
D. 31: Study of Pedagogical Approaches for Early Education
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Status: Final
The child
is made of one hundred.
The child has
a hundred languages
a hundred hands
a hundred thoughts
a hundred ways of thinking
of playing, of speaking
A hundred always a hundred
ways of listening
of marveling of loving
a hundred joys
for singing and understanding
a hundred worlds
to discover
a hundred worlds
to invent
a hundred worlds
to dream:
The child has
a hundred languages
(and a hundred hundred hundred more)
but they steal ninety-nine.
The school and the culture
separate the head from the body.
They tell the child:
to think without hands
to do without head
to listen and not to speak
to understand without joy
to love and marvel
only at Easter and Christmas.
They tell the child:
to discover the world already there
and of the hundred
they steal ninety-nine.
They tell the child:
that work and play
reality and fantasy
science and imagination
sky and earth
reason and dream
are things
that do not belong together.
And thus they tell the child
that the hundred is not there.
The child says:
No way. The hundred is there.

—Loris Malaguzzi, founder Reggio Emilia preschools
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**INTRODUCTION**

Net Q6 - Network for the Quality in Early Childhood Education from 0-6 years is a three years project (2011 – 2014) aiming to promote dialogue, reflection, cooperation and innovation about pre-school and early childhood education 0-6 years for disadvantaged children and at risk (according to each national definition of children at risk) through the network, to foment the development of a quality European education sustainable and balanced, according to the different situations and problems faced by these specific children and institutions with the new reality in Europe.

Among the specific objectives:

- To identify, exchange and take advantage of the experience and good practices of the pre-school and early childhood education centres with successful programmes for disadvantaged and children at risks.
- To promote the implementation of innovative pedagogic approaches that stimulates critical thought, creativity and innovation.
- To enhance early schooling as a key factor in school success and future European citizens.
- To identify themes for multilateral projects and cooperation pre-school and early childhood education.

Operative objectives:

- To know the current state of the early childhood and pre-school educational sector in Europe for children at risk.
- To identify the key factors for exclusion and learning problems caused by the absence of early educative attention.
- To prepare action and individualized improvement plans for those identified to be at risk.
- To analyze the potential of new approaches and pedagogical models.
- To create a reference web for the management of knowledge which makes possible enquiry, debate, exchange and training.
- To define the skills, competences, and abilities of the new educators, improving their competences, as well as the quality of learning environments and student plans.
- To convey the results to the area of educational and to facilitate the replication of good practices.
The Study of Pedagogical Approaches for Early Education is part of WP 6 New pedagogical approaches for the early childhood education in disadvantaged children.

The goal of this WP is to explore the diversity that characterizes the global state of early childhood, focusing on innovative pedagogical approaches and the benefits of early education, in an attempt to turn educational innovation into a reality.

We will endow the Network with a description of the innovative pedagogical approaches, as far as early education is concerned, in order to analyze their potential, strengths and weaknesses, and to debate about the benefits of early education, the risks of exclusion derived from the lack of this early education, the training needs for educators and didactic tools. We will compile the contributions to the network, analyze the different approaches, identify the training needs on the part of professionals and the feasibility of ICT implementation in early education for disadvantaged groups. In order to make it easier the transfer of knowledge and the dissemination, finish a study compiling all the reflections and conclusions from this forum, and all contents will be included in the web page, besides video material if possible of each country.

The question of children from disadvantaged groups reminds us that preschool and kindergarten structures should enable children of mixed development and needs to live together, should foster exchanges between different children, and ensure that the institution truly caters to the respective capacities of each child. It is easy to make these imperatives sound compatible in theory, but for them to be so in practice, the institution must decide on its priorities, which means deciding on its values.

This document, Study of Pedagogical Approaches for Early Education, deliverable no. 31, will contribute to debate about the described pedagogic approaches, their possibilities for implementation, the benefits for early education, regarding each country situation on the policies and disadvantaged groups, training paths for a new teacher profile, need for ICT and multilingualism, and contributions from other Comenius projects about the theme tackled.

The document is structured in six sections which are the core of the document. Besides these sections which will be detailed in the following paragraphs, the current document contains also an introduction (this chapter), conclusions and recommendations and references.

In the first chapter, there were underlined basic aspects of early childhood education, starting with current researches in the field following the two main direction of children’s education: education in family and education in dedicated institutions. It was emphasized the
importance of starting education early as possible, assuring a adequate framework, and the trend of an early separation of the child from the family, the education taking place in dedicated institutions. Different approaches in early childhood education and care and preschool education were presented, exemplifying with the situation from the NetQ6 consortium.

The second chapter is dedicated to the presentation of the basic principles of early childhood educational programs, which were established starting from the two explanatory models of child development.

In the third chapter children development stages are presented in a natural flow, according to the studies from the current literature, and the six key concepts in early childhood education and care were analysed underlining the crucial importance of each factor in harmonious child’s development.

The ICT and its role in education and care, the benefits and limits in the use of ICT taking into account children, parents and teachers (educators) is the main theme of the fourth chapter. One of starting point of this chapter is that the game should be re-evaluated taking into account its role in children’s development and ICT can help in enhancing the role of the game through the concept of Game Based Learning which is presented as an innovative approach.

A large space is allocated in chapter five to the children at risk and the way in which educational programs respond to their needs. It starts with a series of researches in the field of children at risk and the way in which the inclusion and integration is understood in educational reality.

The last chapter analyse different innovative approaches in early childhood education and care, using the examples provided by NetQ6 consortium. The results obtained allowed to create a Decalogue of Innovation, a set of rules to be respected in order to bring innovation having the children in the center of all actions. It was also revealed how the innovative approaches have action on the children developmental domain. Also, the educational policies aimed at foster innovation in the field of early childhood education were presented based on the data collected from partners.

The study ends with conclusions and recommendations.
I. EARLY CHILDHOOD EDUCATION: NEW DIRECTIONS

The concept of early education is used with two meanings – the first refers to the fact that education should start as early as possible, this one being linked either to the preparation for a better understanding role in young children education, by parents or other persons that educate him, either to his enrolment in a kindergarten at the age of two. The second concept is more complex and rich in meanings, expresses the fact that early childhood education is a main domain, which should be described in multi-disciplinary way. In connection with this meaning of the term, concepts as child care, early childhood, and educational care for development are used. Concepts connected to that of early childhood care are also child care, nutrition, health stimulation fundamental acquisitions. In order to analyse the first described meaning of the term we should mention that many studies, which underline the necessity of specialized courses for parents, as well as that for specialists able to support professionally children’s development, were done lately. Sometimes those studies take into consideration even the intrauterine period. The nursery or kindergarten, an institution understand as a support for parents, one that helps them to stay socially active and takes care of children in a professional way is a period that needs well trained specialists for early childhood.

Most of the modern studies underline the fact that early childhood is a decisive period in children’s development. That is why it is very important to know how much, as well as the way in which a child is educated, take care of and stimulated by his/her parents is very important. A child should start learning as early as possible. Children are stimulated to learn all sorts of things since they are very young. Images, shining objects, pleasant sounds are among most used strategies for learning at early ages. There are strategies that encourage them to explore the world around them. Before aquiring the instruments necessary to develop their social intelligence (writing, reading, and math) children have to develop the capacity of understanding and get the instruments for learning. At international level the term – early childhood refers to a certain period of time in the child’s life – since his conception to the age of 8 (Evans, Meyer, Ilfeld, 2000, p.4). Early childhood education analysis is done from the perspective of his/her rights and need as a harmonious development has become a right of each child in contemporary society.

Early education has turned into an important part of education and consists of the following characteristics elements:

- Identifies the start of personal development;
- Builds the background of socialization and social development;
- Equalizes the chances of development, participation and integration;
- Makes educators, family, community and the whole society more responsible;
- Suggests and organize educational partnerships in order to achieve a harmonious development of each child;
- The practical and theoretical way of dealing with early ages is changed. Offers a positive, holistic, human perspective over education, early ages all kind of activities for playing and learning;
- The curricula are changed into a flexible one for each child’s needs;
- Nursery school is regarded as an institution for development not as a one for penalty or which puts a label.

The starting point of early education, considered as part of education and care and development, consists of the fact that it promotes an optimal development since early ages. Optimal development is a concept which refers to the child’s ability of acquiring relevant behaviours and skills from his own culture and childhood perspective in order to integrate himself in the social context and to be able to adapt to a future social context and to understand this change.

1.1. Current researches in the field of early childhood education and preschool education

1.1.1. Childhood

There are a lot of researches concerning early childhood. The Convention on Child’s (1989) recognizes childhood as a unique period in every people’s life that has to be especially cared. What happens in early childhood influences the future child’s development as a person and establishes his future way of learning.

Scientific research underlines the importance of a healthy development during early ages and demonstrates that all sort of integrated programs during early ages offers all sort of opportunities for shaping children’s personality, avoiding many development problems, offering a solid background. Psychology, nutrition, health and sociological aspects as well as educational ones indicate that the first ages are crucial in shaping intelligence, personalities and social behaviour. Children are born having the premises of physical abilities and social behaviour that enables them to communicate, learn and develop. If those premises are not sustained they will
fade instead of flourishing. According to the research it seems that the largest part of intelligence development is a process that happens before the age of 7. The first year of life is the most important, from the care system, nutritional and physical development point of view. Any hesitation in this period may lead to a risk concerning cognitive development, can lead to retard. During the first two years of life, most brain cell growth occurs, accompanied by neuronal connections in the brain structure.

Many years of research concerning child development can de summarise in the following statements:

- The new born child mind develops according neural models;
- Environment designs chances of life and unique ways of development;
- Differences and biological variations are more often than normal development;
- Children develop according to a native identity and the others expectations;
- By spiritual development and interaction with the others, children develop inter-subjective abilities;
- Children and their families need help to show their entire potential.

Research in recent decades demonstrates that brain development from birth to 2 years and a half or three years is primarily focused on expansion of connections between cells. This process is affected not only by the nutritional and health status of the child, but also by the kind of interaction that a child is developing with people and things in the environment. If the brain develops adequately, you increase the brain learning potential and decrease the chances of school and social failure. Education and children's success in school, as well as the degree of participation in society as an adult, depends to a large extent of the foundation built and consolidated during the early years.

1.1.2. Micro biology and neurobiology studies

Studies concerning brain activity and zones where psychological and personality aspects can be identify are subject of neurobiology research. Lately, researchers have analyzed the relationship between resilience and empathy, taking into consideration its biological basis. Boris Cyrulnik (Toulon, Franta), a doctor and a biologist is one of the researchers who launched the term resilience. His studies of neurobiology are based on the assumption that all children need permanent disincentive and contact with others. We can study those important sensitive capacities of the human being in order to reveal the electromagnetically resonance and
ultrasound as methods of registration. It is demonstrated that sexual and growing up hormones are responsible for a lot of things concerning empathy, resilience or commitment specific for human being.

If empathy is missing, those hormones are no longer produced. There is a direct connection between empathy and hormones. It was set that there is an emphatic pathology and that the environment develops proper stimulation of the child. It is known that empathy is not just a perception but a representation of others world. It is a skill leading to decentralization of the self and which enable you to focus on other people. The first recital of this author as reflecting representations learn to live in the world of the other. Empathy analysis is the result of a multidisciplinary research. It is a philosophical concept adopted by psychology.

Affective deficiency, or dwarfism affective prevent brain to function properly, hence, there are endangered not only high development of the baby, but also his health too. It is about securing development by providing figures of attachment in the same way, just knowing through action on the object some aspects turn into reference points of individual sensorial development as sesezoriality is a pheripherical biological aspect. Hence, the stimulation becomes absolutely critical for every child. It was observed that, when a child is neglected by the adults around him he has a delay in the anterior neural development. If neglection is a long-standing one, associated with isolation, frontal lobe is atrophy. Another interesting idea related to neurobiological studies demonstrates hormonal support specific for psychological feelings of childhood.

