

# School process role for children with cerebral palsy

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**Abstract.** Every child needs for successful school entering specific developmental maturation that includes developmental maturity on cognitive, emotional, social and motor area. Cerebral palsy (CP) at child causes appearance of many difficulties that are shown on motor and other activities. Brain damage and also their associational connections cause a lot of defects, that are influencing on different school capabilities and skills: capability of thinking, concentration, listening, speech, reading, articulating, writing, drawing, analysing, synthesizing, conclusion, processing and math. Exact and proper schooling and adequate complexity of school education significantly accelerate a progress on different areas, not only on self dependent, but also social independence in a child with CP in a long term. Quality, unique and on time choice of school process at holistic rehabilitation of child with CP is significant and includes efficient preparation for wider social inclusion.

Key words: Cerebral palsy, school activities, help programme, team work

## 1. Introduction

Integrative development theory (1) talks about certain development of child maturity that is needed for school entering. Theory is based on facts, that affective, cognitive, social, physical and motor fields are not independent but an important part of a very large organised system. Child suffering cerebral palsy (CP) has got a lot of deficits, shown on motor and also wilder school operations. CP is a common medical term for large and various neurological symptoms and it is not an illness in a stable medical importance (2). CP and consequent disorder at motor system operation is mostly shown in a worse development of motor capabilities and skills (3). Immature motors influence on implementation of complex and simple move, that are shown as a motor clumsiness and it is seen very easily. Motor system is working cooperatively with other systems that are forming holistic human functioning and are determining child's knowledge success that is important for mental process (4). Developmental process is linear, continuous and connective. Mental strategies are important for successful school knowledge

(mental approaches that child need for solving school problems and schoolwork). Child needs exact level of mental process automatization, that is increasing efficiency of cognitive operations, suitable sensoric system, brief, working and long term memory (5).

## 2. Appearance and influence of CP on school work

CP shown on posture and balance disorders causes problems on neuro motor area and also on higher mental processes (6). Motor problems can be shown on a different parts of school contents (7). Basic intellectual works in school period education are concern on educational work, where children are learning to read and write and use basic math operation. That is the time, when children are learning to except and obey rules inside and outside class (school friendship, relation to authority). How does CP influence on that? CP can inhibit basic school knowledge on any level, with a different rate of intensity. Child's intellectual capability correlates with child's ability of learning. It is usually very difficult to determine child's intellectual capabilities, especially when they have more difficulties on different areas, hand disorders or limited vocabular model (8). A lot of children have disorders, that are causing problems on realistic evaluation, what exactly child can do, how much could child learn and what to expect from the child? It is significant that we distinguish between child's ability of actual learning and also capability of school

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presentation. In spite of eventual and normal intellectual capabilities, children have a disorder in processing school capabilities, reading, writing, math and speech and other skills, that are important for successful school work. Often there is a deficit in interaction process on higher mental processes and it is caused by a dysfunction of perceptive or processing disorders. Children have deficits on listening ability, thinking, concentration, speech, reanalysing and writing, analysing, sintetysing, conclusion, articulation and math (9). Children with CP have got motor deficits and also other deficits: low intellectual ability 25%-30% kids; epilepsy 25%-45% kids; sensoric deficits 18% kids; hearing problems 5%-15% kids; behavioural problems 25% kids, ADHD - Attention Deficit Hyperactivity Disorder 25% kids (7).

Those students need in a complex rehabilitation process with a lot of opportunities for getting a lot of motor and other school experiences, that are testing, confirming and progressing on certain skills and knowledge. The performance of exact motor and school work is depending from an individual energy and informatics equipment (10). Child's experience is very significant and it has to be remembered. Child's ability of successful solution of motor problems is very significant for satisfying development of motor abilities and skills, because energetically demanding motor acts are not indirectly dependable from individual's potentials (11). We need satisfactory for capability of solving motor problems and enough opportunity for practice and learning. Successful confrontation with demanding motor skills and their solutions is depending on individual intellectual potentials, encouraging and understanding environment and good experience.

### **3. Rehabilitation role**

The role of holistic rehabilitation includes components, that allows the child with CP the inclusion into wider social, school and familiar dimension is very important. Sometimes the holistic rehabilitation is linear progressive and it is shown on every level of child's school progression. But sometimes the expecting development failed on every level of motor and other functions. That causes the appearance of earlier and pathologic deterioration, when besides motor failure appears also failure in school abilities. It's not so rarely that the appearance of school deterioration is noticeable by the teacher, because the failure is shown slowly at the beginning and highly presents on all school

activities. When the failure is shown, it couldn't be prevented or stopped because it is connected with less plasticity of brain. The therapy and systematic learning are directed into restraint the regression of all capacities. Usually the constant and rapid failure of many functions at motor, cognition, emotion and social rezoning is appearing. School has to prepare the programme for an individual help that considers child's best school abilities and cover wider school dimensions on every school subjects. The help process is structuring the special pedagogical methods and working with children with CP.

