet.
  - Orthopaedic chirurgy. (Preventive and palliative).
- Pharmacologic measures.

Methodology

- Clinic history and exhaustive osteoarticular exploration.
- Patients' data compilation.
- Collaboration with orthopaedists and surgeons.
- Classification according to the seriousness of the disease and the child's collaboration to begin the preventive measures.
- Analysis of the contents.

Conclusions

- Orthopaedic deformities lead to a functional alteration that difficult the child to develop his possibilities to the maximum levels.
- The incidence and severity of the musculoskeletal alterations increase with the degree of motive affectation and mental deficiency.
- A good and correct detection and prevention diminish morbidity.

IS CE NECESSARY TO REALIZE THE SWEDISH PRESCHOOL CURRICULUM FOR CHILDREN WITH MOTOR DISABILITIES?

by ARNESSON Fredrik
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Introduction

When we started Stegen in 2000 our goal was to build a preschool based on CE while also exploring the conductive pedagogic system and how it gels with the Swedish preschool context. Through cooperation with Craighalbert centre and various conductors we have now reached the point of running a well functioning pre-school. Studying the curriculum and CE at the same time, one easily sees that they are both rooted in very similar ideas about children and child development. While the curriculum outlines aims, it does not give any specifics on how to reach these aims.

Aims

The lecture will analyse the Swedish preschool curriculum and its compatibility with conductive pedagogic. What is needed to realize the curricular aims for children with motor disorders? Does CE provide ways to work, in order to achieve these aims?

Materials and methods

The analysis is based on:

- The national curriculum and its intents.
- The perspective of the neurologically impaired, implications.
- Experiences and observations from implementing CE in the pre-school.
- Observations of pupils with CP in non CE preschools
- Studies of literature.

Results and conclusions

The Swedish preschool curriculum is written in the form of targets to be aimed at. Its general intent is the development of the whole child. Children with motor disorders, however, are often picked apart into components that are assumed to be untouched by the impairment and therefore within reach of the teachers, and the other parts which become the concern of the habilitation. This leads to grave difficulties in pedagogically addressing the children as whole individuals.

The curriculum stresses that the preschool should challenge and motivate the children to play and be active. Each child should experience the satisfaction that comes with making progress, overcoming obstacles and being an asset to the group. In short, this reads as the very marrow of CE.

I will discuss how the aims of the curriculum interact with the needs of the motor impaired child and how CE provides ways to realize the aims and meet the needs.

POSSIBILITIES OF ADOPTING THE 'PROJECT' METHOD IN PLANNING CONDUCTIVE KINDERGARTEN AND SCHOOL PROGRAMMES

by BABOS Zsuzsa – HORVÁTH Júlia

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Interconnected units and algorithms have always had a part in the conductive education system. This has equally applied to the construction of tasks and the connection of programme parts with each other and with more remote fragments.

Learning and putting to use what has been learned in as many variations as possible are kept in mind already during the composition of tasks. It is not accidental that András Pető, then Hári and her followers identified themselves all along with the method originating from the child-friendly concepts of the end of the 19th century (Dewey) and adopted it when setting up conductive programmes for motor disordered children both at kindergarten and school age.

The term means plan, offer and proposal. It comprises comprehensive tasks focusing on a practical problem. Each aspect of the issue is elaborated by children under teachers' guidance as appropriate for the given age group.

When kindergarten or school education for pupils with motor disorder is concerned, the implementation of the project method needs more analytic disintegration and planning.

The authors introduce the implementation of the project method in two age groups in a kindergarten and a school setting with regard to integrated cultural contents embedded in various forms of activities.

The possibilities of realisation with different age groups in the main phases of project planning i.e. preparation – selection of subject matter – planning of

chosen project – assignment of those in charge – execution (in pairs or individually) – exhibition of products – evaluation are displayed, including the methods of assistance adjusted to the individuals.

THE EXTENSION OF CONDUCTIVE EDUCATION IN GERMANY

by BALÁZS Zsuzsanna – HAUSZKNECHT Magdolna –
and the group leaders from FORTSCHRITT INSTITUTIONS

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Niederpöcking, GERMANY

As a parents' initiative based in Niederpöcking, FortSchritt was the first to set up a kindergarten to provide permanent conductive education in the German-speaking area (in Bavaria). Since 1995 several conductive centres have opened under the auspices of FortSchritt. On the map of Germany, associations are marked by symbols and institutions run by FortSchritt Non-Profit Limited Liability Corporation are highlighted.

Our poster presentation aims to look back on the history of almost 12 years and to display our institutions. The poster includes a percentage distribution by diagnoses to indicate the proportions among the most frequent as well as specific disorders. A statistical summary demonstrates the number of clients with dysfunctions receiving conductive education in our groups between 1995 and 2007.

So far we have managed to establish the Pető method in five cities of Bavaria. Our ambition is to make this comprehensive development available to all age groups in appropriate form. Intensive camps and residential programmes are organised for all age groups both in and outside Germany. Photos provide an insight into the life of our groups.

The development of our institutions, our achievements so far and our future objectives will be depicted by photos and charts. We attach special importance to the progress we have made in terms of integration as regarded appropriate under a conductive perspective.

CITY		SPECIAL AREA
Niederpöcking	⇒	early development, mother and toddler group.
Rosenheim	⇒	permanent kindergarten education.
München	⇒	interval conductive education.
Rohrdorf	⇒	aftercare at school age.
Teising	⇒	conductive education for teenagers and young adults, and adults and mobile special service.

Last but not least, we intend to review the difficulties we have overcome (recognition, financing) and the tasks that are still ahead.

THE ROLE OF CONDUCTIVE EDUCATION IN THE SOUTH AUSTRALIAN PUBLIC EDUCATION

by BALLA DUDÁSNÉ Katalin

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South AUSTRALIA

The acceptance by society and from within a child's wider family can impact on how a family copes with the emotional demands of having a child with a disability. Empathy alone is not sufficient support for the family. Introducing an adequate intervention program that helps the family to see a future for their child will assist them to accept and love their child.

The Department of Education and Children's Services (DECS) in South Australia recognized the needs of families raising children with cerebral palsy and employed two Conductors to work in the public education system. In 2003 a Conductive Education program was established in two school sites.

Recent research has identified that early intervention programs increase the options for young children with a disability and enable increased participation and achievement in the curriculum. Consequently two Conductive Education Early Intervention programs were established at a Primary School site in South Australia.

The presentation will examine the practice of Conductive Education and recent research on contemporary early education. It will also present how the processes for enrolment and assessment were established for Conductive Education in DECS.

Conductive Education programs in South Australia involve partnerships between education department, cross government and private agency staff. The presentation will describe the importance of working collaboratively

with these agencies to ensure that Conductive Education protocols and processes meet the needs of all children and students, families, support personnel and professionals.

ABOUT THE INCREASED MUSCLE TONE AND DIMINISHING OF IT

by BALOGH Erzsébet

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Budapest, HUNGARY

All conductors are able to diminish the contra-productive spasticity in children with cerebral palsy (CP), but only for a very short time. This duration might be very useful for the child getting more self secure – perhaps through the better coordination and the slow growing dynamic somato-motor body image.

The clinical pictures of cerebral palsy will be influenced by the anatomical and/or functional involvement of corticospinal pathway, causing spasticity (one component of the upper motor syndrome) and basal ganglia (causing the often underestimated rigidity). Lesions in the putamen, caudate nucleus, thalamus or globus pallidus with anatomical, biochemical (i.e. functional) conversation of the corticospinal tract induce signs as athetoid or choreic movement, dystonic posture. Lesion of the thalamus can cause one side will cause hemiplegia, both side diplegia and tetraplegia too.

Spasticity is the result of decreased inhibition from multiple upper motor neuron and interneuron inputs and possible increased excitability of the spinal alpha motor neurons. Sensory afferents from muscle (from the muscle spindle) thought to provide the primary input for stretch reflex, have a predominantly excitatory effect on alpha motor neurons.

> *„Spasticity: the fable of neurological demon and the emperor's new therapy."* (Landau, 1974)

> *"Cerebral palsy will produce signs in the central nervous system which we should not expect to be eliminated by any therapy." "But again, are we to expect changes in neurological status following physical therapy? I think not."* (Bax, 1986)

Patient with cerebral palsy do not depend on spasticity for any activities, although the spasticity/rigidity can interfere with movement control. Reduction of spasticity through – in increased number with Botox, selective dorsal rhizotomy or intrathecal Baclofen recently – may impair rather than improve motor function if individuals rely upon their stiffness or hypertonia for support during standing or walking.

The world wide applied highly effective intervention for elimination of the so called excitatory, plus or excess signs of CP (Balogh 2003):

Increased muscle tone:	Hypertonia resistance against passive movement.
Spasticity:	Elastic – „pocket knife" type of hypertonia, velocity dependent
Rigidity:	Plastic – „lead pipe" type of hypertonia, not velocity dependent
Increased reflexes:	Signs of pyramidal immaturity or lesion.
Pathological reflexes:	Persisting archaic reflexes and/or signs of lessoned or not mature pyramidal tract.
Pathological postural reflexes:	Delay, persistence or spastic answer.
Altered posture, asymmetry:	
Involuntary movements or co-contraction:	
Mirror movement:t	Synchron movement both sides, Somatomotor neglect.

The Botox effects at the neuromuscular junction with an irreversible loss of motor endplate. The muscular palsy will maintain until new nerve sprouting.

But the loss of muscle fibres and their regeneration capability might be limited by repeated, multiplex Botox injections (Carr and Brian Neville, 1998). My own concern is: little is known about the long lasting absence of residual central trophical influence to the muscle through the suspended acetylcholine activity with Botox.

SDR minimizes spasticity in the lower extremities according to the percentage of the transected dorsal rootlets by selectively (cutting before entering in spinal cord segments from L1 to S2). No place to summarize all the targeted and early/late side effects of the – anatomically – irreversible intervention. In my own observation (with Benyovszky) two/third of the children had decreased muscle tone with functional gross-motor function improvement, in spite of the weakness in the trunk and lower extremities and later returning spasticity, with later requirement of orthopaedic surgery and disturbance in the bladder and bowel control in a few cases. The cost of the beneficial transitoric effect it is a proprioceptive loss postoperatively, which could be seen by the further presence of disturbance of coordination. Many children with selective rhizotomy produce unexpected rapid loss of muscle tone for seconds in various frequencies. The partly lost permanent proprioceptivity (the diminished sensation of our own and diminished afferentation to the small brain from the muscles) artificially lead us over into the inhibitory, minus, negative or deficit signs of CP (Balogh, 2003):

- Paresis or palsy (weakness), decreased muscle strength and enhanced fatigue.
- Decreased dexterity.
- Disturbed coordination.
- Paretico-ataxia.
- Decreased selectivity of movement.
- Alternating movement's insufficiency.
- Lack of static and dynamic body image of body scheme.
- Absence of motor idea, lack of motor pattern.

Authors' opinion, that child with CP could be influenced mostly by rehabilitation because of the amount of negative symptoms.

"Rehabilitation is to be a master word in medicine"

"Rehabilitation requires a professional team, not only to offer treatment

to lessen the disability but to give the person to opportunity to develop his abilities and his feelings of value as an individual, as a part of the family group and the community." (Mayo, cited: by Kovács R.)

One of them is the Conductive Education.

"Treatment such as the Pető method of physical therapy, botulinum toxin, dorsal rhizotomy and intrathecal baclofen need to be reported first as personal experience, often without controls or values of statistical significance. Only after hundreds of treatments and many articles may a metaanalysis show the treatments to be of value in certain circumstances." (Keith Brown, 2000)

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TEXT TO THE GALLERY OF IMPORTANT RESEARCHERS OF CEREBELLUM, BALANCE AND/OR MOTOR COORDINATION

by BALOGH Erzsébet – KOZMA Ildikó

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Research on human central nervous system in the past two decades involved the enormous effort to get new knowledge about a fist-sized structure of the small brain, called cerebellum. Formerly it was thought to be a structure for only motor function, by helping other motor regions of the brain to do their work effectively. Cerebellum can be seen as the organ of proprio-ceptivity, co-ordination, sensation of balance, posture, distance and time. As a result of new research, now the cerebellum is regarded as a structure that can help not only motor but also non-motor regions to do their work effectively. The cerebellum has been compared to a powerful computer, that it is capable of making contributions both to the motor dexterity and to the mental dexterity of humans, for the emergence of fluent human language. It is immature at birth but develops through childhood and adolescence, reaching its full structural growth by the 15th to 20th year of life.

The many external connection of the human cerebellum is an enormously impressive mechanism: it contains more nerve cells (neurons) than all the rest of the brain. Information from sensory areas of the cerebral cortex, from motor areas, from cognitive areas, from language areas, from visual and

acoustical cortex and even from areas involved in emotional functions. Impulses from spinal cord, brain stem (touch, own body sensation, labyrinth reticular formation).

It is a more rapidly acting mechanism than any other part of the brain, and therefore it can process quickly whatever information it receives from other parts of the brain. It receives an enormous amount of information from the highest level of the human brain (the cerebral cortex), which is connected to the human cerebellum by approximately 40 million nerve fibers. (To compare: the optic tract contains approximately one million nerve fibers only.)

CE with its powerful influence to the coordination and to the mental development should be interested in that topic. Dealing with coordination and with the lack of coordination (ataxia, dyssynergia, hypotonia etc.) one can find a cluster of researchers, many Nobel laurated, among them two Hungarians (Bárány, Békésy).

THE WAY WE SAW THEM – ANDRÁS PETŐ AND MÁRIA HÁRI

by BALOGH Margit – ÖRKÉNY István – HORVÁTH Júlia

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András Pető and Mária Hári, the two eminent figures of conductive education, have been commemorated by many during the past decade both in Hungary and abroad. Fellow professionals, former pupils and students have produced books, articles and films describing how the now famous and widely implemented method developed and took shape. In addition to depicting the social and cultural environment, the authors of these works attempt to find the reasons behind the power which Pető and Hári radiated and which seemed inherent in their personalities, and search for its impact on conductive education. [Hungarians of the Century: András Pető (film); The history of conductive education by Mária Hári (book); memorial booklet in honour of Mária Hári; Mária Hári on Conductive Pedagogy (selected lectures); Looking back and looking forwards by Andrew Sutton, Birmingham (in English); memoirs by Lillemor Jernqvist and Ester Cotton (in English)].

The first part of our film comprises an informal discussion where Mária Hári's collaborators, members of the present College faculty and her first students remember everyday life without taboos and adornments.

The second part is the record of a special historic event: a meeting and discussion between two pupils of the frequently mentioned very first conductive group from 1947, an English primary school teacher and a well-known Hungarian special educator and psychologist. The friendship of the two girls is renewed after 59 years as they look back on the circumstances at the time and on how they became committed to Pető.

The recollections contribute to enhancing the existing image of the two founders and of conductive education.

THE WAY OF THE FUTURE

by BALOGH Mihályné – GROÓ Diána

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The first documentary on conductive pedagogy was shot in 1968 (L. Bánki). The following one, made by the BBC (Standing up for Joey) presented the results of conductive education through the story of a child.

A film commemorating András Pető (T. Ocsenás) was broadcast on Hungarian television in 2001 as part of the series 'Hungarians of the Century'.

The present documentary, filmed in 2005/2006 with support from the Hungarian Foreign Trade Bank and a foundation, has an original approach, verifying the efficiency of conductive education by introducing the viewer to the life paths, the achievements and difficulties of a few children and adults. We can follow segments from their everyday lives: a kindergarten age child whose family immigrated from Transylvania; choice of career for youths leaving school; problems and successes of integration into society.

The film made its debut at the Hungarian National Film Festival. By its choice of subject matter it contributes to the acceptance of difference and transmits diverse opinions regarding the efficiency of conductive education.

FACILITATION IN A DIFFERENT ASPECT

by BECK Ferencné – FUNK Györgyné – HORVÁTH Júlia
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The pedagogical, psychological and neuro-rehabilitation principles and procedures of the past decade have inevitably affected the content and presence of facilitation in conductive education. The concept of facilitation i.e. the assistance which guides the child or adult with cerebral palsy towards orthofunctional solution is widely known. We have seen publications (Schäffer, Horváth) and films (Vargáné, 2004; Funk, 2001) about its implementation, focusing on certain aspects.

Our film presents pedagogical and instrumental facilitations in detail and changes in facilitation procedures, using archive recordings and assessment results of the past decade.

Highlighting a few cases for illustration, the authors aim to prove the hypothesis that a well-chosen facilitation is a tool that will even terminate itself.

GASTROSTOMY TUBE (GT) AND CONDUCTVIE EDUCATION (CE)

by BENYOVSZKY Andrea

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and Aquinas College, Grand Rapids, Michigan, USA

Children with CP might have a lower rate of overall size: height, growth, body mass, etc. because of feeding issues, malnutrition and/or insufficient trophical (cerebral) influences. The late prognostics and life span of children with CP will be defined (independently from the movement capability) by the level of intelligence (Goldkamp 1984, Gordon 1992) or according to the Californian school (Strauss) by the feeding possibilities. CP can affect the muscles of the mouth and throat and can make eating and drinking difficult, having a negative impact on growth. Young children with cerebral palsy can not close their lips around bottles or nipples to extract milk efficiently.

Some children have difficulty moving their tongues into proper positions for chewing and have difficulty swallowing foods and liquids. These children may choke and aspirate food into their tracheas and lungs. The lack of co-ordination in the swallowing muscles and movement is very disturbing. Children who cannot take sufficient amounts of food orally might require a GT for appropriate nourishment One study reported a "negative response" in 18/26 cases, although 21/26 reported "improvement". Another evidence report (Samson, Butler at al. 2003) showed results as not positive for GT placement. Another consideration is the increased percentage of overweight children found who are G tubed for longer durations. It is not easy to find an appropriate standard whether to apply a GT or not. It is an overall experience that one third of the children – in spite of a strict "nil by mouth" recommendation – continued to receive oral foods (Citation). Many caregivers perceived GT feeding as unnatural and worried that co-ordination will worsen because of the GT. The diagnosis of stomatognatic includes elements of the trigeminal system that take part in the regulation of the

orthostatic postural activity. The postural tone utilizes the proprioceptive inferences coming from the osteo-arthro-muscular receptors.

CE is not contraindicated by GT

Out of the 304 registered children in CE (2000-2006) at the Conductive Learning Center, Grand Rapids every tenth child had a GT, i.e. 33 children with GT's were seen out of CP (26/243), nCP (6/40) and "Other" (1/21) symptoms groups. It can be thought, that it is an indicator of the severity of children demanding CE in Michigan. It seems that children's parents might have the hope in CE as a way to solve the problem or perhaps as a refuge from it. It appears to be contradictory to apply a GT in cases such as DPL (1 case) and HPL (1 case) when the originally recorded (medical history) classification could be changed or in cases when the primary diagnostics should not be closed. When deciding on GT placement there should be consultation with parents or other caregivers offering a trial of mixed feeding (GT+ oral) to avoid the unfavorable "side" effects of only using the GT.

	TPS	DPL	HPL	ATH	ATX	MIX	Hypo	Other	All
CP	13	1	1	6	--	3	--	2	26
nCP	1	--	--	--	--	1	1	3	6
Other	--	--	--	--	--	--	--	1	1
All	14	1	1	6	--	4	1	6	33

SELECTED DATA AND COMMENTARY OF CONDUCTIVE LEARNING CENTER (CLC) 2000 - 2006

by BENYOVSZKY Andrea

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and CLC, Aquinas College, Grand Rapids, Michigan USA

Documented children (N=304) were included since the beginning of the year around Conductive Educational (CE) presence in the Aquinas College / Laboratory School, Conductive Learning Center (CLC). The children are divided into three groups: "**CP"** group **(N=243)** was used for the children with CP on the medical report even if it was foreseen to be re-diagnosed later on by the neurologists. **"Non-CP" (nCP)** group **(N=40)** was used for the children with a diagnosis in their history other than CP; it was used for the children without a finalized diagnosis, but with mainly motor delay, severe alteration in muscle tone or posture, and motor dysfunction or deficiency. A particular cluster in this group is **6 children with Spina Bifida**. The name **"Other" (Oth) (N=21)** was used to differentiate those, who were not seen, but sent an application form, phoned or e-mailed with an insufficient history. In the long history of CE at the Pető Institute Budapest, there has been an increasing percentage (next to half of the attendants, 41%) of children brought to be judged for CE without CP comparing that to the CLC's figure one can see that the CLC will be in demand quite adequately (nCP 13 + other 7 = 20%).

Male are more involved with CP – as in the world overall. **Gender ratio** according to the symptoms has been mostly similar with a slight male majority, except of the children with spina bifida. Most of the children at the time of application to the CLC have been between 4-7 years of **age** since the year 2000. Neonatal risk factors for cerebral palsy include birth before 32

weeks' gestation, birth weight of less than 5 lb, 8 oz (2,500 gr), intrauterine growth retardation, intracranial hemorrhage, and trauma. From the history of the children of CLC two groups of data: birth weight in grams and gestational duration in weeks were observed and considered.

The percentage of CP children with **birth weight under 1000 gr** was (19%) 46/243 and **60% of CP children weighed less than 2500 gr at birth.** Low birth weight was overrepresented in the "Other" group too, but not in the nCP group. (The prevalence of birth weight smaller than 2500 gr is around 10% in the matched years in Michigan. It is possible to make a tentative comparison between the birth weight of children with CP in the CLC and in a larger sample of the International Pető Institute (IPI) (Hungary). There are similarities of figures (percentage of low birth weight) within the CLC data and Hungarian data.

Shorter gestation (less than 37 weeks) was found in 60% of the members in the CP group, 57% of the "Other" and in 41% of the nCP group. Children with CP and children with "Other" syndromes were seen at a similar rate to the former premature children (shorter than 37 gestational weeks) and smaller than 2500 gr.

The leading motor symptoms, alterations in muscle tone, in posture or movement, as phenomenon will be used to name the subclasses of CP (as abbreviated below):

TPS	=	tetraparesis, tetraplegia
DPL	=	diplegia
HPL	=	hemiplegia
ATH	=	athetosis
ATX	=	ataxia
Mixed	=	mixed form of CP
Hypo	=	hypotonia with (motor) developmental delay
SPB	=	spina bifida
Other	=	cannot be classified or no data

The **vast majority of the children with CP belong to the TPS subgroup** (114/243), which is followed with the **DPL** subgroup of CP children (40/243). Children with CP were born at 33 weeks or earlier125/243.

The figures can not be compared to the data of European Surveillance, the lead in 14 centers in 8 countries (Cans, 2000) because of inconsistent diagnostic criteria. In the European Surveillance, the spontaneous prevalence of TPS (called quadriplegia) varies from 9% (Sweden) up to 43% (UK). The CP form DPL (diplegia) will be defined from 13% (UK) up to 59% (Tübingen, Germany) DPL means the most concurrent form to the TPS; it is the difference between them. It can be understood by the various sensitivity of the examiner to the involvement of the upper extremities symptoms. Not as easy to follow is the large difference in the diagnosis of HPL (hemiplegia), which is 8% in Denmark and 35% in the UK.

Concerning TPS and DPL, data from the CLC is similar to that which was found in the UK and similar in HPL to Denmark's percentage.

Hungarian data (IPI) on children born 1975, 1985 and 1995 showed an increase of TPS from 32% up to 45%, a slight decrease in the DPL from 31% to 26%, a slight decrease of HPL from 21% to 17% and again a slight decrease in the ATH+ATX from 16% to 12%. The dystonic/dyskinetic CP forms (ATH ATX) have become rare, perhaps because of increasingly more effective medical prevention.

Children with ATH in another study were mostly mature newborns with long asphyxia and a need to be ventilated and they very often produced hypoxic seizures in the first ten days (IPI, Budapest and Pető Centre London) (Kozma & Balogh, 1994; Balogh, Kozma at al. 1997).

The number of children with TPS is more than 2.5 times larger than DPL and ATH. Children with HPL are coming and going as they are being treated with other forms of rehabilitation. Analysis of the so called pure cases in each group is absolutely inevitable.

An increasing number of pre- and immature babies might be in danger of slower motor development, a delay because they do not develop in time at the perceptive and mental level and their parents have the right to choose early intervention. From this perspective, risk for CP might be due to the short gestation and the small birth weight creating spontaneous formation of children in CE, at the CLC in Grand Rapids.

It would be important to have a "standard motor development" for pre- and immature children to receive help in assessing the size of delay with or without other risks or pathological signs.

Many of the children in each group received highly effective interventions as anti-spastic therapy: **88/304 cases**, not only in the CP group.

Botox (BTX)	(N = 47)
Baclofen oral or pump	(N = 22)
Selective Dorsal Rhizotomy (SDR)	(N = 19)

72% of the BTX, Baclofen, and SDR treated children (63/88/305) were prematurely born.

The **3 children** in the **nCP group**: one received **BTX** because of hemiplegia following Shaken Baby Syndrome (it could be seen as CP case, because of the early age acquired lesion of the developing brain) and the other two children because of CP-like, Mixed or TPS like increased muscle tone.

Baclofen was administered to a child in the **non-CP group** because of contracture and ataxic symptomatology.

In the **"Other" group** (children with insufficient information or application only) there were 2 children registered that were treated with oral Baclofen administration, when they have increased muscle tone.

The vast majority of the children with anti-spastic interventions were found in the CP group (82/88/243).

BTX was given in 44 CP and 3 nCP cases.

SDR was performed on (the CP group only) 19/243, which means 11 TPS, 6 DPL, 1 ATH and 1 not well defined case. **It is important to note that 17 out of the 19 children were prematurely born who received this procedure.**

Unfortunately, the hip luxation can not be prevented with SDR and the movement co-ordination will not be better except occasionally with decreased muscle power (Benyovszky, 2004).

CHILDREN WITH SELECTIVE DORSAL RHIZOTOMY (SDR) IN CONDUCTIVE EDUCATION (CE)

by BENYOVSZKY Andrea – BALOGH Erzsébet

Conductive Learning Center (CLC), Aquinas College, Grand Rapids, Michigan, USA

Pető András Institute of Conductive Education for the Motor Disabled and College for Conductor Training, Budapest, HUNGARY

Highly effective medical interventions such as Botox injections, intrathecal Baclofen pump or SDR will be applied in an increasing number of children with CP all around the world. Questions remain as to whether these treatments really - at least transitorically - decrease muscle tone (both spasticity and rigidity) are the solution of the problems to the children with CP.

Nineteen (11 tetrapalsied, 6 diplegic, 1 athetoid, 1 mixed) of the 243 children with CP (out of the 304 registered children in CLC) underwent SDR. Half of the children were operated on before the fourth year of age. 9 children had CE before the SDR; all but 2 followed the CE.

Fifteen children could be followed up for at least 3 years or longer.

One of the children did not show any change in muscle tone and functional ability. All others (**n =14**) had **decreased muscle tone**:

a) **with functional improvement in 8 children**, in spite of the weakness in the trunk and lower extremities and later returning spasticity (6), with the necessity of orthopedic surgery (4) and disturbance in the bladder and bowel control (1);

b) **with out functional improvement in 4 children**, among them the spasticity returned in one and it required orthopedic surgery later on two of them;

c) **with functional regression in 2 children**, with weakness in the trunk and lower extremities in both of them and later returning

spasticity in one child and disturbance in the bladder and bowel control (1).

Almost all the children with SDR produced **unexpected rapid loss of muscle tone for seconds** in various frequencies, mostly in orthostatic position, with a loss of the intended posture and/or movement, sometimes with falls. It might be seen as cerebellar pathological signs (hypotonia and dyssynergy). Conductors should be aware of all the possible benefits and occasionally unfavorable consequences of SDR in the everyday practice of the CE.

Conductive Learning Center, Aquinas College, Grand Rapids Children with SDR (N=19)	
TPS	11/114/243
DPL	6/ 40/243
ATH	1/ 32/243
Other	1/ 21/243
Total	**19/ /243**

S e l e c t i v e d o r s a l r h i z o t o m y 2000 – 2006
Conductive Learning Center, Aquinas College, Grand Rapids

Age range at the intervention: 2 1/12 years – 11 7/12 years of age
Y e a r s o f a g e
1//////////2//////////3//////////4//////////5//////////6//////////7//////////8...11//////////12
SDR / / / ///// / / / / /// / /

HUMOUR IN OUR JOB

by BORICS Gábor
Move & Walk AB, Göteborg, SWEDEN

Introduction

Presents everyday matters in Conductive Education through the eyes of a practicing conductor in the aspect of humour- not a very scientific approach.

Personality of a conductor

During our education towards being a conductor we really did not learn (or I was not present that day) about the power of using our sense of humour in pedagogically difficult situations. How much can comedy be taught, or is it innate?

Facilitation, motivation

Even inside of CE there is a huge difference between leading a program in the 1960´s and nowadays. We do everything to try to reach the desired active movement in certain situations. We literally make clowns of ourselves, sometimes scaring the kids instead of using our sense of humour.

Who? When? Where?

Everybody, throughout every era, everywhere; of course this is not entirely true, but humour can be used with total strangers. Many times humour is a tool to make a first contact with someone a memorable experience.