The secretion of cortisol, the substance that causes stress, influences the child grows in isolated conditions and inhibits limbic system cells sensitive to these secretions, causing atrophy of the hydrocephalic system. It has been shown that different relationships with adults have effects on prefrontal lobe and the limbic system, which governs child emotion. Child insulation influences his development and leads to the interpretation of any information like an aggression. Likewise stimulated and protected by adult, a child develops naturally through games. Fear of otherness leads to limited learning. Interaction ritual deprivation leads to impaired empathic. Each other's representation of itself means a decentring and I own native identification. Surrounded by affection a child becomes emphatic, but too much love can be dangerous too, because both non protective, as overprotective attitude are dangerous. When a child is surrounded by too much love he becomes his mother prisoner and his environment becomes poor in the same way as those who are neglected (mother who cries, the teddy bear
which is not walking, 90 % of children under 1 year old are stressed by their mother’s negative feelings).

All children had an emotional deprivation, just for learning how to react. Some do not react negatively, others become aggressive. Too much love as its absence lead to less empathy as they lead to self focus and affective dependence. Other neurobiological studies made by Rizoletti in Italy led to discovery of mirror neurons, the cells responsible for empathy. It is known that brain activity can be affected by the environment in which the child lives. Neurobiologists now demonstrate that there is a consumption of energy before gesture - brain reacts before the proposed move. Abandoned children do not translate preverbal signals and are not able to respond. If we smile them they are afraid. On the other hand, impaired empathy leads to brain deficiency, hormonal and behavioural ones. Regarding empathy ontogenesis it has been demonstrated that if abused children, children had bad experiences, two of three had experience of lack of attachment and one in three has experienced different type of disease or illness, or war, cultural crisis, etc.

1.1.3. Social relations in early childhood

Most studies emphasize the role of the family, focusing on parenting, child psychological and social development.

Meanwhile, studies underline the role of other adults in children's lives, as well as the roles of professionals, because in contemporary society the role of the family is supported, sequential substituted in growth approach, care and child education. Because modern society multispectral development as well as both parents employment, it is evident that that today's families cannot spend time with their children and custody of the children of other persons or of institutions often specialized is an extended practice. That's why generations of children for the last decades are characterized by the fact that they spend less time with their families and all longer and longer periods in some centers, institutions that are outside of their family, and so they are no more having a direct interaction with their families, mainly with their parents.

Thus it becomes an important issue to investigate the role and to determine, which are the effects of children’s separation from their families and most importantly, how to fix the negative effects that may occur. Current studies define and analyze the role of care and educational institutions for young children with specification required for establishing the required partnership and establishment of effective relationships, between professional
assistants, parents and young child. Inside the collaboration between parents and certain institutions where children spend a long part of the day Dutch research project Parents and Diversity (Graaff, De F and Van Keulen, A. 2008) has proposed to identify the aspects of the parents – professionals partnership, to clarify the concepts implication - participation, to develop a tool for measuring the degree of participation and implication of parents in supporting children and to define the mechanisms required for their interrelation with professionals.

The aim of the research was to define the partnership in terms of professionals and parents common actions through a perspective of working together so that each person respects each other and their attitude concerning children. The partnership is based on equality and support. It is not just a fact, but a common activity lead in to learning together. This type of partnership has three types of objectives:

- Pedagogical, referring to harmonious relationships between parents and professionals;
- Organisational referring to work practices in educational and care institutions;
- Democratic, referring to the aim of offering a place and a voice to everybody taking part into that type of relationship, either formal or informal.

1.1.4. Self-image, self-respect and self trust

Duclos Germain\(^1\), describes the four components of self-esteem:

- sense of trust;
- self-knowledge;
- feeling of affiliation;
- feeling of competence.

These are related to the first age of the child and the experiences that he lives. Contemporary sociological debate and explain a number of ideas that define the fundamental role of the family in child development. They identify self image as an engine for learning and development. Researchers define parenting strategies, skills and practices that influence its formation. Yves Preteur and Myriam de Leonardis (2002) summarize what means self-image

\(^1\) L estime de soi, un passport pour la vie, Ed.de L Hopital Sainte Justine, Montreal, 2004
and its relevance to the education of children and their parents in sociological studies and childcare. In the preface to this work, P. Tapp (p.1-26) the most valuable ideas are synthesized in order to understand the importance of family education in child development. He advocates for a social psychology to identify those characteristics that constitute the fundamental basis of how family relationships explain and determine the development of a child. Family education plays an important role in construction of self-image and attends emergence, organization and development of the child’s social abilities as well as that of the adolescents’ (Pierre Tap in Preteur, Leonardis, 2002, p.2).

In other words, family education plays a fundamental role in socialization (meaning social competences) and customization (construction of self-image, personal identity) of child and teenager. This is the place and time at which racism, sexism, etc may appear. The author suggests building an educational psychological profile of the family that may determine the main dimensions as they were established by contemporary research. Essentially, in the foreword the following ideas are concentrated P.Tapp, (Pierre Tapp in Preteur, Leonardis, 2002,p.2):

- Representations of self-image may be directed, influenced by collective representations due to family and community life of the child;
- Representations of parents are induced by their own behaviours and those of their children;
- At the beginning of individual development one may found competence: this is proved to be both a normative social origin faith as a psychological reality. Child development is determined by complex relationship between different components (social, academic) and self-esteem. However, high levels of self-esteem determine a good diagnostic. It may be a sign of compensation, a desire for recognition, an exacerbate selfishness. To admit that we weakness and we do not mastered all our weakness or anxiety, stress or emotions, may be a sign of mental health or emotional maturity. That is why emotional and affective skills analysis is required for personality development;
- There is a direct relationship between the components acquired by children and parents strategies;
- Child’s own strategies of action are influenced by his/her parents’ competences. A good educator can be considered a person who allows a child to be independent and to develop his own way in order to discover new spaces, working pleasure and to fit his personality into the frame of everyday social life. That type of functional detachment does not
exclude affection and support but, lead to a new type of relationship – articulated independence, one that implies differences and common aspects.

1.2. Education and care in family

1.2.1. Parents' role in children's education

Children's personal strategies are influenced by those of his/her parents. The essence of these concepts, structured by numerous studies and researches, influences not only the scientific thinking on childhood, but political and educational thinking as well. As a conclusion it may be said that there are four main ideas as a result of modern research (Heckman, J, J, Skill Formation and the Economics of Investing in Disadvantaged Children, Science, Vol.312, no.5782, p.1900-1992, 30June, 2006 cited in UNICEF, 2008, p.7):

1. Brain architecture and skill acquiring are influenced by the interaction of genetically inherited aspects and individual experience.
2. Managing the basic skills (individually and socially) starts in early childhood and they are essential for future development by developing neural patterns which will lead to a skill consisting in ability to follow the brain architecture. Basic skills (individual and social) are influenced by the interaction between genetics aspects and individual experience. That sort of skills starts to be built in early childhood and is essential for future economical success because it leads to neutral elements development which will built the rules for social position.
3. Cognitive, linguistics, social and emotional competences are all connected together.
4. Even if adaptation is continous along life, skill are developed in predictable sequences in which the development of neutral circuits and the connected behaviour that are shaped by them and very flexible and influenced by the environment.

The main aspect of recent research on human brain development there are fragments of human brain development influence by parents’ behavior and its influence durng the first years of childhood. the way in which most of the parants interact with their chidren, the infant language the value of their smile and other signs, gestures or different sound significance are not easy to analise and decode. What becomes increasingly evident and is demonstrated by systematic research is that love and building direct relationships with small child, besides feeding and adequate nutrition is essential for a good development of an early child from the
emotional, physical and cognitive point of view. Researchers described the process of approaching and communication with the child as contained in terms such as sensitivity / responsivity maternal / paternal, they use analogies such as dance resposivitatii mutual or service or reciprocal service.

The service counter service concept described by researchers at Harvard University to occur when children in gestures, cries and you respond by imitating as an adult the same vocalizations and gestures, continuing as a communication process between the two. Another important aspect of the interaction that describes the concept of service and counter-serviced is that which occurs much better when it performs a continuous interrelation-adult child and the parent is responsible to the child's unique individuality.

In other words, regardless of the particular child’s behaviour, adult respond and gives strengthen for their attitude. Decades of research demonstrates that inter acting are rewarded are essential for developing a healthy nerve circuits and complex nervous behaviour (Belsky, J., Developmental Risk Associated with Early Child Care, Emanuel Miller Lecture, Journal of Child Psychology and Allied and Psychiatry Disciplines, vol 42, no.1, 2001, p.845-859). Other studies relate to identifying sensitive periods in human brain development. Each period is associated with specific neurological circuits and uniquely human abilities.

Each construction of circuits and skills is based on a previous period. This process sets all the cognitive and emotional development and deeply depends on the type and quality of interactions between child and person who take care of him in early childhood. Research demonstrates that infant care and education can not be separated as they are close proceses Interaction type process between parent and child becomes an essential factor in his intellectual and the emotional development.

If neglected the emotional needs of the young child, any kind educational efforts are made will influence child’s cognitive development skills, which may stay undeveloped. This is why numerous studies about children underline the role of affection expressed in his care. Other studies draw attention to the fact that the stress in the first months indicates a risk factor.

It is even quoted the opinion of Professor Jack Shonkoff, director of the Center for Child Development at the University of Harvard, who said, after various researches the determined hormons indicates a high level of stress can cause real tears in brain architecture (apud UNICEF, 2008, p .6). It is shown that the effect of cortisol hormones can damage the development of brain architecture and constitutes an element of risk for damage and / or ill life
periods. That is why the stress as a focus point has to be managed in order to maintain the brain health. The required hormonal equilibrium that of chemical type, states to be important even before the child’s birth and it is essential during his first month of life, as it is underlined by recent research. Research is also focusing on another area, just as important, which can be called birth or collective sense of community spirit in a child profile. This one identifies a sense of being determined by the child's ability of influencing life events and situations. If responsible adults encourage the child's life right answers, the way in which they behave in different situations, the motivation, confidence and skills tend to flourish. On the other hand if adults do not encourage independence and the way in which the child reacts, and have negative reactions or tend to punish their behaviours essential aspects of the child psychological profile can be compromised. This is why relationships between children and their parents, or those who take their role in early care and education are critical in children’s emotional, psychological and cognitive development. Most problems that occur in their development and child behaviours may continue throughout life and have initial root disturbance in initial relationship between him and the adults around him.

1.2.2. Analysis of the interaction and communication between infant and parents

The research underlines the fundamental values of communication relationship between infants and his parents and develops concepts as attachment, empathy and resilience.

Attachment relationships as they are developed in early childhood are of crucial importance for child’s future development. To develop good practices for building relationships between children and adults, turned into an important issue lately, due to the fact that it is an important aspect in evaluation of educational politics. Lately research have brought a lot of theoretical arguments and contributed to build a solid data base which defines the commitment of all sort of organizations and which are crucial in defining children’s emotional and social development.

The theory of attachment and commitment has been developed by John Bowlby (1908 - 1990) and consists of a bio- compartmental system. Bowlby describes commitment as a double, complex process, by describing the connections between infant and the members of his family, usually mother, father, brothers and sisters, in different descending grades. Between 1969-1998, based on his clinic experience, through books and articles, he developed a theory which is considered to inspire future researches. The starting idea of the author is the environment in
which human beings are developing, infants way of surviving depends on their ability to have always an adult to take care of him, feed him, ready to provide adequate conditions for development. Quite different, compared to other primate species, the infant, is not able to move together with adults, to join them or to catch them up. Therefore, young children should rely on specific signals that attract adult attention to make them sit with him and stay close. The use of these signals depends on effective responses of adults. Those seem to set to stay close, to comfort them, to help the crying children, to interact with smiling ones. After a while children stay focus on signals that get frequent answers from adults, especially for those persons to whom they are closer. Children are born with a set of behaviours, specific to human as species. The goal of attachment is to get safety. This safety includes, initially survival and later began to refine and learn new meanings, more complex than just survival. Bowlby’s theory offers clear explanations why these interrelations of attachment are of decisive importance for children’s development, especially in the sphere of emotional and social.

