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Conductive Education

History, Definition, and Basic Concepts

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"If I accept the other person as something fixed, already diagnosed and classified, already shaped by his past, then I am doing my part to confirm this limited hypothesis. If I accept him as a process of becoming, then I am doing what I can to confirm or make real his potentialities"

Carl Rogers

Conductive Education - History

Key Personalities: Prof. András Petö, Dr. Mária Hári

András Petö (1893 – 1967)

Little is known about Prof. András Petö. He was born in 1893, in the Austro-Hungarian Empire, to a lower middle-class Jewish family living in Szombathely, a small city near what is now the Austrian border. At age 27 he left Hungary for medical studies in Vienna. We have sparse information about his career from 1923, when he concluded his studies, until about the mid 20th Century.

In 1938 Prof. Petö left Austria and took up residence in Paris where one of his younger brothers lived. It was during World War II that, unlike other Jews who were leaving Hungary, Prof. Petö returned to the Budapest that he had left when he first reached adulthood. At the time, Hungary was a Fascist state; anti-Semitic laws prevented Jews from practicing medicine. In 1944 the Nazis conquered Hungary and Eichmann sent 450,000 Hungarian Jews to the death camps while in Hungary members of the Hungarian Fascist Party were, themselves, killing Jews. Where was Petö during those years? No-one seems to know.

In 1945, when the war ended and the Soviet Army entered Hungary, Professor Petö re-appeared as a physician caring for the sick and frail. At age 51, with meager resources and, aside from individuals who volunteered to help, no trained staff to speak of, and without medications or basic equipment, Dr. Petö's practice began to flourish. At the time he was also providing solutions for polio patients in the wake of the polio epidemic that raged during the late 40's and early 50's. This was the period when Hungary was ruled by a Stalinist dictatorship. Dr. Petö's clinic was nationalized and became a unit within the Hungarian Ministry of Health serving children and adults with a variety of problems, most of whom were hospitalized.

In 1956, 11 years after he began developing his approach, Petö explicitly declared its name to be: 'Conductive Motor Therapy as a Special Pedagogy'. By this time Petö was in his 60's and not in particularly good health. Gradually, two women who had been with him practically from the time he began his practice took over the day to day management: Mária Hári and Illi Szekely. A professional training program first began developing in the early 1960's when women who had been working as aides were trained to assume more responsibility. The possibility for on-the-job training began to attract young women from educated families who for one reason or another had not gone on to university studies. Thus, under the careful supervision of Prof. Petö and coupled with early feminine management of the institution, enlightened feminine leadership emerged which in turn implemented significant changes in the nature of the institute. This non-formal process of feminization represents a central change in the history of Conductive Education.

Accompanying this development were some formal developments that are worthy of mention:

- In 1963 the institute was transferred from the Ministry of Health to the Ministry of Education.
- Prof. Petö died in 1967 and Dr. Mária Hári became director of the Institute in 1968.
- A four year professional training course for Conductors was offered beginning in 1968.

Petö's 'secrets' accompanied him to the grave. We do not know what Petö himself considered being the theoretical foundations, explanation, or implications of his work. His professional legacy was transmitted orally to the people who had been working with him. What is clear, though, is that in his advancing years, in a burst of energy or inspiration, he converted his practical basis to a perceptible method, what is now called Conductive Education. Aside from that, well before his death, Petö created an institutional movement that enabled Conductive Education to move on to another developmental stage.

Mária Hári (1923-2001)

Mária Hári, one of the first volunteers, joined Petö in 1945 when she was still a medical student. After she

received her medical accreditation she devoted her entire life to Petö and to his Institute. In 1967, when Petö passed away, she became director. She institutionalized the work with children and adults and refined the professional training program for Conductors so that it would meet Ministry of Education expectations. She directed the Institute throughout the Socialist period and into the Capitalist period. Although she officially retired in 1995, she carried on with her dedicated work for the Petö Institute practically until her death in 2001.

Mária Hári's contribution was essentially in three main areas:

1. She preserved and defended the Petö approach and the Institute during a period of enormous social change in Hungary. As a governmental institution the Petö Institute was suited to the standards of the Hungarian education system. At the time, the Institute was a service provided by the state in the form of a residential institution for children aged 3-14 with an accompanying school framework, a small non-residential extension program for children under age 3 and somewhat older who attended scheduled sessions, and a small adult program. In 1985 the Institute moved to new premises and in 1988 proprietorship was transferred to a non-profit association, the International Petö Foundation, with hopes of attracting western investors.
2. Hári founded the 4 year professional training program for Conductors that combined practical experience with a socialization process towards internalizing the skills and values instilled by Peto and his followers. Although a physician, it was her development of the Conductor training program for which Mária Hári was awarded a prize by the state.
3. Though modest and retiring by nature, in later life Dr. Hári discovered that she had a talent for public relations promoting the Petö Institute and Conductive pedagogy. She would receive journalists, politicians, diplomatic corps persons, all of whom accorded her honor and respect.