There is no age limit for humour, but just like every aspect of education it must be mentally appropriate.

Where? No matter what the situation is, it is always easier to make or maintain a happy atmosphere inside the program room; we create our own little world. At the Move & Walk we always meet with parents or assistants who carry a bit of humour away with them adding light to many situations away from the training room.

Parents, integration

How lucky we are to have parents in our groups?! It is a very fragile matter usually takes longer time to warm them up than the children.

How far can we go? In civilized western countries the physically challenged members of society are partly or fully integrated. One of the best examples is in Sweden, if we want to achieve true equality, if we want to show them a truthful mirror why can't we laugh with them at their own mistakes.

THE IMPACT OF CE ON QUALITY OF LIFE FOR ADULTS WITH PARKINSON'S, MS AND STROKES

by BROWN Melanie – PAVEL Anikó
The National Institute of Conductive Education, Birmingham, UK

Introduction

Conductive Education has now been established in the UK for around 15 years, much of this however remaining in the voluntary sector, reliant on charity income. Professionals working in CE are constantly fighting for statutory recognition and financial support, believing that CE, as a system, should be available to all those who may benefit. This study provides an invaluable starting point for moving towards evidence based practice in CE for adults.

Aims

In September 2004 an evaluation on the impact of CE on quality of life was started at The National Institute of Conductive Education. The aims of this project are:

1. To investigate the impact of CE on the quality of life for people with MS, Parkinson's and strokes.
2. To increase knowledge of the benefits of CE for people with MS, Parkinson's and strokes.
3. To provide valuable information for further larger scale, independent research into the effects of CE.

Methodology

In order to ensure validity of scales the following standardised measures were used:

Barthel Index:

- MSQOL 54 (for people with MS);
- SF-36 (for stroke survivors);
- PDQ-39 (for people with Parkinson's);
- Hospital Anxiety and Depression Scale;
- Nottingham Extended ADL Index;
- 10m timed walk.

Base line information was taken prior to initial consultation. Follow up data was collected after 10 group sessions in order to assess the immediate benefits of CE and to assess the use of the measures chosen. Further follow up will form a part of a larger scale trial in the future.

Results and conclusions

Results show that CE has an impact on all aspects of life and not just mobility. Improvement in areas such as cognition; reduction in pain; reduction in stigma faced as a result of the condition and self-esteem indicate that CE can have a wide impact on many aspects of QOL and a place within mainstream rehabilitation for adults with motor disorders.

PARENTAL ATTENTION AND TRAINING (PAT)

(PARENT'S SCHOOL II.)

by CAMPOS ZAPATA Estrella – ALBERICH RUIZ Mónica – ESTELLÉS SANTAMARÍA Elena – WAUQUIER COSTA Mª José – GUAITA ALBERT Lucía

Valencian Foundation of Neurorehabilitation, Valencia, SPAIN

Introduction

The conductors' team of FUVANE, after two years dedicated to the Conductive Education in Valencia, thinks that one of the most complicated parts of its work is the one that concerns the parents of the patients. Problems such as over protection, lack of time or confusion are usual. Because of it, we have elaborated the following project which we intend to start in a gradual way in order to give the children the best treatment possible with the aid of different consulting and orientation instances, keeping in mind that the final goals of the parents and the professionals, both come to be the same: to develop the maximum level of autonomy in the patients, thus increasing their quality of living.

General plan of the project

- Training periods:
  - Before.
  - Continuous training.
  - Post-treatment monitoring.
- Ways of working:
  - Workshops dedicated to specific training issues: introduction to CE workshop, application to daily routines at home, etc.
  - Parental attention tutorials.
  - Supervision and monitoring of the application to daily routines.

Objectives

1. Achieving a greater parental implication.
2. Training and informing the parents.
3. Creating fluent communication channels between parents and professionals.

Methodology

1. Watching of needs, brain storming, and discussion.
2. Surveys to the parents about their needs and proposals.
3. Knowledge and experiences Exchange.
4. Bibliographic revision.

Conclusion

- The need for creating this school to maintain and develop the achievements got by the child.
- The actual application of the tasks in the child's daily life will not suppose an extra work, but an advantage to improve the life at home and to economize time.
- To deepen in the workshops proposed will favour the parents to act with the child integrally.

A HOLISTIC MODEL BASED ON CE PRINCIPLES IN SUPPORTING CHILDREN WITH PHYSICAL IMPAIRMENT IN MAINSTREAM SCHOOLS

by CHENG Clare Yuk Kwan – HO Angela Shun May

The Jockey Club Marion Fang Conductive Learning Centre of the Spastics Association of Hong Kong, CHINA

Including children with special education need in mainstream schools has been a worldwide trend for the past two decades. Children with physical disability but no significant learning difficulties are known to be more readily accepted to the mainstream schools. However integrated/inclusive education is more than physical co-existence of the SEN students and the non-disabled peers. In an earlier pilot project at the Jockey Club Marion Fang Conductive Learning Centre of the Spastics Association of Hong Kong, 5 children with cerebral palsy graduated from the special childcare unit of the Centre and integrated in mainstream primary schools were followed up for their adaptation to their school life. Using standardized batteries of assessment, we kept track of their self-concept and physical ability each for three years. The results showed that the children demonstrated a declining self perceived physical capability which did not match with the objective assessment of their physical ability. There was also a concomitant decline of self concept of peer relationships.

The finding prompted the formulation of a holistic model of support based on the principles of Conductive Education and empowerment which took into consideration of the need and self-efficacy of the integrators, their non-disabled peers, the mainstream teachers and the parents in order to achieve inclusive education for the benefit of all parties concerned. The model was piloted and run for three years from September 2003 to August 2006 with a

funding support of a charitable body. 34 children majority with cerebral palsy or spina-bifida enrolled in this project. They were spread among 30 mainstream educational settings including kindergartens, primary and secondary schools.

Conductive Education emphasizes the development of an active problem-solving orientation in the children with motor impairment and focuses on their personality disposition which is the result of interaction between the children and their physical and social environments. Empowerment stresses the belief in one's own capabilities (self-efficacy) and being able to apply capabilities to affect what happens to him/her (perceived control). In this paper, the author will describe how these principles are applied to formulate the holistic model of support, the practical experience in administering it with case illustration and results. Positive feedback through questionnaires from teachers and parents were obtained, with particular indication in improved self-acceptance of their own impairment among the integrators, improved peer-acceptance of the integrators among the non-disabled peers, increased teachers' awareness of the needs of integrators with physical impairment and improved parent-teacher communication.

YOUNG CHILDREN WITH SEVERE SENSORY AND PHYSICAL IMPAIRMENTS – INTEGRATING THERAPEUTIC STRATEGIES INTO PRINCIPLES OF CE

by COTTER Claire
Cerebral Palsy Education Centre, Melbourne, Victoria, AUSTRALIA

Introduction

Within the range of children who are diagnosed with cerebral palsy there are children who have a motor impairment but also display a range of behaviours which indicate sensory impairment. These behaviours include difficulty using the hands to grasp, release and perform functional activities that are within the child's physical repertoire of movements, repetitive movements such as flapping the hands or banging of the limbs, light gazing and moving without any obvious purpose. These children frequently provide a challenge to the teacher, conductor and therapist responsible for their learning and development.

Aims

Recent advances in the identification of different sensory profiles and strategies to intervene to modify and change the child's behaviours so that the child can function in everyday life more successfully are identified and practised by occupational therapists in this field. The aim of this paper is to demonstrate how the application of these strategies within the learning framework of conductive education enables children to learn effectively.

Materials and Methods

The definition of sensory impairment in multiple disabilities is explored. Then, some theories of identification of sensory impairment and some gen-

eral strategies to intervene are discussed. The combining of these strategies within a conductive education framework are identified and demonstrated. The outcome of these intervention strategies is presented through a single case study.

Results and Conclusions

At the Cerebral Palsy Education Centre in Melbourne, Victoria, combining these strategies with principles of conductive education is assisting young children with severe and complex disabilities where sensory impairment is the overriding factor, to learn functional skills and enabling them to participate actively. At the same time their motivation to participate with their peers, both with and without disabilities, is discovered and nurtured.

DARE TO DREAM – THE CEREBRAL PALSY EDUCATION CENTRE IN MELBOURNE

by COTTER Claire
Cerebral Palsy Education Centre, Melbourne, Victoria, AUSTRALIA

Introduction

Addressing the complex and long term needs of children with cerebral palsy, their families and their communities continues to motivate and challenge many professionals, parents and services internationally. There are many variables which impact on the service families receive. These include financial resources, a plethora of different treatment and educational approaches, advances in technology, advances in therapeutic and educational strategies, family centred services, the emergence of more inclusive communities. The Cerebral Palsy Education Centre (CPEC) was originally inspired by the pedagogy and work of András Pető's conductive education. It is now a unique, dynamic, evolving service and training centre which aims to provide effective services to families and communities that have a long term and lasting impact for the child and family.

Aims

How many of the complex needs of children with cerebral palsy, their families and their communities are met through the range of services at the Cerebral Palsy Education Centre will be explored. This presentation will provide insights into how a group of committed professionals, management committee and families pursued a goal to provide more comprehensive, effective services with measurable outcomes for children.

Materials and Methods

A brief history of how the CPEC originated will exemplify the needs of children with cerebral palsy as identified by a group of professionals and parents

in Melbourne, Australia. The results of an evaluation in the form of a survey will be presented. Specific cultural influences especially in the areas of education, inclusion and family centred practices will be identified and explored in the development of a model of service which strives to reflect best practice in education, therapy and social developments and opportunities in Australia.

Results and Conclusions

Many years ago András Pető gave us the challenge:

> *"…conductive education… is no closed method but a flexible system capable of integrating into a coherent whole any method, technique, or procedure reconcilable with its general principles and serving its educational purposes."* (Pető, 1970)

The Cerebral Palsy Education Centre's staff, management committee, parents and children, and the communities in which they live, take up and respond to that challenge.

NORWEGIAN PATTERN OF CONDUCTIVE EDUCATION

by DARÓCZY Eszter

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Norway is one of the more sparsely populated countries of the world. The population density (the number of inhabitants per quadrate kilometres) is 13.3 pop/quad km. (To compare with other parts of the world the same figure is: in Spain: 85; in Austria: 101; in Hungary: 109; in Netherlands: 392 and in Hong Kong 6.407)

The present population of Norway stands at 4.64 million inhabitants (estimated in 2006, a census was done in 2003). One of the first censuses was made Norway in 1835. 75% of the population resides in urban areas and 25% in rural areas.

Figures of the three counties in population – from which the candidates of the Tromso conductive educational centre (Pető Nord) came, are:

- Nordland: 236.257;
- Troms: 153.585;
- Finnmark: 72.059

It means, that in the three counties live next the half million out of the whole population (4.64 million) on a very special geographical environment.

Countries in which the low population density is the main characteristic, it is a permanent problem of the solution of the of special education, of the caring and counselling of low incidence disabilities, include four categorical areas of specialization within special education: vision impairments; hearing impairments; severe disabilities: among them CP; and early interventions need. Children with CP cannot be cared, managed and educated by telemedicine or distance learning techniques. Besides the contents and shortage of professionals, the centre based supply might be again a large problem. The financial challenges and geographic isolation facing schools

and others often contribute to educational disadvantages. Of course, the solution of the integration–segregation continuum, the availability of services, travel distances and associated factors are of utmost importance for solution of the problem of children with cerebral palsy.

“Norway has a strong welfare system based on the principle that as a citizen of the country you have a right to universally accessible health and social services in equal amount and quality independent of your income and position. The state plays a dominant role in this system in terms of financing and organizing the services on offer which covers social security, social services, health, housing and employment.” “In the organization, it is expected that local municipalities will bear the heaviest burden as they are the main provider of health and social services in Norway.” “Norway’s focus on welfare has paid off. The challenge is to meet the demands and develop the current system further.”(Rigmor Aasrud, State Secretary of Health and Care)

FAMILY CENTRED SERVICE (FCS) IN ISRAEL

by DAVIDOVITCH Orit – SCHENKER Rony

TSAD KADIMA, the Association for the Advancement of Conductive Education in Israel, Jerusalem, ISRAEL

Introduction

Family centred service (FCS) is a philosophy and method of service delivery for children and parents which emphasizes a partnership between parents and service providers, focuses on the family role in decision making about their child, and recognizes parents as experts on their child's status and needs. Tsad Kadima (a step forward in Hebrew), a parents and professionals organization which established, operates and develops the conductive education system in Israel is based from inception on such partnership, placing the family in the middle of the childhood disability universe.

Research indicates that providing FCS is associated with improvement in parents' satisfaction with services, decreased parental stress, and positive child outcomes. Based on this premise, measuring the family centeredness of Tsad Kadima is of great value both scientifically and clinically.

Aims

1. To measure parent's perceptions of the care they and their children receive at Tsad Kadima.
2. To identify strengths and weaknesses of Tsad Kadima in delivering FCS.
3. To measure the correlation between parents' perception of the care they and their child receive and variables such as type of cp, GMFCS level, socio-economic status, etc.

Subjects

29 families to children ages 1-8 who are receiving services in the educational-rehabilitative frameworks of Tsad Kadima nation wide.

Instrument

The Measure of Process of Care (MPOC-56) is a 7 point scale reliable and valid measure of parents' perceptions of the family-centred behaviour of service providers. The measure consists of five scales: Enabling and partnership, providing general information, providing specific information about the child, coordinated and comprehensive care for the child and family, and respectful and supportive care.

Results

Means of all 5 scales ranged from 5.3-6.4. The statistically significant lowest mean (5.38, SD=1.48) was identified in "giving general information", although above "sometimes", especially in day care and kindergarten groups. A detailed 'item by item' analyses revealed that only in few items, an appreciable percent of parents (at least 25%) reported that the behaviours occurred only 'sometimes' or less, and most of these items were grouped together in the "giving general information' scale. All parents reported on supportive staff and of caring and supportive atmosphere. No correlation was found between parent's perceptions and variables of age, type of cp, GMFCS levels, socio-economic status and accompanying dysfunctions.

Conclusions

Tsad Kadima is providing a family centred service to a great extent according to parent's perception, and overall, meets parent's needs in an impressive manner. Nevertheless, improvements should be made in providing general information. Although general information in the 'internet era' is accessible more than ever and maybe due to overflow of information, parents' needs should be excellently met in this domain as well. Providing information has a positive impact on reducing parental stress, and providing sense of confidence.

OPPORTUNITIES AND OBSTACLES IN THE INTEGRATED EDUCATION OF THE MOTOR-DISABLED IN HUNGARY AND SPAIN

(A COMPARATIVE STUDY)

by DEÁK Adrienn

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and College for Conductor Training, Budapest, HUNGARY

As a result of a humanistic philosophical attitude the approach to 'difference' has fundamentally altered in the past fifty years. Hence 'difference' is not interpreted as abovo negative, a person with disabilities is thought to be a variety of normal. Due to this change in approach, the education provisions for disabled people are interpreted differently and are also changing these days.

The policy concerning pupils with special educational needs is not simply a matter for education but an integral part of EU policy referring to those living with disabilities and threatened by exclusion, which was already stipulated in the EU Treaty with the inclusion of powerful rights. A significant break-through took place in 1996 when the EU comprehensive strategy was introduced concerning those living with disabilities. This strategy included the definite and clear principle of providing equal.

A ministerial measure in 1990 also stipulated that the main form in education must be represented by integration. What is not integrated remains secondary which can exist even on the long term, however, it cannot represent a primary form in the future. It was the first time when the idea of expertise in the field of special education was to be included in the main stream.

Due to the above international strategic approach and my own personal and professional motivation, I have begun a comparative study to explore how integrated and/or segregated education operates in Hungary and Spain.

.I have applied the following alternative and also directive hypotheses:

- The more accepting a healthy society is the higher percentage of children with special needs will be included in integrated education.
- If government policy was clearly outlined and incorporated an adequate financial system integrated education should be the way forward.
- The inadequate level of the special education system also indicates the need of integrated education.
- An outstanding special education system and the competence of special teachers have the opposite impact, i.e. reinforces segregation.

My work focused on the above hypotheses; however, the need for sub-hypotheses arose in the course of the research. Samples were taken at random, in specified groups and strata.

Due to the hypotheses, connection exploring strategy was applied. Data were collected in the form of written questionnaires and attitude examination.
The circles of those surveyed were:

- Healthy children.
- Healthy adults.
- Parents whose children have attended the Pető Institute.
- Teachers.
- Headmasters of schools.

A preliminary survey was made, partly to test the questionnaires, among 227 primary school children (between the ages of 10 and 14) concerning the acceptance of children with special needs.

More than 350 questionnaires were returned in the frame of the present study. Data processing is taking place; still some interesting points can already be stated. For example, 93% of children between the ages of 14 and 18 would choose a disabled child as their friend while the same is true for 87% of primary school aged children. Both children and adults accept the motor-disabled most easily and the mentally disabled with most difficulty from among people with special needs. The majority of respondents in Spain agree with integrated education whereas in Hungary respondents are for

integration in principle but practice shows that children, adults and teachers i.e. society has strong discriminative attitudes.

The still continuing research suggests that something has already begun but there is still a long way ahead to ensure equal opportunities for everyone in an adequate way.

THE COMPLEX PROGRAMME

by DEÁK Adrienn – ÖRKÉNYI István

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The lesion of the central nervous system does not merely cause the loss or disturbance of certain function, but it causes the disintegration of functions. For this reason, an integrated approach must be used in the development process. Motor functions, sensation, perception, speech (communication skills) must be developed simultaneously, inseparably from the development of cognitive abilities and psychic functions.

Thus it is necessary to organise a special, integrated educational process, which tackles a complex functional disturbance with a complex approach providing continual development at ever higher levels. The basic form of manifestation of this development process is the complex programme.

Definition of the complex programme

The complex programme is a planned and integrated process constructed on the basis of the system of objectives derived from the comprehensive observation of the person with dysfunction to develop all aspect of the personality in a comprehensive way. It is visible from the definition quite well the process is very complex; to give a good definition is hard for the specialist as well. For this reason the authors are going to undertake to explain the process - complex programme as one of the basic elements of CE - in a short video.

AN INSIDE VIEW OF CONDUCTORS AND PARENTS OF CHILDREN WITH CP ABOUT INCLUSIVE PRIMARY SCHOOL EDUCATION IN NEW ZEALAND. IS IT REALLY HAPPENING?

by DITTRICH Ildikó

Focus Conductive Education Centre, Auckland, NEW ZEALAND

This presentation will give an overview regarding the concept of inclusiveness in the current educational system in New Zealand.

The first part of the paper provides a summary of the historical background of education for special needs children which led to the great demand to develop inclusive education in New Zealand.

The next segment describes the detailed transition procedure that has been developed by conductors at Focus Conductive Education centre over the past few years. The aim of our practice has been to achieve a smoother transition for the children who attend the centre into the mainstream school system. It gives support and assistance for parents and teachers to develop ongoing communications among the significant adults around the child. It includes the involvement of the conductor supporting the application prior to school attendance for Ongoing and Reviewable Resourcing Schemes funding.

Gaining such funding greatly affects the available resources (teacher-aid hours and supportive materials) assigned to the individual child during his schooling. There are several more initiatives of the transition procedure which have proved to be extremely valuable and are explained in details further in this part.

The paper critically examines the practical implementation of inclusion of individual children with CP in the classroom and in the wider school environment. The findings of professional experiences of conductors and personal encounters of parents are summarized in relation to how individual children with CP are integrated or segregated in their classroom academically, physically and socially.

At the end of the presentation comment is made about the shortfalls of the current practice of inclusive education in New Zealand, and as conductors how we could improve our practice of assisting transition further to somehow achieve real inclusion of children with CP into the mainstream schooling. Or is this what we want for all of our children?

SWIMMING WITH CHILDREN AND ADOLESCENTS WITH SPECIAL NEEDS

by DURCHMAN Kira
Ruskeasuo School, Helsinki, FINLAND

Introduction

Ruskeasuo School, which has excellent facilities for teaching pupils with special needs, has been systematically teaching swimming for over 25 years. Swimming has got a special status in our school as it has been developing systematic and adapted swimming instruction since the late 1970s. Both pupils and staff are very committed to work in our pool.

Aims

The aim is to find a way how the pupil can swim as independently as possible either with or without aids. As most of our pupils are even 10 years in the school they have time to gradually learn how to get great water and/or swimming skills. Water skills mean the ability to be in and under the water without fear with or without aids with confidence and enjoyment.

Materials and methods

The basic of teaching swimming in our school comes from the normal way of teaching swimming in Finland. In Ruskeasuo School in systematic swimming instruction, sessions are planned taking the individual into account. Learning involves structured, goal-orientated practice. Systematic swimming instruction is based on a way of thinking that respects swimmers and their capacity to learn. The swimmer, the teacher and the assistant work together, to plan the skills to be practised. The goal of the swimming session may be emotional, skill attaining, interactive or intellectual or a combination of them. During the last ten years Conductive Education has grounded in our school and become a part of swimming as well.

Results and conclusions

The pupils can follow their own achievements from year to year through the swimmer's record of achievement. The 10-page form is developed to assess and evaluate all progress or change in capability made by swimmers in water. In the book "At Home in the Water" (Ruskeasuo School, 2006), there is given practical advice and guidance on teaching swimming and giving assistance to those with special needs.

CREATING A NORTH AMERICAN CONDUCTIVE EDUCATION PROFESSIONAL ORGANIZATION

by DVORAK David C.

Association for Conductive Education in North America,
La Grange, Illinois, USA

Introduction

In August of 2005 approximately 50 conductive education program conductors and administrators attended the North American Conductor & Program Administrator Workshop held at Aquinas College in Grand Rapids, Michigan USA. In a special meeting held for the purpose of discussing a possible professional organization, the workshop attendees overwhelmingly voted to create such an organization.

For one full year this group met by teleconference to create the Bylaws and form the organization, which became known as the Association for Conductive Education in North America (ACENA).

Aims

ACENA is the representative of programs and professionals providing conductive education services within the North American continent. ACENA acknowledges and promotes the practice of conductive education. A proactive, organized collaboration with the community, individuals with motor disabilities and their families.

- Ensuring and identifying the quality standards of conductive education programs.
- The offering of continuing education for the practice of conductive education.
- Providing networking opportunities for persons involved with conductive education programs.
- Increased awareness of conductive education as a treatment/educational model for people affected with motor disabilities.

Materials and Methods

ACENA held its first membership meeting at the August 2006 North American Conductor & Program Administrator Workshop held at Aquinas College. The nine elected Executive Committee members were introduced with these members presenting their plans for the year. To ensure appropriate representation, the bylaws were written so that the Executive Committee must consist of at least 50% conductive education teachers.

A North American-wide membership drive was initiated in December of 2006 with the mailing of the first ACENA newsletter, followed by a mailing of membership application materials. A website located at www.acena.org was created and is continually updated. Plans were made for continuing education activities, including an ACENA Conference. Planned benefits to members include the following special materials: current research, a Standard of Practice Manual, a Standard of Program Operations Manual, and Due Process/Individual Education Plan materials.

Results and Conclusions

With approximately 30 conductive education programs operating in North America, ACENA is committed to providing needed services to these programs and the professionals within the programs. ACENA may be a young organization, but its impact is already being felt across the North American continent.

PARENTAL ATTENTION AND TRAINING (PAT)

(PARENT'S SCHOOL III.)

by ESTELLÉS SANTAMARIA Elena – WAUQUIER COSTA MªJosé – GUAITA ALBERT Lucía – CAMPOS ZAPATA Estrella – ALBERICH RUIZ Mónica

Valencian Foundation of Neurorehabilitation, Valencia, SPAIN

One important part of conductive education is the teaching of daily life activities, but our two-year professional experience has shown us that the children can't internalize these learning if the patterns taught in the working group, aren't put into effect in the children's daily routine properly.

That's the reason why we propose this project of parents' school. From our PAT department we have planned to undergo a period of training, which includes a course dedicated to all those daily life activities (DLA) that helps the development of the children, with the aid of the family and the conductive education.

The objectives suggested for our workshop are the following:

- To show the different ways to act in front of the daily life activities.
- To insert the daily life activities into the children's routine.
- To go on with the conductive work at home.

The methodology used to carry out this specific course would be:

Workshop

- Subject: daily life activities in the daily routine.
- Aimed to: the family who participated in the children's development.
- Participants: 15 people in a group.
- Lasting*:* 3 weeks.
- Timetable: 1´30 h for season.
- Programs:
  - Personal hygiene.
  - Potty training.

- Dressing and undressing.
- Evaluation.

Bibliographic compilation

Teamwork with an orthopaedist

To conclude, by means of this course we want all parents to involve in the children's daily life activities at home, to get more independence and go on with the daily work that is made with them.

HOW CAN WE SCULPT A NEW GENERATION´S ATTITUDE?

by FAZEKAS Tünde – JAKOBSSON Katarina – NÁDASI Zsófia
Move & Walk AB, Göteborg, SWEDEN

The children of conductors grow up together – they socialise together with their parents and within the occupation of their parents. On the basis of observing our children's characteristics, their relationship and positions on life in general, we have decided early on to introduce to them children who are different than from them. We want to introduce to them children with CP, so that by getting to know them, to accept them, their lives should be enriched. We also seek to provide a great deal of assistance to the siblings of physically challenged children, so that the outside world would accept both them and their injured sibling. We had observed the verbal and meta-communicative expressions of the classmates and friends of our children: Do you have CP or not? (a related term to being mentally retarded.) We feel that out of natural duty being reinforced from our occupation as conductors – to make an in-depth effort for the acceptance of the physically challenged by their peers growing up uninhibited by physical hindrances, and by society in general.

The personality development of dysfunctional individuals is in large part defined by the ability of their immediate and general environment to accept or reject them. A consequence of our work and the specific tasks of some of our colleagues is the prevention of segregation, and integration to the greatest possible extent.

We believe in the importance of knowledge acquired early on, utilizing the emotional intelligence of children/students as effectively as possible. Thus, on a regular basis, we invite numerous children in majority schools, entire classes, along with their teachers (between grades 1-6) to visit those who partake in conductive program.

In each 20-minute presentation – at a level appropriate to their age – we introduce students the functions of the central nervous system, and the pos-

sible injuries and their consequences. We talk about the concepts of habilitation and rehabilitation. In all cases we state that the "sick" child is not responsible for his situation, behaviour, and visible changes in him/her.

We teach our young guests a few of the more important fundamental concepts of conductive education. They learn the role of the conductor along with the objective and beauty of conductive education. They can meet, individually and in groups, with the currently educated children. They can play with the children and talk to their parents or helpers.

We create the opportunity for testing certain movements and activities as if they were the injured children themselves – we can even call these activities forms of empathic role-playing. Via reverse facilitation, as in the inhibition of movement, they can acquire the experience of being physically challenged. Methodologically speaking it is particularly difficult to imitate the absence of or inhibited levels of fine motor or manipulative movement activity. At the same time, we still strive to allow them to acquire their own experience about living with a movement dysfunction and to confront it head-on. Quizzes can be taken about what they had seen/heard; those who get the most points even get a prize. We release tension surrounding the subject of physically challenged individuals through discussions about the students' personal experiences.

We try to follow the reaction and level of satisfaction of teachers and parents and request feedback about the change of perspective of the students. As of today it is difficult to predict the effectiveness and duration of the impact, but it is conceivable that with these opportunities it isn't just our objective that we can achieve. We can shape the relationship of future generations towards the physically challenged, which later can even influence their adult behaviour or career choices.

EDUCATION AND INTERACTION WITH HELPERS

by FORSSTRÖM Eva
Stadshagens Habiliteringsenhet, Bromma, SWEDEN

Introduction

Stadshagen is a kind of preschool, designed for children between 2 and 7 years of age. The children have functional problems in the syndrome of CP. The learning system is conducted in the system of conductive education.

The staff is a multidisciplinary team. The children come to the Unit 2days/week. Learning sessions and activities of daily living are organized in a conducted way. Usually the children are included in their home-preschool the other days of the week. They are accompanied by a helper. The helper is the same person in both places.

Aims

Interaction with helpers as the key of success for the children.

Materials and methods

- A Unit as an educational centre for children and helpers.
- A timetable with tasks, theory and practice, for helpers in group.
- A plan for longer periods.
- Written conclusions and summary from every lesson. An occasion/group of helpers/week.
- The written material is spread to families and preschools.

Conclusions

An ongoing process with therapists, helpers and children/families actively involved. The down-written conclusions and divided experience becomes a source of information. That material give a clue to what learning is important

to different symptoms in the CP syndrome. Growing interest from persons involved when education is available.