Further research took the mentioned thesis, but there is still no clarity as to how these relationships affects the transition to adult life. In the middle there is the concept of securing the commitment and attachment, explaining the fact that a child is able to relate to the parent as a source of comfort and remedy of stress and offense. Attachment is a powerful form of bonding and exists at embryonic form since the newborn period.

According to the theory of attachment, all children attach themselves to people responsibilities for taking care of them, regardless of how they are treated. During childhood attachment appears, first in connection with their parents, develops during teenager time and his adult life according to new and different rules. The capacity of looking and asking for protection is one of the main aspects of a healthy behavior. Similarly the way in which a child reacts to new aspects and to explore is based on what he has done in his childhood and later in his adolescence. It is advisable that he had a good treatment and that the commitment is followed by climate of security, so that he should become able to explore the surrounding world. That means that the child should internalize his mother. It is not necessary that mother or the person who offers protection to offer as much safety as possible.

A good mother may be considered the person who offers to her child a secure attachment for development. Child’s attachment for other person who takes care of him can compensate the lack of attachment for his parents. This often happens with abandoned, institutionalized or adopted children. Secure attachment develops when the individual has confidence in the availability of parents. He knows that parents will be there for him and will
support him if he has problems. Therefore the child feels able to explore his world look and try new things.

_Anguish ambivalent attachment_ develops when one is not sure of the protection and availability of parents to help him if need it. The child is "hanging" and demands attention all the time. He has difficulties in exploring the external world and shows anguish. This aspect can be explained by the fact that sometimes the parent is available, sometimes is not. Most often the parent avoids mentioning the fact that the separation or the abandon is due to “didactic” purposes”.

_Avoidant attachment_ implies a lack of trust in the fact that when asking for care, the child will find it or on the contrary, he believes that he will be rejected. It often happens that these persons once they have reached mature will find it fake and will not offer love and support from others. Firstly they will not know those things. Repeated rejection or institutionalization from childhood can turn them into an isolated, hostile or antisocial person.

1.3. Institutionalized education and care

Multiple problems of development in child’s learning process and development can be solved by the help of established institutions of society as family, school and community. At the same time, during different times of growth, development and becoming a human being, each of these social institutions have an important role. Moreover, there is a need of an educational partnership between them in favor of efficient education for the individual and for society. It has long been thought that the school plays a central role and that different forms of school could be replace by the family, which often has no aspirations or cultural resources for which the community proposes its solutions.

Supporting structures of the school means pedagogical assistance, counseling, solving specific problems (speech therapy and vocational guidance offices) and family resource centers or teachers. At the level of these structures specific programs for individual and group support for children, parents and teachers are developed. Specialists who perform these activities must have teaching experience and special training in psycho-pedagogy.

School today can improve continuously assessing its needs and calling on support structures to organise, plan and intervene and to solve problems more or less special.
Resource Pack for teacher training “special requirements in class”, prepared by UNESCO proposes therefore to conduct effective schools where all students learn and to be valued, the following:

1. **Teachers need to be determined that all students learn through:**
   - Teachers to know each student very well;
   - Students must be helped to understand what you are trying to learn;
   - Classes organized so that students must be permanent busy.

2. **Efficient teachers help their students to learn if:**
   - Emphasizes learning purposes;
   - Offers diverse and varied options to his students;
   - Are reflective and always supportive for their students;
   - Offers various means of learning during educational process;
   - Flexible use of school resources but resources as well as those of the community;
   - Cooperate with all other colleagues and educational staff.

3. **Effective schools encourage individual teacher by giving them:**
   - Effective leadership;
   - Confidence;
   - Sense of optimism;
   - Support;
   - Concerns about continuous improvement of curriculum;
   - Various methods of control of progress.

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**Effective school is a school in partnership with students by valuing and respecting his identity, with family recognizing his importance and involving it in teaching, and all of the educational resources that identifies, uses, and which are actively involved.**

There are many researches have focused on the critical importance of children’s early years for further children’s development and the positive influence of preschool education to children’s readiness to learn. The educational policies are in many ways concentrated on the scope of preparing the young children for school, underlining the fact that the children must be “ready to learn,” so that they can succeed in school and as the next generation of workers and citizens.
The emergence of public nursery or preschool as a place offering education for children, with qualified educators was fast accepted especially in countries with a high level of incomes. In this way, a large part of small children are spending a much time outside of their home (UNICEF, 2008).

More public declarations underline the children’s right to have access to institutionalized education, being now seen as a public responsibility. Under three years, there are few periods in which, an adequate stimulation determine the brain development, and any delays could cause imparities and even an inadaptation to school environment.

The provision vary from a country to another, from the previous mentioned reasons, such increased birth rate and first economical situation having a great impact on the number and types of institutions offering education for early childhood and for preschool.

**1.3.1. The current state of early education and care institution and preschool institution in NETQ6 consortium**

**Germany:**

Every child from the age of three up to starting school has a legal right to day-care in a child day-care facility. Traditionally in Germany children under the age of three years are looked after in Kinderkrippen (crèches) and children from the age of three up to starting school in Kindergarten. In past years the profile of day-care centres has changed considerably. The number of facilities, which offer day care, above all for children from the age of three up to starting school, has decreased while more and more facilities offer day care for different age groups. One reason for this change in the supply structure is the expansion of day care for children agreed by the Federation, Länder and local authorities for children under three years of age, which is expected to create a needs-oriented supply of day-care places for children nationally and thus establish the basis for fulfilling the legal right to a place in day care from the age of one which enters into force on 1 August 2013. The heightened efforts to expand day care for children aged below three have since the introduction of official statistics in 2006 led to a steady rise in day-care uptake.

Depending on the region there are well developed care opportunities. Parents can choose to whom or to which kindergarten they want to bring their children. Nevertheless

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2 Eurypedia: European Encyclopedia on national education systems: [https://webgate.ec.europa.eu/ffpis/mwikis/eurydice/index.php/Early_Childhood_Education_and_Care](https://webgate.ec.europa.eu/ffpis/mwikis/eurydice/index.php/Early_Childhood_Education_and_Care)
parents sometimes have to wait for a proper place. It is advantageous to enroll the child during the pregnancy. But generally there is a legal right to be granted a proper place for each child from the age of one year. However parents who are employed or in an apprenticeship get preferential treatment.

The cost for child-minder and kindergarten are paid by the parents and the local authority in case of public institutions. The payment for the parents is an income-related co-payment.

Parents have to pay the complete costs if they take their child to a private child-minder. They also have to pay much more when they take their child to a private kindergarten.

Italy

Early childhood education and care is organized in two different stages, according to the age of children.

Provision for children aged 0-3 years, offered by nursery schools, is not part of the education system and, therefore, falls outside the responsibilities of the Ministry of education, university and research (MIUR). Public nursery schools, meant in their educative function and not only as services for families, have been established through a central regulation in 1971 (law n. 1044/1971). Communes directly run ECEC provision in compliance with general criteria established at regional level.

Provision for children over 3 years of age is called scuola dell'infanzia. It is part of the education system and falls under the responsibilities of the Ministry of education, although institutions providing pre-primary education are also run at local level not only by the State, but also by the Communes and by private subjects. This level of education is not compulsory and lasts up to three years (from 3 to 6 years of age).

The pre-primary level of education 'contributes to the affective, psychomotor, cognitive, moral, religious and social development of children and promotes their potentiality of establishing relationships, of autonomy, creativity, learning and to secure equal educational opportunities: in the respect of the educational responsibility of parents, it contributes to the integral education of children; through its autonomy and didactical and pedagogical unity, it carries out the educational profile and the educational continuity together with all childhood’s services and the primary school' (Legislative Decree 59/2004, art. 1).
Poland

Early childhood education and care (ECEC) is divided in Poland into two stages: for children aged 0-3 years in creches and, as from 2011, kids clubs, or settings where care is provided by day child carers and nannies; and for children aged 3-6 years in nursery schools (przedszkole), pre-school classes in primary schools (szkoła podstawowa) and other pre-school settings, including pre-school units and centres.

Until 2011, creches were the only institutions or settings providing care to children aged up to 3 years. They operated within the healthcare system, and thus were regarded as institutions providing healthcare services, including prevention and care, for children aged 3 and below during their parents' or guardians' working hours. As from now, childcare institutions for children aged 3 and below are supervised by the ministry responsible for labour and social security. Care is provided in creches to children at least at the age of 20 weeks, and in kids clubs to children aged 1 year and above. Care can be provided until the end of the school year in which the child reaches the age of 3 or up to the age of 4 in cases where it is impossible or difficult for the child to participate in pre-school education. In the case of children who have reached the age of 3 and attend a creche or kids club, or are supervised by a day child carer, their parents are obliged to provide the childcare institution concerned a statement describing reasons for which their children are unable to participate in pre-school education.

In accordance with the School Education Act of 1991, pre-school education is considered the first level of school education. It is also worth mentioning that the term “pre-school education” is hardly ever used in Poland; the most popular terms are "pre-school care and upbringing” or "pre-school upbringing”. Pre-school education in Poland comprises children aged 3 to 6 years. Children who reach the age of 6 in a given calendar year can either start their education in a primary school or complete one school preparatory year in a nursery school or in a pre-school class in a primary school. As from 1 September 2009, 5-year olds had a statutory right to complete one school preparatory year in a nursery school, pre-school classes in a primary school or other pre-school settings (pre-school units or centres). However, as from 1 September 2011, 5-year olds are required by law to complete one school preparatory year in one of the preschool settings mentioned above.

Pursuant to an amendment to the 1991 School Education Act which came into force on 1 September 2009, the age of entry into primary education will be gradually lowered from 7 to 6 years. Six-year olds may be admitted to the primary school on condition that the school offers suitable facilities and the child has completed one year of pre-school education or that his/her
school readiness has been confirmed by counseling services. As from 1 September 2012, all 6-year olds will be obliged to start full-time compulsory education in the primary school.

**Romania**

Ante-pre-school education is a part of the non-compulsory Pre-university education and is organized in crèches and, as the case may be, in kindergartens and day-care centres. According to the provisions of the Law of National Education (Law 1/2011), art.23 (a), early education (0 – 6 years), including the ante-preschool level (0-3 years) and pre-school education (3-6 years), which include the little group, the medium group and the big group.

Children are organised in age-level groups: lower (3-4 years old); middle (4-5 years old) and high (5-6 years). The pre-school education is organised in three types of programmes, offered in the same or different kindergartens: normal (4 periods), prolonged (11 periods) and weekly (Monday to Friday) programme.

The organization of the early ante-preschool education institutions, the educational content, quality standards and organization methodology for this type of education are decided by Government Decision initiated by the Ministry of Education, Research, Youth, and Sports.

The public local authorities, in cooperation with school inspectorates, shall provide the teaching staff necessary for the delivery of ante-pre-school education, in compliance with the quality standards and the applicable law.

Ante-preschool education service providers shall be accredited based on a methodology developed by the Ministry of Education, Research, Youth, and Sports and the Ministry of Health.

In ante-preschool education, the teaching positions is educator-child carer – one position is provided for each group of children; in institutions with extended or weekly working programme, staff’s work in shifts is provided. A group works with one or two teacher, depending on the programme.

**Spain**

Early childhood education and learning in Spain caters for children from 0-6 years. It is divided into two cycles each made up of 3 years. 0-3 years and 3-6 years. The starting point for Infant Education in Spain, at this moment in time, begins with the Organic Law of Education known as LOE. This law offers on a national level the legal framework to provide and assure the right to education. The autonomous communities are able to regulate the adaptation of this law
to their regions. It is in the Royal decree of 29 December 2006 where the division into the two cycles is established.

The different stages constituting early childhood education: 0-3. The cycle 0-3 is voluntary for families where the purpose is to give educational assistance and attention. 3-6 years is also voluntary and cost-free and constitutes the first level of school education. Many of the centres which offer second cycle education also offer other teachings such as Primary education.

Children are cared for and educated according to their age or the motor development if they are in the first cycle the most common way of organising the children is 0-1 year old. 1-2 years old 2-3 years old.

With regards to the second cycle the children are divided according to their age also. There are classes corresponding to the 3 year olds, another to the 4 year olds and corresponding to the 5 year olds.