Mária Hári was, therefore, one of the central figures in the history of Conductive Education, someone who grasped Conductive pedagogy and developed it, and someone who gave form to Petö's legacy and brought about its expression in the public and political arenas. However, the Institute, as it developed during the 70's and 80's remained isolated from central movements in professional life in Hungary. Its internal ethos tended towards isolation and defensiveness which in turn inhibited long range development of the system. Conductor training resembled more a socialization and coaching process and did not encourage a capacity for further theoretical development. Given the absence of academic requirements, Conductive pedagogy in Hungary, during that period, could not develop into advanced academic studies, a factor which affected the possibility for further development of the profession.

The history of Conductive pedagogy, accordingly, begins during the 45 year long and relatively isolated Hungarian period, from 1945 until the early 90's when the International period of Conductive Education began. The method labored to develop in new directions, a possibility brought about by contact with new circumstances and leadership of new personalities in most of the developed countries. Conductive Education has become an international phenomenon. Though awareness of Conductive Education's historic roots in Hungary is great, on a practical level ties to its country of origin have weakened in most of the countries currently offering Conductive Education.

The 'discovery' of Conductive pedagogy outside Hungary took place in 1986 when the BBC aired a documentary film called "Standing up for Joe". The film had significant impact in Great Britain and when, later, it was shown in other countries results were similar. The driving force for change and development of the approach moved from professionals and from Hungarians to westerners and, primarily, to parents of children with CP. The media had become a significant vehicle for increasing public awareness of the method in many ways.

In the twenty years since the communications 'big bang' tremendous development of Conductive Education has taken place. The first country to further develop the method was Great Britain followed by Israel, after which a wave of local initiatives appeared in many different countries. This development was in response to local needs and capabilities taking into account economic restraints and official procedures in each country. Parents who had been bringing their children to Hungary for treatment quickly became cognizant of the personal, practical, and economic advantages of importing Conductive Education to their countries. This trend was initially based upon Hungarian Conductors' leaving Hungary temporarily or permanently. However, even this is changing as professional staff is being trained partly in Hungary and partly in the home countries, as is now the case in the United States, Great Britain, and Israel.

If we liken the Hungarian period of Conductive Education to a tree trunk, then the International period can be characterized by a bloom of branches, some fragile, some feeble or even dying, but many sprouting and flourishing on fertile ground.

It is likely that there are more conductors supplying services outside Hungary than within and that they are accomplishing their work with originality and creativity not exhibited by Conductors working according to classic Conductive practices in Hungary. In this respect, it is likely that future generation will view the 'Hungarian period' as that which heralded a coming era of development rooted in the original Hungarian methods.

Internationalism in Conductive Education has one common factor: the drive to understand and to further develop Conductive services which was in response to parental initiative; many of the Conductive centers outside Hungary have been established by and are run by the parents themselves.

What is Conductive Education?

Conductive Education represents a significant paradigm in the treatment and well-being of children and adults with motor disabilities and their families as presented by a systemic-developmental model differing from existing medical and social ones. We are referring to a philosophy, a set of beliefs, and an educational system with the objective of re-organizing human functionality which has been impaired due to damage to the central nervous system. Conductive Education facilitates learning processes in authentic surroundings for children and adults with motor disabilities and for their families by means of psycho-bio-social pedagogy guided by the Conductor. Education, teaching and learning, according to this approach, are the central tools for developing an active personality, for learning ways for coping with real life situations, and for acquiring orthofunctionality.

The universally accepted term 'Conductive Education' is not an exact translation of the original Hungarian term 'Conductive Neveles' which means Conductive upbringing. An upbringing process implies education in a certain direction, not only imparting academic information but also, and primarily, socialization and education towards specific values and defined patterns of behavior. It includes habits, behavioral patterns, motivation and emotions, values and standards, beliefs and hopes. It is a long term procedure taking place in a variety of environments. Unfortunately, translation of the original Hungarian term does not sufficiently express the essence of its meaning.

Conductive Education represents a break-through and a new paradigm in the treatment and well-being of persons with disabilities. Its uniqueness lies in its understanding that biological damage leads to a 'dislocation' in development on the psycho-social level. Accordingly, treatment gives way to pedagogic intervention

employing pedagogic means, with the intent of producing results on the psycho-social level. The starting point for this approach is the understanding that motor disabilities typical of adults and children whose central nervous systems have been damaged is a pedagogic problem and not a medical one. Conductive Education takes into account the fact that for children with severe motor disabilities, learning even the most basic movements, those that enable one to achieve simple goals or to perform uncomplicated acts, is fraught with enormous difficulty. Conductive Education's innovation is the recognition that the disability, in and of itself, causes learning difficulties for children with disabilities and offers education and teaching that will enable them to overcome these difficulties at home, at school, and in society.

Conductive Education is based on the belief in the capacity of individuals for change. This is an expression of a philosophy that claims that individuals can learn and individuals can change if they learn.

Conductive Education recognized that learning is not dependent upon inherent abilities, but that new abilities are created as a result of learning. Thus the goal is to mediate between the world and the child by creating within him new abilities and potentials rather than merely utilizing existing potential. Three factors are required in order to achieve this change:

- faith that the change is possible for the individual
- a variety of flexible and effective pedagogic techniques
- a system that will allow the use of those technique

Movement dysfunctions are the central feature of the impairments with which Conductive Education contends. This means difficulty in movement among children and adults stemming from damage to the central nervous system (among children: CP, head injuries, spina bifida and among adults: Parkinson's, multiple sclerosis, and cerebrovascular accident (CVA)).