A SOLUTION TO MINIMIZE THE SACRIFICE OF CLIENT-CONTACT HOURS IN THE TRANSDISCIPLINARY MODEL OF CE

(A Web-Based Curriculum Management System)

by FUNG Jenny Ching-man[1] – SU Ivan Yuen-wang[1] – CHOW Daniel Hung-kay[2]

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Introduction

In a transdisciplinary model of CE, its principles are employed as a common philosophy shared by all staff disciplines. In order to obtain a full picture of our clients' progress, a CE-based curriculum emphasizes an integrated effort of different disciplines to document each client's profile and progress in one single folder was implemented. In such model, meetings and detailed documentation are indispensable. Trade-off between "back-office work" and "client-contact" becomes a primary concern. Bottle-necks occur mostly in file circulation and in time matching for meetings. Moreover, processing of the quantified data is tedious. A web-based curriculum management system was launched in 2004 to facilitate team work. It provides a 24-hr communication platform that minimizes the time spent in meetings and paper circulation with instant data searching and processing.

Aim

This study investigated the change in back-office hours before and after the launching of the system.

Methodology

A monthly clinical output was developed for documenting 3 parameters: the number of sessions of individual training (IT); group training (GT); and daily routine training (DRT) conducted. The average time spent for 1 session of IT/DRT was 0.5-hr while that of GT was 1-hr. The monthly back-office hours were calculated as: [(monthly working hrs of all therapists in a service unit) – (IT + DRT sessions) × 0.5 – GT sessions]. The output was reported by the therapy department of 6 sheltered workshops and 6 hostels for 36 months.

Results and Discussion

The 3 parameters were averaged for every 6-consecutive-month. Before the system launching, the % of the back-office work across was 52-57% for workshops and 33-55% for hostels. During the first 6 months of launching, the average % reached 59% (workshop) and 53% (hostels). Thereafter, it declined to 48% and 46-48% respectively. The initial increase can be attributed to the learning period in using the system. By removing the data in the first 6 months of launching, a steady decrease in back-office hours at -8.7 (workshops) ($r^2 = 0.87$, Linear Regression) and at -1.05 (hostels) ($r^2 = 0.02$) was obtained. This finding confirmed an improved client-contact hours with the system.

MUSIC AS A TEACHING TOOL

by GAINOK-SWIGER Andrea
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Campbell suggests that,

> *"Teaching your infant to appreciate music helps prepare his brain for mastering language's complex structure [and it can be the] steady hand to help his mind and body move together."*
>
> *It will aid in the child's physical activity and social interactions. Music will serve a part in mapping out a daily rhythm for the child enabling a "self-confident life".*
>
> (Campbell, D: The Mozart Effect for Children: Awakening Your Child's Mind, Health, and Creativity with Music. New York: Morrow, 2000.)

Studies show that music has many proven benefits for people of all abilities. Music is a natural enhancement to the developmental process of all children. It provides different nutrients for our bodies, minds, and souls. From prior to birth and through adulthood music brings great joy and many opportunities for learning in the lives of all people. It is an integral part of all people's lives including that of people with physical impairments. Music fosters learning in many aspects of life, as well as aiding in emotional and physical well being, of the individual. It has been used by mothers to advance the development of their children. Music therapists use it to heal and assist many people in schools and health care facilities. And music is a useful tool that can be used in many aspects of the conductive education daily routine.

Research was found to explain how music affects the brain in order to prove how music can be an effective tool in teaching all children. It is used by music therapists, to aid in many areas of development in children with physical impairments, within the public schools of the United States, and it is used throughout the daily routine in conductive education to facilitate better learning in all aspects of the student's life. Music develops and constantly improves an internal sense of rhythm within the student. This internal sense

of rhythm is aided through early singing and chanting games, and early experiences of beating out a rhythm or pulse.

At the age of six to nine months of age, a human being is able to detect change in pitch, tempo, and melody. Babies, who were studied in controlled musical environments, showed an adverse reaction to dissonant sounds, which are also considered unpleasant to adult listeners, and a strong liking to consonant, or pleasing sounds.

Music can be called a universal language in the lives of all people. It guides children through their development by aiding in discovery learning in and out of the classroom. Therapists use music to help children and adults lead healthier lives through the use of music to help them relax, heal, and learn.

Upon closer examination of how music can be transferred from a natural joy in life, to a tool which can be used in the conductive education classroom, one can see why music is combined into so many aspects of the daily routine. Research supports the use of music as a way to reach and teach all children, motivate students through difficult tasks, comfort children in new or uncomfortable situations, help them attain increased control of their lives, facilitate motor and speech production, enhance learning of cognitive skills, strengthen language arts proficiency, and foster a happier, healthier, and more confident child.

Children with physical impairments often have trouble executing movements which require the coordinated, alternate use of both of their hands. Connections through the corpus callosum in both sides of the brain are very important for these movements. It was found that the corpus callosum of musicians was more highly developed. The areas where the connections were the strongest were in the prefrontal cortex, where planning and foresight take place, and in the premotor cortex, where actions are mapped out before executed. These findings gave a rationale for the importance of music in the early rehabilitation.

"I AM" EXPERIENCES OF MEXICAN DEVELOPMENT OF CONDUCTIVE EDUCATION

by GAJA Servando – MILLAN Margara
Con Nosotr@s, Cuernacava, MEXICO

In early 2001 we started a group of CE (Con Nosotr@s) in a small city of Morelos, in Mexico.

After three years of work, we found important to make a film about the significance of the project view by the very actors, that is, the kids that were practicing CE.

We draw attention to almost adolescent voices that explain what it is like to experience CE approach, after have been rehabilitated by traditional physical therapy. They tell us what CE and the group environment is doing to them. Images and voices address broader questions, like different conceptions of the self, of the disabled self, of dis/ability, and also, of human labour and responsibility. In the base, remains what is our understanding of community and integration.

DEREGULATION & LIBERALISATION - CONDUCTIVE EDUCATION IN A POST-MODERN SERVICE ECONOMY

by GEGENWARTH Thorsten

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Executive Summary

This lecture presents an integrated performance management model for conductive organisations. The European Foundation for Quality Management (EFQM) introduced a framework for assessing organisations for the quality of their services. Such a holistic management framework is regardless to the sector, size or structure of an organisation essential to achieve a genuine market position in services.

Introduction

Europe is on its way to open national markets for services (European Service directive) by removing legal and administrative barriers to the development of service activities between Member States. Public health and Education systems are forced to rearrange their positions in a post-modern society. Suddenly Non-Governmental (NGO) and Not-for Profit (NPO) Organisations as schools, kindergarten or conductive education (CE) centres are called service providers and find itself in a fast changing environment. Focused on the EU context the question "where are we now & in five years" is important to take into account. Conductive roots have to be translated into modern terms. Diversity, flexibility and Individualism are key ideas of a post-modern society.

Aims

All through the EU NGO's have to define their core activities. Customer orientation is hard as public health and educational systems differ between customers and consumers. In any case a focused customer orientation is cre-

ating sustainable stakeholder value. Suddenly resource allocation is a key for the survival of any organisation. To deal with the high stakeholder expectations organisations have to find their own strategies varying from Customer intimacy to Cost leadership. The Results have to delight all the varying interests of the organisation's stakeholders.

Materials and methods

Adequate management structures can help to balance the decent of market share. Quality management and intense international networking could be key concepts to help CE to survive. The EFQM (European Foundation for Quality Management) model of business excellence is an integrated system of strategic analysis and choice that helps organisations to develop business excellence. Business excellence in this case could be defined as the outstanding performance in managing an organisation and achieving results. Performance can be seen as a set of combined interdependent and interrelated systems, processes and facts. In any case organisations have to be prepared. Most key elements of CE are highly tacit. Saving the tacit knowledge and protecting knowledge in general through possibilities like proprietary rights are important steps. Quality management is a path to organisational success.

Results and conclusions

CE is definitely no revolution, in a way it is just a business. Businesses in our times are influenced by sociological, technological, economic and environmental factors, and therefore manageable. The integration of the different stakeholder perspectives through "continuous organisational learning, innovation and improvement is maximising opportunities and challenging the status quo. The contribution of employees through their development and involvement are key steps to business excellence." [1] EU politicians want us to think global, act local and to build up networks. Value-adding partnerships can help to strengthen the "conductive brand". Investing in the future also means effecting change by utilising learning to create innovation and improvement. The conductive roots can help organisations to understand and

[1] Leenamaija, Otala; Kari Tuominen (2005): Investing in learning and development. Self-assessment Work Book. Benchmarking Ltd

respond to the expectations of any of their stakeholders. "Truly Excellent organisations are those that strive to satisfy their stakeholders by what they achieve, how they achieve it, what they are likely to achieve and the confidence they have that the results will be sustained in the future"[2]

[2] Leenamaija, Otala; Kari Tuominen (2005): Investing in learning and development. Self-assessment Work Book. Benchmarking Ltd

I HAVE A CONDUCTIVE BIOGRAPHY – WHO ELSE? INDEPENDENT LIVING & SUPPORTED EMPLOYMENT

by GEGENWARTH Thorsten

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Wien, AUSTRIA

Executive Summary

Conductive Education (CE) as an integrated approach has to integrate concepts of further or adult education. From a systemic point of view a supported employment (SE) model as a learning system designed to enable young adults with special needs to function more independently fits as a jigsaw piece perfect into CE.

Introduction

Young adults with special needs often recognize when they grow up that her pear group is handicapped. The question what happens to handicapped children after ten years or more of constant training in an inclusive or special education context is not jet fully answered. Years of conductive socialisation offer people a lot of opportunities but there are also some hurdles to master. In particular when school is finished inclusive contexts seldom fit smoothly together. For a lot of young adults with special needs work is an important goal. The entry barriers – physical, mental and attitudinal - to productive work in competitive environments are still quite high.

Aims

CE as a way or concept of lifelong physical learning sustains quality of live. A lot of young adults with special needs are not able to work, but instead they are able to participate in working processes. Empowerment and Nor-

malisations are key words that reflect the fundamental right of any human being to participate in all kinds of social or working environments. For that we need dynamic ways of learning and of course we need dynamic social transfer systems that are not only based on individual employability. Dynamic inclusion enfolds the art of creating job opportunities. The level of personal independence can only be increased by letting people manage their own affairs: participating in day-today life in their community, and fulfilling a variety of social roles.

Materials and methods

The Therapieinstitut Keil developed a supported employment model for young adults with special needs. This concept is based on the fundamental idea that every individual is different and therefore has to find its place in society. Supported employment (SE) enables people with special needs who have not been trained or employed to work and contribute to society. The ITA concept focuses on a person's abilities and individual performance in a specific context. Key to this model is the idea of providing exactly the supports the individual needs to be successful on a long-term basis. As a dynamic concept it allows people to experience disabilities in a different context: as successful employees. The partnerships that are established between individuals and businesses have also lasting impacts on the way the public perceives people with special needs. Their families and communities suddenly experience the successes of people. In this partnership the Institut Keil has different parts: as a trainer, assistant, facilitator but also trouble-shooter.

Results and conclusions

Everybody can learn! Different personal biographies show in a qualitative approach how successful SE can be integrated in a conductive biography. Especially employment enhances individual self-esteem and increases quality of life. Most of the available SE studies focus on quantitative results. Especially cost-benefit analyses underpin the extraordinary value of this concept. Much more touching are the qualitative results measured for example by interview instruments that assess life experiences and quality of live. Employment is always highly associated with higher quality of life.

UNDERSTANDING CE AS PART OF A GENERAL STRATEGY FOR PROMOTING HEALTHY AGING FOR PEOPLE WITH CEREBRAL PALSY THROUGH PHYSICAL ACTIVITY

by GOMBINSKY Lisa
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Introduction

Physical Activity, exercise, and maintaining an active lifestyle are understood as vital and essential elements of healthy aging in the general population. However, "persons with physical disabilities are less likely than the general population to partake in regular physical activity even though they stand to achieve greater benefits from the adoption of this health behaviour than asymptomatic populations" (Spivock & Gauvin 2006). Though actual physical impairment certainly plays a limiting role, there are social and community barriers limiting access to physical activity for people with conditions such as cerebral palsy or making these 'choices' extremely daunting.

It would appear that there is a need for specialized opportunities for people with physical disabilities to access physical activity and the general health benefits of being active, particularly as they age. Conductive Education can certainly be understood as a strategy for promoting healthy aging for adults with cerebral palsy through appropriate physical activity, and many adults with cerebral palsy who access Conductive Education identify fitness, exercise, and weight management amongst program aims. Conductive Education for adults has traditionally fallen under rehabilitation and only physical and rehabilitation outcomes privileged. This is despite the consistent anecdotal

descriptions of psycho-social outcomes of Conductive Education including increased motivation, a positive and solution focussed outlook, development of social networks and micro-communities, being proactive, having a chance to be out of wheelchairs and learning to access one's body, increased control over body and environment, improved general well being, strategies for maintaining independence, sense of empowerment, decrease in postural pain, and actively working to minimize the effects of aging.

Aims

This paper will examine the outcomes of Conductive Education for adults with cerebral palsy as perceived by adult participants, family and direct carers, and other allied health professionals and will discuss Conductive Education as a strategy for promoting healthy aging through physical activity for people with cerebral palsy.

Materials

PowerPoint presentation including photos.

Methods

Literature review on aging with a disability; interview or questionnaire surveying participants', families', direct carers', and allied health professionals' perceived outcomes and rational for Conductive Education.

Results and Conclusions

To be determined by the following data collection.

CONDUCTOR COMPETENCY; TO APPLY CONDUCTIVE EDUCATION INTO PRACTICE

by GÖNCZY Katalin
The National Institute of Conductive Education, Birmingham, UK

The role of the Conductor and to implement conductive education into practice has increased significantly in the last say 15-17 years. In the past, in the mother institute Conductors were under close supervision by more senior Conductors and by Dr Maria Hári. 90% of the Conductors believed in the profession and the fact that we can change of lives of children and adults with motor disorder through conductive education.

There were not as many Conductors as nowadays, so we worked really hard with big groups of 18-24 children for 2-3 Conductors- but most of us didn't feel that way. For us it was the way and we enjoyed the enthusiasm of our colleagues and children and the fantastic improvements that children achieved. Even though, it wasn't proved scientifically.

To open the doors for western societies made a big change in the practice of CE. I remember that Dr Hári was afraid to do so, saying that this will be the end. She felt the pressure in the mid 1980s and could not protect Pető's inheritance any more.

The Conductors unexpectedly faced the challenge to enter the western world. Grateful parents who came from England, Australia, New Zealand then from Europe were overwhelmed by the Conductors' skill, their love for the children and adult and the results they achieved with them and how conductive education had change their life.

We have to remember that it was a big change in the political life in Hungary that time, the iron curtain had fallen and countries behind it felt freedom.

- Looking back to the mid 1980s, what happened?
- What is the outcome of it today?
- Did it change the basics?

- Did it change the principles?
- And what new ideas are brought into conductive education?
- What is the role of the Pető Institute?
- What is the role of Conductor training?
- What is the role and what we expect from the Conductor?

Pető developed conductive education in very difficult political and social circumstances. He believed in it and I am sure we all, who call ourselves Conductors, will continue his work.

FAMILY AND INDIVIDUAL ORIENTATION; PARENTAL ATTENTION AND TRAINING

(PARENTS' SCHOOL I.)

by GUAITA ALBERT Lucía – CAMPOS ZAPATA Estrella – ALBERICH RUIZ Mónica – ESTELLÉS SANTAMARÍA Elena – WAUQUIER COSTA Mª José

Valencian Foundation of Neurorehabilitation, Valencia, SPAIN

Summary

The following project of FUVANE's parents' school intends to develop the maximum autonomy in the child, thus improving his quality of living. The parents' school is created in order to promote rehabilitation and services aimed to families.

The parents' school is divided in:

A. Family and Individual Orientation (FIO).

   The goal is to offer an extensive list of techniques and aids to achieve a proper management of the resources offered by the State and Local Administrations, giving advice to both, the family and the individual.

B. Parental Attention and Training (PAT).
   Takes charge of achieving the maximum levels of development of the child by means of the family.

   The goal is to put into effect the tasks of the CE in the daily activities of the child with the participation of his family. The family undergoes a practical training in the various aspects of the son's daily life.

The **methodology** for the FIO:

A. To observe the parents' most demanded questions.
B. To carry out a survey from the parents on their needs.
C. To obtain information from other professionals.

The **methodology** for the PAT:

A. To analyze the points of interest suggested by the family for its daily life.
B. To carry out the proposed activity “in situ”.
C. To evaluate the needs of each family in each moment, by means of monitoring and evaluation studies.

Conclusion

We can say that the FIO intends to collect the information so that the parents can have a pattern to act. The PAT department intends to make the parents aware that the Conductive Education does not finish in the classroom, but has to be continued in the child’s daily life, in which he or she has to be the protagonist.

Note

This DVD, “PARENTS’ SCHOOL I.”, is the main part of the following one, “PARENTS’ SCHOOL II.”, which includes also the third one, “PARENTS’ SCHOOL III.”

CONDUCTIVE INTEGRATION PROJECT IN A GERMAN PRIMARY SCHOOL

by HADHÁZI Zsuzsanna – HERRLER Dagmar

Konduktives Förderzentrum FortSchritt gGmbH, Starnberg
and Privates Förderzentrum, Aschau, GERMANY

The most ambitious goal of the Conductive Education is the inclusion of children and adults with motor disorders into society as equal human beings who are useful for society. With this goal in mind and the problem that in Germany the Conductive Education is established only in few schools, a new school-project was started in Bavaria/Germany in September 2005. We would like to present this unique project to you.

Committed parents, whose children have been educated in the conductive kindergarten of Rosenheim for many years, looked for a possibility to continue Conductive Education for their children at school. Some schools with this offer already exist in Germany, but none of them in the area of these families. The idea arouse to start an own conductive class and to integrate it into regular school. Parents found strong partners in Bavarian ministry for education, the school for special education in Aschau and the conductive association FortSchritt Starnberg. The regular school in Rohrdorf near Rosenheim is hosting our conductive class.

In September 2005 the project started with six children with motor disorders, one teacher for special education and two conductors as a school with integrated conductive education until afternoon. Within the daily timetable units of special educational schooling and Conductive Education alternate and are closely linked together. Conductors accompany the children during the day in their activities and support the teacher, who in reverse supports the conductors. The pupils of the conductive class constantly meet the non-disabled pupils not only at the corridor, during breaks and common meetings, but also during regular co-operation lessons with the parallel class.

Meanwhile nine children attend this conductive class. Due to our concept the children make good physical, cognitive and in particular social progress. Children and parents, as well as the professional team and the co-operating organisations are very content with the results. The aims agreed upon together are consistently pursued. This, together with the complex routine of the day, led by the same teacher and conductors, support the progress of the children. As such it is made possible to offer a holistic, continuously education in the sense of the Conductive Education.

SUCCESSES IN COMBINING AAC AND CONDUCTIVE EDUCATION

by HEIKURAINEN Iina – HONKANEN Taina – JOKELA Tiina – KORKATTI Tuula – PALOJÄRVAnna – IRÄTY Pauliina – WIDELL Anna-Leena

Ruskeasuo School, Helsinki, FINLAND

Introduction

This presentation will demonstrate how augmentative and alternative communication (AAC) can be integrated in the programs based on the principles of conductive education (CE). Daily practices in a special school for physically impaired students will be described. Various activities where students use AAC will be highlighted.

Aims

Porter and Kirkland (1995) have compared the underlying principles of augmentative and alternative communication and conductive education. They found that these principles co-operate with each other. Conductive education is according to Hári and Ákos (1988) "no closed method but a flexible system capable of integrating into a coherent whole, any method, technique or procedure reconcilable with its general principles or serving its educational purposes". This presentation shows how AAC can be one of these integrated methods.

Materials and methods

Ruskeasuo School in Helsinki provides preschool and initial education, basic education in grades 3-9 and supplementary guidance and education. Ruskeasuo School is implementing and experimenting conductive education and rehabilitation. Special attention is given to improve the learning environment and equipment.

One third of students at the school (approximately 40) have a communication book as their main communication aid. All of these students use speech generating devices and some have a computer based communication program. Modelling the use of AAC is enhanced to construct a language environment that supports the students' expressive mode of language (e.g. von Tetzchner 2003; Vygotsky 1978). The AAC-team at Ruskeasuo School (speech and language therapists and AAC advisors) trains the staff and families to use AAC in everyday situations. This supports the students' developing language and communication skills.

Results and conclusions

Porter and Kirkland (1995) concluded their comparison between AAC and CE by noticing that the use of AAC systems by children who have a severe communication impairment is not in conflict with conductive education: "Indeed it seems obvious and essential that for a child who has a severe communication impairment, the aims of a conductive education approach cannot be realised unless [he or] she is provided with the opportunity to learn AAC modes to achieve self-initiated, functional, specific, active communication". At Ruskeasuo School the staff has experienced many successes in combining AAC and CE.

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POSSIBILITIES OF THE EMPLOYMENT OF CONDUCTORS

(CONDUCTORS IN THE HEALTH CARE SYSTEM)

by HERCZEGH Mária

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The idea of employing conductors within the health system was first raised in 1963 concerning the paraplegia ward of the so-called Fodor Sanatorium. The assignment of conductors was first realised in 1979 when the National Institute of Medical Rehabilitation opened a department for brain injuries. Between 1987 and 1990 the ward served also as an optional practising base for conductor training. At the same time conductors were employed in other health institutions as well. A specific system of conductive education was created which was directed by a physician and a senior conductor. The conductor team comprised a senior conductor, conductors and students. Psychologists and speech therapists contributed to the work as consultants. We worked in close collaboration with nurses.

The daily routine and the regimen ensured re-learning as they included tasks promoting movement, speech, perception, cognition, coordination, action planning, behaviour and self care. Continuous, active learning and teaching was based on the comprehensive development of the entire personality.

Medical care, ward-rounds and weekly discussions of the team were embedded in the daily routine. The efficiency of this original construction has been proved by comparative tests too.

REDEFINING LITERACY AND USING VIDEO TO RECORD CHILDREN'S ACHIEVEMENTS IN LITERACY

by HIRST Elizabeth Anne
Ingfield Manor School, Billingshurst, UK

Introduction

Literacy is an important skill to develop and children today are being born into and living in a complex digital world where literacy is being redefined and is expanding. The traditional definition of literacy is changing and including many different types of literacies including, computer literacy, media literacy and multi-modal literacy etc. Often with the children I work with, it can be difficult to ascertain their literacy skills using traditional methods and their actual skills can be missed. This can be particularly true for children with little or no speech.

Aims

To use video as an observational tool to ascertain children's achievements in literacy and to use these videos as a starting point for discussion within a team.

Materials and methods

A digital video camera was used to record 4 children completing different literacy activities – reading, matching words, completing a jigsaw and using a Communication Aid. Different inferences were then drawn using evidence from the videos which were discussed within a whole school training session.

Results

The videos provoked much discussion amongst staff as children's achievements and learning became more visible through using video. Children's

active involvement in their learning and motivation to develop their skills and engage in the activity became evident using digital video to record their actions.

Conclusions

Using video to record children engaging in literacy activities provides evidence of their learning which can be used for further planning.

In addition, watching the videos within a team meeting for example can enable staff to see how children learn and how they make meaning from the activity.

APPLIED VYGOTSKIAN PERSPECTIVES AND CONDUCTIVE EDUCATION

by HIRST Elizabeth Anne
Ingfield Manor School, Billingshurst, West Sussex, England, UK

Introduction

I have been teaching children with cerebral palsy within a Conductive Education environment for the past 15 years, and am particularly interested in the interaction between adults and children, and how these interactions and the use of language can facilitate learning. As Cordon states, 'The ascent of Vygotskian theory in the 1990's has helped to reassert the position of the teacher, not as a transmitter of information or a filler of an empty vessel, but as a significant participant, working and interacting with children in the learning process'. In this presentation I am going to explore the role that social interactions play in shaping and clarifying language and thought, that Vygotsky (1978) and others characterised.

Aims

I began to develop my interest in the ideas of Vygotsky, through studying for a Masters Degree in Education which I began in September 2005. The ideas of Vygotsky are extremely relevant for anyone interested in how all children learn, and in their own roles as adults within that learning process. His ideas about learning being an innately social process are at the same time simple, yet profound. We do most of our learning with others. Vygotsky was interested in how a 'more knowing other' which could be an adult or a peer, could support the development of a child. In addition, I wanted to develop further the ideas of Bruner, and the Zone of Proximal Development and how these are relevant to Conductive Education. Vygotsky believed those children's knowledge, understanding and construction of meaning was developed through their interactions with other people and their environment. He

understood that their learning is facilitated and supported through their social experiences with other people in their lives – parent(s), brothers and/or sisters, extended family, teachers, friends etc.

Materials and methods

Materials used included, videos and photographs of children and staff, translations of Vygotsky's work, and also work by Bruner and Wells.

Results

Through exploring the ideas of Vygotsky in relation to Conductive Education, I have developed a greater insight into the role of the adult in their interactions with children, and in addition, have developed further my interest in the social nature of learning. In particular, I have become interested in how language drives development which is of particular relevance considering how language is used within Conductive Education.

Conclusions

That as Bruner said about Vygotsky:

> "*His basic view was that conceptual learning was a collaborative enterprise involving an adult who enters into dialogue with the child in a fashion that provides the child with hints and props that allow him to begin a new climb, guiding the child in next steps before the child is capable of appreciating their significance on his own"*.

VISION AND CEREBRAL PALSY

by HIRST Elizabeth Anne
Ingfield Manor School, Billingshurst, England, UK

Introduction

Cerebral Palsy can often present additional challenges which can include visual difficulties. This presentation explores some of these challenges such as nystagmus and cortical visual impairment, and suggests different practical strategies to support children's learning.

Aims

To explore different visual challenges that affect children with cerebral palsy, and to develop different practical strategies to support learning. To explore how Conductive Education and in particular the task series, can support the development of visual skills such as visual scanning and position in space.

Materials and methods

Observation of children, photographs and videos of children, and research about vision and cerebral palsy.

Results

Simple strategies can support children's learning where visual difficulties are present, such as consideration of lighting, positioning and size of text. In addition the optimal use of language can facilitate children's learning and development, so consideration can be taken of using language constructively.

Conclusions

Visual difficulties can present many challenges for children with cerebral palsy however there are many practical strategies that can be used to support their learning.

POSSIBILITIES AND LIMITS OF SHAPING QUALITY-CENTRED WORK IN THE COLLEGE

by HORVÁTH Júlia

Pető András Institute of Conductive Education for the Motor Disabled
and College for Conductor Training, Budapest, HUNGARY

The Pető András Institute of Conductive Education for the Motor Disabled and College for Conductor Training, an international institution which is unparalleled in the world, provide conductive education to people with motor disorders of central nervous origin and trains conductors.

As written in its mission statement, the primary aim of the institution is to function as the centre of quality excellence. Essential tasks in this area are to ensure the highest quality of service towards students participating in our training as well as motor disabled clients and their families and to control progress in terms of both the theory and practice of conductive education.

The presentation will treat the formation of the quality of the training, the history of quality-centred procedures and current tasks. As the quality standards of the conductor profession were conceived and may undergo amendment according to permanently changing needs, likewise the forces of change have an impact on the quality parameters affecting conductor training. In order to adapt the training to the demands of the market and to the constantly changing circumstances we need to set up and continuously improve quality parameters. In my lecture I will expound some basic principles and the factors that are shaping and affecting them, such as:

- Success orientation (Clients' needs and the factors influencing those needs – Bologna process etc.).
- Customer-centred attitude (preserving and advancing existing values).
- Consistent management and goal system (transparent management culture and internal and external impeding factors).

- Fact-based task management (efficient administration).
- Partnerships (market research).

The presentation will introduce the audience to the process of elaborating quality parameters and to our strengths and weaknesses in an international perspective.

PLAYING AND GAMES IN CONDUCTIVE EDUCATION

by HORVÁTH TÓTHNÉ Eszter – NÁDASI Zsófia
Move & Walk AB, Göteborg, SWEDEN

Every field of science concerned with the development of individual children agrees that the activity that is most suitable for learning while being most characteristic of childhood is playing itself! As a crucial precondition of every teaching-learning process is the active participation of the child, consequently, over the course of conductive upbringing it is necessary to awaken the inner motivation of the physically challenged or cumulatively injured children. The conductor must know the timing of the child's cognitive development and must select the possible and most goal-oriented motivational technique on the basis of precise operative observation. In this presentation we shall show how we view the cognitive development of challenged children, about the growth of their task oriented consciousness, as well as our rationale for combining conductive education with game/play education with those children who have not yet developed task oriented consciousness.

When we observe the development of children without special needs, and how they play, we notice that at every age and in all manner of play (repetitive, constructive, role playing, etc.) they state their objectives. These objectives, however, are not identical with the movements used to accomplish them.

It is evident that a diagnosis of cerebral palsy does not necessarily translate as a mental impairment. It is well known however that people with cerebral palsy lack a full opportunity to experience normal life. In many ways their mental development is impaired not by the cerebral palsy itself but rather by the unfortunate lack of life experiences. It is important to keep this in mind because we should be aware of the actual age as defined by experience of a participant.