Aragon’s curriculum for Infant Education (Order 28 March Article 5) is organized into areas or fields of experience, taking as a reference four fields of experience: psychopedagogical, sociological, epistemological and sociocultural. Through these areas the child will attain the educational objectives of the stage in an integrated way. The curriculum for Infant Education will be specified and developed in the educational centres by the team of teachers and educators taking into account the characteristics of the school.

Order 28 March 2008 Article 7 the general objectives to be covered by Infant Education will contribute to the children’s capabilities in relation to: body, environment, progressive acquisition of independence, emotional state and a balanced image of oneself, relationships, developing communication skills in different languages, discovery and use of information technology and communication., initiation in logic, reading, writing, movement, gesture and rhythm and the knowledge and value of the natural, social and cultural environment of Aragón. The key skills (According to the ruling of the European Union) are developed starting in second cycle infants (3-6 years).

All of the contents are organized into areas which correspond to the areas related to experience and development of the child; they will be worked on in a global way so as to make them interesting and meaningful for the child. The curricular areas in both cycles are: knowledge of oneself and personal development and independence, knowledge of environment and surroundings, and language communication and representation. The work methods used
are based on experience and activities and the element of play and on the contributions of the child.

According to LOE, specific educational support needs and special education is no longer conceived as education for a different kind of child, but begins to be conceived as a combination of material and personnel resources available to the education system in order to be able to meet the needs (either transitory or permanent) that pupils may have. There is the underlying presence of the concept of inclusion. All state education centres must include children at risk or in a vulnerable situation. Schools have specific resources in order to help them in this task. These resources include specialist teachers in speech therapy, pedagogical therapists, specialist teachers, auxiliary teachers in special education and sign language interpreters. There are special education schools, centres of preferential attention centres, specific classrooms, educative therapeutical centres as well as a very close relationship between education and health with regards to early diagnosis, prevention, protection and rehabilitation.

Turkey

Within the special education schools and institutions or independent early childhood centers, educational services are rendered to children between 0-36 months and their parents. The education of children, who are between 37-72 months and who are in need of special education, is compulsory. The primary approach is to provide pre-school education for those in need of special education in pre-school education institutions through mainstreaming. However, for those individuals special education classes can also be opened within the pre-school special education schools/institutions. Children between 36 and 72 months are provided education within the pre-school institutions for handicapped. However, based on the developmental and individual characteristics of students the pre-school period can be extended for one more year (Özel Eğitim Hizmetleri Yönetmeliği madde 29).

United Kingdom (England)

In England, the phase of education incorporating early childhood education and care is known as the early years foundation stage (EYFS). Introduced in 2008, the EYFS covers children from birth to age five in what may be known as ‘early years’, ‘nursery’, ‘pre-school’ or ‘pre-primary’ education. The EYFS replaced the foundation stage for three- to five-year-olds, introduced by the Education Act 2002 as a statutory part of the National Curriculum. Following an independent review of the EYFS (Tickell, 2011) the Government developed a revised
statutory EYFS framework (DfE, 2012) with effect from September 2012. See the article on ‘Teaching and Learning in Programmes for Children over 2–3 years’.

A government initiative which began in the late 1990s significantly increased the availability of early childhood education and care. The School Standards and Framework Act 1998 as amended by the Education Act 2002, placed a statutory duty on local authorities (LAs) to ensure the provision of pre-primary education in their area. In addition, under the Childcare Act 2006, LAs have also had a duty to secure provision of sufficient childcare in their area since April 2008. Prior to these pieces of legislation local authorities only had to secure appropriate pre-school provision for children aged between two and five, who were identified as having special educational needs (SEN).

All three- and four-year-olds are now entitled to 15 hours per week of free education for 38 weeks of the year. This free, part-time provision is available from a broad range of providers in the maintained (fully government-funded), private and voluntary sectors. Although there is no general entitlement to early childhood education and care for children under the age of three, parents can choose to pay for childcare for younger children using privately-run day nurseries, childminders or nannies. In addition, free, government-funded part-time places are available for some disadvantaged two-year-olds and this is currently the focus of expansion (see the subheading ‘Admission Requirements and Choice of ECEC Institution’ in the article on the ‘Organisation of Early Childhood Education and Care’ for further information).

Maintained provision for children aged three and over usually takes the form of nursery schools, or nursery classes and reception classes (for four- to five-year-olds) within primary schools. Nursery school places are also provided in children’s centres, which offer integrated early years education, childcare and related family support and health services. The majority of providers in the private and voluntary sectors receive some government funding (subject to meeting certain requirements) for provision for children aged three and over. Parents can choose to pay for additional provision on top of the free, part-time services they receive.

The School Standards and Framework Act 1998, as amended by the Education Act 2002, defines nursery education as full- or part-time education suitable for children who have not attained compulsory school age (the term after a child’s fifth birthday), whether provided at schools (normally nursery schools, nursery classes or reception classes in primary schools) or elsewhere.
The *Statutory Framework for the Early Years Foundation Stage* (DfE, 2012) sets the standards that all early years providers must meet to ensure that children learn and develop well and are kept healthy and safe. It promotes teaching and learning to ensure children’s ‘school readiness’ and gives children the broad range of knowledge and skills to progress through school and life. The EYFS specifies requirements for learning and development and for safeguarding children and promoting their welfare. See the article on ‘Teaching and Learning in Programmes for Children over 2–3 years’.

**Northern Ireland**

Early childhood education and learning in Northern Ireland caters for children from the age of two to four years. The Education (Northern Ireland) Order 1998 defines pre-school education as: education provided for a child (whether at a school or any other premises) at any time after he/she has attained the age of two and before he/she has reached compulsory school age’ (four years), ‘other than in the reception class of a primary school’.

The provision of – and participation in - pre-school education in Northern Ireland is not a statutory requirement. However, in 1998, through the ‘Pre-school Education Expansion Programme’, the Government set a target to provide one year of pre-school education for every child whose parents wanted it. The programme initially targeted children from socially disadvantaged circumstances and the oldest children in the pre-school cohort. It is now completed as the target for the expansion of provision has been met. Since the 2003/04 school year, free part-time places have been available for all children in their immediate pre-school year.

Publicly-funded pre-primary places for three- to four-year-olds are available in a range of settings including nursery schools; nursery classes and units in primary schools; and voluntary and privately-run playgroups. Education and Library Boards (ELBs) currently have overall responsibility for pre-primary provision at local level. They are expected to submit a Pre-school Education Development Plan to the Department of Education (Northern Ireland) (DE) detailing how they provide pre-school education for children resident in the local area. In addition, ELBs are expected to develop partnerships with pre-primary education providers in all sectors (statutory, voluntary, private, integrated and Irish-medium), in order to collaborate on pre-school provision and promotion of good practice.

Following a 2004 review of pre-school education in Northern Ireland, the Department of Education (Northern Ireland) (DE) confirmed that the focus of early years provision is
integrated, family friendly services and early years support (from birth to four years of age). The overarching aim of education in pre-school settings is to provide children with a holistic and engaging pre-school curriculum based on opportunities for learning through play.

The Early Years (0-6) Strategy (DE, 2010) – a draft strategy for 0- to 6-year-olds in Northern Ireland - was published in summer 2010. The strategy sets out a vision and plan for the development of early years services. It recognises the importance of linking learning and development in the early years more coherently through services such as ‘Sure Start’ (see ‘Organisational Variations and Alternative Structures in early Childhood Education and Care’, current pre-school education provision for three- to four-year-olds, and the foundation stage of primary education for four-to six-year-olds. Following consultation, during 2011 an implementation plan for the new strategy was developed.

1.3.2. Relations between early childhood education and preschool education

The transition from family to the institutions in charge with education and care must be able to count on qualified human resource, adequate spaces for taking care of the children and for educational activities, organized in an friendly environment, in which children are comfortable and safe, from two point of views: the organization of interior design and the distance from home.

These are factors with influence in children’s integration and facilitate the separation from the family, which has healthy effects on the actors involved in this transition process (parents, children, specialists from the field of education).

Even if the preoccupation for educational element in the range of 0 to 3 years is more recently, there are more countries which recognize the importance of the education, which, together with care determine the harmonious development of the persons. During the time, the care for children was more present in families and institutions, in education detriment. The researches underlined the necessity of having both elements (care and education) in children’s life. In this respect, through the steps and encouradging policies, through the campaigns aimed at raising awareness of family and society, it can be said that in the present education is significant in individual childhood even if it is done in the family.
The transition to preschool education must be a facile and smooth process, without any intervention which may bewilder the child. Taking into account the continuity of educational process and commune elements of space organization the transition is usual in a natural flow.

In the case of children from disadvantaged groups, this transition can be sinuous because of emphasizes in child care and assimilation of knowledge based on continuous repetition, overlapped with the traces of labeling the child or the family. These can affect family’s confidence, self esteem in their role as parents.

It should not be neglected the tendency, especially in developing countries to keep the child with special needs in family in order to avoid community’s reaction. The existence of a set of foster care, education, rehabilitation, coupled with qualified human resources, specialized in diversified needs of children, families, psychological comfort, ranging from the possibility to develop professional social activities for parents and ensuring to children age-specific fundamental component - socializing.

In 2004, a group of American researchers studied the problem of the link between participation in preschool programs and schooling outcomes in the first school cycle (Katherine A Magnuson, Marcia K Meyers, Christopher J Ruhm, Jane Waldfogel). Starting from the idea that social inequalities can be avoided by effective participation of children in preschool programs, U.S. researchers have found a direct link between adequate child care, programs for parents, preschool preparatory school and good results in learning reading, writing and acquisitions of base as a whole.

Children’s frequency in kindergarten is increased in the United States, but large differences are noted between children from advantaged families or socially disadvantaged ones.

A longitudinally study on kindergarten groups made between 1998-1999 showed that there is a direct link between the rate of participation in preschool programs and learning preparatory reading and arithmetic in the early primary grades. It showed that children, who attend before at least a year in a nursery institution or a period in a center-based preschool program preparing for school, are better at assessing the skill of reading and mathematics in primary. After analysing and excluding the contribution of family environment and other factors that may be associated with early education programs, relatively high academic skills in children

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investigated were identified. The acquired advantage persists on whether children’s skills are initially evaluated at the beginning of kindergarten and first grade. In most cases the effects are greatest for children belonging to socially disadvantaged groups, they are more evident in preschool training created to eliminate gaps in learning reading.

Studies also demonstrate that society has economic benefits of investment in infant care and development. Benefits binds to increase economic productivity during the child's life, increased employment options for educators who deal with this, the social cost saving areas like schooling, repetition and dropout rates (children who receive early attention are less inclined to repeating grades and dropping out of school). In some cases there are also savings in terms of lower decrease juvenile delinquency and drug use.

From an economic perspective, an early childhood development program can be considered a good investment if the benefit-cost ratio is high. Although rare, there have been conducted such studies, and the cost-benefit calculations indicate a high potential rate of the investments in early childhood. Data from Project High / Scope Perry in the U.S. suggests that an investment profit preschool may even 7 times (Steinhart et al.1993, apud. Evans, J,L, Meyers, R,G, Ilfeld, E, 2000 p.12). To get to this calculation, estimates were made of the differences in economic productivity over the life of two groups of children, with and without preschool investment, and for a variety of occupations and economic sectors.

Data result from the group of children for whom there was investment in early childhood educational programs addressed to them and their families showed lower rates of crime, less need for remedial programs, and lower demand for other types of programs social for adults.

1.3.3. Human resource

The human resource is a determinant factor of child integration and transition to institutions. The teacher, educator, the specialist is the one who has an important role in facilitating the transition process, in adaptation to change, child care and education.

The educators’ role:

- Participation and motivational involvement in educational act;
- Creative solutions and attitudes for solving different situation;
- A reflexive attitude and a permanent attention to consider and re-consider what observes at children and to analyse;
- Open minded, to be ready to accept novelty, variate and flexible solutions in order to respond to children needs;
- To be aware that it should be a part of a team with the colleagues, parents, specialists and members of the community;
- Empathyc supposing that any educational decision is in the children benefit, according with children’s feelings, able to remember all the time that she/he was once a child;
- Flexible in planification, decisions and activities in order to keep untouched educational spirit and to be able to offer viable solutions, not artificial;
- Constructiv facilitator, offering different choices to children and let them to choose opportunities or different materials.