On the psycho-social level the above have these common characteristics:

- Basic human activities cannot be accomplished in a simple, reliable, predictable manner. The disturbances in movement affect position, motion, use of hands, speech, daily routine activities i.e. those essential human activities that connect the individual with his surroundings and, above all, affect learning (there is no activity that can be learned without employing muscle activity).
- Without learning, everything we deal with will be impaired unless we adopt special methods that compensate for the implications of the problem of movement.
- Although motor disabilities are permanent, the goal of Conductive Education is to promote learning for the individual thereby diminishing the secondary, yet deleterious, influence of the disability upon psychological development and upon social life.

Motor disabilities affect the individual's ability to participate in society which, then, has influences on the mental level. Through Conductive pedagogy, Conductive Education offers intervention on the psycho-mental level: feelings, motivation, awareness, proficiency and personality. Conductive pedagogy views education, treatment and rehabilitation as a homogeneous and indivisible unit. Conductive pedagogy relates to both personality and physical elements such as development of habits, developing relationships between individuals and their social surroundings, developing motivation and awareness. It includes the definition of the problem as reflected in Conductive Education (CP as a pedagogic problem, motor disability as a learning problem), the philosophy, guiding principles, and methods for implementation: the group, the operative observation, ways of facilitation, motivation, task series, daily routine etc.

Conductive pedagogy brings together and combines all those components that are separated, truncated, and disconnected in learning, in development, and in the lives of children with disabilities and their families:

1. Movement, motivation, and emotion
2. Skills and understanding
3. Ability and potential (in present and future stages of development)
4. Teaching and learning
5. Body and soul
6. Individual and societal

The terms 'Conductive upbringing' and 'Conductive pedagogy' are terms originally coined by Prof. András Pető, the creator of the Conductive concept. Where the first term entails socialization and long term conductive thought by means of adopting the values and beliefs of the system, the second term refers to the science and skills of Conductive teaching, more concisely an accumulation of knowledge, professional experience, and understandings transmitted from generation to generation by which imagination, creativity, and empathy is passed on. It is clear, then, that Conductive upbringing cannot take place without pedagogy.

Conduction

Having clarified the meaning of 'education' or 'upbringing', we ask what the word 'conductive' means? The Latin verb 'conducere' means to connect, to unite, to gather things together. It follows, then, that what is meant is the integration of a discoordinative developmental process. We are referring to intervention geared to generating a connection and direction for development leading to a coherent wholeness. A combination of educational, psychological and functional factors created in order to stimulate, within the disabled person, motivation for movement and an active personality with an internal locus of control. Good conduction helps the child set goals and provides him with security and the belief in his ability to reach those goals.

Conduction is the process that relates teaching to learning and is expressed by the connections between the emotional and the rational along with the emotional and the physical, thus characterizing conductive pedagogy. The word 'conductive' signifies a unique style of teaching whereby the main objective is to bring the student to recognition that he can direct his own learning and derive pleasure in doing so. The pleasure of learning becomes the driving force for solving problems stemming from motor disorders.

Theoretical foundations of Conductive Education

For reasons unclear to us, András Pető, who conceived of Conductive Education, never indicated what he considered to be its theoretical foundations. Nevertheless, we do know that he was familiar with and influenced by numerous theories which could serve as the theoretical basis for the practical workings of Conductive Education. The works of Pestalozzi, Buber, Moreno, Vygotsky, Luria and Bernstein represent complex theoretical assumptions that support the methodology employed in the implementation of Conductive Education.

Johann Heinrich Pestalozzi (1746-1827) - Pető called his first outpatient department in Budapest the Pestalozzi Outpatient Clinic. Who was this person who so inspired Pető? Pestalozzi was a Swiss educator who devoted his life to caring for orphans with the belief that education was the means by which he could affect changes. He lived with the children and nourished their trust in him. Pestalozzi had faith in the inner strengths of human nature. He considered education the means for revealing the inherent strength of the child, not the means to fashion him according to the requirements of industrialized society. Educating the child according to his own nature and realizing his potential by self-activity was essential to Pestalozzi. Similarly, Pestalozzi

believed in the need for people to be active. "The eyes yearn to see, the ears to hear, the legs to walk, and the heart to believe and to love. The drive to convert from a lifeless position to a fully developed one is in the makeup of human nature." From observing children, Pestalozzi concluded that activity which the child initiates is what fosters development and that harmony should be created between "heart, head, and hands".

Martin Buber (1878-1965) – Martin Buber's philosophical system centers upon the dialogic encounters of the individual and what happens during those encounters. In keeping with the dialogic tradition that arose in Europe during the mid 20th century, Buber attributes utmost ontologic importance to interpersonal communication. He claimed that man's subjective existence is created and given form through encounters, i.e. dialogues with others. These dialogues are what form, within the individual, a spiritual personality. The lone individual is not the building block of existence; the individual within an interpersonal relationship is. The essence of existence is not physical, but rather the emergence of individualism through dialogue with another.