In conductive groups, physically challenged children develop in a complex fashion, a fundamental component of which is the ***development of cognitive***

functions. The most important and crucial component of the program constructed by the conductor is rhythmical intention, as well as the motivation, which supports intention. Naturally the personal charm of the conductor can only come to the foreground if the game or rhythm that had been communicated is accompanied with speech or music and follows the mental/cognitive milestones of the child's development. This is equally important in the selection of the appropriate toy or play activity fitting the child's ***level of development or mood.*** Based on our experience if the children (and those participants where task-oriented consciousness has not developed yet) play over the course of the conductive program and utilize those algorithmically and systematically constructed tasks that characterise the conductive complex program, they will be able to apply the learned series of movements a lot easier and a lot sooner during daily life.

For children, it is the joy of the play activity and of the playing itself, which assists the initiation, development of movement, thus assisting the complex development of the child itself. In those groups and over the course of the conductive complex program of which the cognitive/mental age of the participant has not yet reached the level of task-oriented consciousness, it is important that the objective of the group or individual is the joy of playing itself, and not motion or movement.

The development and reinforcement of orthopaedic functionality is only a conscious process and an objective for the conductor and the parent; but the child must only be aware of only the fact that he or she is just playing. The conductor must creatively participate in this endeavour by the maximum utilisation of his/her own education, personality and capabilities.

IS THERE A PARTICULAR PETŐ ARCHITECTURE?

by HÖSS-ZENKER Beate – STEINMANN Gernot
Konduktive Förderung der STPP, München, GERMANY

Everyone should be able to get to and use buildings and the open spaces between them and inside them. For many people, this is not currently possible due to barriers created by the design, management and operation of buildings, streets and open spaces.

We know that Prof. Pető was a very innovative person and that he created novel furniture for physically handicapped persons which are used all over the world in conductive groups. We also know that Prof. Pető was a pedagogue, doctor of medicine, specialist in movement education, furniture designer, but was he also an architect, did his system of conductive education imply a particular kind of architecture?

The Pető Institute in Budapest sets an example for many new conductive centres throughout the world and provides qualified persons in the field with ideas. What lessons can architects learn from the institute? A building for physically handicapped persons must provide them with the level of independence possible in their daily routine. Pető's requirements for a meaningful and successful daily routine must be achievable in a highly sophisticated building – these requirements have been met in a building built in Munich, Germany by the Pfennigparade Foundation.

This building will be used as an example to illustrate the important vertices in conductive architecture such as:

- The need to have everything on one level with minimal inclines.
- Means for making rooms larger or smaller as needed.
- Proximity of self-supply rooms and classrooms.
- Points of self-activity like a snack bar or kiosk.

- Grab bars and handrails throughout the centre to create a safe environment.
- Means for self-correction (mirrors).
- Orientation by shapes and colours.
- Allow open communication between groups.
- Outdoor spaces connected to indoor spaces.
- Variety of therapeutic furniture and other therapeutic means (e.g. a pool).

Recently, we have started using the term "wellness architecture", which has its origins in the Chinese system of Feng Shui. Handicapped children in particular are often very sensitive, with this especially applying to electro-magnetic pollution, fields of interference, noise, disharmony in colour and symmetry, so that it is very important for the building to observe "vital energy" principals. Construction according to the principals of vital energy means to reinforce beneficial energies and prevent detrimental influences so as to design the environment of handicapped persons as a vital source of well-being, thereby making an important contribution to therapeutic and conductive success.

A sense of well-being and balance in a strong personality – those were Pető's goals for children and conduction. They can be achieved through well though-out, modern architecture and should always remain a primary focus. Examples for all this aspects will be shown by photos or a short videotape.

GAIT TRAINER AND TREADMILL INTEGRATED IN THE CONDUCTIVE DAILY ROUTINE OF PHOENIX CONDUCTIVE EDUCATION CENTRE DURING A PROJECT IN 2005 – 2007

by HÖSS-ZENKER Beate

Konduktive Förderung der STPP, München, GERMANY

Goals of the project

1. The devices can be used by all of the groups and by at least one trained person per team.
2. Optimum use of the devices and consideration as a potential element in the conductive daily routine.
3. Development of long-term documentation on the utilization of the devices.
4. Observation of potential changes with/without training with the assistance of the ADL questionnaire.
5. development of a manual for the use of the devices that will ensure continued use after the end of the project as well.
6. Parents will also be able to use the devices with their children in return for a fee after being given instructions.
7. The training must be integrated in the conductive daily routine in a harmonic way.

Project phases

February to July 2006 and December 2006 to July 2007:

1. The project support teaches staff members how to use the devices (February to March 06).

2. The project support staff, the respective persons responsible in the group and the physiotherapy teams use the devices.
3. (February to July 06); the entire school year for the physiotherapy team).
4. Organisational issues (constant coordination of the timetables for use of the devices, contact with the persons responsible from the groups and the physiotherapy team, contact with the manufacturers and sales and distribution agents in case of defects).
5. Research on how to optimise training sessions.
6. Evaluation sessions with the physiotherapy team.
7. (period of 3), 4), 5): December 05 through July 2006).
8. Interim evaluation (period: June to July 06).
9. Elaborate the instructions for use and safety notes in the shape of a movie and an instruction manual with photos
   (period of 7), 8): July06).
10. Practise and training of a group of children (12/06 until 06/07).
11. Final evaluation July 2007.

Results of the Gait Trainer/Treadmill Project 2005/06 and 20006/07

10 staff members completed a questionnaire (2x 2 persons jointly), with 2 being staff members of the physiotherapy team, the other 2 being from the groups. Some of the returned questionnaires were incomplete. Have a look on the questionnaire:

1. How many children/youths use which device how often each week (acc. to the timetable)?
2. How many staff members per group use the device?
   Which professions?
3. What reasons are there for loss times (besides defective devices)?

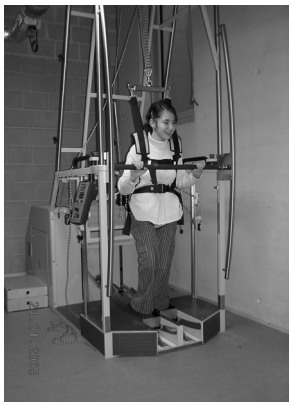
4. Organisation:
   a. In which programmes did it prove beneficial to use the devices, and why?
   b. Does more than one child train at the same time, or do they train individually?
   c. How do you proceed prior to and during training (e.g. stretching, distance walked, nothing specific…), and what has your experience been?
5. How long does it take you per child?
   Exclusive walking time?
   Transfer into the device and back out?
6. Are there problems in facilitation? If so, what are they?
7. How do you rate the effectivity of the device based on your experience?
   Was there any improvement? If so, what?
8. What intensity of training do you consider necessary to be effective (number per week, training duration, speed,)?
9. For which children do you consider the devices to be particularly effective (e.g. certain diagnosis or severity, degree of cognitive impairment).
10. What is the feedback from the children/youths with regard to the devices and possible improvements?
11. Is there feedback from the parents or an interest in independent use?
12. Advantages and disadvantages of the devices from your point of view.
13. Suggestions for improvement for the documentation sheets.
14. Deficiencies of the devices and suggested adaptations.
15. What should an introduction to the devices look like in your view (number, with photos, with the individual child)?

Summary and Conclusion until 20001/2007

- Both devices were generally rated positively by their users (children and accompanying persons), particularly with reference to improved endurance, strength and gait.

- Some of the parents also exhibited great interest.
- 8 groups, 3 individual therapists and 2 project support persons used the devices.
- The children usually trained once per week, but it was recommended to train at least 2-3 times per week. The residential school should also use the devices next school year.
- The training was usually performed as part of the individual programme, i.e. it was not integrated into the conductive group programme. As a goal for next school year, the training is supposed to be integrated more into the programme taking place downstairs. For example, a group with 2-3 children could be in the gym. At the same time, 2-3 children could be in the SI room and 2 children could be in the weight room.
- Cancellations of training were predominantly due to a lack of time or staff.
- Stretching before the training and the walk after training proved to be beneficial.
- Advantages and disadvantages of the devices:
  - Transferring to the gait trainer is time-consuming.
  - On the other hand, it was felt that the treadmill was easy to operate.
  - The therapist had a good position on the gait trainer while facilitating, whereas the position on the treadmill was poor.
  - Fixation of the feet and pelvis was poor on the gait trainer.
  - Neither of the devices has an adaptation to counter adduction tendency.
  - There are differing indications for the devices: The gait trainer is suited for severe conditions and tends to be better suited for children with spastic tetraparesis and athetosis; the treadmill is suited for children with mild conditions and tends to be better suited for children with diplegia and ataxia.

The documentation sheets should be modified slightly. The instructions should take place with the child directly.



Outlook/Continuation:

- Training must be optimised and standardised: Intensive training phases, extensive endurance training with the Borg scale, heart rate monitoring and, as needed, lactate measurement for monitoring purposes.
- Documentation prior to and during the training phase: By means of a 10 meter walking test, 6 min. walking test, timed up and go.
- More combination with the programs in the group.
- Answer unanswered questions: How many corrections are needed, conscious walking vs. distraction (automated; in the long-term, we are considering mounting a screen so that movies can be watched during training), further implementation of the groups, adaptations to the devices.
- Ensure continued implementation of the training in the conductive daily routine; in particular, integrate it into the group programme.
- Children doing both – conductive movement program and treadmill or gait trainer have better outcome, than children training only one of both.

THE HALLIWICK-CONCEPT AND CE, TOGETHER STRONG IN DEVELOPMENT

by HUDU Elisabeth – MEIJER Ine***

St. Kids Foundation* and Aquatic Rehabilitation**,
Bome, NETHERLANDS

Introduction

In many ways the skill even the most disabled learn in the pool are carried over into their whole life"[3]. This sentence was the beginning of our adventure, combining the Halliwick-concept and the Conductive Education. Since 2003 we started in Hengelo with a group of 4 children from the KIDS Foundation. We would like to share with you our experiences.

Aims

In our poster-presentation we will show you the unique similarities between the Halliwick-Concept and the Conductive Education and why they reinforce each other.

Materials and Methods

In Hengelo (NL) we have the use of a therapeutic pool (water temperature 33 C^{o} and an adjustable floor) where we a Halliwick instructor / paediatric physiotherapist and a Conductor work with our pupils using the 10 point of ***Halliwick*** program.

Result and Conclusions

Our KIDS have benefited from this approach. They show us that combining these two therapeutic approaches give them the opportunity to practice their

[3] Hydrotherapy Principles and Practice, Chapter 7,Edited by Margaret Reid Campion (1997), Butterworth – Heinemann

motor-skills in the water with all its fluid-mechanics advantages. The result is a happy child with a better self-esteem.

In both our professions the holistic approach is a very important issue. By working together we are in the position to treat the child more as a whole with the result that “dysfunction becomes orthofunction”.

EXPECTATIONS AND CONSIDERATIONS OF PARENTS IN CHOOSING EDUCATIONAL AND REHABILITATION FRAMEWORKS FOR CHILDREN WITH CP

by IGRA Ida

TSAD KADIMA, the Association for the Advancement
of Conductive Education in Israel, Jerusalem, ISRAEL

Introduction

Choosing an educational institute for their children is important for all parents, but especially so if the child is developmentally delayed, such as children with CP. This choice may affect all aspects of the child's development. Conductive Education (CE) is the educational method employed in Tsad Kadima rehabilitation centre, which looks for ways to encourage parents to join this system.

Aims

The research aim was to help the Tsad Kadima staff understand parents` expectations and considerations in choosing educational and rehabilitation frameworks, in order to better convey their approach to the parents.

Method

A qualitative research was performed in which twelve couples, parents of children with CP (aged 1-5), were interviewed following their initial evaluation for joining Tsad Kadima. They were divided according to their decision whether to join Tsad-Kadima (six couples) or another facility. These interviews were analyzed by the grounded theory.

Results

The expectations of all parents were: a warm, loving staff, sufficient number of caretakers per child in each area, intensive work in all fields, availability

of guidance and instruction for parents, the presence of appropriate equipment and evidence for the progress of the child.

Parents who choose Tsad Kadima gave the following reasons: staff's professionalism, disappointment from conventional institutions, recommendation of other parents, the advantages of the CE method associated with intensive work and "gut feeling" that this is the right place.

Those who didn't choose Tsad Kadima did so because: there were few traditional paramedical treatments, feeling that the group wasn't suitable for either the family or the child, the strictness of the CE method, lack of information (no website), negative recommendations from placement committees and other professionals and the non religious atmosphere (ultra orthodox families).

Conclusions

Research results will help staff understand parental attitudes and concerns, enable better absorption and accompaniment of parents and children through the CE method, and promote exposure of Tsad Kadima to decision makers (hospitals and placement committees).

THE EVALUATION AND OUTCOMES OF THE "EARLY INTERVENTION THROUGH CONDUCTIVE EDUCATION" PROJECT

(A PILOT INITIATIVE TO ENABLE CHILDREN WITH MOTOR IMPAIRMENTS TO SUCCEED WITHIN INCLUSIVE SCHOOLS)

by JONES Laura

Carson Street School, Perth, AUSTRALIA

Introduction

For over a decade, the National Association for Conductive Education in Western Australia (NACE WA), a parent-led action group, worked hard to increase public awareness of Conductive Education (CE) and tirelessly lobbied both Government and non-government agencies to make CE a viable option for children with physical disabilities. In October 2003, the Department of Education and Training recognised the potential value of CE as an Early Intervention strategy that could promote successful inclusion within government schools and so support was given to a proposed two-year CE Early Intervention Pilot at Carson Street School.

The project began in January 2004.Seven students aged 5-7 years old were involved and their progress was reviewed by independent researchers associated with Curtin University.

Aims

The aim of this presentation is to describe the key outcomes of the pilot project in terms of:

a. The evaluations made by the independent researchers regarding the student's progress, and

b. The impact of the pilot project and the implications of the recommendations made within the researchers' independent report on the future development of Conductive Education within Western Australia.

Materials and Methods

The researchers carried out individual case studies with formal assessments carried out at the beginning and end of the 2005 academic year. The following materials were used:

- Gross Motor Function Measure.
- Peabody Developmental Motor Scales.
- Paediatric Evaluation of Disability Inventory.
- MacArthur Communicative Development Inventory.
- Children's Communication Checklist.
- Semi-structured interviews with families.
- Semi-structure interviews with mainstream link school teachers and,
- Monitoring of school based checklists and Individual Education Plans linked to the Western Australian Department of Education and Training's Curriculum Framework.

Results and Conclusions

Jenkins (2006) concluded within the evaluation report that the pilot supported many positive outcomes including:

- Increased independent mobility.
- Reduced dependence on caregiver support.
- Progress across the curriculum learning areas ,and
- Improved quality of life for the families and individual students.

The pilot project generated considerable interest within the Education Department and attracted the attention of the media and influential politicians. As a result, Minister Ravlich, former Minister for Education, pledged an additional $200,000 per year for the next three years to the development of Early Intervention services based on the principles of Conductive Education

at Carson Street School. The future directions of Conductive Education in Western Australia will be discussed within this context.

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EMBRACING RECENT ADVANCES IN AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC) STRATEGIES, INCLUDING ASSISTIVE TECHNOLOGY, IN ORDER TO FACILITATE THE DEVELOPMENT OF ORTHOFUNCTION

by JONES Laura
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Introduction

In 1997 Porter suggested.

> *"…it is questionable whether the central aim of conductive education, the development of an orthofunctional personality, can truly be achieved for a child who has severe communication impairment without the use of AAC."* (Porter, 1997, p2)

Over the last decade within the conductive community, the extent to which conductors implement AAC strategies within their CE programmes, their ability to do so and indeed whether or not they *should* do so has continued to be the source of several in-depth debates.

Aims

This paper aims to demonstrate the critical importance of AAC as a key facilitator in the development of orthofunction for Conductive Education students with complex communication difficulties. This paper also sets out to illustrate how the essence of Conductive Pedagogy is not only maintained but strengthened through the modelling, teaching and reinforcement of a wide range of AAC strategies across the daily routine, with careful attention to both individual solutions and the needs and dynamics of the group as a whole.

Materials and Methods

Using a case study approach and video evidence, a range of AAC strategies that have been embedded into daily conductive routines will be presented. Difficulties and successes in the trial and implementation of different strategies will be discussed with reference to current research in the AAC field and any implications for maintaining the essence of conductive pedagogy. The progress of students with complex communication difficulties accessing Conductive Education programmes will also be described through both qualitative and quantitative measures (including the MacArthur Communicative Development Inventory).

Results and Conclusions

Competent communication is not innate, it must be learnt and to be learnt it must be taught (Light, 1997). Many students accessing Conductive Education programmes have severe communication impairments. In order to develop as orthofunctional individuals, it is imperative that these students become competent communicators. Conductive Education is a flexible system (Hári and Ákos, 1988) that supports the exploration and use of new techniques that will further promote a student's active learning towards the achievement of orthofunction. It is imperative that conductors keep abreast of developments in all fields that can positively impact upon their students' ability to attain orthofunction and AAC is clearly of great significance.

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BENEFITS OF CONDUCTIVE EDUCATION FOR CHILDREN AFFLICTED WITH DISORDERS OUTSIDE OF THE WORLD OF CEREBRAL PALSY

by JÒZSA Szilvia – NÁDASI Zsófia – FAZEKAS Tünde
Move & Walk AB, Göteborg, SWEDEN

In the most cases of children whom suffer from CP and children without CP but who suffer from other complications we have to talk about multiple disabilities, sight, hearing, mental, motor impairment, and change of muscle tones can be included. Briefly, the whole personality of such children as well as the quality of life can be affected.

To recall professor Petö´s words: "orthofunction is not changing some kind of disability for a right function. It is helping a person who is able to change towards his goal. Conduction, with mediating the correct goals through complex activities, guides people to create a certain inner organizing schemata, the coordination of the nerve system".

The complexity and the holistic approach of the method lead to the opportunity to develop children with other diagnoses than CP. During the sessions children are in an extremely stimulus rich environment. With the help of differentiation it is possible to take into account the individual needs and the age factors for all involved.

There are 1,255 trainees in our register.

Out of them:

1. Cerebral Palsy (CP)	
Spastic monoplegia	3
Spastic hemiplegia	122
Spastic tetraplegia including all triplegia as this diagnose does not exist in Sweden	402
Athetosis	180
Ataxia	67
Spastic diplegia	288
Other (hydrocephalus, etc.)	18
CP Summa	**1080**

2. Non Cerebral Palsy	
Developmental delay	19
Autism	19
Syndromes	37
Ones without diagnose	8
Other (acquired injury, spina bifida, etc.)	92
Non CP summa	**175**

Our hypothesis was the following:

Conductive education is a method that can be successfully used in cases of people suffering from disorders other than CP.

A **sample group** was created with 14 trainees. The information and results were collected from out of the database, and from the journals that involve our 10-grade-scale. Scale 1 means that the trainee has either never tried or could not at all do a certain task. Scale 10 means that the task is carried out without any help.

Documentation and summary of the results:

1.	To learn to sit on the floor	33,3%
2.	To learn to sit on the box	26%
3.	To change position on the floor	40%
4.	To learn to take legs apart	40%
5.	To learn to take hands apart	30%
6.	To learn coordination I lying position	20%
7.	To learn to stand up from the floor	40%
8.	To learn to stand up from a box:	40%
9.	To learn to sit down on the floor from a box and back	40%
10.	To learn to stand individually with support	27,5%
11.	To learn to stand individually without support	25%
12.	To learn to go with support	37%
13.	To learn to go without support	50%
14.	Variable walking tasks with difficulties	50%
15.	To improve the sense of balance	35%
16.	To improve coordination	40%
17.	To improve concentration in different situation	30%
18.	To learn to fall from standing position	20%
19.	To improve the self-care	30%
20.	Variable tasks in sitting position	40%

In our observation several principles of CE can be highlighted in case of trainees without CP:

- It is important to follow the principle of gradually (to start with the easy task and move on to the more difficult one; from gross functions to fine movements). We form a picture about the movements and we store it though the process of regular active learning.

- In case of individual training the program and the stretch of time is unique, there are shorter and longer stretches.
- Until the automatic response repetitions are crucial.
- The presence of a family member is important; it is easier to solve the task with someone who is accepted by the trainee.
- All response from the child is essential it decides the next step.
- Everything is based on what the child already knows. We have to turn to that base all the time.
- Calm music, musical instruments, balance toys (bolls etc).

Conclusion

Conductive education –applying the previously mentioned circumstances and methods- is successful in case of non-CP trainees.

BEYOND TASK SERIES AND DAILY SCHEDULE: THE WHOLE SCHOOL IMPLEMENTATION OF CE IN SCHOOL CURRICULUM DEVELOPMENT AND LESSON TEACHING FOR MULTIPLE HANDICAPPED STUDENTS USING THE TRANS-DISCIPLINARY APPROACH

by KAN Kin-ho

The Spastics Association of Hong Kong, Hong Kong SAR, CHINA

Introduction

Conductive education (CE) emphasizes holism and the inseparability of the body and mind as reflected in strategies such as task series, daily schedule and structured environment. However, literature on illustrating how the principles of CE could be implemented and reflected in academic activities and curriculum development in the special education system with a trans-disciplinary approach is limited. To cater for the specific needs of the schools and align with the educational reform, our special schools have developed a working model that extends the application of CE principles into the core academic system and school activities, such as curriculum development, classroom learning and teaching, development of self-determination and generic skills for multiple handicapped students in the schools for the special needs.

Objectives

To develop and implement a working model that integrate CE principles in curriculum development and lesson teaching for multiple handicapped students in a special education system that uses the trans-disciplinary approach.

Methodology

A trans-disciplinary infrastructure to promote CE was set up to plan, to develop and to implement CE principles in curriculum development and in classroom teaching. An integrated curriculum that based on outcome-based education was developed in which clear and measurable expected outcomes foster students' motivation, locus of control and self-directed learning. The content of the curriculum was also extended to include rehabilitation concepts and generic skills. Holistic individualized education plan (IEP) was developed for each student. For lesson teaching, the conductive pedagogy that emphasizes interactive teaching, group dynamic and facilitation was implemented. Collaborative teaching with teachers and therapists were also carried out. Data of the outcomes were collected by means of questionnaires, interviews and student reports.

Results and Discussions

Qualitative survey was used to evaluate the effects of the implemented system. It was found that the knowledge and skills of implementation of CE was extended among the teachers and therapists with a cultivation of ownership towards the new system. Increased in communication and role sharing within the trans-disciplinary team were found. In lesson teaching, conductive pedagogy was observed and students' individual differences were catered through the IEPs. Finally, the students were found to be more active in learning and more self-determined. In conclusion, in order to implement CE in the whole school system, incorporating CE principles into the core academic activities such as curriculum development and lesson teaching is both essential and beneficial to the students and trans-disciplinary team and we have demonstrated a workable model with promising results.

ARE CONDUCTIVE EDUCATION AND STATE FUNDED REHABILITATION COMPATIBLE?

(AN OVERVIEW OF STAFF PERCEPTIONS)

by KINNERSLEY Theresa

National Institute of Conductive Education, Birmingham, UK

Introduction

The presentation gives an overview of an undergraduate study completed in 2005. Conductors working world wide were sent questionnaires. Staff who had worked within state funded rehabilitation services (NHS) was interviewed. The data was collated and analysed using grounded theory methodology.

Aims

The aim of the presentation is to outline the background to the study, the findings and implications for future developments.

Materials

Power point presentation: outlining key aspects of the study.

Results

The results indicated that CE does have something to offer NHS provision. Conductors felt that they had a specific and clear role to be educators. Teaching was perceived to be implicit within the role of staff working within the NHS, however there was little explicit recognition of their role or the skills required to be successful. Those working within the NHS were able to identify gaps within the service. Primarily these related to the psychological needs of their service users. It was generally felt that the physical needs of individuals were prioritised over the psychological. There was also a perception that the team focused upon the services and input they could offer,

rather than upon the individuals' actual needs. They were aware that by doing this they were negatively impacting upon motivation, hope and the focus. They also knew that the consequence of this approach created gaps within their service provision.

Few Conductors either work with adults, or work within multi-disciplinary teams. Those that do, felt that they had a role to play in filling the gaps created within such a service. Much of this role focused upon interpersonal communication with other professionals and service users themselves.

Issues for Conductors related to the need for a register of conductors, a professional body, and an increase in research based practice. It was felt that development of these areas would improve the general perception of CE by other professionals.

Conclusions

It is important to present these results in the light of present developments both nationally and internationally, within the CE world and in health care provision.

ROLE PLAY AS A DIAGNOSTIC AND THERAPEUTIC TOOL AMONGST CHILDREN WITH CEREBRAL PALSY AGED 4-6 AND 6-8 YEARS

by KLEIN Anna – BIRÓ Katalin

Pető András Institute of Conductive Education for the Motor Disabled
and College for Conductor Training, Budapest, HUNGARY

The child's needs underlie play which belongs to their main activities in infancy. Play activity provides the essential basis for the development of sensory-motor, intellectual, emotional and volitional functions. Mature play is characterised by goal building, planning and problem solving. The activity emerging during play is a condition of spontaneous and conscious learning. In conductive education the shaping of activity, goal building and problem solving is adopted and set as an aim through activity-based principles. This is the reason why taking advantage of the pedagogical values of play has been pursued for almost ten years by means of play sessions which are consciously and systematically integrated into the daily routine.

The present study undertakes to introduce the prevalence and the characteristics of an important segment of play activity: role play. Two kindergarten groups and two school groups i.e. children aged 4-6 and 6-8 years, respectively, were observed on four occasions over a period of one year according to structured observation criteria. Observation took place quarterly during spontaneous play activity going on for 30-40 minutes. In the groups involved the organisation of play sessions is a consciously planned part of the pedagogical programme. Altogether 49 children participated in the programme.

The following results must be emphasised here, due to size restrictions omitting the related data: Role play, the most advanced form of play, maps social roles and reflects experience-based conduct and behaviour patterns.

Given the damage to their motor and associated functions, the experiences children with cerebral palsy are able to acquire are limited and narrow. In this population the form of play in question is not as common as one should expect in these age groups. In comparison to the criteria of advanced role play, creative play appears on a lower level. Integrated play sessions are designed to enhance the children's social experiences and to introduce them to attitudes and behaviour patterns which they can also practise extensively. Through these activities we aim to develop their intellectual, communication, emotional and motor skills, i.e. their social skills in general. The facts we have found reveal that during the one-year period role play has become more frequent in spontaneous situations. The subject matter of play has become richer, the circle of children playing together has increased and the elements of planning and creative implementation have emerged. The more frequent manifestations of persistent, absorbed activity suggest the development of attention and fantasy. The number of verbal interactions has increased the reinforcement of the elements of evolving motor skills and their integration into complex action have started and in some cases new, purposeful forms of motion have turned up too.

At the present stage of research these changes encourage us to continue the work we have begun. During further analysis of the data new facts may come to light and thereby allow for a correction and refinement of the programme subject to need. Following an extensive processing of the data we may as well determine development indicators which are characteristic of CP children and suitable for generalisation.

A SURVEY ON CUSTOMER SATISFACTION OF A SELF-FINANCED COMMUNITY REHABILITATION CENTRE USING CE FOR ADULTS WITH NEUROLOGICAL IMPAIRMENT

by LEUNG Consa Sin-mei – SU Ivan Yuen-wang
The Spastics Association of Hong Kong, Hong Kong SAR, CHINA

Introduction

Contemporary rehabilitation opts for holistic care. However, when different disciplines of conventional therapy background called for team work, confusion and conflicts arise. We believed that the adoption of CE is the best approach to realize holistic care and therefore attempted to apply to the rehabilitation of adults with neurological impairments (mainly stroke and Parkinson's disease).

A self-financed centre was opened in Jan 2006. We applied CE in community rehabilitation to patients at their sub-acute and convalescent stages of recovery. We integrated inputs from different allied health professionals into task series and daily routine trainings. Intertwined centre- and home-based programs together with caregivers' training were delivered. A series of conductive furniture and aid suitable for use by adults were designed to facilitate trainings.

Aim

This study investigated the satisfaction of service users who were receiving services in the centre during the study period.

Methodology

A customer satisfaction questionnaire of 15 items plus an 'Overall Satisfaction' rated by a 6-point scale ("excellent", "good", "acceptable", "fair", "dissatisfied", "extremely dissatisfied") was developed and given to all service users within a month's time.

Results and Discussion

36 responses were collected. The mean age of the respondents were 66±16 with 2 months to 8 years post-incident and their average training period in the centre was 5.4 months. 82% rated the 'Overall Satisfaction' at "excellent" and "good". Among the 15 items, 8 with >90% respondents rated at "good" or above and for another 3 items lied between 80-90%. One of the items with ratings at "fair" or below was 'Home Program' (10%). The comparatively low ratings were obtained from respondents who lived in aged home with no attendant to follow-up their programs. All items were correlated significantly with the 'Overall Satisfaction' except 'Centre's Atmosphere' and 'Transportation Fee' ($p<0.05$, Spearman's rho). The top 3 correlation coefficients were found in 'Group Program' (0.76), 'Caregiver's Training' (0.77) and 'Service Fee' (0.70). The response from the users was encouraging. CE provides them a promising alternative to realize "holistic care by community" and allowing them to live at home with maximal participation.