1.4. Educational partnership

Educational Partnership is one of the key words of contemporary pedagogy. It is a concept and an attitude in the field of education. As an attitude, the partnership means:

- Acceptance of differences and tolerance of different options;
- Equal chances to participate in a joint educational activity;
- Interactions accepted by all partners;
- Effective communication between participants;
- Cooperation (joint action in which each has its different).

It tends to be a central concept for the policy of the curricular, flexible and open educational problems. In addressing to education curriculum knowledge, need of knowledge, respect and valuing diversity can be identify. It is adversity meaning uniqueness of each human being and multiculturality. Children are not normal or abnormal they are unique, with different particularities, determined by their individual characteristics and by their connection with a space or a socio-cultural identity. Each is a vector of features that can not be damaged or abnormal, but are features personal responses to environmental demands. The uniqueness comes from the equation of each, but also subjective learning styles, rhythm development, personal traits, abilities, skills and behaviors of each. Cultural footprint is important because it determines the richness of diversity in the social group.
Educational partnership is a form of communication, cooperation and collaboration in support of the child in the educational process.

It assumes a unit of requirements, choices, decisions and educational activities between educational factors.

Educational partnership is developed continuously, together with the educational process itself. He refers to requirements such as the design, decision, action and evaluation in education to be made in cooperation and collaboration between institutions, influences and educational agents.

There are three important forms of partnership:

- The partnership between teachers, professionals and parents/family;
- The partnership between teachers and professionals (team work);
- Teacher–student partnership.

1.4.1. Educational process partners

Educational partnership can be established between:

- education institutions, family, school and community;
- educational agencies, child, parents, teachers, specialists in solving educational problems (psychologists, psycho-pedagogical counselors, therapists, etc.);
- community members with influence on growth, education and child development (physicians, policy makers, church, police, etc.);
- educational influences exercised at certain times of the child development;
- breeding programs, child care and education;
- forms of education at certain times or at different times.

1.4.2. Dimensions of educational partnership

Educational partnership is a concept with great value in education and is an extension of the principle of unity education requirements. This implied the need for common goals regarding educational act. He addressed primarily to parents and teachers and refers to the act in the same direction. What decided the family must be in agreement with the school and what steps a parent is not denied by the other.
Currently, the concept of partnership is also considering another relationship with the child, which is part of the educational decisions after his election possibilities and dimensions. Education has its tasks, since the smallest ages to educate the child for social accountability rapid decisions. Teacher-child relationship has new meanings, is a partnership, due to its democratic governance issues and flexibility in decision making. Not only the children learn and develop under the influence of the educator, but this one too is formed and transformed through the educational relationship. Solving educational problems add new skills to every educator. Each generation is different. Only one type reflective educator, creative and dynamic, accepting change, will find answers to new questions.

Parents, children and communities strongly influence each other. The environment in which parents can support or deflect live their lives, can shape many of their values. It can act as a source of strength and security, or to restrict development. In turn, parents can influence the community either as individuals or as members of a group. They can help the development of community values and social priorities.

Identifying and valuing one person individual dimension, one becomes aware of the importance of valuing the family, as an initial environment which shapes child’s personality. If family represents the developing environment for early ages, those which are essential for the future development of the child, it is obvious that it has to be supported not substituted in young generation education. During the age of school, family remains the affective environment offering security, comfort and stimulation.

It is recognized more and more that other institutions of the community influence the child's information and training. Spontaneous groups, formal and informal associations, civil society itself, the diversity of influences by media through magazines, newspapers, radio, books, television, internet, etc.

School, the only institution which influences personal development by a rigorous plan and organised activities, by institutional and educational processes which constitutes the learning process feels that it has to build an active partnership with the family and the community in which a child develops himself.

Recognizing the importance of informal and incidental issues besides the formal place in personality of the individual, leading to the development of the idea of continuous communication, collaboration and cooperation in favour a harmonious development is an important aspect of contemporary education.
1.4.3. School and family: collaboration, cooperation and communication

It was already set that today the educational partnership should be understand as a form of unification, support and assistance of different formal education influences.

Introducing collaboration between parents and specialized educators periodic and ongoing communication and cooperation between them as required from time to time even by school learning efficiency. Experience proves that a relaxed atmosphere is facilitating learning between educational agencies. The existence of common rules known and fixed together facilitates the effort of learning. There is a complex network of relationships within a school. These relationships have considerable potential to influence children's education, both in the positive and in the negative way. The most important relationships are:

- The relationship between teacher and student;
- Inter-relationships (between students, between teachers, between teachers and specialists who support the school, teachers and administrative staff of the school, etc.);
- Relations between teachers and parents;
- Relations between teachers;
- The relationship between professionals supporting child development;
- Parents and teachers (working in teams to make decisions and act for child benefit).

The third category of relationships, between parents and teachers, implies a larger perspective, outside the school borders, leading to a different understanding of teaching as a profession. In traditional pedagogy this topic is debated under the title "collaboration between school and family". The dimensions of this relationship are larger due to the expansion of the concept of collaborative communication and cooperation and the new concept of partnership that embraces them all, and additionally express a certain positive approach and democratic educational relations.

Collaboration between schools and families requires effective communication and efficient unit requirements and unity of action when it comes to the child's interests.

It conceives the two social institutions in exchanges of views and discussions when it comes to decisions, keeping each role and identity and bringing specifically.
H. Henripin and V. Ross (1976) identifies two main dimensions of reciprocal involvement in the child's school and family:

1. The size of parent-child relationship, regarding frequency control, the academic achievement of topics, and in general tasks and material and spiritual support of teaching the child.

2. Size of family-school relationship, which refers to the department and unit choice school and parents to direct contact with representatives of schools, teachers and administrators.

These contacts may take the form of collective meetings held in the formal negotiations between the school administration and parents associations, meetings to inform parents about the content and methods of school, class schedules, teacher requirements, and so on, the open classes for parents, of the practical workshops with parents. In the informal, parents can work with the school on the occasion trips, celebrations, visits, anniversaries, shared meals, etc.

Besides these forms of collaboration can be added:

- Parents’ school
- Psycho pedagogical conciliation
- Family orientation according to individual or group needs in a professional manner, namely by trained specialists support teachers and counsellors problems involving risks to child development and adaptation.

1.4.4. Parents and Teachers relationship

Parental involvement in school problems does not refer only to material support or reminder about their children's problems. It is much more. It refers to building positive relationships between family and school and a unified system of values and requirements relative to child. This may have a beneficial effect on students when they see teachers collaborating and advising the parents and involve defusing problems before they become uncontrollable.

The collaboration and cooperation between parents and school are effective and beneficial for both factors if they are effective communication and if you keep in mind the human dimension.

Stanciulescu E. (1997) determined like elements to be taking into account:
The study level of the two participants;
Timing of collaboration;
Difficulties encountered by children in school activities or other development issues;

Teachers generally take into account the following elements:
– Socio-professional categories to which parents belong;
– Family structure and its special problems.

When referring to improve communication between teachers and parents it is taken into account:
– The quality of the two poles of collaboration (teachers and parents);
– Perceptions of each;
– Attitudes that characterize them;
– Characteristics of schools;
– Family characteristics;
– Communicational level.

Parental involvement in school and supporting problem solving educational process has a number of arguments which are:
– Parents know their children and want to know them as students;
– Parents know their child better than anyone else;
– Parents need information about their role as student of their child;
– Parents have to be respected for their ideas and for knowing their child;
– Parents are caring for their children and want them to achieve maximum potential;
– Research has shown that learning increases as learning rate is maintained;
– Parents get involved in supporting the child at home through various activities;
– Working with parents is supportive for the way they raise their children and educate;
– Studies have shown that parents generalize to other children their involvement and family-whether that help a child grow, if that helps parents develop the whole family.
– When parents are stimulated to feel a part of the curriculum, they understand it better and it supports appropriate;
– Activities with parental involvement in their child's learning programs and school activities can create their sense of self-esteem, which helps her and the entire family
The way in which parents understand and valorize its own child is many time a support to understand the learning situations;

This partnership activity with parents can facilitate problem solving

The activity with parents can help children to see their role in growth and development and to understand as important factors of education.

Helping parents to be involved in children daily life at school the interactions and relations between children and parents will be reinforced.

Parents have always to be concerned about school work, not only when problems arise. When analyzing the relationship between parents and teachers is good to take into account the following parameters:

- Parents do not form a homogeneous group;
- Often parents do not identify their problems or seek help in solving them;
- Parents offer and request information.

The first question that needs to be solved is referring to the type of information parents. All parents need, they need basic information about their children. They also need to know the basic purpose of the school, what are the objectives pursued and to be aware of the educational policies of the school. Where possible, they should be involved in decision making (schedule changes, training and additional programs, etc.). They also need to be aware of the progress made by their child.

Most of the parents appreciate information about their child because these contribute to some decisions of the family for the future.

Another set of information they require refers to how they can help their children at home, with homework. Parallel system of meditation as a form of family support in different competitions and stages of school education is a plague due to lack of communication between school and family, and distrust of parents on the training provided by the school.

Apart from this, parents can provide support to school for their children. This is not tax or material help, but the fact that parents are the child's best connoisseurs in some respects. In addition, parents are a source of support in how to relate to other children at school by their professions, etc.

To establish this partnership with parents it is essential that:

- Parents to be part of the decisions relating to their children;
- Parents to be partners in the decisions regarding children;
- To recognize and appreciate the information given to parents on children;
- To exploit this information and its use to supplement the information professional;
- The responsibility to be shared between parents and teachers.

Most parents, regardless of their cultural and social background, can give valuable information about the issues, growth rates, desires, expectations, mistrust, and hobbies of their children / students.

1.4.5. Relationship between parents and professionals involved in the support and incentive programs (counselors, psychologists, physicians, social workers).

Family members are partners who own the most useful and important information needed to create better services for children. This is the foundation of effective interventions and as early when it comes to children with special needs programs with educational profile are the most profitable. The main requirement for the programs to be effective is that they should be started as early as possible and conducted in partnership with families.

If a child has a pre-birth deficiency, the learning process is oriented and structured as clear as possible, started as early as possible it is more efficient and help him to solve his problems and to better social integrate himself. When the child’s living environment is not stimulating him enough, children may encounter instrumental difficulties and is not able to develop the required skills in the given time.

Family environment is fundamental for many of the children’s experiences and this importance is underlined for children at risk.

Most of the problems encountered by children since their birth should be better solved by personalised and well structured programmes on learning and specific exercises. Sooner they start more efficient they are. How can you exercise and what kinds of practices are better for developing young child’s skills? The easiest way is to work is with parents as a team. Teachers can decide which the child’s needs are, but his profile is better known by parents so they can determine the direction of an intervention. A motivated parent is more able to understand his child’s needs and to do certain activities, therefore is more efficient. This is not an argument in favour of avoiding specialists, but they have to act with parents, it has to be a partnership of actions and decisions.
It is very efficient to consider family as a partner in taking decisions referring to the services needed by child. Generally speaking parents, members of the family are not aware of their role, or they do not know that they may interfere, or that it is very important that they express their opinion. Sometimes even the professional staff has some difficulties in interacting with parents or in making them partners in decisions. It is obvious that in establishing a partnership concerning early interventions on children there should be a lot of information accessible for parents and that decision should be taken together. Activities designed and structured through individual service plan for children at risk has to be developed with the family, all its members from decision to final evaluation. Programs elaborated by the Operational Group for Family Participation to the Council of Coordination for Early Intervention (Massachusetts, 1997) suggest that parts should be counsellors in early intervention.