Jacob Levy Moreno (1889 – 1974) – Petö and Moreno studied medicine together in Vienna. Moreno was the one who first used the terms 'group therapy' and 'group psychotherapy', yet psychodrama is considered by many to be his most significant contribution.

Moreno was convinced of the spontaneity and creativity in social relationships. "Spontaneity is the fundamental quality in discovering solutions." In order to arouse it, Moreno referred to "well defined spontaneity therapy" which entails precise definitions of situations which will facilitate spontaneous behavior. Similarly, Moreno believed in group psychotherapy. He felt that the groups have dynamics of their own. He viewed psychodrama as the expansion of childhood play and the group as a tool for resolving personal conflicts.

Lev Semenovich Vygotsky (1896 – 1934) – Vygotsky formulated an educational theory relevant to all children, with or without disabilities, based upon the concept that all children learn in the same manner.

The principles of his theory are:

- The person is an active organism.
- The child possesses an integrative personality and human nature is holistic.
- Development is determined by a combination of maturation and socialization.
- Speech serves communication, mental orientation, cognitive learning, intellectual function, conscious understanding, and behavioral regulation including motor behavior.
- Speech structures activity flow
- The child's social learning is of ultimate importance. Group dynamics, meaningful common experience and activities with other children motivate and activate the child.
- Zone of proximal (potential) development – This refers to the difference between actual developmental level as determined by individual problem solving and the level of potential development, determined through problem solving under adult guidance or in collaboration with more capable peers.

The basic elements of Vygotsky's thoughts on education for the disabled can be summarized as follows:

- He emphasized the child's abilities and not his disabilities and called for positive, creative education for children with disabilities.
- He stressed that assessment of the child's disabilities should relate to his strengths and not just to his weaknesses.
- He differentiated between physical disability and psychological effects. The psychology of disability points out the strong influence the disability has upon inter-personal relationships. The social aspect, not heretofore dealt with, becomes a central concern.
- The skillful teacher must develop special educational methods according to the type of disability and adapted to the specific disability.
- A disabled child can lack motivation. Motivation affects cognition.
- The child's motivation must be aroused and utilized in order to develop life skills.

Alexander Romanovich Luria (1902-1977) - Luria, the father of neuropsychology had broadly based academic training in education, medicine, and neurology. Much of his life's works were developed to verbal regulation of voluntary motor activity. Luria was influenced by the work of Vygotsky and Nikolai Bernstein. Vygotsky did not consider the source of voluntary movement to be biologically rooted, but rather the product of the social history of the person, during the period of interaction between child and adults, when performance is shared by two individuals. Bernstein, a highly regarded authority on the physiology of movement, showed that the brain is not a passive response system of reflexes and that voluntary, conscious movements belong to a complex functional system, active by nature. He claimed that conscious voluntary movements are complex and dependent upon a synthesis between goal focus, visual-spatial coordination, kinetic melody (a sequence of automatic coordinative movements), kinesthetic information transmitted to the nervous system, and correction of movement.

Luria was greatly interested in speech and language and their influence on human behavior. He considered speech an active and flexible catalyst for all the higher mental processes. Speech, according to Luria, is what raises activity to a level of awareness. Speech identifies objects of importance and therefore affects perception. It generates the stimulus for organizing the movements required for voluntary behavior.

It strengthens memory. It influences the child's ability for problem solving and affects his cognitive development. Speech, then, becomes an effective tool in education and a powerful aid in exercising motor behavior in the rehabilitation of persons with brain damage.

Basic concepts of the Conductive Education approach

Orthofunction

Orthofunction is the ability, involving the entire personality, that enables the individual to fulfill the biological and social demands expected of him. An orthofunctional person is characterized as having a general adaptive or learning ability which enables the individual, throughout his life, to completely and continuously adapt to his natural and social environment. An individual's development is dependent on this general ability.

Orthofunction is related to the accumulation of positive experiences in performing tasks related to an age-appropriate system of biological and social demands. Dysfunction is not inherent in the child, but is a product of his interaction with the environment or the way in which he is perceived by others. Orthofunction is the free will to find new solutions to new, previously unknown problems and to learn to be independent. It is a self-reinforcing, spiral-like mechanism of motivation, learning, and accomplishment.

Biological and social demands increase as the child grows older. A succession of failures is certain to affect his growing range of activities. As age advances, the likelihood of a spontaneous resumption of adaptive behavior decreases and dysfunction develops. Learning is a process that relates to every component of personality. Conductive Education's mission is to achieve adaptation, learning, and rehabilitation of the whole personality that has been dysfunctional. Orthofunction is an approach to life and disability that recognizes the important of the connection between effort, motivation, life-time learning, achievement, problem solving, and dynamic potential.

Orthofunction is the desired outcome of conductive intervention on the psycho-social level.

This view of orthofunction and dysfunction shows that the entire personality must be dealt with through an integrative system of demands, which is precisely what Conductive Education offers. The main components are the Conductor, the group, the active daily routine, rhythmical intention, task analysis and task series, all of which are directed to the goal of learning. Essentially, they deal with the child's primary disability: lack of motivation.