CONDUCTIVE EDUCATION – WHAT KIND OF KNOWLEDGE?

by LILJEROTH Ingrid
Bräcke Diakoni, Göteborg, SWEDEN

Introduction

In 1999 I accepted to be development leader of a preschool that should be built up inspired by CE. I knew very little about CE. An infectious atmosphere in our country restricted our possibilities. We started without a conductor. Lillemor Jernqvist and Craighalbert Centre educated the team and supervised the practice. If a new system of knowledge is to be grounded in a country it is necessary to be able to talk about it in a way so that people can understand it. That was really challenging. It started a process in me. What is CE? Is it special education or a method of treatment?

Aims

The lecture will present an analysis of CE as a system of knowledge in the field of special education, the qualities of CE and the attitude of mind behind it.

Materials and methods

The analysis is based on:

- experiences when we investigated CE in practice,
- interviews and observations,
- studies of literature.

I have also followed a man, Anders, 30 years of age, during 4.5 years. He decided to rise from his wheelchair with the help of CE (a case study).

Results and conclusions

The basic result is a definition of CE that can be a support in education and in practice. I found a well developed system of knowledge based on a con-

scious philosophy and attitude of mind. It has resulted in a scientific report and a book about Anders. It has also strengthened the theory of special education that I have developed over many years.

I will discuss the consequences – possibilities and obstacle. There are many aspects that we ought to pay attention to when CE is being spread over the world.

EFFECTS OF CE ON EARLY INTERVENTION FOR YOUNG CHILDREN WITH DEVELOPMENTAL DISABILITIES

by LIN Kuei Mei
National Taipei University of Education, Taipei, TAIWAN

This study investigates the application method of Conductive Education and its effects on motor, social relation, self care, cognitive concepts and language development for the preschool children with developmental disabilities. The experimentation and action research methods are utilized for collecting data and materials, and designing programs as well as analyzing them.

The subjects of experimental group comprising six children (5 boys, 1 girl) at the age of 3-6, are selected through voluntary participation. The control group also has 6 children (5 boys, 1 girl), their parents can not join the classes, the subjects stayed in their own classes. All subjects of the research were placed in inclusive classes of preschools. For the sake of integrative setting, there are also 2 Non-disabled girls placed in the experimental class. The research was executed for a period of 18 weeks, 3 times for a week, 90 minutes each time. A structural development scale for young child is used for pre-test and post test as learning acquisition assessment to understand the progress of subjects. And at the end of the experimentation, parents of the experimental group are required to fill in semi–structural questionnaires. The results shall be used as social effectiveness reference for understanding the effects of the experimentation. The teaching materials and teaching program were also evaluated for checking its quality.

The paper is divided into four parts as the following:

- The first part, introduction, describes the purpose of research, theory and principles of Conductive Education and its applications in Taiwan.

- In the second one, research design and experimental procedures based on Conductive Education are explained.
- Thirdly, the effects of Conductive Education on early intervention for the pre-school disabled children are analyzed and discussed.
- Finally, conclusion and suggestions are presented to teachers of special education classes and to schools, as well as to educational administration.

OUTREACH SERVICE IN HONG KONG INFLUENCES THE IMPROVEMENT OF THE TEACHERS' ABILITY ABOUT CONDUCTIVE EDUCATION

by LIN Li

Guangzhou Rehabilitation and Experimental School, Longkou, Guangzhou, CHINA

This study is mainly about the training on Conductive Education in Hong Kong during two year of 2005 and 2006. The aim of this study is that outreach service in Hong Kong influences the improvement of the teachers' ability about Conductive Education. During two years of 2005 and 2006, 36 teachers from managing the children's lives and knowledge were trained by Conductive Education by four times of each year and five days of each time. The training was involved in theory study and practice about Conductive Education.

The standard assessment is that the score of both theory studying and practice is more than 85 is regarded as be great, the score is more than 75 is regarded as be good, the score is more than 60 is regarded as be passing, the score is less than 60 is regarded as be failed. The result is this training is that among 36 teachers, 5 teachers are great, 16 teachers are good, 13 teachers are passing and 2 teachers are failed. The total rate of pass is 94.44%. The conclusion is that Outreach Service in Hong Kong could improve the Teachers' Ability about Conductive Education.

CONDUCTIVE EDUCATION FOR ADULTS WITH CEREBRAL PALSY: PERSONAL VIEWS.

by MIKULA-TÓTH Ágnes
The National Institute of Conductive Education, Birmingham, UK

Conductive Education (CE) is known all over the world mainly as a successful re/habilitation method for children with cerebral palsy (CP). Many parents and centres in many countries employed conductors to help to improve their children's abilities and to gain more independence. However these children are growing up, and becoming adults themselves. From the onset of adulthood our body undergoes various changes. For this reason the symptoms of CP manifest themselves in a different way in adulthood.

During CE the children learn to solve certain problems in order to successfully carry out different activities. As they grow up not just their body changes, but also their lifestyle and priorities in life begin to change. The techniques and solutions they have once learnt might not be satisfactory enough to enable them to continue with their life in adulthood. They might need new/different ways for problem-solving and techniques to meet their needs.

For these above reasons CE will be as important for adults with CP, as it is for children. CE plays a very important role in these people's lives by enabling them to regain their essential skills to achieve their potential throughout their whole life.

This DVD will illustrate the role of CE in adulthood for people with CP and help show examples of the areas which can be improved and how these influence their life.

The author will introduce two participant's views about their experience and benefits of CE. One of them – as an adult now – began to take part in CE as a child in Hungary and the other one started CE only as an adult.

CE is an important tool to achieve the best possible potential and provides opportunities to lead a more active life for people with CP; it is beneficial in adulthood as well. These views give positive feedback to conductors about the power of CE.

SIMPLE INSTRUMENTS IN CONDUCTIVE EDUCATION

by MOLNÀR Eszter – CZIDOR Katalin
Move & Walk AB, Göteborg, SWEDEN

The musical instrument as a motivation

Musical instruments are very important even in the normally developed child's` life. Instruments can help to improve coordination, and manipulation skills through the pursuit of rhythm. Through learning with music one is taught to separate various audio-signals and last but not least it is fun!

Musical instruments provide the same function in the life of children with cerebral palsy. These children are many times under motivated, and have problems with taking the initiative. Because of this fact it is more important for them to choose themselves those objects which make them the happiest to play with. These objects must be in turn interesting enough to awaken the participant and be able to hold their attention. How we use the instruments are different depending on the children's age, the mental maturity, and the variety of the diagnosis.

Playing an instrument is enjoyable even for the adult conductive education participant. Improving rhythmic skills is extraordinarily important to the adult persons living with CP or other kinds of central nervous system injuries. Instrumental music can be used as an innovative alternative to rhythmical intention.

It is possible that in some cases biological age and the mental age of a participant are not correlated with each other. In these cases the mental age of a person is the important aspect of a participant's personality to appeal to through the motivations we choose. Many of these motivations can be the same ones that we use with the children including musical instruments.

In other diagnoses, for example autism, noises and sounds generated by the participant are not as unsettling as the ones produced by the surrounding

environment. The rhythmical sounds and the harmony of music can be relaxing in itself as well.

The instrument as a facilitation-object

We can use the instruments as an alternative to the typical articles used by the conductive pedagogy making the possible variations richer.
Examples:

- table → tambourine,
- breathing → flute,
- stick → maracas.

In this way we can hold concentration much more effectively and increase it to a higher capacity.

The roll of musical instruments in improving the functioning of sight handicapped persons- according to the conductive pedagogy

In the case of persons with multiple disadvantages (such as CP combined with blindness) noise making objects are extraordinary important. They can help to teach orientation. Hearing along with tactility being the limited senses they experience this makes the improvement of listening even more so crucial. Giving control of the noises within an environment is an added benefit for children afflicted with blindness in that noises made by them can help them to feel more comfortable with their own surroundings.

BARRIERS TO ACCESSING SERVICES FOR INDIVIDUALS WITH CP

by O'SHEA Roberta
Governors State University, Chicago, IL, USA

Introduction

Individuals with Cerebral Palsy (CP) and their families report significant barriers to accessing adequate therapy services and social programs. Project Export is a nationally funded research program designed to investigate barriers and develop interventions to diminish the barriers.

Aims

The aim of this research project (Project Export) was to identify barriers faced by individuals with CP when trying to access therapy evaluations and ongoing services. A related project is now underway to further investigate barriers to health services, as well as social and employment opportunities for young adults with cerebral palsy (Project RIMI).

Material and Methods

Surveys were distributed to individuals with CP and parents of children with CP regarding barriers they experienced when accessing PT and OT evaluations and services. Surveys were also distributed to PTs and OTs asking why they thought people experienced barriers to getting services. Additionally, an educational forum was held to inform local health providers and the community about cerebral palsy and services available for individuals with CP. Finally focus groups were held with parents of children with CP further investigating issues related to barriers.

Results

56 families and 89 service providers were involved in Project Export. The families identified different barriers to services than the therapists. The

families identified the following as prominent obstacles to obtaining an evaluation: lack of funding, lack of convenient appointment times, clinic location was inconvenient. Therapists thought the family's barriers to obtaining an evaluation would be: scheduling difficulties, lack of transportation, and lack of funding. When asked to identify barriers to obtaining ongoing services, the families identified the following: lack of funding, lack of a convenient appointment time, lack of an available therapist. The therapists thought the family's largest barriers for ongoing therapy would be: convenient appointment time, lack of transportation, lack of funding.

Conclusions

There is a crisis situation occurring in the US. Individuals with cerebral palsy can not access adequate or appropriate therapy services in order to achieve independence. Paramount to this problem is that therapists do not recognize the barriers that prevent families from successfully engaging in therapy services. Conductive Education offers a viable solution to help ease the disparity. CE groups allow more children to be treated at one time. CE focuses on function and independence, so therapy is more efficient. When delivered in a transdisciplinary model, CE can be funded by insurance dollars or through the public school system. Additional therapists and conductors are needed to help address the shortages and lack of services available. Additional training opportunities are needed so that therapists can understand the theories, tenets, and value of Conductive Education.

TRAINING THE FUTURE: AN INTERNATIONAL COLLABORATION

by O'SHEA Roberta
Governors State University, Chicago, IL, USA

Introduction

There are significant shortages of providers for rehabilitation. The US rehabilitation system is driven by professionals who can bill third party payers. These include physiotherapists and occupational therapists. CE is a valued intervention however conductors may not be reimbursable through insurance dollars. CE can help to reduce waiting lists and thus impact more individuals than traditional individual therapy. A new training program is available to US based therapists to learn about the principles of CE. This curriculum, taught by a group of internationally renowned faculty, teaches therapists the underpinnings of CE and how to be a member of a transdisciplinary CE team. Thus, CE becomes more available to the general population as therapists work side by side conductor teachers providing intensive motor interventions.

Aims

The aim of this presentation is to disseminate information about an innovative online training program for therapists to learn about the principles of conductive education.

Material and Methods

This curriculum is available to US therapists via the internet. Six of the seven courses are taught online, the practicum occurs at a transdisciplinary CE center. Two of the three trimesters also include a 3 day onsite lab experience for the therapists. The comprehensive curriculum includes a neuroscience review course, a course regarding disease processes, 2 courses on conductive

education, a research course, and a course on advances in motor control and motor learning. The faculty includes experts from Hungary, Australia, and the US.

Results

10 students who are practicing PTs and OTs comprise the first cohort. 8 of the students work within a CE center, 1 works in a public school setting, and 1 is in private practice. The school district is interested in starting a trans-disciplinary CE class within the public school district.

Conclusions

There is an extreme shortage of conductors and therapists in the US. Also, CE is not readily available to many due to funding constraints. This program educates PTs and OTs in the Principles of CE so that they may partner with a conductor teacher. The partnership could then offer transdisciplinary CE services. This program will help to increase the availability of CE in the US. This will in turn allow CE to become a more mainstream approach, funded by insurance payers. It will also increase the demand for conductor teachers as therapist look to join with conductors to provide transdisciplinary services.

TRADITION AND PROGRESS IN CONDUCTIVE EDUCATION

by ŐRFALVY Katalin

Pető András Institute of Conductive Education for the Motor Disabled
and College for Conductor Training, Budapest, HUNGARY

As a professional who has been actively involved in conductive education for 45 years I have been able to witness many kinds of changes, progress and regress. Now working as a consultant, I regularly collaborate with young colleagues and students who have asked me to try to define which are the ultimate principles in conductive education, based on tradition, that must be maintained under any circumstances during practical work even nowadays, for conductive education to actually remain conductive education. In my presentation I will treat those principles which must not fall victim to varying internal and external circumstances or different fashion trends.

In the introduction I will briefly compare the past and the present, touching upon:

- the goal and conditions of conductive education,
- the subject of conductive education, and
- the community of educators.

I will deal with the history and the present of the basic principles of conductive education more in detail, using pictures and comprehensive charts for illustration, which were prepared by Zsuzsa Hadházi, conductor. These are:

- the group,
- the daily routine,
- the comprehensive programme,
- the task series,
- the advancement, and
- the adaptation of what has been learned.

On the basis of my observations and experiences I will have to make critical remarks as well, for the sake of improvement and for the achievement of a

high standard in our professional work, for teaching to learn occurs less and less frequently in the practice.

Finally I will mention the ‘more recent’ forms of conductive education from 1970 to these days, appearing in Hungary and abroad. I will make a few proposals concerning the organisation and developmental tasks in Europe which are to ensure the future of conductive education.

THE FORMS OF NON VERBAL COMMUNICATION IN CONDUCTIVE EDUCATION

by ÖRKÉNYI István – VARGA Kiss Anna

Pető András Institute of Conductive Education for the Motor Disabled
and College for Conductor Training, Budapest, HUNGARY

The injury of the central nervous system not only produces motor symptoms but also impedes the establishment of social relations, the attainment of age appropriate knowledge and the whole process of personality development. The communicative behaviour of children living with disability is mostly underdeveloped and this makes difficult the right interpretation of their often unusual signals. In order to carry out smooth communication with a child with dysfunctions the different forms of symptoms and especially the associated symptoms caused by the injury of the central nervous system should be identified. Accompanying and/or so-called secondary and minus symptoms that may occur isolated or combined, in individually varying frequency in CP should be interpreted with adequate interpersonal sensitivity.

The presentation will demonstrate the characteristic features of communication behind the learning process of children living with CP on PPT series. According to the observations, the correct or incorrect understanding of non verbal communication is a core issue for the child, especially for those living with athetosis.

The nearly 100 slides of the PowerPoint presentation will demonstrate the forms of communication of children with atypical mimics. An attempt will be made to interpret the meaning of bizarre looks, mimics, gestures and body posture and the variety of special space adjustment.

The parents, conductors and other children must take into account but rather get used to the fact that motor disabled children's communication is highly influenced by intellectual skills, hyper and hypomotility, psychic inconti-

nence, the lack of persistency, irritability, impetuousness, excitability, the intolerance of frustration, aggression and the extent of learning deficit. It is almost typical that these are accompanied with specific body posture and are not always comprehensible.

Further impeding factors are unexpected spasms, losses of tone, involuntary and irregular changes of tone. In addition, there are contractures, osseous deformities in the chest and limbs and trophic disturbances. People around such children have to be aware that their communication signs leave a trace in the child's personality. Their accumulation has an influence on their mood and motivation to learn. Liking, aversion, co-operation or conflict may develop.

Certain words, the exchange of looks or turning towards the child may create a special relation between the conductor and the child. The conductor becomes important for the children and they force performance to please him/her.

The children seize behavioural forms and motivational circumstances, they identify themselves with them, and their behaviour develops towards the models accepted by the society. The slide series grabs these moments.

CONDUCTIVE EDUCATION - A MODEL OF SOCIAL INCLUSION FOR YOUNG STROKE SURVIVORS

by PÁVEL Anikó
The National Institute of Conductive Education, Birmingham, UK

The National Institute of Conductive Education started a project (called: 'Pathways for young stroke survivors') in September 2005 in association with the European Social Fund (ESF). The project's aim was to provide free Conductive Education rehabilitation to stroke survivors and additional help to return to training/employment.

Every individual who applied to attend Conductive Education, and met the requirement (i.e. aged between; 18 to 55, and living in Birmingham) was offered to take part in the project. Until November 2006 thirteen people applied. They all agreed to participate in Conductive Education and to look into the option of searching for a job or training once their initial sessions finished.

My aims are to describe the conductive work carried out during this project and to demonstrate the participants' achievements. The participants attended a 'two-week introductory course', having 10 sessions over a period of 2 weeks. Following the course they had a remaining 20 sessions, and attended once a week. The task series were different in each group according to the abilities and needs of the participants; and as they progressed, we changed the task series to ensure their continued progress and to meet their needs.

Some participants' development was more rapid, while others' were more gradual.

To demonstrate the participants' achievement first I would like to give general information about the groups (including e.g. description of the participants' situation at the start of the project; and of the main areas/aims identi-

fied to work on) and to highlight a few exceptional individual developments (through case-studies).

I also would like to talk about the support and recourses used to help people to take their first step towards re-employment, and the difficulties they were facing.

As conclusion I would summarize the result of the project (highlighting the improvements and addressing the difficulties), and acknowledge the important role that Conductive Education can play in the social inclusion of people suffered stroke.

CONDUCTOR COMPETENCY IN PROGRAM DESIGN AND IMPLEMENTATION IN EARLY AGE

by PÁZMÁNY Judit
Focus Conductive Education Centre, Auckland, NEW ZEALAND

The primary aim of the presentation is to give a view on the characteristics of conductive pedagogy in the early childhood and babyhood. Dr Mária Hári has had a strong belief in the Pető system, the structure of the Hungarian Pető Institute. In her time "The Institute" offered Conductive Education on a daily basis to all those babies needing it to develop orthofunction.

Every centre has to have a structure. The number of children born with C.P. is still high world wide. Targeting those families with a small child and involving them in a Beginners Group could create the foundation of a well established Conductive Education Centre. The film will show the structure of our centre in terms of groups.

Our centre operates the Beginners Groups every day for children with Cerebral Palsy and Developmental Delay with neurological origin. Parents are actively participating in the teaching-learning process, so these children are able to apply the tasks learnt in their home as well. This way the child is encouraged, motivated to be more active throughout his daily routine, which doesn't only help to achieve more age-appropriate activities but-as they gain much more experience- will prevent further delay in their development. With one word, it promotes the change of life style, which leads to orthofunction at the earliest possible. As our children are learning to solve tasks in an encouraging, calm environment once they start attending the sessions, they usually show change in all aspects of their development. As they are young, they learn faster, and the progress gives motivation to the family as well.

The DVD presentation shows the following:

- The daily schedule of the complex session of the Beginners Group in our centre.
- The role of the Conductor.
- The way of the involvement of parents.
- Will talk about the special features of the first conductive group.
- Will highlight the goals of Conductive Pedagogy in this early age.
- The ways of advancing to other groups of the centre after the first group.

There were many new initiations over the years all around the word to establish centres and lead programs for children with dysfunction. Is it possible to offer effective Conductive Education program for little children in less than 4 days a week? Can we offer any possibility to attend sessions for those living far from the Centre? In this DVD I would like to present the way the conductor-team work in Auckland and answer these questions as well with the belief of the importance of the early age, and respecting the heritage of Professor Pető and Dr Hári.

FROM VISION TO ACTION: THE ROLE OF STRATEGIC PLANNING IN ORGANIZATIONAL DEVELOPMENT

by RITCH M. John
Conductive Learning Center, Grand Rapids, Michigan, USA

The purpose and direction of this paper will be to demonstrate the importance of using a strategic planning process for your organizations' development and success. In this case, the organization is a school for Conductive Education.

As a child grows and develops from birth to adulthood, there is a consistent, organized planning process that nurtures their development. Parents and teachers provide structure, safety, information, and feedback all designed to maximize physical, mental and spiritual growth and development. In a parallel analogy, a newly formed organization needs structure, safety, information and feedback to succeed and grow.

The Conductive Learning Center, Grand Rapids, Michigan, USA, was started in 1999. The organization's beginning was lead by the parents and grandparents of children with Cerebral palsy, Spina bifida and other neurodevelopmental disabilities. These early innovators were motivated, dedicated and provided a structure to initiate the program. One of the early and important first steps was a formal association with the Pető Institute, Budapest, Hungary.

During the past seven years, the Conductive Learning Center, Grand Rapids, Michigan has grown and is a recognized leader for Conductive Education in North America. The success of the program is due to many factors, but underlying is a combination of strong leadership, solid planning and a dedicated group of Conductors, Board Members, Parents and Children.

The Conductive Learning Center is presently updating its strategic plan and organizing its resources for the next stage of organizational development.

This paper will demonstrate the role of strategic planning in organizational development. Highlighted in the manuscript will be the following:

- Strategic planning as a unifying process and document.
- Clarity of mission vision and objectives.
- Moving from strategic initiatives to implementation.
- Feedback, evaluation and corrective action.
- Celebrating success.

PARENTS – STAFF INTERACTION AND WHAT LIES BETWEEN THEM

by ROTEM Neomi – BEN-AHARON Lilach

Tsad Kadima, the Association for the Advancement of Conductive Education in Israel, Jerusalem, ISRAEL

The goal of the lecture is to introduce a new transdisciplinary model developed in Tsad Kadima, for supporting parents and families along their conductive experience from first introduction to the system until they leave to other frameworks. "A step forward" is a parent's organization, founded by parents and professionals. The flag of partnership was raised between parents and professionals since its establishment. This flag represented a mutual bond for studding and developing working models.

The recognition of the family as an existing unit - that only functions due to the tight reciprocal relations between its members - opened a door for a new kind of assistance programs, in which family, professionals and community facilitators (volunteers, students, neighbours) take part as one. The psychologist's and social worker's input within the conductive environment enabled the conductors to widen and deepen their interaction with the parents and family, as a part of the educational processes.

The implementation of the model as a part of the basic conductive work in Tsad Kadima turned the parents from passive accepters of community services to active participants who lead the intensity of the educational process and created a significant change in their ability to use inner resources.

The following issues will be presented:

1. Working process with the parent of Tsad Kadima during the years.
2. Presentation of the model.
3. The implementation of the model in the field.
4. Conclusions and recommendations for future development of the model.

IS THERE A SECRET ELEMENT TO A SUCCESSFUL CONDUCTIVE EDUCATION PROGRAM?

(The Challenges and Rewards of Management in the Conductive Education Programs in the USA)

by ROTH Judit

Cerebral Palsy Solutions, Coaching & Consulting Inc., Virginia, USA

Introduction

Establishing and running a conductive education center requires more than a conductor and children. About 75% of the centers in the United States are led by parents of a child with cerebral palsy. New conductive education programs close after only a couple of years of operation.

Aims

This lecture will look at the challenges and rewards of parental leadership. Also, it will offer insight into a successful management form.

Background

Author has been working in the U.S. since 1996 as a conductor, lecturer, program administrator, and consultant. Through her consulting work with CE centers in the United States, she is pinpointing management issues that will determine the success or failure of programs.

Conclusions

A summary of conclusions will be presented to the audience via an oral presentation coupled with a PowerPoint.

WHAT HAS HAPPENED SINCE? FOLLOW UP STUDY IN THE UNITED STATES

by ROTH Judit
Cerebral Palsy Solutions, Coaching & Consulting Inc., Virginia, USA

Introduction

The results of a North America 1999 study was presented by the author at the 5th World Congress on CE in Budapest, Hungary in 2004.

Aims

This lecture will update the audience about the available CE services and programs in the United States. It will highlight the changes that occurred in the past eight years.

Materials and Methods

Telephone interviews based on a written survey will be scheduled with all program administrators in the U.S., and data will be gathered between February and April 2007.

Results and Conclusions

Results will be compiled and analyzed in May 2007. A summary of conclusions will be presented to the audience via an oral presentation coupled with a PowerPoint.

MEASURE THE UNMEASURABLE

(THE AIM OF DIAGNOSTICS IN CONDUCTIVE EDUCATION TO DETECT THE LEARNING ENVIRONMENT)

by SALGA Anikó – KOZMA Ildikó – HORVÁTH Júlia

Pető András Institute of Conductive Education for the Motor Disabled and College for Conductor Training, Budapest, HUNGARY

The aim of diagnostics in conductive education (CE) in a broader sense: to get comprehensively acquainted with the individual whose development is impeded. In the narrower sense the conductive pedagogical activity itself a diagnostic procedure in the course of which interrelations are looked for between the goal, the process and the achieved result (Mária Hári).

The working group responsible for carrying out diagnostic assessments was set up almost 20 years ago and has since followed the theses laid down by Professor Pető, after Hári, Kozma, and preserved and developed the tradition. Fundamental criteria ("golden rules" as named by Kozma) for assessors: conductor's certificate as a basic qualification, professional practice in the field of CE and other related practice and additional qualification in psychology or special education. A child neurologist must be part of the assessor's team.

Apart from the various risk factors laid down in the anamnesis and the examination records and the factors that are not exactly known but have an impact on the prospects, none of the facts in the history are of relevant prognostic value. CP is a clinical picture, which the patients will not heal from or grow out of it and can not be terminated or cured. It is a permanent condition, which takes a different course of development (Balogh E., Kozma I.).

Diagnostics is involved: anamnesis, observation, and assessment of movement, assessment of the level of mental development, assessment of mental performances, suggestions, and prognosis. (The last two at the early age a classical, symptom-specific diagnosis is not set up? This will happen only after a repeated assessments and observations. Observation is necessary be-

cause it is possible to reveal to describe the latent potential and capacity, (not listing of minus symptoms). (Balogh E.)

The application of other cognition and examination methods (tests) may supplement and reinforce empirical information. The observation is necessary because in the case of medium and severe motor image, tests lacking, when the change of position and place, manipulation and voluntary fixation are limited and pathological and the child lacks inborn, healthy motor patterns from the beginning, as the intake of surrounding stimuli is incidental, the child is stuck already on the level of developing the fundamentals. It is necessary to go back to the point where the course of the development came to a standstill. By analysing the reasons the questions must be answered: whether the impairment is an additional, symptom-complex specific disorder or a secondary symptom where in the early socialisation process there is an external cause in the background of the child's incompetence.

The conditions of observations as appropriately planned environment, tools, purposefully selected facilitations, and knowledge of lesion specific symptoms to enable the child to respond with self launched reactions. The process diagnosis – a series of diagnostic measurement criteria for a specified period of time and continuously employing and reinforcing success in learning and to detect deficiencies and difficulties in learning, making necessary corrections possible in the areas of educational and instructional goals, contends and process (Salga, Horváth, Kozma).

The series of observation criteria (SKH) measures the manifestation forms of changing place, walking, manipulation, self care, communication and social behaviour. The observation of the single areas provides the opportunity to correct the direction of development and to modify the programme. The data's may be indicated numerically, processed by the computer, or represented visually.

THE SHAPING OF THE USAGE OF DIFFERENTIATION DURING THE CLASSES CONDUCTED BY STUDENTS

by SCHÄFFER Katalin

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and College for Conductor Training, Budapest, HUNGARY

Differentiation is the ensuring the conditions of learning, a method which considers individual differences and different learning abilities. Differentiation is a basic element of conductive education. In pedagogical practice the planning of individual development programmes based on individual capabilities, adapting to individual differences/characteristics, considering the individual pace is of primary importance.

The aim of training conductors, among others, involves preparing the students to be able to plan, organise and conduct differentiated education and teaching. The aim of the study is to reveal when and to what extent the student uses the various forms of differentiation during the training. Differentiation manifests itself in several fields of conductive education. It appears in setting aims as adequate to the dysfunctions, choosing the adequate tasks to achieve the aims, carrying out the individual tasks in different ways, organising learning, applying several ways of facilitation and using tools and special aids. The observation of students, set by the rules of student training, has an important role in detecting problems and perceiving differences. Observation, initially, entails a rather narrow field but later bears a complex content. In the first phase of training recognising real differences, later, identifying them dominates. In the final phase of training the planning of possible differentiation methods by students, based on the recognition of cause and effect, is emphasised. In the analysis of applied differentiation, collecting data set in categories was a great help.

Observed classes: practice in pedagogical situations, conducting series of tasks, teaching practice, games, final teaching practice, other parts of programmes. Besides processing the data by factor analysis, I found the conduction of a study based on a questionnaire to survey the theoretical knowledge indispensable. I elaborated the activities of students of different years.

When evaluating the results, I considered the set practical training requirements, frequency of conducting practices and theoretical knowledge of students every semester.

The conclusions of the study help us to describe the peculiarities of the process of education, help the work of conductors who lead the practical training of students.

THE ASPECTS OF LEARNING THEORIES IN TRAINING CONDUCTORS

by SCHÄFFER Katalin

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and College for Conductor Training, Budapest, HUNGARY

Instructing to learn and learning to learn is an important task in teacher training and so is it in training conductors. The interrelation of different learning processes is important in pedagogy. The aim of the study to follow is to identify the presence of various ways of learning in practical training and to draw up the relationship between the already represented forms of learning and teaching capabilities. Having set up the various forms of learning, I introduce their frequency of occurrence. In teacher training, *social-cognitive* learning is carried out. During classes and practices we use social reinforcement. Behaviour can be influenced by conscious building in.