### **4. Basic school tasks in preschool period**

Intellectual capabilities of children are developing through playing and they are demanding more consistent educational and social issues (12). CP can influence on development of school abilities and integrative connections of child's motor and sensoric skills (13). Child can't use both hands and the manipulation isn't mature. Has got many defects that cause bad results in perception especially interaction between relations. High mental abilities are helpful for the child, and higher they are, child can easily learn demanding thinking skills, procedures and strategies and uses them in systematic learning. The role of experts and parents is very significant, because they can show the child proper way for playing and manipulating with different toys. Professionals can facilitate with adapting of different devices, objects, toys, fixations, special settings, belts and strips and they wish to help the child to find out ways for playing and using the toys learning. Child needs constant promotion and observation of other children playing and also connection and cooperation with others. Teacher shows the children the specific ways of involving, emulate with others and improves the play with their own ideas (14). Communicative skills are connected with social interaction between child and family environment. Speech articulation skills dynamic development gives the child for grooming with other people. Child could learn talking rules, language. Speech is one part of a wider communication. Appropriate communication needs to be encored, trained and upgrading.

### **5. Educational key tasks in school period**

The most important educational school tasks are referring to learning to read, write and also basic math operations. The level of child's intellectual abilities is correlating with child learning ability, higher they are, child easily

could learn. Difference between children ability of learning and school achievement is very significant. Frustration usually causes their unsuccess, and it could be very high if people are not understandable, especially when the child's speech and receptive abilities are highly equally with school friends. Someone has short time attention of keeping the learning task or inability to develop from expressive abilities. Usually children with CP can't talk or write equally like school friends. Someone has got short attention, worse ability of keeping the learning tasks or inability of restraint knowledge at all. CP is effecting on ability of abstract problems, especially if low intellectual abilities are present. Social isolation, sight, learning, speech, articulation, communication deficits and school problems can inhibit and disable child's integrated development and opportunity of equal integration in wider social environment (15). Low intellectual abilities and combination with deficits on sight, hearing and speech functioning and limited child choice inhibit the later schooling and profession. The demands education must be high and must allow consistent interest for solving problems. On the other side, educational process can't be demanding and leading to experience hurtful failure and ignoring of learning.

Problems can occur at children with average intellectual abilities during the school period. They are shown as an attention or psychological disorder. Abilities of listening, concentration, thinking, talking, writing, reading and others are lower and inadequate. That means that children with normal intellectual potentials also have got lackness in learning skills process. There can be a dysfunction in interaction process of thinking and leading to dysfunction of central nervous system. The school problems are result of perceptive disorder or disorders of processing information (16).

Integrative rehabilitation at children with CP needs to develop abilities on basic levels, because if basic tasks come later, they aren't the same. Normal development doesn't allow changing developing fazes, but demands basic tasks and then upgrading on a higher level.

## **6. The role of school help programme**

Children with CP and milder difficulties on sensoric and motor area can learn equally as other companions, if they are receiving exact adjustment at school work (subject adaptations, treatment, evaluations and examinations). Suitable school programmes of help in school,

rehabilitations and social issues are significant. Very well performed role of all help is important for child with CP. Basic school subjects, defined in child's individual programme are based on child's learning observation, behaviour and social interaction, play and movement, basic deficits identification, developmental level, suitable help programme creation, identification of strong areas. Programme must include proper counselling and help for family members, systematic help programme implementation and evaluation of child's progress.

## **7. The role of team work in school process**

Successful team work is based on equal participation of different aspects: school aspect (based on strong areas and development of others, considering the deficit); medical aspects (based on medical state, psychological condition, prevention, medicaments); communication aspects (based on child's speaking skills); therapeutic aspects (based on neuro-therapeutic or occupational emphasis on development of motor abilities and skills, encouraging normal motor patterns and getting them into practical use); psychological aspect (based on child's intellectual functioning, cognitive, emotional and social abilities and deficits); social aspects (based on child's and family equal and complex inclusion into wider social community). The equivalent role of all experts in a holistic rehabilitation leads that child with CP can optimally develop his school and personal abilities in spite of the deficits.

## **8. Maturation of developing system**

Motor and cognitive development of consistent progression at children with CP gives the basis for acquisition of specific school skills and preliminary educational contents. School knowledge and motor learning are basically transformatic process with wider developmental dimensions (17). Cerebral dysfunction causes the disorder in processing information that allows remembering of school knowledge. Children with CP and lower intellectual abilities need a lot of time for learning, more practising, more positive and consistent incentives, more repetitions with concrete and clear issues for learning specific academic knowledge. Only with enough repetitions, the information became internalised and converted into useful knowledge. Different neurological deficits at CP frequently appeared insufficient and deficient transformation (18). School process must be structured and adjusted to development level of the child reasoning and

considering basic deficits. School issues have to be concreted, there must be enough repetitions on different possible ways, using different materials, until child is awarding and internalising in his own shape of memory (19). Children with cerebral dysfunction need more help in a process, developmental thinking (the connection between analysis and synthesis, and let the child distinguished between significant and insignificant; developing creative thinking) that is useful for new experiences and it is a result of sensor motor transformation process. The experience is replaceable, student can get own experiences with observing and imitating (20).

## 9. Conclusion

Self maturation, self and social independence of the child with CP can be significantly accelerated by an appropriate education. The cognitive deficits, learning disabilities, sight and hearing perception reduces their choice for further education. Children need a proper evaluation of their real capabilities and reduces barriers with a specific rehabilitation and school process. The demands must be enough high, to make an interest and motivation for learning, but no too high to cause failure and withdrawal. The school process role is very important in a process of integrated rehabilitation process for child with CP. It is one of main factors that we prepare the child for wider social inclusion. School and rehabilitation process are synergetic and are working fluently and search for new forms of functioning, communicating and developing school and motor contents.

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