The Conductor

How can one cause the child with disability to take upon himself the determination necessary to be an active participant in his environment and the tenacity to continue searching out ways to help himself? The answer is in the role of the Conductor. The Conductor is the pedagogue whose goal is to prevent the helplessness that is likely to result from inappropriate direct assistance, from doing things for the disabled person instead of teaching him to do things for himself. Increasing dependency rather than independence is what gives rise to a feeling of helplessness: the antithesis of bringing the child to discover for himself that there is a way for him, if someone just helps him find it.

If one must describe the essence of Conductive Education in one sentence one could say that rehabilitative goals are achieved by pedagogy, through the help of a professional who received specific training: the Conductor. The Conductor's personality and training are the key to Conductive Education. On a pedagogic level, the Conductor integrates the various professional aspects necessary for rehabilitation.

The Conductor is a "generalist" who draws upon what medicine, education and psychology have to offer him. He does not replace experts in their various fields, but works along with them. The Conductor, as noted, has a comprehensive education that culls from other disciplines what is needed for him to teach and to fully activate the brain-damaged child. Aside from the teaching profession in which the Conductor has been fully trained, the Conductor's training includes theoretical knowledge in many areas relevant to the problems of disabled children. However, beyond theoretical knowledge, the Conductor's training focuses upon the practical. He is taught how to convert every regular experience in the child's life into a teaching opportunity to inculcate new skills and abilities.

The Conductor must adopt a comprehensive approach, taking into consideration every aspect of the child's personality. His objective is to build a rehabilitation program as an organic unit on the academic, linguistic, senso-motor, and social levels. Though individualized, the objective is met by means of the activity of the group.

The Conductor is responsible for creating a uniform developmental experience where every aspect of development is considered from a consistent educational point of view, beginning with the where and now and continuing throughout the developmental process. Speech, rhythm, and the refusal to reduce human movement below the level at which it has meaning are all part of the Conductor's pedagogy. The use of the group as an active pedagogic tool, the classroom and the organization of the staff, with the purpose of the creation of a coherent day that will come part of a coherent week, and subsequently part of a coherent year are also significant aspects of the Conductor's pedagogy.

In view of the need for daily integrative activation of the child and recognizing the psychological effects of socialization as imperative for development, an important principle of Conductive Education is to avoid, as much as possible, isolating the child from his group of equals by working with him in an individual therapy room. Also, most of the activities are multi-dimensional: a single activity integrates the learning of motor, cognitive, verbal social, etc. skills. Gaining the knowledge and skill to create integrative group activity is an essential component of the Conductor's training.

By utilizing his special skills and knowledge, the Conductor can create conditions favorable to teaching coordination that emanates from intention. By employing different types of motivation, the Conductor maintains interest and attention. It is the Conductor who sets standards for the group, encourages communication within the group, creates a pleasant atmosphere, instills a sense of security, and relates to the individual needs of all the members of the group. He is the one charged with the responsibility of ensuring the group's successful activity.

Summarily, the primary role of the Conductor is that of a catalyst who helps each individual build anew his own way to activity, his own manner of goal realization and implementation, and who encourages spontaneous activity by gently assisting in the process of discovery.

The Group

One of the outstanding principles of Conductive Education is the use of the group as an educational means. The group is one of the motivational factors that characterize the system. The special nature groups in Conductive Education stems from the fact that despite the great differences that are likely to exist between group members, the educational objectives are the same. Members of a group work on the exact same task series even though there are differences in performance of the individual tasks with regard to time required, manner, and level. Although all the activities in the daily routine take place within the structure of the group, there is no attempt whatsoever to set a single standard of behavior. Conductive Education emphasizes that problem solving and development vary among individuals.

The conductive group serves as a micro-community. The efforts and accomplishments of each member are celebrated by all in this positive, supportive, learning environment. The net result is a sense of security and a positive self-image. Conductive Education makes conscious use of the group; it is a community of students with the Conductor as the source for generalization and reinforcement of new intention and motivation of the members.

The makeup of the group is imperative for the functioning of the system as a whole. Overall programs for the groups can be devised only after careful evaluation of the children. Correct assignment also serves the individuals by providing the environment most conducive for development. The evaluation process requires continual examination and reexamination according to various measures. The group is comprised not only of children, but also of staff; therefore, selecting staff appropriate to the children and to one another and capable of working as a team, is also an important consideration in forming groups.

Beyond serving as a motivational factor and providing the children with incentive for working to their utmost to meet their own needs, the group serves the following fundamentals of Conductive Education:

1. The learning model for adaptation to the environment requires that the child learn within his natural environment. Group learning represents one of the factors for creating realistic demands. In this manner, the group serves as an environmental stimulus for development.
2. The group is the main tool in Conductive Education for developing interpersonal relationship and developing social behavior.
3. The group simultaneously spurs the individual to action and serves as a liberating element. Participation and involvement in the work of the group liberates the individual from pressures to perform and achieve. Working in a group increases positive reinforcement and avoids negative criticism.
4. The group, while being organized around common characteristics, must be large enough to allow for individual differences.
5. Independence and responsibility are values realized within the working of the group. This realization is related to the manner by which the group detracts from attention or concentration on the individual and prevents the likelihood of the child's becoming dependent on the adult, yet enables the individual needs of each child to be met.
6. The group should create a positive atmosphere for both teacher-student interaction and student-student interaction. It should ensure success and set the stage for activities by which the group members will find solutions to their individual problems.