Substitute reinforcement is present due to the essential form of education. The students experience the activities of their mates continuously and if these are effective in the educational process, other students also try to use them in their own repertory of ways of behaviour. We know that when *learning rules* takes place, reinforcement may increase the occurrence of favourable ways of behaviour. Very often, based on sight and experience, the students act "correctly". *Observational learning* may reshape the whole of practical training. The students may become able to repeat the observed activity. Activities, lasting either a short or long period of time, can be observed.

To survey substituting reinforcement, I followed through the performance of a study-group of students. My observations, set by different points of view, were completed by a questionnaire filled in by one group of students in each year (four years). I have prepared a comparative analysis regarding groups of students of each year and groups made up of students from each (all four) years. The study comprises the entirety of all the students. Collecting data

took a whole year. In future, the results and conclusions may help to increase the efficiency of practical training and influence the training in changeable number of classes and structures.

CONDUCTIVE EDUCATION AS A PATHWAY TO INCLUSION

by SHARRY Betty-Anne – FLORANCE Jody – DEMACK Annette

Whites Hill State College, Xavier Special Education Unit,
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Introduction

Twenty years of Conductive Education (CE) at Xavier has provided the expectation those children from as young as six months through to adolescence, will learn to overcome the challenges of their disability. Conductive Education, with its development of determination and self belief supports and enhances inclusive practice at Whites Hill State College where Xavier is a sub school. With the school motto of "Imagine, Believe, Achieve" innovative inclusive programs have enabled students to demonstrate the transferability of the skills learnt using CE.

Aims

Our first aim is to show the connections between the task series the students participate in and the functional skills this assists to develop. Secondly we will demonstrate the manner in which this CE program gives students not only the physical and cognitive skills but also develops high self esteem, enhancing the ability to be involved in inclusive practice. Finally we will acknowledge the vital role parents and families play as they/we learn together.

Materials and Methods

We will focus on several students and provide a short profile of what CE has meant for them in relation to inclusion. This will reflect the CE programs provided at Xavier and the outcomes achieved for students participating in the inclusive programs offered at Whites Hill State College. Graphed information and results of data collection over the last five years, (relating to several types of inclusive practice at Whites Hill State College) will indicate the success and growth of this practice.

Results and Conclusions

At Xavier our belief is that any inclusive practice must have specific, appropriate goals and outcomes for each individual. We believe the psychological and physiological advantage gained by students in conductive education programs enhances their ability to achieve success.

> *"Do not ask what I can do to help the child with cerebral palsy, but rather, what can the child do to help himself."* (Dr. András Pető)

QUALITY IN CONDUCTIVE EDUCATION

by STELCZERNÉ-OBERSZT Mariann
Pfennigparade Rehabilitationszentrum in München, GERMANY

Deming Quality Award is a prize founded in Japan in 1957. It was the first award in the world for crediting outstanding results achieved in the field of quality. Since the foundation of well-known American and European quality awards, many countries of the world give national quality awards to companies and institutes recognizing thereby their excellent results in the practice of Total Quality Management (TQM). These prizes are awarded regularly (annually) in the frame of competitions under pre-defined criteria, proper self-assessment and on-site audits. Different types of organizations give increasing emphasis on quality. These are not exclusively profit-oriented firms, but there are pedagogical, educational or social welfare establishments among them.

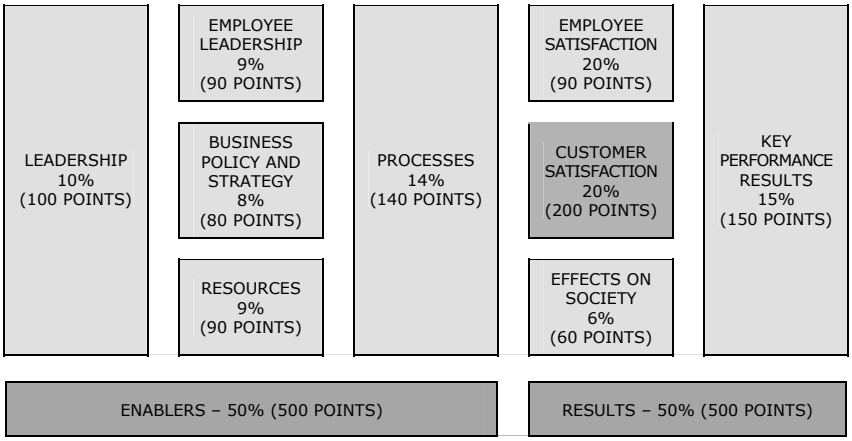
The protection of the quality of work requires from bodies engaged in conductive education to take every opportunity to increase the quality of their activities, warrant their excellence and defend themselves from assaults of other schools and to be able to re-evaluate and review them.

In my opinion, the model of the European Foundation for Quality Management (EFQM), which doesn't base its qualifications on the quality of products and services, but honours the excellence of operation of the organization as a whole, is the best vehicle for achieving this aim in institutes for conductive education. The system of criteria in the field of public education is also based on this European excellence model as adapted to the special requirements of education and tuition.

This model is based on the following premises:

- Result orientation.
- Customer orientation.
- Leadership and constancy of purpose.

- Management by processes and facts.
- Employee development and participation.
- Continuous learning, innovation and improvement.
- Partnership development.



EFQM excellence model serves the complete examination of organizations and has no list of criteria. Continuous improvement and the developing degree of perfection of the institute are important aspects of excellence.

In recent years, SMEs and institutions assumed an increasingly important role in economic life, social welfare and education. Considering it as a main token of enduring market positions, nowadays many organizations start to elaborate their quality systems. “Working together is much better and profitable than working against of each other.”

The best institutions stand out by seeking the satisfaction of their potential customers. They focus on, what they want to achieve, how they can achieve it and what more results that they can still achieve. Nowadays, competition is intensifying even in the field of conductive education: innovative cycles are accelerating, national economies, the social network and requirements of customers change rapidly. Quality, which is not an approach only, but also a live system of methods and processes, is important in safeguarding and

improving the quality of conductive education. We have been working in our institute for three years, for the acknowledgement of the quality of our work in the area of conductive education under the system of criteria of the EFQM model. Our company has completed the EFQM manual last year. It has two main parts:

- Part One: General Presentation.
- Part Two: Detailed Analysis of Enablers.

The leaders of the institute take part in this part of the process (Business Managers, Heads of Department and Group Leaders).The evaluation of these five main modules was implemented in accordance with EFQM model:

1. Leadership.
2. Empowerment.
3. Business policy and strategy.
4. Resources.
5. Processes.

Then, standard documents were designed for all areas containing

- Key qualifications, and
- Performance standards.

The greatest achievement in the present stage of the process is that all processes in the institute have become virtually transparent to all stakeholders (employees, parents, students, suppliers), and they are clear and accessible to everyone. Simultaneously with these events, a so-called internal quality circle was formed from the representatives of different special fields (5 individuals). Their task is a continuous review. This group works in close cooperation with the Quality Manager, who continually analyses the strengths and weaknesses of the processes.

Since our company has been working in the frame of the EFQM system, indicators of these items grow continuously:

- Customer (parents and students) satisfaction.
- Motivation and identity of employees.
- Our reputation by members of our business community, and
- Confidence of our financial resources in our work.

Our further aim is to weigh ourselves in the balance against benchmark institutes, i.e. to reach the top. EFQM is a flexible model offering a comprehensive approach, positive orientation, result orientation and can be a collective trademark of all European organizations engaged in conductive education.

AN EVALUATION ON THE LONG-TERM OUTCOME OF CONDUCTIVE EDUCATION (CE) FOR ADULTS WITH MULTIPLE DISABILITIES USING THE PERSONAL WELLBEING INDEX (PWI)

by SU Ivan Yuen-wang – CHOW Daniel Hung-kay

The Spastics Association of Hong Kong, Hong Kong SAR, CHINA[4], Department of Health Technology & Informatics, The Hong Kong Polytechnic University, Hong Kong SAR, CHINA[5]

Introduction

A series of CE-based curricula has been implemented in our day centres and hostels of different functional levels (care and attention homes, dependent hostels, semi-independent hostels and independent homes). CE provides a common perspective for our allied health staff to envisage their clients' needs and to organize well-coordinated activities with a concordant effort for personality development. Subjective well-being (SWB) provides a comprehensive view of life quality which is shaped by the environment and personality. In this study, Personal Well-being Index (PWI) was employed to evaluate the SWB of adults with severe physical handicaps (SPH). Satisfaction scores from 7 domains are summed to produce an overall PWI score that represents a person's SWB.

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Aim

This study examined the SWB of adults with SPH receiving day or day-and-residential services after 5-year's implementation of the CE-based curriculum.

Methodology

Satisfaction ratings were obtained via face-to-face interviews. For participants with normal intelligence (NI group), a 0-10 rating scale was used. For those with suspected mental ability (ID group), PWI for Intellectual Deficient was employed.

Results and Discussion

512 valid answers were analyzed. Lau et al (2005) reported that the mean domain ratings from HK population ranged from 57.5-72. Despite all subjects were SPH, the mean PWI scores of the NI group (95% confidence interval: 55.8-61.2) lied at the lower end of the local normative range. The ID group rated their PWI significantly higher than the NI group ($p<0.01$, Mann-Whitney). In both NI and ID groups, subjects living in semi-independent hostels were less satisfied than those in dependent hostels. It is postulated that these subjects are better aware of quality of life but they have to suppress such possibilities because of their limitations. For the NI group, the ranking of 'Achieving in Life' was significantly lower than the other 6 domains ($p<0.05$, Kruskal-Wallis). For the ID group, both 'Personal Safety' and 'Future Safety' were significantly lower. If only the day subjects were concerned, 'Future Security' was significantly lower in both groups. Results from this study provide very useful information to enrich our curriculum and further study is warranted after the implementation of the revised curriculum.

PROBLEMS OF COMMUNICATION AND DIRECTIONS OF DEVELOPMENT IN CP

by SZABÓ FEKETÉNÉ Éva

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and College for Conductor Training, Budapest, Hungary

In the child and adult clientele of conductive education disturbances and problems of communication occur on different levels in the form of minus symptoms (Balogh, Kozma, 2004). There is a pressing need from the environment and also from families for measuring the phenomena, examining the problem and adopting developmental methods embedded in the conductive education programmes. The presentation will review the work of a section of an international symposium held in 2005 dealing with speech problems and the possibilities of correction in conductive education. The international working group discussed the role of the conductor, who, as widely known, functions also as a model of speech mediation in disabled people's lives, as well as the importance and role of nonverbal communication. The author will expound the problems of speech and the directions of development in relation to a specific survey. Selected sample: Speaking and non-speaking children at kindergarten age and school age.

Method of study: Observation, interview and additional research (assessment of spontaneous handedness, family tree investigation). On the basis of the findings and an examination applied and adapted in conductive education up to the present (GMP), a proposal is made concerning education in the particular age groups and further directions determined for research in the population with cerebral palsy. Advice is given as to how to integrate communication situations in the daily routine, how to organise lessons and define direct and in direct proportions for development to support conductive education.

QUALITY PARAMETERS IN HIGHER EDUCATION OR THE ROLE OF EVALUATION BY STUDENTS

by SZABÓ FEKETÉNÉ Éva – HORVÁTH Júlia

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Students evaluating training and faculty are not a new phenomenon. Data from the United States, Germany and France, dating back to the beginning of the last century, prove that the demand for students' appraisal of teaching staff has been present in higher education for a long time. In the US, for example, students' opinions have an important role concerning the assignment and re-assignment of faculty in the training of primary and secondary school teachers.

When the TQM method was introduced in Hungary's higher education, the International Pető Institute became also involved and students were defined as service users. Nevertheless, in terms of a service, in our case the training of conductors, conductor-primary school teachers and conductor-kindergarten teachers, it is a determining factor how students think of their teachers and where they see a need for change.

In her PhD thesis at Keele University, started in 1996, I. Kozma conducted a retrospective study concerning the necessity of subjects and posted almost 1000 questionnaires to students inquiring which theoretical and practical subjects they considered useful. She investigated the practicability of the outcome and the suitability at a time when in Hungarian higher education this was still seen as a heretical approach. Her research was instrumental in the design of the follow-up system later on (Quality Management Committee, 2003).

Students' evaluation of teaching staff became a partial, later on full responsibility of the Student Government and was first accomplished with support

from the instructors, then independently. According to the new act on higher education it is again an institutional duty.

In the lecture the author will treat the main parameters of the first appraisal by students, instructors' opinions of the evaluation, similarities with other institutions of higher education and the present situation in Hungarian higher education and the Institute.

POSSIBILITIES AND LIMITS OF EARLY DEVELOPMENT AND EARLY CONDUCTIVE EDUCATION IN SOME OF HUNGARY'S COUNTIES

by SZAMKÓ Ágnes

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The presentation aims to elaborate and analyse the findings of students' guided research in order to give a clear-cut summary of the current situation of early development and early conductive education in different counties of the country and, following the appraisal of the situation, to help set priorities regarding the tasks to be pursued in early conductive education in Hungary's particular counties.

Hypothesis

In terms of the accessibility of early development and early conductive education services in the single counties there are considerable discrepancies among different parts of the country. To the advertised subject matter 'The situation of early development and early conductive education in a chosen county of Hungary' six valuable studies were written during the past years, between 2002 and 2005. The research sample involved all institutions, hospitals, education advisory services, schools and kindergartens in the chosen county where, according to our knowledge or presumption, early development was provided.

Method: Information was collected partly by means of questionnaire, partly by students personally visiting the institutions. Data were processed by analysing documents. On the basis of the findings we may state that in the counties involved in the survey service is partially available; almost every-

where there are conductors providing early development and early conductive education. Out of Hungary's 19 counties, examination of the situation was completed in 8. Conductors are partly employed in early development centres, crèches and kindergartens, partly in hospitals or educational specialist service and professional service centres as part of the pedagogical specialist team.

Our hypothesis has been verified by the findings of the survey. In some counties in our country, early development is easier accessible to those in need than elsewhere. A further difference is that there are places where conductors are already involved in screening, working along with child neurologists, while in other institutions they are preferred to deal with children over 3 years. Where conductors are in personal contact with child neurologists, their relationship can be characterised as good. Another type of problem we have perceived is that due to financial reasons or geographic distance some parents are unable to make use of early conductive education as recommended. It is also problematic that there are still places where local physicians and district nurses do not have sufficient information available as to the accessibility and nature of early conductive education.

For some years, appraisal of the situation in Hungary's counties and comparative analysis of single cases has been a subject matter recommended for research by the Conductive Education Department of the Pető Institute's College for Conductor Training for students' theses. The survey has shown clearly that we still have a lot to do in this area. We need to make more propaganda in our country, partly among paediatricians, partly among district nurses.

THE LEVEL OF GENERAL PHYSICAL STAMINA AMONG STUDENTS OF THE PETŐ INSTITUTE

by SZILÁRD SÁRINGERNÉ Zsuzsanna

Pető András Institute of Conductive Education for the Motor Disabled and College for Conductor Training, Budapest, HUNGARY

Every year some 50 conductors graduate from the Pető Institute's College for Conductor Training. Due to the uniqueness of the Pető method the training is also special. During the four years the students are exposed to extraordinary physical loading. In an earlier study, carried out in 2003, the author proved that students choose this career consciously. Given the applicants' dedication and interest and the Institute's good PR, future students are usually well-informed about the conditions of the training and the programmes to be expected.

Thanks to physical education, obligatory in all schools throughout secondary education, to sporting habits and constant and varied loading, applicants characteristically have no locomotor's problems.

The compulsory theoretical and practical curriculum has a beneficial effect on students' endurance already from the first year. While permanent physical work generates positive changes in their physique, sadly the occurrence of locomotor's symptoms also increases. In a survey among students, consisting of 20 questions, sporting habits, the amount of sports lessons and locomotor's problems before and during student status were investigated (Bögyös O., 2005.). The outcome is not quite complimentary: While prior to their studies at the College 75% of the students took exercise and 83% had no locomotor's complaints, the percentage of those pursuing sports decreased to 22% and the prevalence of locomotor's problems increased to 48%, with spine symptoms amounting to 38%. As a result of permanent work the

students' ability to tolerate physical loading grew; however, most probably due to inappropriate postures and less sports-related movement, locomotor's complaints became more frequent.

The author decided that as from September 2006 at the beginning of each academic year she would test students' general stamina, adopting HUNGAROFIT, a method elaborated in Hungary. As part of their studies in 'Subject pedagogy of physical education', students have to pursue a survey comprising four motor tests. Data are collected from their achievements concerning the abdominal, back and brachial muscles and standing long jump. The findings are evaluated according to indexed values and finally the acquired results are compared with the data of youths at a similar age, mostly college and university students.

MIRROR NEURONS PROMPTING US

by SZÖGETZKI László
Independent Conductive Education Services Ltd,
Leasowe, Wirral, UK

Conductive Education classes are created of group of disabled people and lead by conductors, each program lead one conductor-teacher on the front showing and saying the task (in a certain rhythm) what the participants are required to do with. Other conductor-teachers help to execute the movements for the learners. This is how usually a lying program, standing program and sitting program goes in CE classrooms. The leading conductor teacher supposes to say the task what is going to be made next once (intention), and than again together with performing in front of the class and given the required rhythmic intention since András Pető ordered to do so for his conductor students in the early fifties in the last century. After working out his own way to develop motor disorders Pető died during work in 1967 without written descriptions of his ideas. This had been a problem for the next generation of his followers and still it is a problem in many ways. In this article I try to shed light upon one mechanism which has been discovered a decade ago and since then its role is getting more obvious in psychology but not really recognised in the CE world.

Some people consider that one of the greatest drivers of human progress and one of the prime discoveries in recent neuroscience, the mirror neurons. These neurons are scattered throughout key parts of our brain – the pre-motor cortex and centres for language, empathy and pain – and fire not only as we perform a certain action but also when we watch someone else perform that action. These neurons have been studied in the past for their roles in movement and other functions. Now, however, researchers are examining them intensely for what seems to be an additional function – the way they fire in response to something – observed. This suggests that everything we watch someone else to do, we do as well, in our minds. At its most basic, this

finding means we mentally rehearse or imitate every action we witness. When we see another person yawn, mirror neurons in primal brain regions tell us to do the same and group laughter can be catching, too. It explains much about how we learn to smile, talk, walk, dance, etc. At a deeper level, it suggests a biological dynamic for our understanding others, socialising a culture. Cognitive neuroscientist Vilayanur S. Ramachandran (University of California, San Diego) says mirror neurons may clarify not only how we come to learn and understand others but how humans took a "great leap forward" about 50 000 years ago, acquiring new skills in social organisation, tool use and language that made human culture possible.

Giacomo Rizzolatti, Vittorio Gallese and Leonardo Fogassi of the University of Parma in Italy had run electrodes to individual neurons in a monkey's pre-motor cortex, to study neuronal activity as the monkey reached for different objects. "The Eureka moment" came when Fogassi walked into the room, and picked up a raisin. As the monkey watched him, its pre-motor neurons fired just as they had earlier, when the monkey had picked up the raisin itself. The men could hardly believe what they had witnessed. But after replicating that experiment and similar ones many times, they realised they had discovered something new, and in a series of 1996 papers they gave the "mirror neurons" their name.

Since the discovery of mirror neurons, grand claims have been made for their importance (e.g. by Ramachandran). In particular, the mirror neurons do not just fire when an animal is watching someone else perform an action. Mirror neurons also fire if a monkey hears the sound of someone doing something it has experienced – say, tearing a piece of paper. While mirror neurons are present in macaque monkeys, these monkeys do not imitate each other's behaviour, so it seems unlikely that mirror neurons evolved for imitation learning. Instead, they may allow the monkey to understand what another monkey is doing, or to recognize the other monkey's action.

In humans, mirror neurons are found in the inferior frontal cortex, – close to Broca's area, – a language region. This has lead to suggestions that human language evolved from a gesture performance/understanding system implemented in mirror neurons. Mirror neurons certainly have the potential to provide a mechanism for action understanding, imitation learning, and the simulation of other people's behaviour.

Studies also link mirror neurons to understanding goals and intentions. Fogassi et al. (2005) recorded the activity of 41 mirror neurons in the inferior parietal lobe (IPL) of two rhesus macaques. The IPL has long been recognized as an association cortex that integrates sensory information. The monkeys watched an experimenter either grasp an apple and bring it to his mouth or grasp an object and place it in a cup. In total, 15 mirror neurons fired vigorously when the monkey observed the "grasp-to-eat" motion, but registered no activity while exposed to the "grasp-to-place" condition. For four other mirror neurons, the reverse held true: they activated in response to the experimenter eventually placing the apple in the cup but not to eating it. Only the type of action, and not the kinematics force with which models manipulated objects, determined neuron activity. Significantly, neurons discharged before the monkey observed the human model starting the second motor act (bringing the object to the mouth or placing it in a cup). There fore, IPL neurons "code the same act (grasping) in a different way according to the final goal of the action in which the act is embedded". They may furnish a neural basis for predicting another individual's subsequent actions and inferring intention.

Big-picture speculation is not needed to see the wonder of Pető's idea of what the lead conductor should do in front of the class. Now we know why as well. Yes, he was probably too early with the model performing combined with speech and rhythm to understand for the "measure" world in the last century. The habilitation and rehabilitation methods and techniques were based on measurements of muscles, functions and development treatments were executed in one to one. Well, this is still the main idea of traditional therapies; however Conductive Education introduced the group dealing idea which is spreading. Many new initiatives are trying to set up multidisciplinary treatment service which based on the social power of CE and the traditional point of view of treatments. This can be certainly useful. On the other hand, there are evidences to suggest looking at CE as it is because those elements such as mirror neurons' function will be discovered in the close future as well.

EVALUATION OF AUDITORY BRAINSTEM EVOKED RESPONSES AND NEURON-SPECIFIC ENOLASE FOR DETECTION OF AUDITORY NEUROPATHY IN NEONATAL HYPERBILIRUBINEMIA

by TAMER SAMIR Abdullah[*] – AHMED S.T. Abdullah[**] – KHALED SALAH Osman[***]

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Objective

This study was designed to evaluate the correlation between neuron-specific enolase and neonatal hyperbilirubinemia in children diagnosed as having auditory neuropathy by auditory brainstem evoked responses. Thirty infants admitted in neonatology unit of AL-Minya University Hospital in the period from July 2002 to January 2004 for treatment from hyperbilirubinemia and 20 neonates as a control group. All infants had bilirubin levels above 20mg/dl and had a full work-up for hyperbilirubinemia. All study group infants were treated with phototherapy, and 16 infants required blood exchange transfusion as well. Hyperbilirubinemic infants were placed into two groups according to serum bilirubin values group:

(A) Total bilirubin 20-25mg/dl, group.

(B) Total bilirubin > 25 mg/dl. group.

The control group consisted of 20 healthy full-term neonates with bilirubin levels within physiologic ranges (< 13 mg/dl). Serum samples for neuron specific enolase (NSE) determination were taken on the day of admission and stored at -20° C until the time of assayed by a commercial enzyme immunoassay (EIA) kit. All hyperbilirubinemic infants in the study were

evaluated with auditory brain stem evoked responses (ABERs) and transient evoked otoacoustic emission (TEOAE) tests. ABERs were recorded using Nihon Kohden 4 channels equipment, while TEOAEs were obtained by using the quick screen option of the ILO 92 OAE System. The results were show no significant differences between serum NSE value in hyperbilirubinemic groups (50.19 ± 34.37) when compared with control infants (44.50 ± 27.68 ng/ml) (p = 0. 253). A significantly different between serum NSE values of group A (33.29 ± 16. 98 ng/ml) and group B (67.09 ± 39.33 ng/ml) (p = 0.02). NSE and total bilirubin levels of patients with absent ABRs but present TEOAEs (36.43 ± 16.47 ng/ml and 25.06 ± 4.25 mg/dl, reciprocal) were significantly higher than those of the patients with normal ABRs (70.83 ± 43.82 ng/ml and 31.29 ± 7.34 mg/dl, reciprocal), (p = 0.001). No correlation was found between serum NSE and bilirubin values (r = 0.15, p = 0.33). There was no relationship between NSE concentration and the duration of the hyperbilirubinemia (r = 0.29, p=0.23).

Conclusion

In this preliminary study, although we could not demonstrate any correlation between serum NSE and bilirubin levels but NSE levels were significantly higher in infants with auditory neuropathy which diagnosed by ABER. Thus, this finding indicated the importance of a close follow-up with dual screening of hearing by ABER and TEOAEs in hyperbilirubinemic newborns to avoid the auditory neuropathy. Biochemical index of neuronal damage (e.g.; NSE) and ABERs can be used to evaluate the neurological sequels of neonatal hyperbilirubinemia like auditory neuropathy. For appropriate results to demonstrate the role of NSE and ABER for diagnosis of auditory neuropathy in neonatal hyperbilirubinemia, we must test a much larger sample of subjects in the future.

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ADULTS IN CONDUCTIVE EDUCATION – POSSIBILITIES AND QUESTIONS WITH REGARD TO THE OBSERVATION CRITERIA

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According to the latest world trend disability is derived from the interaction between the disabled person and their environment rather than from the individual's health condition. Thus the emphasis is on the success they have achieved in social integration. Conductive education (CE) has shared this philosophy from the beginning, i.e. since more than 50 years. Accepting the person with dysfunctions rather than the dysfunction and doing everything in their power for their successful integration comes natural to a conductor.

Which is the optimal time for integration? Is it possible to measure this?

In an effort to demonstrate the efficiency of our work, we have tested several internationally recognised series of measurement tools. The tests are suitable for proving all kinds of things, however, none of them has impressed as if they could grasp the essence of our work and trace the effect of CE. The need has arisen for working out a series of measurement tools of our own.

With our presentation we aim to introduce the audience to our series of measurement tools and to our results and to explain how our findings may contribute to the planning and the implementation of the CE programme. Our primary aim has been to observe capacities and skills rather than symptoms and to detect to what extent people with motor disorder are able to adopt in their life conduct what they have learned in CE and how far they have proceeded towards rehabilitation.

Our survey has involved 150 adults with motor disorders (hemiplegia, multiple sclerosis, Parkinson's disease and brain injury).

Conclusions

Our series of measurement tools provides an age specific, comprehensive picture of the individual and of the changes or stagnation in their condition. Instead of symptoms it monitors capacities and skills and measures practical things. It makes proper group placement easier and is of good service already at the initial assessment.

There is no connection between the severity of disability and low scores. The degree of independence (which the system of effects in CE aims to achieve) correlates with the duration of CE.

Through a statistical processing of individual scores we can get a picture of the group's work as well which may serve as an important guidepost in modifying the CE programme. The test itself is easy to interpret and to complete even in the group.

CRITERIA FOR MONITORING CHILDREN WITH CP UNDER CONDUCTIVE EDUCATION

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Conductive education (CE), a method suitable for habilitating/rehabilitating individuals with motor disorders caused by damage to the central nervous system has by now become known all over the world. Practice has proved its effectiveness and thus it has been established outside Hungary as well. Several international studies have examined the effectiveness of CE (*Rochel and Weber, 1992.; Bairstow, 1993; Reddihough, 1998; Blank and von Voss, 1996-2001)*. Research has revealed that in order to exactly measure the performances of people with disabilities we need rather complex measurement tools. Standardised instruments could register major changes only. Thus it has become necessary to elaborate a measurement tool that is suitable for measuring changes in the performances of individuals with cerebral palsy (CP) more objectively and at the same time reflect the approach of CE.

Objectives of the present dissertation were to give a review of international impact studies related to CE, to survey documentation practice pursued in CE and, on the basis of the findings, to prepare an observation and documentation tool which would enable conductors to record changes in performances more objectively than before, to analyse data and to draw conclusions. Finally, the thesis aimed to make proposals regarding the elements of the documentation system and the method and frequency of applying those. One of the fundamental aims of the criteria referred to by the author as **"Criteria for Monitoring Children with CP under conductive education**" (**CMCP**) was to clearly specify the object of observation and to render the observation of its elements easier. With the help of the CMCP observations of children's condition and development can be registered in 54 main categories. Moreover, the amount of assistance can be monitored and registered

in 42 subcategories and the time factor in further 41 subcategories while studying motor actions and activities. Thus after completing the monitoring criteria altogether 137 different findings will be available on every child, providing the opportunity of graphic depiction as well. Those applying the criteria will be able to register comprehensive, complex observations. Monitoring can be effected in the natural group environment without removing the children from their usual surroundings. The CMCP has been elaborated in a quantitative fashion.

Results are supplied in a score system where all motor actions or activities are rated on a scale from 0 to 9, subject to the complexity of the action or activity. The findings may be evaluated individually or by main categories in all 54 classes. Children's performance is related to the maximum possible score in the particular categories and can be expressed in percentage as well. Thus every child will serve as their own control subject. The author's research has proved that 56 per cent of the presently used documentation can be replaced by the objectified CMCP i.e. this percentage can be regarded as objective measurement data. Moreover, it has been ascertained and demonstrated that traditional descriptive observation is still essential for many findings are recorded by the conductors in the children's files which could not be documented with the CMCP.