Parents should be considered as counsellors because:

- They are involved in all aspects concerning early intervention
- They contribute to staff and project managers’ commitment
- They underline the importance of child

Examples of ideas which helped families to become essential partners in early intervention programs (Massachusetts, 1997):

- Start with small things – achieving a small project contributes to consolidate trust for all that are part of it!
- Ask families what they would like to do. It may happen that families that have never been part of such actions would like to do something practical, or to choose from a list of possible activities. It is important that family should assume their role as a consultant in their own rhythm.
- Include family participation in all phases of the project and stages of program
- All necessary information should be offer to families or other participants, in order to establish an equal position.
- One member of the family has to be part of the staff, so that he can manage the family participation and to find possibilities for family to be counsellors.
- Ask families to take active part at the staff meetings, to share information and to express ideas that can be useful
- Recognise, plan and promote consultant roles, at individual level and inside the group
– Be sure that all families know that there are written programs which guide them and everybody can access them. Copy those materials families want to have.

– Be aware of the fact that there is a difference between asking a reaction to any idea or strategy which are no longer actual and to ask the family to be an active partner. For a lot of people is easier to buy something instead of creating a product, so use the adequate strategy to make them understand each position.

– Ask a large variety of families and staff to take part in consulting and do not relay always on a limited number of persons that are attached to your activity.

– Ask families to be councillors in various occasions and many times. Be prepared for unexpected situations! Be ready to find information in unexpected places.

– Consider the feedback received from families as information which should be communicated, not as a compliment or as a critical attitude. Reactions received from the family should be shared with all staff.

– You have to plan consultancy activities, which allow families to take part to the program, according to their own activity.
II. THE BASIC PRINCIPLES OF EARLY CHILDHOOD EDUCATIONAL PROGRAMS

2.1. Early childhood education between trends and values

In current societies, regarding early childhood education and care and preschool education it is necessary to identify the trends in changing the educational paradigms and fundamental values of society. From the perspective of social values, early childhood education involves a series of concepts and action models which predict the development of each person as an active participant in social construction. In this respect the concepts are: diversity, integration, participation, social inclusion. Each child is a unique model with particular needs translated in educational field through behavioral and attitudinal development requirements. From this it results a need of social inclusion and respect for human diversity. When we speak about values, we speak about:

- Support and empathy from the community on the family and disadvantaged families;
- Rights and equality of chances in care and children support;
- Free and indiscriminate access to education;
- Social fundamental responsibility of the communities and families for raising and children education.

Starting from these values which are to be found in a society concerned about its future citizens, the reality of the actions conducted in the field of early childhood education demonstrates that these are not simple desiderates.

The trends resulted from the European policies analysis shows that:

- The early childhood education systems are characterised by multiple providers: government, private, community, faith-based and non-governmental organisations.
- For 0-3 year age group are many private institutions
- There are differences in the access to early childhood education depending on economical development;
- The differences are visible also between rural and urban areas
- There is a need of qualified human resource;
In post modern society, when the educational process is in discussion can be stated that it’s no longer a linear process, as in industrial society but more circular, in which education is realized from all formal, non formal and informal environments, and can, in a figurative way be presented as a coral (all actors interact, the communication flows in all directions, as in a network).

2.2. Explanatory models of child development

There are two general explanatory models of child development, explaining through two different visions the role of key factors in childhood educational and care institution and also in preschool education.

A. Ecological model

2.2.1. Ecological model

It presents the individual as result of a complex sistem of interaction. In complex sistem of interactions we will find:

- family,
- institution as support /substitute of family and
- partnership with comunity offering: communication, relational experience exchange and recreation spaces for thw whole family.

The author, Urie Bronfenbrenner presents the individual as a result of a complex interactions system. He introduces the idea of a family as system and also the interactions which may explain the risks and stress in children development.

According to this model the environment in which a person develops is a more complex reality than it was set before.

Ecological environment is a concentric system of structures, where one includes the net one. It is a set of four concentrically systems Brofenbrenner names those structures: micro-system, mezo-system, mezo-system and macro-system.
a) Micro-system is a complex of activities, roles and interpersonal relationships developed by a person in determined context (family, school, etc.).

b) Mezo-system consists of inter-relationship between two or more ambient relations actively developed by a person. For example a child develops relationships between his home, school, group of friends, an adult between family work and social life.

c) Ezo-system is built by one or more ambient situations to which the developing person is not an active participant, but through which facts essential for the context are developing (urban or rural territory)

d) The macro-system is made of shape and content of lower systems (micro, mezzo, and ezo-system) which may evolve up to the subculture level as a whole, as well as that of faith, believes and ideologies which are part of those congruencies (they are part of a church, party, etc.).

2.2.2. Risk situations model

This developmental model was elaborated by J. Evans who set general principles for early childhood educational programs.

A. Social accepted principles (determinated by international educational policies)

B. Principles which determines development and learning at early ages (determinate by scientific studies and research for early ages);

C. General operating principles (determinate by all kind of educational program).

A. Social principles: tracing the access of vulnerable families with children having developmental delays or disadvantaged from the economical perspective. If the educational resources are limited, children at risk must be included with high priority in educational programs. Regarding these aspects, the educational programs design must respect the following declarations:

- Convention on Child’s Right, 1989;
- World Conference of Jomtien Declaration, 1990, referring to "Education for all";
- Salamanca Conference Declaration, 1994 referring to inclusive school/education achievement, access, participation to an education for everybody, etc.

Examples of social principles

- Support and valorisation of children at risk by stimulating them;
- Perspective of working with children due to their mental and physical immaturity requires a special attention from all members of society;
  - Respect for child no matter which problems of development or learning he has
  - Children who live in difficult environment are missing opportunities for development, therefore they need special attention.
  - Non discriminative access to education for all children, without discriminative racist, gender, language or religion criteria, has to offer them the opportunities for complete development”;
  - Family and community implication in taking decisions and in educational activities: families, parents, have the main responsibility of their children’s education and development.
  - Educational policies meant of social responsibility at local and central level. Large or small communities represented by governments are responsible for environmental and educational politics able to lead to a social responsible attitude concerning young generation education.
  - Access to education from early ages.
  - Participation to social life through competences development, respect for their rights and social responsibilities.
  - Quality of educational interventions.

B. Basic principles of children’s development and learning
  - Holistic development which consists of inter-dependable dimensions;
  - Development starts at pre-birth level, learning after the child’s birth.
  - Development is a multi-determinate process and depends of nutritional and biomedical stage of child, genetic traces, social and cultural context.
  - By its nature, the development is a cumulative process not necessary a progressive one.
  - Children are active participants to their own development.
  - Development and learning are processes that have to be seen as a result of child’s interaction with people and objects from his environment.

C. Operational principles for elaborating the early and preschool educational programs
  - The process has to start from existing stage and from a well known reality of early age development, and after that a new process can be built.
- Theoretical perspective needs solid arguments and a multifactor and comprehensible strategy;
- Any program has to be flexible;
- Children’s families have to partners in their development;
- Any program has to be sustainable;
- Communities have to be active partners in all kind of educational programs;
- Early educational programs have to rely on deep understanding of social reality;
- Early educational programs have to promote equal chances;
- Early educational programs have to reflect diversity;
- Early educational programs have to reflect a large variety of strategies;
- Early educational programs have to provide programs of good educational quality;
- Early educational programs have to be profitable from the financial point of view;
- Early educational programs have to obtain sustainable benefits.

Methodological/operational principles proposed in kindergarden from the early childhood education perspective

- Reconsider childred as a unique human being;
- Rearrange the educational environment taking into account the stimulation area;
- Reevaluating the role of the games;
- Educational partnership.

Examples from practices

- The process of development is sequential;
- A development domain will influence others;
- Children have different development rythms;
- The development process is from simple to complex;
- The individual development depends both on the eredity and on environment.
III. KEY CONCEPTS IN EARLY CHILDHOOD EDUCATION AND CARE

A child needs to have a healthy environment, adequate nutrition, care and family love, if those cannot be provided by the family; public policies support family effort so that each child should have a proper life start. The above listed conditions are compulsory for a health adult life. That is why it crucial to underline that each child starts to learn from his first day of life. His initiation starts by language social and physical world which surrounds him.

At international levels, more and more importance is given to intellectual, emotional and physical development, social skills and cultural acquisitions considered to be ones are interacting for building a proper life for young child. Because the infant’s world is so important for his future, early education (early child care for development/ECCD) is considered to an essential part of permanent education and has a leading role in all strategies of social development. A lot of economical analysis demonstrated that ECCD’s action in society has a positive economic impact.

Early education which has to be analysed in connection with child care, consists from a pedagogical perspective some domains such as:

- Family parental education;
- Infant’s education (0-1 year)
- Family and parents education;
- Child’s education between 1 and 3 years;
- Educators’ education for infants’ teaching
- Community education;
- Health and nutritional education as a main component of health;
- Preventive education to eliminate the risks during childhood;
- Education to prevent and remedy instrumental difficulties and early intervention.
- Education for communication and fostering development, language and speech,
- Pro - social education and education for building their identity construction;

In contemporary society international organizations are building politics which refers to a global movement in children’s favour. It is a strategy to focus educational practices and politics
so that they can determine a change in vision and philosophical approach in describing and shaping early ages characteristics

3.1. Infant’s Development and its Landmarks

GUIDETTI (p.23), identifies in child’s development a stage called *from embryo to the newborn*. At this stage of prenatal development he indicates some landmarks and emphasizes the following stages:

- Foetus perceptions (skin sensitivity, vestibular sensitivity, taste, smell, hearing, sight)
- Prenatal motricity.

The author states that recent research has demonstrated that the foetus has a number of sensory and motor skills, hard to describe, but which illustrate the move from the prenatal to the newborn.

From birth to three years, GUIDETTI (p.29) identifies also different stages of children’s development.

A. Birth state: At this stage he illustrates an analysis of the moment since birth to the state of new-born. This moment is interpreted as a brake which leads from one moment to another. This interpretation was considered by some shrinks as a stage indicating the existence of a fracture / trauma to the newborn baby. Baby must conquer certain autonomy in a new world. Since the ’60 many methods to evaluate the newborn status were developed (p.30): hearing, seeing, smell, different aspects, touching motility (archaic reflexes). At this stage the indicator is the APGAR test (1953) the new born child is evaluated according to five criteria: heart rate, respiratory capacity, colour of skin, muscle tone and irritability reflex and the test suggested by BRAZELTON (1953), which evaluates the neo-natal behaviour.

B. First three years development

At this age, development cannot be analyse as a global process, as in the case of new born child. Now different aspects or domains of development are separately evaluated:

1. The first domain – motricity
2. Second domain – cognitive
3. Third domain – social aspects
1. During the first three years of life there are three types of abilities that define motor development:
   - development of tone and posture,
   - prehension development
   - locomotors development.

2. Cognitive development

   The most expressive model is that of J. Piaget, even if there are a lot of authors who criticize him, especially concerning the moment of thinking development. As a theoretician is consider to be the promoter of a model of development structured in stages:
   - Hierarchically knowledge is structured progressively, the new ones based on older ones, a continuous construction preparing the integration of a new one.
   - Constructivist – knowledge is acquired through exchanges between man and environment, mainly the physical one.
   - Action – experience is acquired through action

   His main concern was to determine the way in which living organisms adapt themselves to environment. Due to his deep interest for those aspects, J. Piaget became concerned by knowledge construction. He described the ontogeny of intelligence based on systematic observation of his own children faced with life situations. For him, there is continuity between biological processes like organisms adapt to living environment and psychological processes. Individual adaptation to the environment is achieved through two main mechanisms: assimilation and accommodation. The first process refers to the integration in the body of an outer element, and the second to the body change depending on the environment. Assimilation and accommodation are achieved through processes adapted to a structure of an action which is preserved during repetitive actions, consolidated through exercises and is applied in variable situations, according to environmental changes.

   The objective of a living organism is to find balance in trade between the environments in which he lives. As this balance is difficult to maintain, J. Piaget speaks about balancing. The term scheme refers to basic unit for organizing models of senzo-motor function.
Individual world construction refers to two basic processes – organizing and adapting. In order to understand the world he lives in, man organizes his experience, adapts his way of thinking for including new ideas. Adapting means adjustment to new information.