Active Daily Routine

From the point of view of orthofunction and dysfunction, the entire personality must be address by an integrative system of demands. Accordingly, Petö built his integrative system of which the main elements have been discussed above. Of all the elements of Conductive Education coping with the personality of the child with disability, the active daily routine is primary.

The daily routine refers to every aspect of the group's life within a set of biological and social demands. The various activities comprising the daily routine create a uniform whole from an educational perspective. Nothing happens during the day that does not support the general educational objectives. The components of the daily routine are set according to both general and specific educational objectives. The general objectives are basically: education towards activity, work, and inclusion into the community. It is essential that during the course of the daily routine each child assumes responsibility for himself, learns to consciously define his own goals, searches for ways to achieve his goals. The purpose of becoming independent and participating in a system of mutual relationship is that he becomes an active member of the community.

Though comprised of different parts, the day's overall program creates a structural totality. It is important to understand that the effectiveness of the parts is dependent upon the extent to which they are meaningful. A series of problems takes on meaning only if it relates to the day-to-day life of the individual. Included among the various parts of the daily routine is fulfillment of essential biological needs as well as age-appropriate social demands.

All dysfunctional areas are taken into account in planning the daily routine. The time schedule relates to the amount of time needed for acquiring life skills and for learning academic subjects. These two elements are actually a single unity. The daily routine simultaneously deals with different aspects of development. Thus language and movement can be combined into one unit: movement supports language acquisition and language helps in the control of movement.

The daily routine should include not only curriculum, but also whatever contributes to a pleasant atmosphere and whatever encourages attention. For this reason, the daily program includes a variety of alternating activities, short in duration, which are gradually lengthened.

The general nature of the program encourages academic, social, and emotional development. The individual must learn not only to speak and move, but to use what he has learned, throughout the day. The various opportunities for problem solving are also opportunities to use what was learned in a more general and comprehensive manner. The uniform program calls for the constant utilization of what is being learned.

The time schedule must be flexible so that, whenever necessary, the program can be extended. Time is an extremely component of the learning process, in movement, communications, and motor activity. Time is of the essence in acquiring the skills for caring for one's self. The Conductor is free to choose which activities, academic or non-academic, creative or emotional, to integrate into the daily routine, and to exploit every opportunity that can contribute to the overall development of the child.

Rhythmical Intention

The child is physically bound to his mother in utero, dependent upon her during infancy, and remains attached to her sociological for an extended period thereafter. Initially the attachment is direct and emotional; later it is expressed through speech. This way, not only does the child broaden the realm of his experiencing, but he acquires new forms of behavior and subsequently finds new ways to organize his mental activities. By naming the objects in his environment and by giving instructions, the mother shapes the child's behavior. By carefully examining the objects that were named, and after having acquired a vocabulary, the child begins to actively refer to the objects by their names and in this manner organizes his perception and oriented attention. As the child carries out his mother's instructions he repeats, in his memory, the verbal instructions he has heard. In this manner he learns to independently express his will and his intentions, initially through external speech and then later by internal speech. Thus he develops the highest form of memory and purposeful activity. What he was able to do at an early stage with the help of an adult, he can now perform without assistance. This fact is the basic law of child development.

Performance of a simple activity through verbal instruction can be considered the essence of voluntary behavior regulated by speech.

Rhythmical intention is one of the methods of facilitation used in Conductive Education. It expresses the interaction between two skills: language and movement. Language and movement can be integrated and can be mutually effective. Where movement facilitates the learning of language, speech serves the child in controlling movement. The term 'rhythmical intention' consists of two elements: rhythm and intention. Combining speech and activity into a single circle of feedback means that the attainment of the goal into conscious and verbally directed. The verbal direction determines the action.

According to this method, which integrates the child's motor, language and intellectual skills and serves as a motivational element for activity, the child uses speech or internal language to express intent. Speech is accompanied by movements, which are executed rhythmically by counting or through the use of dynamic speech. The use of verbal regulation and rhythmical intention help the child with cerebral palsy to consciously initiate movement and to learn it cognitively thereby development voluntary control of his movements.

The use of speech is meant to connect language to action. Before executing a movement, the Conductor declares the intention and then he and the group repeat the declaration together. The group then executes the action while counting rhythmically or using dynamic speech, as determined by the specific difficulties of the group. As the movement is performed over and over again, internal speech alone is called upon to accompany it. When the movement becomes automatic there is no need for speech at all.

Conductive Education strives more to change the intention than to change the activity. Intention is a unique activity of human beings. It is a powerful initiative. The decision to act is rooted in dynamics, will power, effort and rhythmic harmony. Intention is an activity accompanied by internal modulation. Its signs can be voice, facial expression or gestures. Language is not only the mechanical link to the movement, but also the perceptible sign of intention. Intention is the primary construct creating either coordination or dysfunction. A general arousal of the basic demand to execute an action is the essence of intention. Intention and the achievement following in its footsteps together comprise the expression. It is complete when the individual learns how to execute an action, i.e. to achieve an intended goal (and not a sequence of actions that appear to be necessary to be learned) indicating that the intention was correct. This new internal organization is brought about by intention.