THE TRAINING APARTMENT FOR YOUTH WITH MOTOR DISABILITIES – A CASE STUDY

by TSUR Yuval

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Introduction

For Adolescents, age 21 is an important landmark in the process of turning from child to adult. The energy of adolescents at this age is tuned towards academic learning, work experience, relationships and also moving out of the parents' home towards living independently. This process does not naturally occur for adolescents with disabilities. Many of them just finish school in Israel at this age and turn to find a new way ahead whereby they must actively decide their future in regard to living arrangements, personal relationships, work and leisure time. In the framework of developing conductive services along the cycle of life, Tsad Kadima association has developed and is operating, for the past decade, training apartments for this population.

Tsad Kadima's training apartments are meant to advance adolescents with cp and help them through this critical stage of age 21. The challenge begins of becoming an adult, who has rights and obligations in the wider community. This process is very difficult from an emotional, cognitive and physical level. The training apartment gives an opportunity to actively take part and cope with this process already in the late teen years, thereby preparing the adolescents and giving them a long range learning process.

Aims

In this presentation I will present the model of the training apartment that Tsad Kadima developed, the rationale of this project, its theoretical basis, and how it is put to practice in Tsad Kadima's educational rehabilitative framework.

Method

Case study

Conclusion

The Conductive Education theory escorts the person with motor disabilities throughout his entire life. In the educational-rehabilitative framework one must place special attention to the critical phase's changes during the person's circle of life, like the beginning and ending of learning in a formal school. This stage is characterized by the changing between being part of a specific protected environment which gives a lot of support, to being part of a general environment which expects a large amount of independence and gives little support. This dramatic change finds most adolescents with special needs not prepared considering its range and complexity.

The operation of Tsad Kadima's training apartments for teenagers allows the process to be a slower one with more stages. This makes it more effective and easier emotionally. Preparing the adolescents is done by peer learning, theoretically and actively, in real time and context, via encouraging the participants to interact with mother groups and the wider community.

The quality and the amount this framework helps are primarily measured by the feedback from the participants who experienced this process and are living on their own apartment in the community.

PARENTS' VIEWS ABOUT CONDUCTIVE EDUCATION IN FINLAND: PRINCIPLES OF CE TRANSFERRED INTO CHILD'S EVERY DAY LIFE

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Introduction

The value of family-centred practises is well recognised in the field of early intervention in Finland. Parent-professional collaboration is an essential part of planning and implementing interventions in child's life. However, parents still experience lack of information and guidance by the professionals. The theoretical frame of this study encompasses the idea of the necessity of family-centeredness in early interventions. The study relies on ecocultural theory which implies that families actively construct and create their daily routine. What really matters in child's development is the sustainability of activity settings in everyday life.

Aims

The purpose of this study is to examine parents' experiences of CE and how the principles of CE are transferred into a child's everyday life. The aim is also explore parents' experiences concerning our present intervention services in Finland.

Materials and methods

The study involved 27 children and their parents who attended three-to four-week CE course in 2001 in Finland. During the course each parent assisted

one's own child. The data were collected from parents in group interviews two times during the course. The follow-up interviews were made for 10 families in year 2004-2005. The data were analysed by using theme analyse method.

Results and conclusion

Parents stated many expectations for our present rehabilitation system. They felt often left out of child's normal habilitation and what they valued in CE was their participation. Parents emphasized, that from CE they received tools to embed habilitation into child's every day life. Parents also expressed many factors, which hindered the implementation of habilitation at home environments. The results will be discussed more closely in the presentation.

The results presented in this abstract are preliminary and part of my dissertation. The analysing process is continuing.

GROSS & FINE MOTOR CHARACTERISTICS: LEARNING AND PRACTICLE KNOWLEDGE IN CHILDREN WITH ATHETOSIS

(Films: 1, 2, 3)

by VARGA Kiss Anna – SÁTORI Edit – ZEMPLÉNYI Megtért Györgyi

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The 18 minutes DVD shows changes of posture, position and place in 3-16-year-old children with athetosis. In order to attempt useful movements the 'taming of excessive movements' is recommended, a total and permanent stopping not being possible. It is illustrated how the changes of muscle tone can be embedded in everyday activities. The DVD demonstrates to what extent uncoordinated movement can or cannot be kept under control. The DVD introduces how twisting movement, the changes of muscle tone in children with athetosis can be embedded in everyday activities: especially manipulation in different positions (mainly sitting) eye-hand coordination and fine motor movements.

The DVD demonstrates to what extent coordination can or cannot be kept under control. Athetoid children nowadays present more and more apparently a mixture of the symptoms of dyskinesia, dystonia, paretico-ataxia and contract athetosis. Pure forms of dyskinesia can hardly be found, in most cases asymmetrical posture and increased tone are associated symptoms. The effect of medical and rehabilitative therapies is minimal in such manifestations of dyskinesia.

Through a selection of examples from the daily life and the educating-teaching process of athetoid children at different stages of development the film demonstrates how they learn to coordinate their intention and its implementation, to synchronise the elements of single actions in time and space and to fulfil requirements unaided. Possible relations between learning

and employing attainments are depicted in parallel as partial processes taken from the children's learning activity are linked with the phases of implementation.

The DVD emphasises how the conductor's role has to changed, adjusted itself to various developmental phases, task and problem situations; it includes assisting goal-building, giving advice and support continuously and reassuring the child that the task can be solved.

The continuing changes in muscle tone are to some extent kept under control by the children's/pupils' self-guided movement and rhythm. Even very bizarre athetoid movements may be incorporated in purposeful motion. In spite of their uncoordinated movement these children are precise. Their precision manifests itself in every activity and affects their whole character.

Irrespective of the best results achieved, excessive movements do not disappear and can be induced in almost every case. Nevertheless, very subtle voluntary movements can be performed in spite of the excessive movements that may be provoked. Development is possible without time limit, thus maintaining the knowledge and skills once achieved is a lifelong process.

COMPARATIVE JUDGEMENT OF THE FACILITATION SYSTEMS

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Introduction

The practice of conductive education (CE), the collective and permanent work of each team of conductors and the group of children in their care, requires continuous monitoring and management. Regular, simultaneous attendance by independent senior conductors and other professionals in the daily practice serves this purpose and exists as an external observer function.

Background and Purpose

During the past years the author and her occasional collaborators have made attempts to improve the daily practice and to maintain the standards of the methodology and the implementation of CE. At the same time, the method of observation has also been developed. Mutual experiences are essential for planning the subject matters of the obligatory further training for conductors.

Objective and Method

The work of conductive groups was monitored according to the manual of observation criteria: 9, then 10 groups at the school section (in 2002 and 2005, respectively), and 8 groups of the conductive kindergarten (both in 2003 and 2006) were involved. The change in group membership amounted to some 30%. Almost the same persons participated as group leaders and members of the conductor teams. Observation meant perception of the regular, everyday practice of conductive education, each time for 3 hours. The implementation of five identical facilitation systems (instrumental /1/, manual /2/, pedagogical /3/ and social facilitation /4/ and rhythmical intending /5/) was monitored by seven external observers (experienced lecturer, senior conductors and development specialist engaged in evaluation)

employing arena observation. For a description of the conductor team's work, the series of observation criteria contains 56 questions concerning the five facilitation systems. Observers have a 5-degree-scale to rate to what extent each facilitation procedure prevails during work.

Observation was always followed by 2-3-hour meeting where the observers discussed to what extent their respective judgements of the implementation of the particular facilitation elements were identical or different and finally came to terms concerning the classification.

Participants/Patients

Participants	Preschool				School			
	2003		2006		2002		2005	
	Registered N =	Present N =	Registered N =	Present N =	Registered N =	Present N =	Registered N =	Present N =
Pupil	123	86	130	90	96	66	119	90
Conductor	60	50	56	37	64	32	62	46
Lecturer	2		8		2		8	
Senior conductor	6+8		6+8		6+9		6+10	
Development specialist	3		3		3		3	
Senior observer	1		1		1		1	

Results

1. The aspect, as to what effect the particular facilitation systems are used by the conductor team in the education/teaching processes is recognised by conductors as crucial to children's progress.
2. Although nobody would dispute the importance of any of the facilitation systems in theory, in the course of everyday activities, usually everyone tends to prefer one to the others, subject to their belief and skills. Out of the five facilitation systems listed above, the characteristics of one come across with greater emphasis without reason.

3. Between the two observation periods (T1 – T2), pedagogical facilitation diminished by almost 10% at the school section. The decrease affected primarily those facilitation elements which require planning and creative preparation.

4. In one third of school groups the proportion of manual facilitation reached an average of some 60% in the two observation periods (T1: 58.83; T2: 60.18). Most probably this value carries the same meaning as the previous finding, i.e. it is related to the lower average proportion (about 50%) of pedagogical facilitation methods (T1: 40.94; T2: 57.14).

5. This suggests that employing 'fast' manual and much less pedagogical assistance is a general tendency. We had the opportunity to observe how disadvantageous this was and to what extent it reduced the success of CE when we started to work in other countries without appropriate command of their language. Nota bene: native level would be desirable.

6. According to the experience non-conductor observers made in the school groups, at T1 55.55%, at T2 50% of the groups were below 60% in terms of their accomplishment concerning the correct implementation of the manual facilitation system.

7. Conductors' decisions as to which elements of the facilitation system they prefer to use, which they apply less frequently and to which they give less attention, depend on the knowledge they gathered during their college training and professional practice, their interpersonal sensitivity as well as on the views transmitted by the senior conductor in charge of the team.

8. Once established, conductors' methodological culture does not change quickly and is difficult to influence, thus providing correct and reliable information during training is of utmost importance. (Probably this was the background for the view and practice represented by András Pető and Mária Hári i.e. that conductor error and children's failures must be corrected immediately.)

Conclusion and Comments

The author describes the tendencies of changes in the facilitation system mainly while analysing and evaluating measurement data related to the manual and pedagogical facilitation systems, searching for the causes of changes in the facilitation systems. The author looks for possibilities for valid statements to be made regarding conductor teams' quality of work and for the comparative judgement of facilitation systems to contribute to maintaining the values, ensuring optimal proportions and effecting necessary changes in a comprehensive system.

1. While in the theory single facilitation elements and algorithms are isolated for didactical purposes, in the practice they are present as an integrated or transdisciplinary system.
2. Without correct knowledge of the specific system of goals and programme of the conductor team and the particular group of children it is impossible to create rules as to what the facilitations system to be adopted should be like.
3. To ensure unequivocal evaluation of the cross-sectional observation it is imperative that the observation is succeeded by a clarifying discussion.
4. More emphasis must be laid on shaping attitudes and supervision of the implementation in practice is also essential. We must take advantage of the opportunity that the eldest and the youngest generations of conductors are working together in the practice and all are in daily contact with the college instructors who have great experience and theoretical knowledge.
5. Adopting the series of observation criteria cannot substitute the rating of conductors, however, it enables to establish at a given time, to what extent the particular facilitation goals are achieved and how correctly the specific facilitation methods are used by the conductors.
6. In the future, the opportunity of consultation with college instructors in charge of specific areas will have an important part in conductors' educating/ teaching activity.

PREVENTION OF SPINAL AND HIP MALFORMATIONS IN CONDUCTIVE EDUCATION

WAUQUIER COSTA Mª José – GUAITA ALBERT Lucía – CAMPOS ZAPATA Estrella – ALBERICH RUIZ Mónica – ESTELLÉS SANTAMARÍA Elena

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In our daily work as conductors, we can find a lot of musculoskeletal malformations, and patients who can suffer them in the future. Due to the importance of these problems in the development of these patients, and thus in their quality of living, we consider that is very important to make a good prevention work or treatment of them from the CE. We decided to begin with this work when we realized that we didn't have a reference text on this subject, that we could use as advise, study and reflection manual. Its contents would be the following:

1. Spinal malformations: scoliosis, kyphosis, lordosis.
2. Hip malformations: luxations and subluxations.

Each one of these paragraphs would be composed by:

> Preventions during the lying, standing, sitting program, displacements and relax periods.

Work Objectives

1. To create an inventory that gathers postural and orthopaedic preventions to be used during the different moments of the CE.
2. To create a reflection and discussion forum among the different professionals interested in this issue through an International on-line Forum to exchange ideas.
3. To create a multimedia database at the disposal of all the authorized professionals interested in it.
4. To create a supranational commission responsible of moderate the On Line Forum and to take care of the multimedia database.

Methodology

1. Bibliographic revision.
2. Consultation with different specialists.
3. Watching different videos and photographs.
4. Revision of different Conductive Programs.
5. Constant elaboration and revision of the inventory.

Conclusions

- The need of creating a reference text to guide and help the conductors' work in the presence of patients with these malformations.
- That reference text would become an open space for modifications and updates in which any professional could contribute with his or her experiences, ideas and knowledge.

MAKING UP FOR BACKWARDNESS?

by WETZEL Györgyné – HORVÁTH Júlia – ÖRKÉNYI István

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The Pető Institute has not been left untouched by the endeavours towards integration getting under way during the past decade. Questions about 'discharge' and placement in school have induced professional discussion and joint consideration within the Institute.

Some children left 'too early' and feedback from parents and our aftercare unit indicated integration and behaviour problems at kindergarten. Thus the Institute management was prompted to launch a partial study (Salga et al, 2000) into integrated education for children with mild disability and their healthy siblings.

The effects and difficulties of occupation in a group have been treated by several lectures and films (Salga-Horváth-Örkényi, 2004; Questions of integration, Occasional Papers on Conductive Education). Our film presents emerging problems and how efforts towards integration, currently in the centre of methodological debate, are put into practice, introducing the viewer to the daily routine of a group.

The authors depict possibilities of full-day kindergarten education, methods of implementation and possible ways of cooperation with parents and partner institutions.

THE FACILITATION OF THE DEVELOPMENT OF ACTIVE PERSONALITY AND PROBLEM SOLVING SKILLS FOR MULTIPLE HANDICAPPED STUDENTS IN A SENIOR CLASS OF A SPECIAL SCHOOL FOR STUDENTS WITH PHYSICAL DISABILITIES

by WONG Chun-Kit – LEUNG Kam-wing – TO Yuen-wah – SIN Man-wai – WONG Ping-kin – YAN Ka-yee – KAN Kin-ho

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Introduction

According to Prof. Pető and Prof. Hári, the objectives of Conductive Education are to achieve orthofunction and to enhance the development of an active personality in the neurologically impaired persons so that they become responsible for their own lives. These attributes are especially important for the transition from adolescent to adult. However not many studies or programs have been reported which specifically focus on this area, especially for adolescent multiple handicapped students. In response to the pioneer project, "Extension Years of Education" created by the Educational Manpower Bureau of Hong Kong, a curriculum and programs were developed in our school which focuses on the development of independent functioning, self-determination and active personality.

Objectives

To develop active personality, problem-solving and self-determination skills for multiple handicapped students aged between 16-18 in a school for the

physically handicapped, through a holistic and transition curriculum and to investigate its efficacy by qualitative methods.

Methodology

An integrated curriculum that combines education and rehabilitation based on the principles of Conductive Education was developed and implemented by a trans-disciplinary team of specialist teachers and therapists. Innovative programs and activities were designed to facilitate the development of active personality and generic skills such as decision making and problem solving. Integrated checklists with achievement scores were used to assess the baseline performance of the students before the program started and to reassess after 1-2 years of participation. Qualitative surveys of the students and parents and authentic field assessments of the students were also used to assess the efficacy of the curriculum and the programs.

Results and Conclusion

By comparison with the baseline pre-test, students who participated in the program were found to have improved in the scores on the integrated checklist. In the authentic field test, they were more confident in handling challenge, more responsible, had a better ability to make choices and solve problems and they were functionally much more independent. Their self-perceived confidence and ability had also improved. These findings suggest transitional programs using the principles of CE are beneficial to developing the active personality in this group of multiple handicapped students.

APPLICATION AND DEVELOPMENT OF CONDUCTIVE EDUCATION CONCEPT IN FOSTER CARE IN CHINA

by ZHOU Qiong – ZHOU Huanlong
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Conductive Education (CE) has been implemented in this Institute since 1994. Through 10 years experience, a training base has been established for child welfare staff to learn and practice CE. In the year of 2000, we applied the CE concept in our foster care programmes. In 2002, we invited foster parents to the institute for basic training and we also send our institute staffs to the foster programmes to provide direct service which is not only a new challenge, but also gives us opportunities for many more people to benefit from CE.

We organise the groups using the philosophy of a child – centred approach, active participation of the child and utilization of daily activities. We have also combined CE groups and individual coaching or therapy in the work of assessment, goal-setting and adapting the plans. This allowed us to integrate the CE approach into the foster care. We have accumulated some experiences from the last 4 years and this helps us to ensure the smooth implementation of CE in the families .The foster parents have seen the improvement of the children.

PARENTAL ATTITUDES IN INCLUSIVE EDUCATION

by ZSEBE Andrea

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Respecting humanity engages everyone belonging to the healthy majority to accept equal rights to a normal everyday life in the society of disabled people. Special education is a valuable work in many respects of the society, which can be considered as a long-term investment.

Thus the integration of disabled people is not simply a question of humane approach or legal category, but also a clear economic interest of the society. The approach to disabled people represents the stage of development of the society.

Entering the EU, Hungary has experienced a coherent, well-characterized and successful policy of disability affairs. In the EU, the rate of children with special needs - including disabled ones - educated at special institutes differs country by country. With the adaptation to the EU policy of disability affairs there is an increasing need to form a society, which naturally accepts disabled people.

I would like to present the legal background that helps or hampers the integration of people with special needs to the society. At the same time I would like to point out the personal and objective approaches helping this integration running smoothly.

With analyzing my results, I would like to point out the problem that despite inclusive education of disabled children is impossible without the supportive attitude of the parents of normal children; nowadays 54% of these parents prefer a fully segregated education of disabled children.

I would like to emphasise the importance of the teachers' awareness of the parents' requirements and competencies, which they consider important from both aspects. The aim of our survey was to investigate whether the parents of disabled and normal children have the attitudes that help change their

approaches and on the other hand to collect and systematize the emerging problems, worries and factors affecting integration.

The third goal of this survey was to investigate the attitudes of the parents, whose children were already involved in inclusive education. I used questionnaires for this survey. Analyzing the results, it seems to be clear that the most important factor affecting the changes in the parents' approach is providing practical experiences, which must be fully realised by the teacher in the future.

EFFICIENCY AND QUALITY – ANALYTICAL SURVEY IN THE CONDUCTIVE NETWORK

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Pető András Institute of Conductive Education for the Motor Disabled
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Helping and organizing pedagogical work in different regions of Hungary is an important aim of the International Pető Institute. It includes the organization of this work into a network. Besides on the part of the segregated institutes there is an increasing need for the conductive pedagogical work also in mainstream schools dealing mostly with normal children. The reason for that is rendering the integration a priority task in accordance with the EU guidelines. The rising professional demand for the total inclusive education in majority schools has also contributed to this. The analytical survey presented here was preceded by an efficient collaboration, which had been established between a majority kindergarten in Pest County and the International Pető Institute.

At the present time, there are two children involved in inclusive education in that kindergarten. The successful collaboration between the conductor-public education specialist and the teachers of the kindergarten has been proved by the continuous progress in the physical, mental and social status of these children.

We intended to prove the positive changes in the characters of mainstream children as a result of the running pedagogical programme. The most important positive effects of the integrative education on mainstream children do not show up by mental or physical ways but in their behaviour.

Thus, these results can only be detected by indirect ways within everyday activities. In this survey a method was used, which could sufficiently detect these indirect results. A kindergarten where there had never been any inte-

grative education served as a control to the study. In the survey 94 normal children -aged 5-7 years- were examined.

The results have proven that the collaboration between the International Pető Institute and the normal kindergarten is successful and also serves as a guideline to every mainstream teacher.

Keywords: motor-disabled children, conductive network, inclusive education, efficiency survey.

THE INCLUSIVE EDUCATION AS A TOOL FOR CHARACTER SHAPING

by ZSEBE Andrea – BIRÓ Katalin

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Humans are social beings, members of their natural community, the society, which has its own symbiotic rules of historical origin. Each society consists of smaller communities. However, the coherent values differ community by community. These values can change, alter or even cease.

In this lecture we would like to point out the requirements that oblige the teacher to mediate those values, which can help the person to fit in the society, irrespective of community membership. These values – like protecting life, respecting humans, disciplined behaviour, tolerance, protecting the environment etc. – can be considered as fundamental values of the society. It is very important that the acquisition of these values should take place in a community like a sequence of activities. Thus the children have the possibility to acquire the manners of handling conflicts and practicing them.

If this process is interrupted for some reason, the internalisation of basic values can be damaged. This results in a dangerous social phenomenon, because values regulate moral behaviour – this way they serve as a basis of judgement to evaluate our everyday behaviour to the public. Real acceptance and then full reception of handicapped people is more than a passing delight of some individuals.

These successes are able to enrich and renew the system of values in the society. The spread of integration -and then of inclusion- helps this process, since a tolerant behaviour based on solidarity can become a value under these conditions. Teaching the children acceptance and tolerance towards themselves and their mates is in vain if they do not have the possibility to experience and practice it by certain activities. Children can experience real

social values with inclusive education by building real connections with common activities.

However, to reach this level, a complex build-up of their character is needed, no matter whether they belong to the handicapped minority or to the majority. Handicapped people can gain some capabilities, which can improve their life quality with special efforts and targeted pedagogical activities. A wide-range development of handicapped persons can only be fruitful through a special activity with which not only their present knowledge is applied, but they are involved in situations of decision and encouraged towards cooperation and adaptation.

With this lecture we would like to prove the importance and character-forming property of this pedagogical practice.

GALLERY OF IMPORTANT RESEARCHERS OF CEREBELLUM, BALANCE, HEARING AND MOTOR COORDINATION

Balogh, Erzsébet
Retired Professor
of Biomedical Department of IPI

1

Nobel Prize in Physiology & Medicine

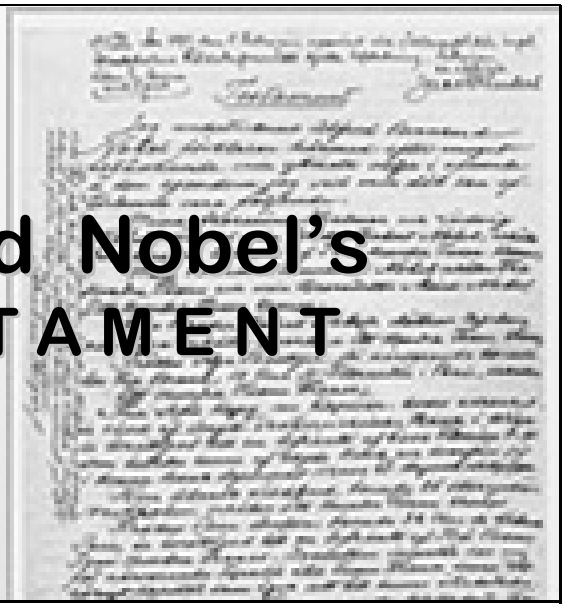
- 1906 Cajal
- 1906 Golgi
- 1914 Bárány (1916)
- 1932 Sherrington
- 1961 Békésy
- 1963 Eccles

186 Person since 1901
11% (6) for the topic

2

Alfred Nobel
(1833-1895)

Alfred Nobel's TESTAMENT 1895



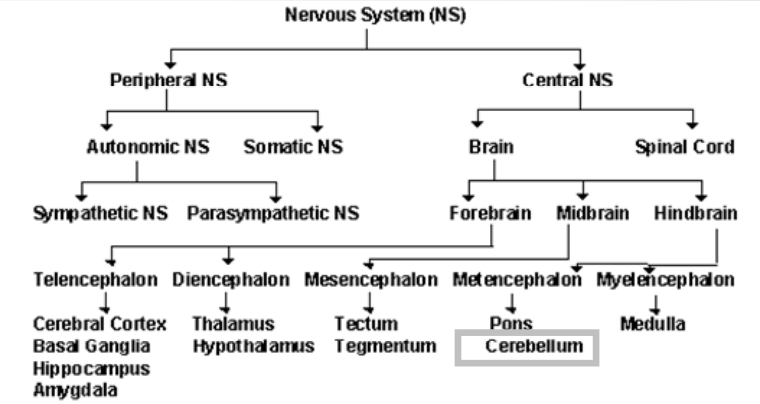
Alfred Nobel (1833-1895)

5

Reverse side of Nobel Prize medal for Physiology and Medicine

6

Cerebellum is the organ of proprioceptivity, coordination, sensation of balance, posture, distance and time



The Place of Small Brain in the CNS

7

"he (Sir Gordon Holmes) first challenged the accepted theory of the unitary function of the cerebellum. With Grainger Stewart he described the rebound phenomenon in cerebellar disease (Stewart-Holmes symptom). With WJ Adie he established the myotonic or Holmes Adie pupil. Holmes' syndrome is a hereditary degenerative cerebellar ataxia involving the olivary nucleus.

8

Sir Gordon Morgan Holmes (1876 – 1965)

9

Cerebellar disturbances he characterized by asthenia, ataxia, rebound, and adiadochokinesia.
He (Sir Gordon Holmes) developed the foundations of modern neurological examination.
He worked with Henry Head on the visual pathways and the optic thalamus.
From 1922 to 1937 he was editor of *Brain*.

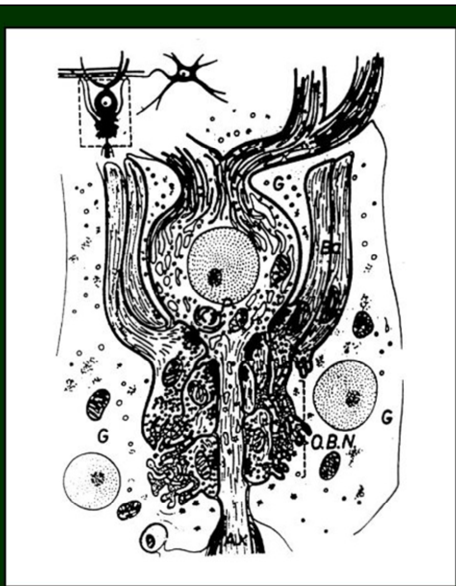
10

Jan Evangelista Purkyne (1787-1869)

Discovery of Purkyne cell on the small brain (1837)

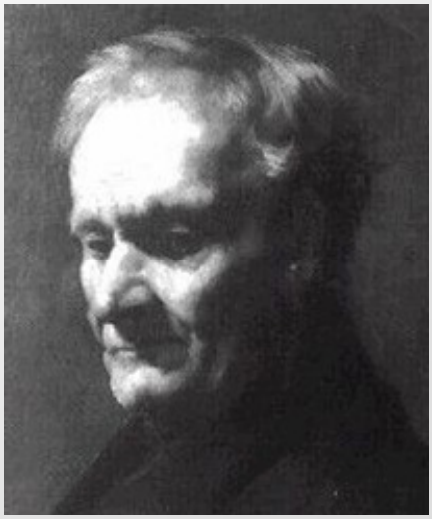
11

P U R K Y N E



C E L L L

Jan Evangelista Purkyne (1787-1869)



13

Dr Mária Hári's beloved author, Sir Charles Sherrington's interest was in spinal reflexes (e.g. stretch reflexes).
He will be remembered for the contribution to the physiology of perception and behavior.