J. Piaget demonstrated that children’s development takes place in stages that are the result of their adaptation to environment (through assimilation and adaptation) that each person makes from the biological point of view, then psychological and social. This process takes place by organizing mental processes. Thinking stages are different from the quality point of view and have to it into time periods. As an instrument for adaptation the development stages are four, according to each equilibrium stage:

1. Senzo-motor stage last since birth to 2 years. It is a practical intelligence connected to direct action upon objects. At the end of the second year, mental representation is able to create interior actions. At this stage there is a considerably progress concerning coordination and organization of sensation and physical actions. This period has the following stages:
   a) Simple reflexes – sucking and movement
   b) Primary skills – circular reactions (1 month – 4 month). Primary skills refer to a basic scheme based on simple reflexes.
   c) Secondary circular reactions
   d) Coordination of secondary skills
   e) Tertiary secondary skills (novelty and curiosity)
   f) Internalization of action schemes

At the end of this stage senzo motor intelligence is completely developed, meaning that the child is able to coordinate and organise his sensations with physical movements, a non verbal and non symbolic level, characterised by the object permanent state.

Object permanent state is a concept/term which describes one of the most important of the child’s acquisitions, the fact that object continues to exist when we are not able to see, to hear or to touch them.

2. Preoperational it is the stage of preparing and acting concrete operation, from 2 to 11/12 years. Preparation stage is the one of creating and implementation of concrete operations. It has a preparatory period from 2 – 7/8 years, when children use mental representation to imagine absent object, by language or drawing. Thinking is an intuitive one, centred on data and perception.
3. The age of 7/8 is the stage of concrete operations, when the child is capable to admit that each operation can have a reverse one, which brings it back to initial stage.

4. Formal/abstract operations are no longer directly linked to concrete and can operate on mental plan (11-15 years).

C. From 3 to 6 years (Guidetti, 2010, p72)

Changes that take place at this age are not as spectacular as that of the previous period. Children develop the skills they have acquired and kindergarten gives them the required field to practice. Areas that are specific in this phase are (GUIDETTI, 2010, p.72):

1. **Physical development** slow down and the motor is improving. In this period specialize the left or right hand use.

2. **Cognitive development** refers according to J.Piaget's vision to concrete operational training period. It is the beginning of symbolic and semiotic function that develops by learning through implanted, the game becomes symbolic play, they develop mental images of reality, communication through spoken language and graphic design language.

3. **Knowing others** - theories of thought / mind (esprit) he examines new research that contradicts the ideas of J. Piaget and demonstrates that there is a small child who has a certain perception and understanding of other, different of that Piaget perceived. It seems that the child is aware of what others think early than he thought. From the age of 2/3 years it seems that children are capable to imagine what others are seeing or experimenting, things that are different of their general perception. They are capable to adapt their discourse and play to their companions. (Cartron and Winnykamen, 1999, apud GUIDETTI, p.75). At the age of 4/5 years, they play in a different way with children of different ages, or they have a different way of addressing to smaller children. They become aware that they have a different thinking compared to others and others are different compared to them. Mental theories demonstrate that around 5 years a child is capable to understand that other persons have different mental perception than him. Studies which demonstrated those new paradigms are based on the following experiment: a story illustrated by drawings or puppets is told to the child; this story has two characters, one is taken out of the room when the other hides an object. When the first one comes back the child is asked to imagine where he should look for the hidden object. If the child’s prediction is the same with the place the object was hidden, it has to be underlined that he attributed to the character an independent thought, different of his own. This way of solving the problem, marks a different stage in his development. He
understands that mental representations are different, compared to reality. Children give the correct answer around the age of 5.

4. **Perfection of person's model according to H. Wallon.** According to his model the perfection of person is ready around the age of 6. Three type of behaviour which characterise this stage were identify (Guidetti, 2010, p.72): opposition behaviours, awareness of the effects of his own behaviour upon others (between 4 to 5 years), and the need of adult imitation.

5. **Expressivity evolution** is connected to evolution of communication means through language and drawing. The evolution of expressiveness, identified through the evolution of language and drawing.

To conclude on the child development, the researches showas that 80% of the brain architecture develops in the prenatal period. 60% of the mental structures of an adult develop in the first three years of life and 50% of those before birth. The child is born with 10 billion brain cells, between ¼ and 1/5 of brain cells of an adult, and spends the first three years of life adding glial cells for nurturing the neurons. In the first year of life a synaptic explosion takes place supported by the interactions with the caregivers. The neurons make thousands of interconnections called dendrites and axons which extend in different regions of the brain. At
six years old a child has 2/3 of an adult brain and 5 to 7 times more connections between neurons than a 18 months child or an adult. A 6/7 years old child has a tremendous capacity to make thousands and thousands of dendritic connections between neurons. This development potential finalizes around 10-11 years old, when a child looses around 80% of the volume of neuronal connections. What we do not develop of use, we loose as capacity. An enzyme is liberated in the brain and dissolves all the weak neuronal pathways⁴.

As shown in the figure above, the first three years of life are a period of incredible growth in all areas of a baby’s development. The sensory pathways, language, and higher cognitive functions reach the maximum level during the first year of life.

3.2. The six key concepts in early childhood education

3.2.1. Care

Care is defined as a process which enriches the environment and which is a support in optimal development of a child. The notion of care is part of culture, including what an adult and other persons who play a significant role in child’s life offer him.

3.2.2. Nutrition

This term signification cannot be reduced to that of food, it refers to the way of feeding the child and plays a crucial role in his future development. It has been demonstrated that a child who benefits of a correct nutrition (good quality food, carefully educated) is more resistant to diseases, learns better than others. At the same time a neglected child is more vulnerable to diseases and is less capable of learning performances. Studies initiated in the last 20 years by UNICEF, have demonstrated that and initiated international champagnes to offer to children the required calcium, magnesium, iodine and iron.

Nutrition and food studies underline the need of nutritional and mineral need of yearly childhood. Speaking about calcium, magnesium, iodine and iron or other minerals influencing children’s psychological development, research indicates that there is a direct link between them and their development. If there are significant gaps in nutrition and health, situated in crucial moments since birth to first school year, those may have a negative impact on his development, even along their whole life.

For example if a child has simulative nutritional programs in his first three years and that there is a gap in the following years, all acquisition may be lost before school entrance. (Grantham-McGregor et al.1998).

3.2.3. Environment

A health environment with spots and adequate models, protection and time given to the child are the major components of children's rights.

It predicts two major trends of change, present in the behavior of the teacher (educator), which put the spotlight today's child: creating a rich educational environment for continuous stimulation of spontaneous learning, introducing child in the social space in which cultural environment belongs, to form a self-conscious autonomous personality.

In early childhood, the holist approach of children's development involves a permanent and equal attention to all aspects related to the environment in which the children lives, growths and is educated.

3.2.4. Learning

Learning is crucial for children's development. This is defined as an acquisition of knowledge, skills, and values formed by experience, reflexion and study (Myers, 1995, apud Evans, Meyers, Ilfeld, 2000). Current state of children's development may stimulate or inhibit his way of learning in present or in the future (Levinger, 1992, apud Evans, Meyers, Ilfeld, 2000). Learning is a key part of the development process and its results are influenced by the quality of care the child receives.

Unfortunately, few countries provide measures of the psychosocial well-being of young children, or of their advances in learning during their early years. It is therefore impossible to judge advances in this area for national populations or to link advances to the many program initiatives that have been undertaken.

3.2.5. Development

Development is defined as a stage of change through which the child becomes able to manage a large and more complex number stages of movements, thinking, feelings, and is capable to interact with environment and surrounding objects. The health and holistic development represents each child’s right.
Development is a dynamic process through which a child passes from the stage of dependence on others during all activities of his childhood, to physical, social and psychological maturity during his adolescence. During this dynamic process, the way in which he functions depends on his continuous interaction with his family or other persons who take care of him in a friendly, social environment.

3.2.6. Permanent support

Another concept to be used in the debate is – support. Young child – as it is defined in international documents, promoting early education, a child aged 0-8, is a part of his family, of a community, defining their cultural values. He needs to be supported in developing his physical, mental and social abilities, those who help him to survive and to achieve a personal status. If we want to understand the young child and to support him along his development, one has to be aware of his complex profile and of the context of his development.

*Source:* The World Health Organization, 2006, The International Classification of Functioning, Disability and Health for Children and Youth
IV. ICT AND TEACHING APPROACHES

4.1. ICT concepts

ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums.

In this document, it will be tackled, besides ICT, other technologies which can improve children’s care and education.

It is obvious that the tremendous evolution of technology will influence the educational process and also will reflect in daily life. Early childhood education and preschool education cannot be excepted from the technology influence.

In early childhood education and care and preschool education, the influence is not only through the usual tools: computers, network computers, internet, smartphone, ipad, notepad, etc, or through internet, educational software, etc. but also through other tools which contributes to the medicine development to improve the quality of life and well being of children. The number and diversity of technological devices are increasing every year as shown in the table below:

![Table](image)

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5 T.H.E. Journal, Mobile Device Management and Bring Your Own Device in Education Environments, November 2012
The report published in November 2012 shows that two-thirds of high school students own a cell phone that has Internet access while one in five kindergarteners through second graders do as well. There is a reality the fact that children already have access to different devices. In this respect, it’s preferable to guide/direct children to the use of computer for educational purposes in order to compensate the remarkable attraction to game.

The use of the technology is present in children’s life since birth, but the way in which children takes benefits of technology differ, and we can establish some differences between age groups (from 0-3 and 3-6 years old). Another issue to be mentioned is that if few years ago we could speak about the use of technology by other persons (parents, educators) in small children’s benefits, today we can say that most of 3 years children are able to use technology, even if she/he is not able to diferenciate the benefits/harmful effects of technology.

The use of technology by 0-3 years group:

– Computers are the main tools which are used both by educators, parents and children. The diversity of educational software, games is still large for this age group.

– The multimedia resources, electronic toys, constitutes stimulus for small babies for each development domain.

Example no. 1: Romania - WebQuest

Children between 2-3 years old, participate in learning activities through try games, repetable pushing with foots or hands on different images represented on the keyboard-carpet which is in front of a monitor on a safe distance. This play triggers different responses accessible answers, on different themes (human body, nature, animals). The permanent feedback determines the child to continue the game, stimulating attention, movement.

– The technology is also used for medical purposes contributing in a significant measure in children medical evaluation, improvement actions, recovery, development.

Example no. 2: Programme for the Detection and Early attention to Hearing Difficulties from the School “La Purisima for deaf children” ("La Purísima para niños sordos") Saragossa (Zaragoza) Spain.

The use of technology by 3-6 years groups:

– Learning through games

– Enhancing learning for specific development domains

– Painting, graphical, music, stories
- Learning activities:
  - transmitting knowledge,
  - evaluation
  - consolidating knowledge:
- Developing skills (including ICT literacy)
- Developing cognitive capacities.

For 3 to 6 years range it seems that by the use of computers and other technologies, the children are developing a new cognitive style, with the same importance as in the case of contacts with the natural environment, developing technical creativity, visual knowledge, inserting a feeling of competition, stimulating the children to self learning.

The benefits of the technology are to be found the in six key concepts in early childhood education. The befits are directed to children but also for parents and educators who can use the technology benefits for child care, nutrition, development, learning, organizing the environment.

The parents’ benefits of technology:
- A more facil access to information which is very important for first time parents and parents who look for information. In today’s society the information become more accessible, and this increases the self- confidence (the parents are able to take decisions being well informed, they have the opportunity to address different confidential questions, without using its real identity);
- Children safety: more institution offer camera surveillance and parents can be connected in real time with their children;
- Enhance communication: the communication is facilitated by the informatics tools, offering sound and image in the same time;
- Socialization and constituting associations, forums very useful for online support especially in the case of disadvantaged groups.