Rhythmical intention serves additional elements in Conductive Education:

1. It develops language and speech and encourages children to speak aloud in different positions thereby facilitating breathing and diction.
2. It helps create harmony in the group and coordination of group activities.
3. It increases the attention span in an anticipated activity.
4. It enables the group to regulate the timing of the activity.
5. It enables the child to work actively.

Thus, the conscious learning element is expressed through rhythmical intention and then realized through the educational principles of active and willful personal responsibility of the child, integration of language and motor activity, and Conductor-student interaction. All this is accomplished through learning techniques and verbal task analysis included in the general activity within the context of the group and mediated by the group.

Task Analysis and Task Series

Since the central goal of Conductive Education is to integrate the child into day-to-day living, then the skills the child must acquire are those required for day-to-day living. Skills are not a collection of movements, but rather what is required for play, studies, caring for one's self, spontaneous expression, etc., all of which are

complicated by-products and activities. Analysis of these functional skills and observation of functional and dysfunction individuals are the necessary first steps.

It is possible to identify the underlying abilities which are functional pre-conditions incorporated into each task. A few examples: object perception, problem-solving skills, series of movements, interaction skills, ability for abstract thinking, spatial perception, visual perception, body image, emotions, memory, attention and manual skills.

In Conductive Education the individual is perceived as a whole or totality, as a framework, within which there is a constantly on-going process of differentiation. This perception differs from the hierarchical model generally accepted in education according to which the whole is built of blocks placed one upon the other. Underlying abilities are part of this and are included in the skills that are considered to be functional goals. Whenever reference is made to the totality, underlying abilities are implied.

In order to develop underlying abilities we must make use of activities in which they are already embedded rather than attempting to develop them separately. The assumption is that the cortex can contend with what is meaningful and relevant. Simply practicing specific skills is considered invalid based upon the assumption that perceptual and motor skills worked into a meaningful framework of more complete and complex skills will present better learning opportunities. This is due to a broader part of the cortex being involved in the process.

Notwithstanding the above, accomplishing functional tasks is not the only means for realizing objectives. Various learning tasks chosen by the Conductor help the child use his underlying abilities successfully. A task series which relates the various skills, one to the other, leads to the realization of functional objectives. Task series in Conductive Education facilitate the performance of activities which are spontaneously learned by typical children. The process of deconstructing the objective into its components helps the individual to successfully perform the various tasks and, in the long run, to reach the goals that were set for him. These components are integrated in the daily program so that the individual is provided with opportunities to experience different ways to reach his goal, progressing from simpler to more difficult and complex, thus eventually reaching his functional goal.

Since learning takes place in a context-specific task and environment, the objectives are planned so that they will take place under various conditions. Task series, therefore, are done in different body positions (lying down, sitting, standing). The components of the series are applied to day-to-day situations. Thus they take on meaning and become refined; the ultimate goal, the child's independent functioning in a healthy society, is then attained.

There are 4 stages in skill acquisition:

1. Cognitive stage – In this stage the task components are learned and built into a task series. Emphasis is placed on the individual who must think about his movement in relation to the function that has been chosen. At this stage external verbal regulation is used.
2. Stabilization stage – This is the stage in which skills are practiced over and over again and are eventually established. Speech, at this stage, becomes internalized.
3. Automatic stage – This is the stage at which the individual no longer must think about his physical performance and can attain his functional goal. Speech is totally internalized.
4. Generalization - Generalization takes place when the skill attained in the automatic stage can be applied in all functional situations.

Task series is an analytic program which breaks down tasks into stages along an ascending functional spiral with the end result of orthofunctionality.

Criteria for Defining a Conductive Framework According to Tsad Kadima

1. A framework that consciously chooses the Conductive Education approach as its professional worldview.
2. A framework operated by trans-disciplinary staff (education, health, therapy) in which the Conductor is the central professional figure directing the educational-rehabilitative process.
3. A framework in which there is a staff of Conductors and a hierarchical structure based upon experience and seniority.
4. A framework that applied the principles of Conductive Education:
 - A. Personality as the focus of education emphasizing psycho-social factors
 - B. Learning is active
 - C. Activity is complexive-ecological in nature
 - Motivation-Intention-Meaning
 - Integrative learning in social situations
 - Rooted in a web of real life, various environments, and authentic, meaningful day-to-day situations
 - Accompanies the child and his family as he develops from childhood through adulthood
 - D. The family is an integral part of the educational-rehabilitative process
 - E. A framework employing conductive pedagogy as the central element in the educational procedure yet open to integrating other educational, therapeutic or rehabilitative approaches.

Parents and Conductive Education

What prompted parents of children with cerebral palsy to fight for Conductive Education for over 20 years, ever since the film 'Standing Up for Joe' was first screened? In 1986, families of children with motor disabilities, not only in Great Britain, were a dissatisfied, frustrated group. They saw families of children with other disabilities (e.g., Down's syndrome, dyslexia, autism) dealing with their difficulties and whose needs were publicly recognized while they themselves could not foresee any chances for a perceptive breakthrough for their own children's progress. These parents had been searching for a banner to wave and for something to rely upon. When the program on Conductive Education appeared on their TV screens relaying a message confirmed by testimonies of families who had taken their children to Hungary to personally examine and try out the approach, it impressed them as a format appropriate for their needs beyond which they had never even dared to dream. What was this format? Essentially, that Conductive Education could offer security, tenacity in practical terms to effect change, and, perhaps above all, it was an option chosen by the parents themselves, a product of personal decision.