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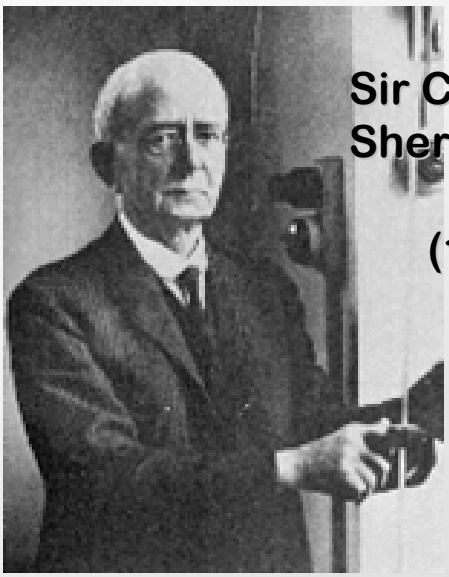
Mária
Jozefa
Hári MD
(1923-2001)

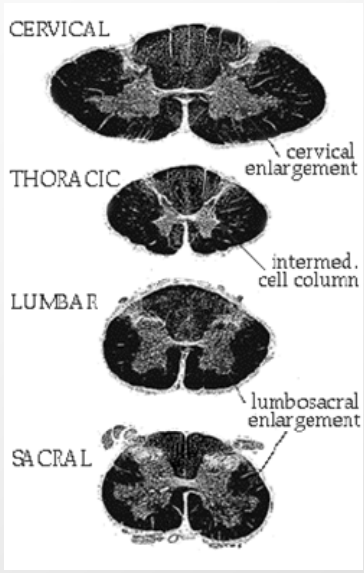


Sir Charles Sherrington

(1857-1952)

NOBEL Prize 1932

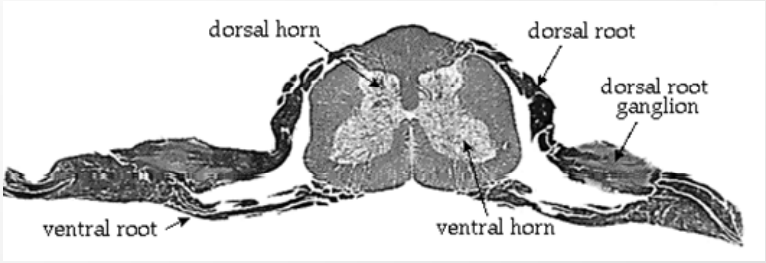
16



white and grey matter proportion at various level of the spinal cord

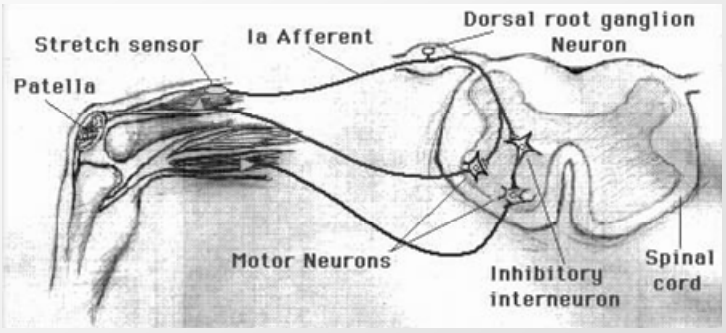
(cross sessions)

17



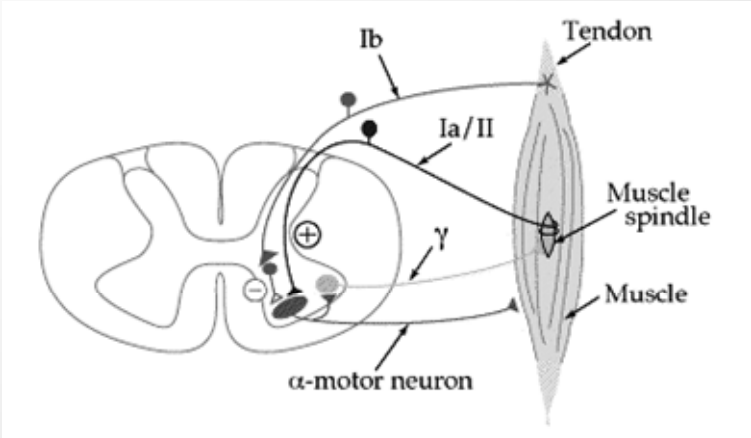
Cross session of spinal cord at about the cervical level

18



Stretch reflex (Sherrington)

19



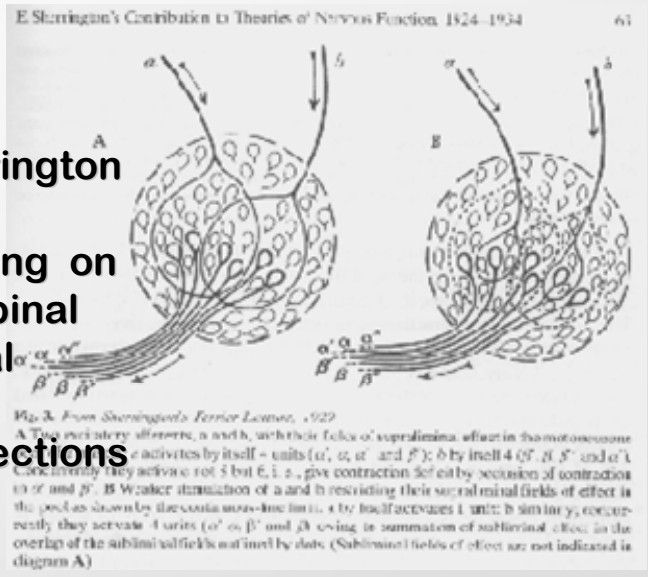
reflex arch

20

Sir Charles Sherrington (1857-1952)

NOBEL Prize 1932

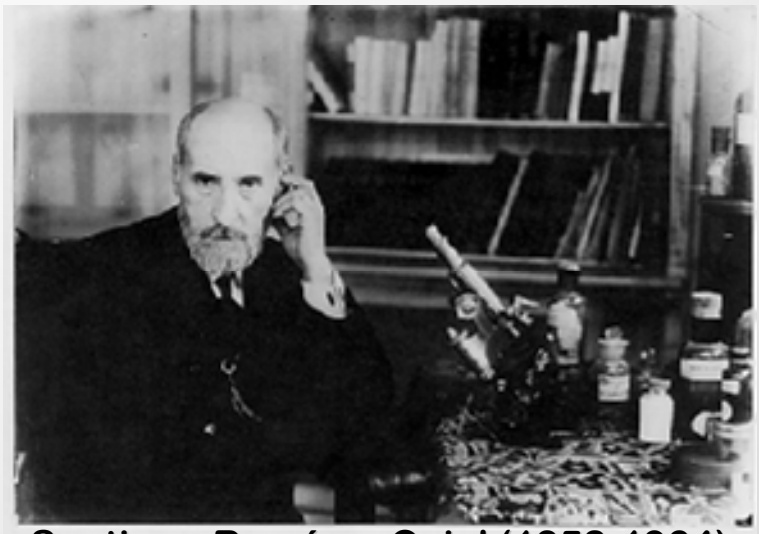
Sherrington own drawing on the spinal neural inter-connections



E Sherrington's Contribution to Theories of Nervous Function, 1824–1934 61

A B

Fig. 3. From Sherrington's Ferrier Lecture, 1929

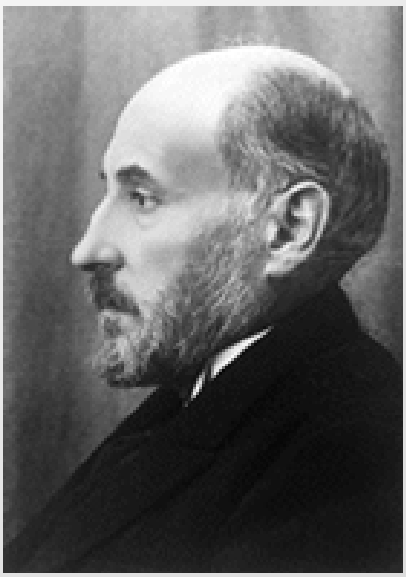


Santiago Ramón y Cajal (1852-1934)

23

Santiago Ramon y Cajal (1852-1934)

NOBEL Prize 1906



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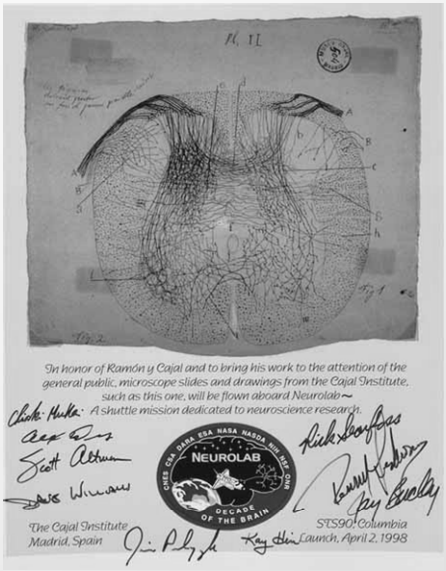
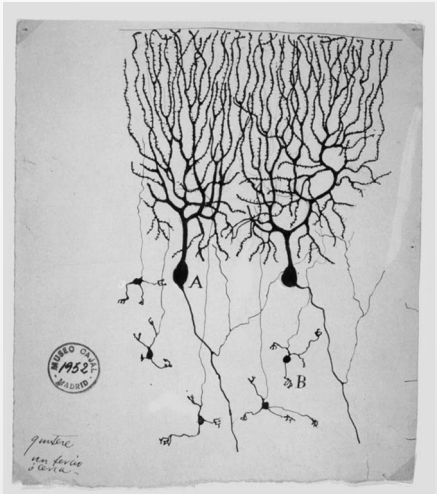


A copy of an original drawing from the Cajal Institute, Madrid (Decade of the Brain)

25



"Pigeon cerebellum. A, Purkinje cell, B, granule cell Modified from a photograph taken from the original (14X15.5 cm). Drawn on sheet/paper. P.Y. 1899. S.R. y Cajal Institute - CSIC - Madrid, Spain.

Microscopic structure of the pigeon small brain. Copy of the original Cajal drawing.

(S.R. y Cajal Institute)

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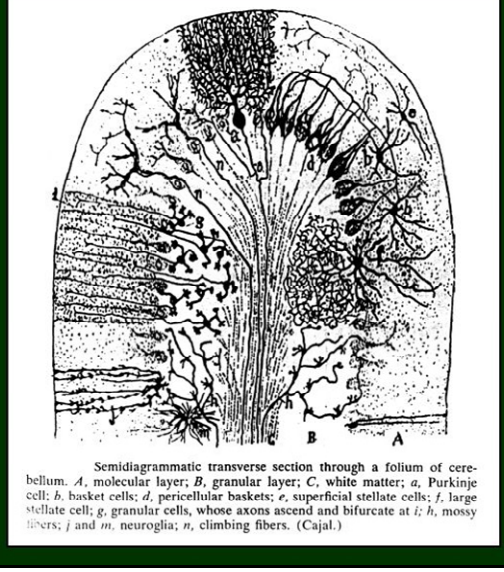
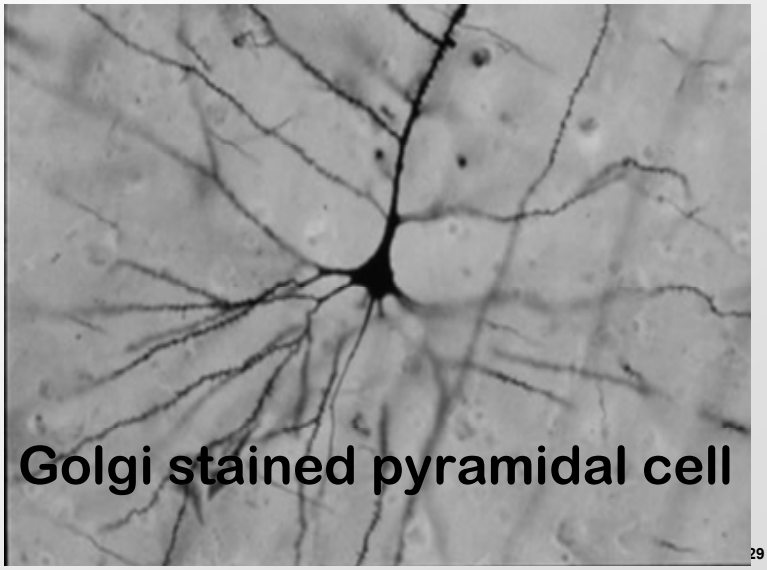


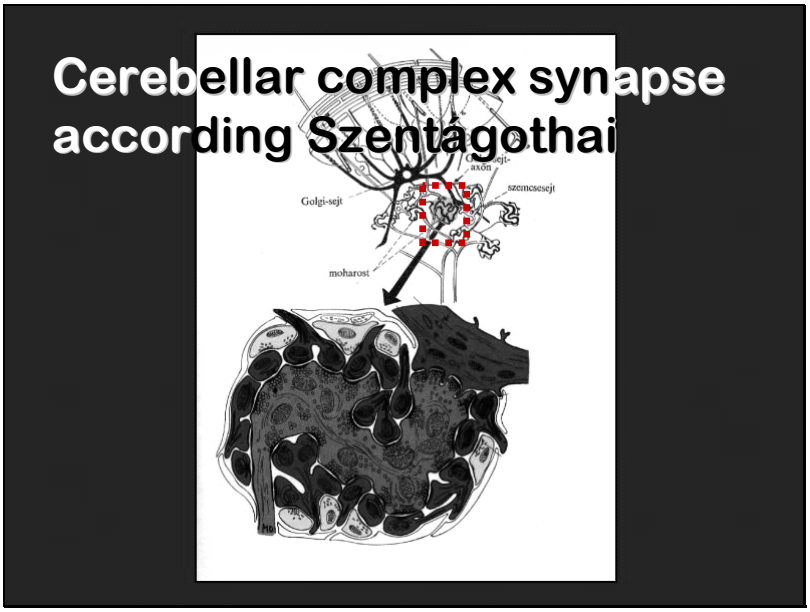
Semidiagrammatic transverse section through a folium of cerebellum. *A*, molecular layer; *B*, granular layer; *C*, white matter; *a*, Purkinje cell; *b*, basket cells; *d*, pericellular baskets; *e*, superficial stellate cells; *f*, large stellate cell; *g*, granular cells, whose axons ascend and bifurcate at *i*; *h*, mossy fibers; *j* and *m*, neuroglia; *n*, climbing fibers. (Cajal.)

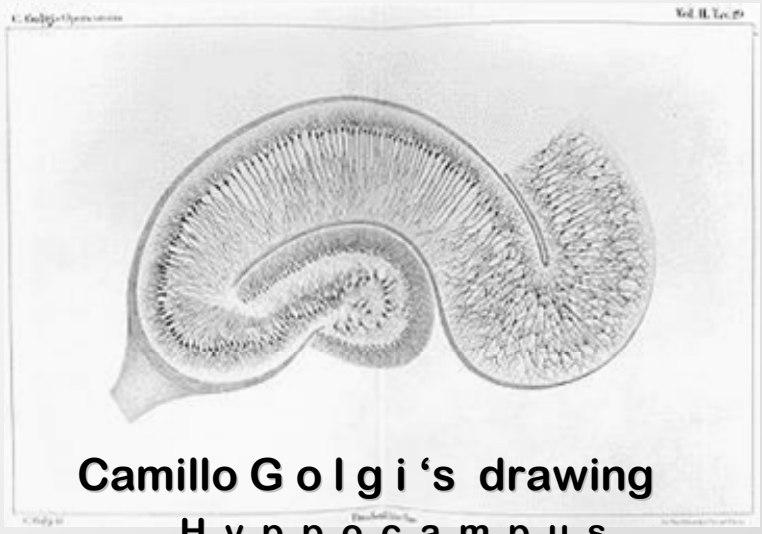
Camillo Golgi
(1844-1926)

NOBEL Prize
(with Cajal)
1906

28


Golgi stained pyramidal cell


Cerebellar complex synapse according Szentágothai
Golgi-sejt
szemcsesejt
moharost



Camillo G o l g i ‘s drawing

H y p p o c a m p u s

31

The chemical synapse

The great Spanish neuroanatomist an later **Santiago Ramón y Cajal**, studied the nervous systems, with a relatively **neuron-specific stain discovered by his contemporary Camillo Golgi (who shared the Nobel Prize in Physiology or Medicine with Cajal 1906).**

Cajal’s observations lead him to **the neuron doctrine.**

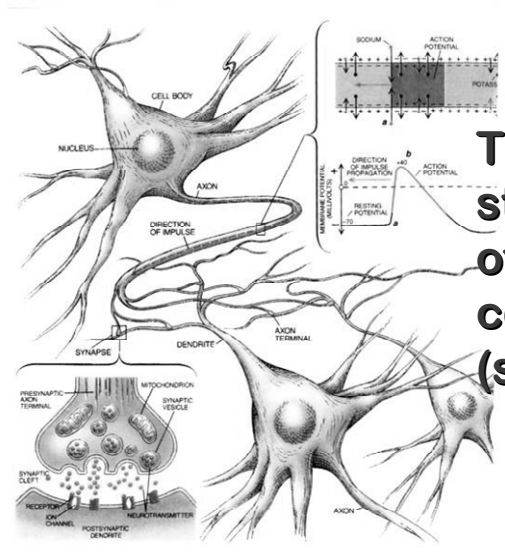
It states simply that the **neuron is the anatomical and functional unit of the nervous system** – a notion that eroded the then **prevalent dogma that neurons fused to form cytoplasmic continuity with one another.**

32

Cajal surmised, communication between the individual neurons:
a special junction that has been called a synapse since the term was coined by the founder of modern neurophysiology, Charles Sherrington.

The synapse is not as tight as the gap junction and there is no cytoplasmic continuity between the partner cells, Communication across the synapse is mediated by a chemical messenger. The messenger is called neurotransmitter which will be released by one neuron and triggers a response in another.

33



The fine structure of neuronal connection (synapse)

34

Characteristics of The Chemical Synapse

(1) polarized (information travels from the presynaptic to the postsynaptic neuron)
(2) the synaptic response is graded (the synaptic response is graded in proportion to the amount of chemical messenger and the responsiveness of the postsynaptic membrane)
(3) neurotransmitter can, in many cases, inhibit the activity of the postsynaptic membrane rather than excite it.

36

Criteria for the effective Nervous System

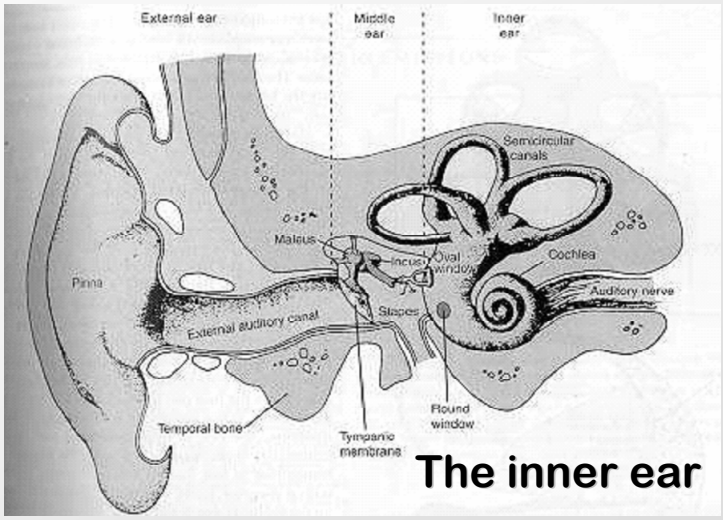
1. a rapid response (information transfer, on a time scale of milliseconds)
2. the necessity to signal over distances long-distance signaling cannot come at the expense of speed
3. discrete, patterned responses (individuated effectors: limbs and fingers in three dimensional space

37

Bárány Robert
(1876-1936)

NOBEL Prize 1914

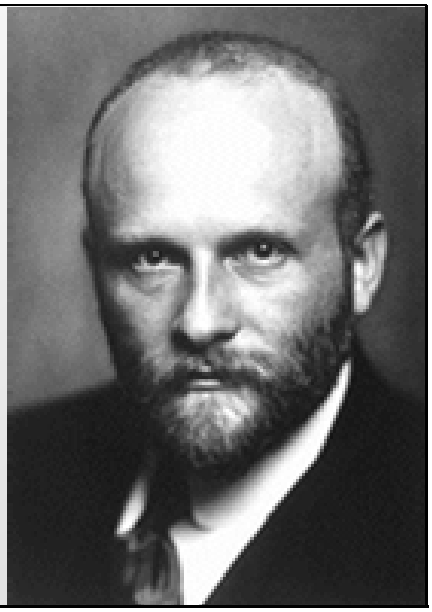
39

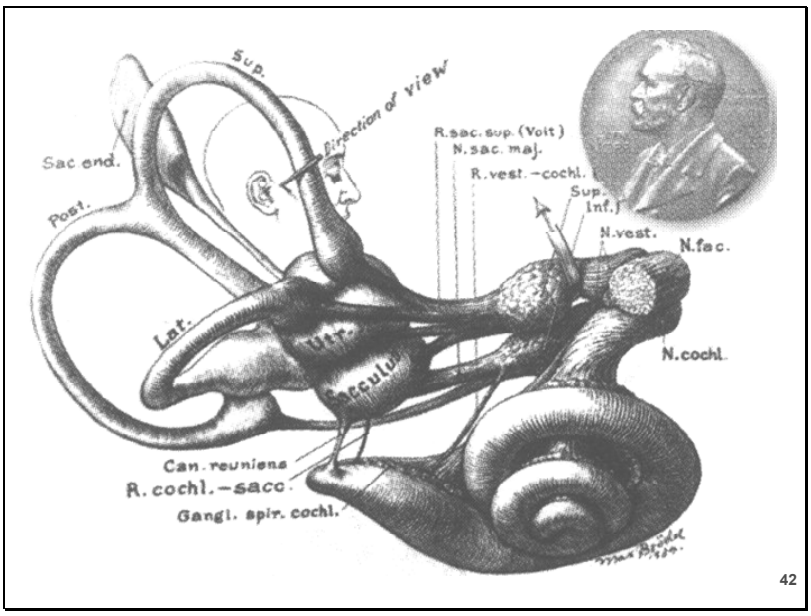


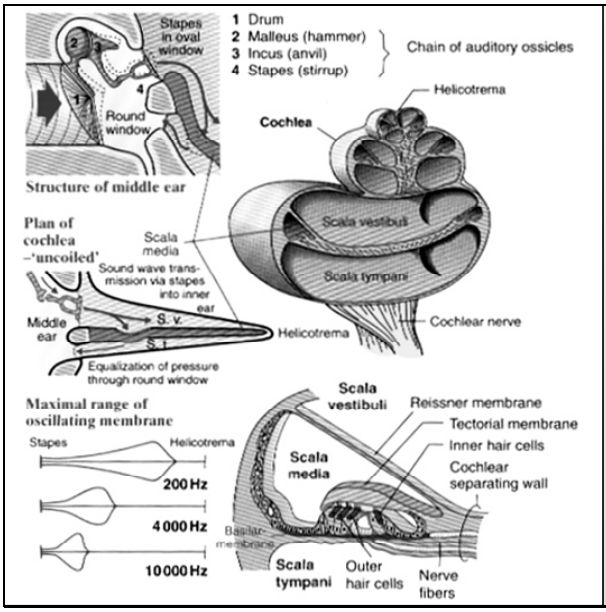
The inner ear

38

Bárány Robert
(1876-1936)
NOBEL Prize: 1916
…the intercession of Prince Carl of Sweden secured the release of Barany from a Russian prisoner-of-war camp and allowed him to accept the 1914 Nobel Prize for his exposition of vestibular physiology…



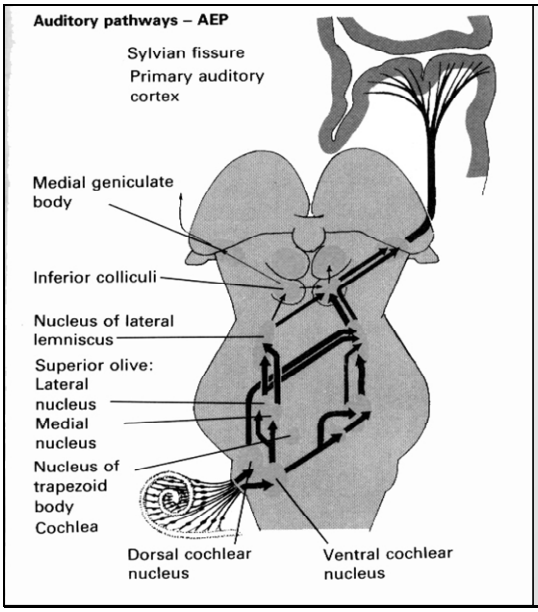




43

Békésy György
(1899-1972)
NOBEL Prize
1961

44

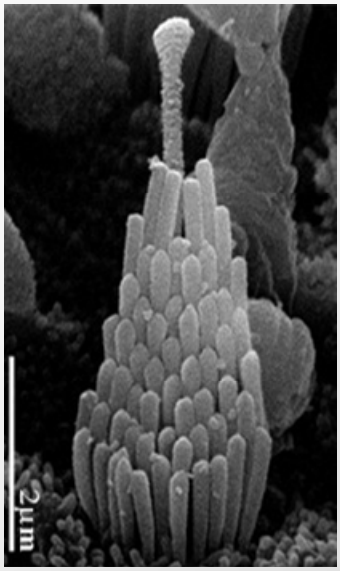


The acoustic pathway from brainstem to temporal cortex

45

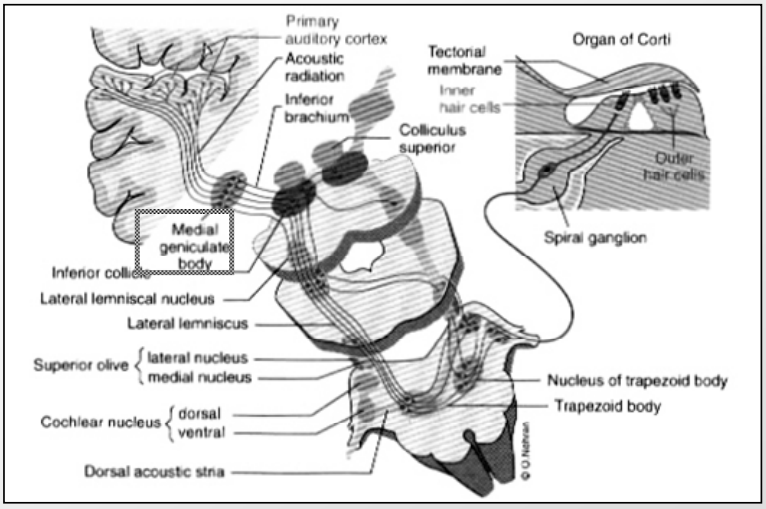
Békésy György (1899-1972) NOBEL Prize 1961

46



hear cells

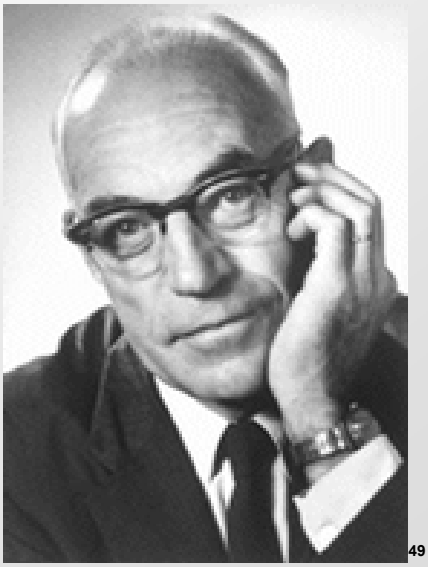
47



Acoustical pathway

48

Sir John
Eccles
(1903-1997)
NOBEL Prize
1963



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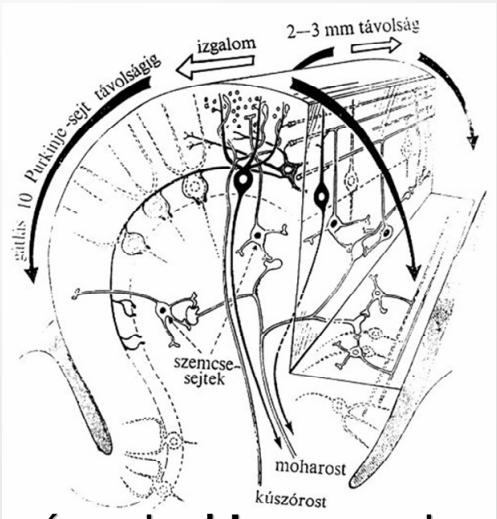
50

Ito Masao
(1928 -)

51

Szentágothai János (1912-1997)

52



Szentágothai's own drawing

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Prof. Hámori, József
follower of Szentágothai

Secretary of the Hungarian Academy of Science

Researcher on CNS

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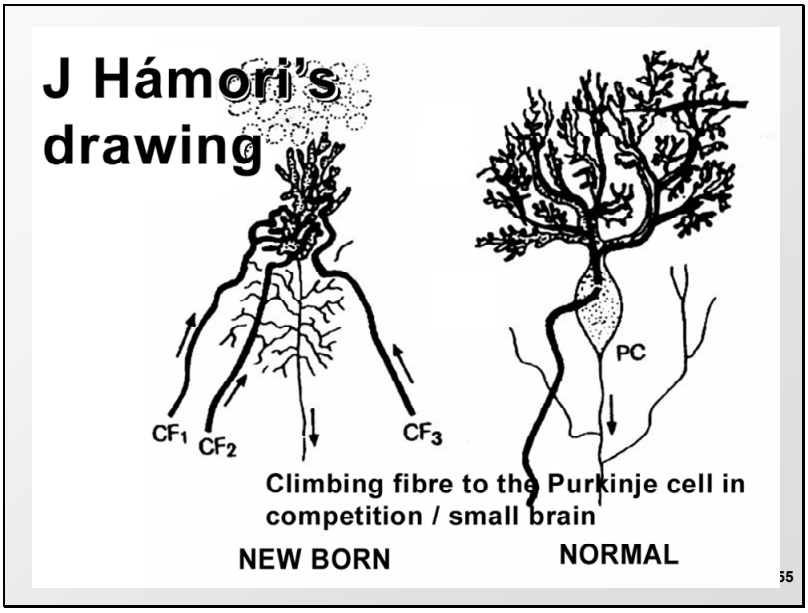
J Hámori's drawing
CF1
CF2
CF3
PC
Climbing fibre to the Purkinje cell in competition / small brain
NEW BORN
NORMAL

LIST OF PLENARY ABSTRACTS

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