What we today call 'Conductive Education' came about under difficult conditions in Budapest immediately after World War II. It is not unusual that a positive and humane pedagogy develops from the ideas of tenacious person, for discouraged and needy children, and under difficult circumstances. That was the case of Pestalozzi in Switzerland after the Napoleonic Wars and Montessori in the slums of Naples. However, in contrast to these examples, the parents that fought for Conductive Education did not live in an apocalyptic era of danger and discouragement. Nevertheless, it appears that the experience of raising a special needs child was felt by many to be disappointing, frustrating and even humiliating, regardless of where they live, their social class, or the country in which they reside. The name 'Conductive Education' meant for them humane pedagogy and determined optimism that were both in line with their secret, unspoken aspirations to influence their children's development and potential for improvement. It is obvious that Conductive Education offers hope and freedom and empowers parents of children with motor disabilities.

References

- Clark-Wilson, J., and Gent, A. (1989). Conductive education approach to individuals with motor disorders. *British Journal of Occupational Therapy*, 52(7), 271-272.
- Cottam, P.J., and Sutton, A. (1986). *Conductive Education: A System for Overcoming Motor Disorder*. London: Croom-Helm.
- Cotton, E. (1965). The institute for movement therapy and school for "conductors", Budapest, Hungary. *Developmental Medicine and Child Neurology*, 7(4), 437-446.
- Cotton, E. (1970). Integration of treatment and education in cerebral palsy. *Physiotherapy*, 56(4), 143-147.
- Cotton, E. (1974). Improvement in motor function with the use of conductive education. *Developmental Medicine and Child Neurology*, 7(5), 637-643.
- Cotton, E., and Parnwell, M. (1968). Conductive education with special reference to severe Athetoids in a non-residential centre. *Journal of Mental Subnormality*, 14(6), 50-56.
- Gombinsky, L. (2005). Adaptation and development in Conductive Education: responding to new demands, maintaining the essence of the practice In: Maguire, G and Nanton, R., ed. *Looking Back and Looking Forward, Developments in Conductive Education*. Birmingham: Foundation for conductive education, pp.33-51.
- Hari, M. (1975). The idea of learning in conductive pedagogy: In Akos, K. *Scientific studies on Conductive Pedagogy*. Budapest: Conductors College. pp. 10-17.
- Hari, M. (1988). The Human Principles in Conductive Education. In: Balogh, M. (2007), *Maria Hari, and her conductive education* Budapest, Andras Peto Institute of Conductive Education for the motor Disabled and conductors' College, pp.29-39.
- Hari, M. (1991). Intention: A Fundamental Hypothesis of Conductive Education. Unpublished manuscript.
- Hari, M., and Tillmans, T. (1984). Conductive education. In: Scrutton, D. *Management of the Motor Disorders of Children with Cerebral Palsy* London: Spastics International Medical Publication, pp. 19-33.
- Hari, M., and Akos, K. (1988). *Conductive Education*. London: Routledge.
- Lion, A. (1989). First Draft of a Plan on the Relative Status of the Peto System in Israel. Unpublished manuscript (Hebrew).
- Lion, A. (1992). Disciplinary Professionals in the Israeli Peto system. Unpublished manuscript (Hebrew).
- Maguire, G. and Sutton, A., ed. (2004). *Mária Hári on conductive pedagogy*. Birmingham: Foundation for Conductive Education.
- Schenker, R. (1994). *Conductive Education- Literature Review*. Jerusalem, Tsad kadima publication.
- Sutton, A. (1993). The New World of Conductive Education. Keynote address to the "Discover Conductive Education" Conference at the University of Toronto, Canada.
- Sutton, A. (2001). Conductive Education: sink or swim? *Recent Advances in Conductive Education*. 1 (1). P 31-44.
- Sutton, A. (2006). Notes towards a history of Conductive Education. Unpublished paper
- Sutton, A. (2006). Second epistle to the Norwegians. Presentation to the 10 year jubilee seminar, PTØ-Senteret, Unpublished paper.
- Sutton, A. (2006). Conductive Education: breaking through physical disability. Presentation to the Awareness Event, Conductive Education School Kuwait with additional footnotes and end note. Unpublished paper.
- Sutton, A. (2007) Editorial: conductive upbringing and pedagogy: complex issues. *Recent Advances in Conductive Education*, 5(1), p3.
- Sutton, A. (2007). Define to Defend. Workshop given at the International Conference celebrating 20 years of Tsad Kadima on: Throughout Life with Cerebral Palsy, Partnership, Environment and Participation, Rishon LeZion, Israel.
- Tatlow, A. (2005). *Conductive Education for Children and Adolescents with Cerebral Palsy*. Hong Kong, The Spastics Association for Hong Kong.
- Tsang-Kwan-Lan, V. (1991). Discussion on Applying Conductive Education to the Context of Hong Kong. Unpublished manuscript.