4.2. Challenges and opportunities in implementation of ICT in early childhood education and preschool education

In early childhood education and care (0-3 years old)
<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>The infrastructure is already ensured in institutions</td>
<td>Costs of educational resources and maintenance</td>
</tr>
<tr>
<td>The existence of specialized centres organized in schools used by teacher to inform and use technological resources</td>
<td>Need of training for didactical staff</td>
</tr>
<tr>
<td>Existing of specialized centres for parents</td>
<td>Children cannot appreciate the time they spend using the technology</td>
</tr>
<tr>
<td>The use of a large category of tools in stimulating children</td>
<td>The threats for children’s health in the case of excessive use of technology</td>
</tr>
<tr>
<td>Children respond quick to the stimulus</td>
<td>Cultural and social differences can determine reticence in using technology both by parents and children.</td>
</tr>
<tr>
<td>Children learn fast how to use modern technology</td>
<td></td>
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<tr>
<td>The offer of existing resources (educational software, movies, cartoons, educational games) is large</td>
<td></td>
</tr>
</tbody>
</table>

In preschool education (3-6 years old)

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>The infrastructure is already ensured in institutions</td>
<td>Costs of educational resources and maintenance</td>
</tr>
<tr>
<td>The existence of specialized centres organized in schools used by teacher to inform and use technological resources</td>
<td>Specialized training for teaching staff</td>
</tr>
<tr>
<td>Existing of specialized centres for parents</td>
<td>Family time management from the perspective of parents and children;</td>
</tr>
<tr>
<td>Organizing courses to inform children about the judicious use of computers</td>
<td>The risk of isolation; children can be take hold of the new world and neglect face to face interactions;</td>
</tr>
<tr>
<td></td>
<td>Modifying the communication relation</td>
</tr>
</tbody>
</table>
- Organizing commune spaces in which children can use computers being in the same time in community.
- Stimulates logical thinking and imagination / creativity;
- The permanent feedback stimulates;
- Developing and consolidating the scientific investigation skills;
- Enhance motivation for learning
- Increase the efficiency
- Stimulates innovative learning skills

ICT can contribute to universal access to education, equity in education, the delivery of quality learning and teaching, teachers’ professional development and more efficient education management, governance and administration. The quality of teachers and their continuing professional education and training remain central to the achievement of quality education.

4.3. Game Based Learning as innovative teaching approach

Taking into account the fact that games represent a main aspect of children specific trajectory in development, it is time to reconsider game influence. Starting from traditional games, as they are understood, also digital games can have their contribution to the children education and evolution. When the game is used in education, it gets significant psycho-pedagogical functions, ensuring an active participation of children in learning process.

Actually games can be used in education bringing added value to educational practice. Game Based Learning (GBL) is an innovative approach, and the studies in the field of GBL show a clear relation between playing digital games and learning. A number of several reasons have been argued in favour of digital games as learning tools, with the more cited argument being that they can enhance students’ motivation towards learning because of their engaging nature. Indeed, digital games can provide challenging experiences that promote the intrinsic satisfaction of the players, keeping them engaged and motivated.
Moreover, players have fun while playing a game because they have to learn it. Indeed, in games, the challenge usually increases as long as the game goes on. Therefore players need to improve their skills and learn new strategies until the game is completed.

Another feature of digital games that is remarkably aligned to learning is that games provide short feedback cycles. This allows players to explore the game environment freely, trying out their hypothesis, learning by trial-and-error and getting immediate information that they can use to redefine wrong assumptions in a risk-free environment. This characteristic is well aligned with educational requirements, given that most educational approaches require the educator to provide students with feedback about their achievements. Nevertheless, in traditional educational approaches where the instructor must accomplish all the work manually there is a significant delay until students can receive the appropriate feedback. Digital games can help to reduce such delays almost to zero.

Therefore, as digital games set the player in a world that is free to explore without requiring the intervention of an instructor, video games are an ideal medium to promote authentic learning and “learning by doing” processes. In this sense digital games can provide meaningful learning experiences by simulating highly interactive scenarios that professionals encounter in real-world settings, where they face open-ended, real-world problems.

In consequence, digital games represent a good medium to promote active learning and improve students’ problem-solving skills and not only simple fact memorization. It has been demonstrated that for certain target groups (e.g. school students), they can increase personal fulfillment and lead to higher performance.

It is true that commercial educational games means suplementary costs (license, costs, limitation of the infrastructure – some of the games have high technical requirements) that most of the institutions/educators are not able to support and the lack of integration of most games with the current curriculum and assessment framework can discourage this innovative approach.

In order to overcome these obstacles, educators can become game designers. There are many free to use resources (game editors) which may help the learner to aquire basic knowledge on creating their own game, perfect adapted to the curricula and to the children’s age. In this way, educator can use its own creativity in using existing resources and also in creating new resources. A creative educator will reflect in children’s creativity. More, these
resources can be used in different contexts, can be shared with other educators with multiple benefits.
V. CHILDREN AT RISK AND EARLY CHILDHOOD EDUCATIONAL PROGRAMS

5.1. Fundamental theses in special educational needs treatment at early ages

The starting theses are the following:

- need for intervention as early as possible in identifying and treating risks;
- environment as normal as possible;
- adequate support but with inclusive methodology in which all children can learn.

Through attention for all children, including children at risk no matter if biological, environmental or others, the program for early education can offer:

- Adequate environmental conditions
- Stimulative and supportive environment, able to stimulate all children’s development.

5.2. History of educational interventions of children at risk

Special education for children at risk was the first step in proper treatment of the problems they may have as children in their development. If we make a historical overview of special education preoccupations, we highlight five phases (Tuunainen, 1997):

The first phase consists of identifying the problems and their recognition and support in setting up services and special support. Institutions occurred in which children who were considered different in terms of life skills, received a specialised treatment. The first institutions were created by religious orders and charitable organizations.

The second phase began when at social level was formally recognized the responsibility on supporting children. This was expressed in legislation and the creation of special social services to address the special needs of children.

Third phase was highlighted in the 1945-1970, a period which was characterized by expansion and support services. These services have become more segregated, more isolated from the services provided to children without problems. O’Toole (1991), meaning that the
person as well as its needs are excluded from social context, where they developed since the recognition of special needs and therapists implication and leaded to an artificial environment. This tendency to isolate children with special needs has shown intensively in some educational system by creating institutions of support outside the community and creating a life for those children as far as possible (Ainscow, 1994). It turned out, however, more strongly, that isolating structures and institutions that support was discriminative and for long-term leaded to hostile

The Fourth phase brought a change of perspective (1970-1990). Concepts as individualisation, normalization, integration, adaptation to regular school started to operate. Children at risk have been increasingly directed to ordinary school, just like other children, but they received more support, during the school time or as extra activities. This solution eliminates the isolation which characterised the first period, but it is not a perfect one. Children are not completely integrated especially because they have to rely on parallel structure, apart from ordinary school, aspect which finally leads to certain isolation. There is some extra cost for supportive programs, which should not be neglected. Introducing children at risk in regular schools do not realize all the desire of integration.

Fifth phase, where we are now, since 1990. This means that for children, creating an environment suitable and adapted to encourage appropriate responses, according to capacities, needs and development potential of all children. The dimensions of this period, which characterizes responses of psychopedagogy of our epoque, come from several arguments:

- recognition of children's rights to education, participation, action, decision and development;
- Recognition of the limits of the medical model to solve children's special needs;
- Focus on education and development for a healthy life as individual and on social level;
- Overcoming individual and individualistic model of treatment of children, by understanding the importance of the social, cultural and economic, educational environment by specifying the importance of organizing it;
- Identification and recognition segregationist approach limits of the special educational needs.
- Extending the differences and distances between children who are served by special education and those who need to be supported in learning;
– High costs for certain forms of support and the need for resources is increasingly felt in an increasing number of children;
– Holistic picture, comprehensive child requires a holistic, comprehensive approach on special education issues.

Due to all of the above argumentation, the current phase of special educational needs in education is closer to early intervention and reconsideration of educational policies at early ages.

5.3. Early education - the land of appropriate educational interventions on children at risk

It is necessary to list below a number of theses, theoretical arguments drawn from preschool psycho-pedagogical research, which are characteristics of contemporary approaches that influence early childhood education starting from the inclusion policy:
– Child development determine its direction and it bases at early ages. After last studies, the importance of the first year of life, then that of the first three is highlighted and considered important for establishing general thinking capacities and skills for psycho and individual adaptation (see also chapter 3.1.);
– The first years education cannot be done without a accessible and functional connection between family and communities’ educational factors;
– The first years’ education can not be achieved unless a more accessible functional connections between family and educational factors of the community (teachers and all educational agencies);
– Inclusive education highlights the need for emphasis on the child's social development and the focus on learning processes, as is expected in early education;
– Active learning and efficiency required in inclusive education has its foundations in early childhood education;
– Recognizing the importance of individual differences and planing of educational activities so that it captures the child's needs as an individual in the group and the context of development, is the first step of early education and its inclusion brick.

Very interesting studies are conducted now for indicating those aspects that are characteristics for early childhood, studies that indicates rules for involving the whole community and which are a support for social politics. An example elaborated by Canadian social politics is
going to be analysed. The document is part of a series of studies elaborated by Canadian Association for Community Living and it is meant to assist procedures for developing a pattern for monitoring children through register indicators of his development. Many persons were quite redundant concerning the design of a public pattern, especially those having certain disabilities. For example standards concerning “learning preparation” and those for children’s development, standards that are often used when talking about early childhood, are defining children at risk from the very beginning.

They define dimensions for learning as:

- a state of wellness and a correct motor development,
- emotional health, a positive attitude concerning new experiences,
- social knowledge and skills adequate to their age,
- language skills adequate to the age,
- general background and abilities adequate to the age.

There are many children at risk who are never able to fulfill those conditions. Therefore there is fear that if measured according to those standard, children at risk, should be regarded as less important for certain investments, which can maximize their potential and their integration in family group, school, and community life. Families having children at risk understand the negative implications of standard approaches concerning their children healthy development. It has to be added that some of them have noticed that their children are excluded after set standard patterns. On the other hand an inclusive family life, care and education help children’s education and development in dignity. Research proves that inclusive basis offers chances of development for all children as soon as they learn to understand the differences, respect for new ways of living and communication, empathy, friendship, solidarity with those who are different. With adequate help, when passing from school life to adult life and interaction on labour market, persons at risk can take part to their family and community life.

Children’s development is a unique adventure for him, his family and the whole community. The challenge for educators is to raise to maximum the chances to put them into value in their community and working environment. As it is known by any parent, each child’s development has its own line according to his unique emotional, physical, spiritual, and creative profile. To keep this in mind all the time is essential for a correct observation and for creating a responsible environment. It should be an environment which puts into values all the skills of a
child, even if he learns how to walk in a wheelchair, an environment which is a support for all children.

5.3.1. Diversity and Differences in Development

More than in any other periods of their life small children are very different. Splitting them into groups according to their age does not mirror their development stages. That is why it may be noticed differences due to:

– personal rate of growth and development
– level of development attained by each
– experience and learning style
– peculiarities caused by biological heredity type
– traits / personal characteristics
– life experience up to the analysed period

Addressing children at early ages depending on their chronological age, may prevent correct individualized and customized treatment of the child.

5.3.2. Educational needs and special educational needs

Each child according to his particularities and needs represents for educator certain educational requirements. This statement is true for all children, no matter if they are considered ordinary ones or with different risks, either with severe deficiencies or small ones (deficiencies, disabilities, disorders). Each child is unique, valuable and develops according the surrounding world. When born, each child has different possibilities of development, no matter his physical abilities.

At early ages, there are some educational requirements which work for all children, requirements concerning growth, development and education as vital processes in becoming individuality. There are basic requirements for human being according to his development rhythms, need of action and personality development.

Depending on the child's personal equation, each has specific requirements due to their biological and socio-cultural inheritance and to the way in which his personality is built.
When a child enters nursery school, his background, and his hereditary dowry stimulation of his primary elements of personality are the parameters which determine the educational needs. During the complex process of development, general or particular capacities of the child are due to his early childhood experience. According to environment stimulus instruments and simulations built a personal construction. The main role in building competences, skills and behaviours during early ages is due to hereditary background, but at the same time the initial environment plays an important role.

In other words if the child has an organic deficiency, the environment can offer him the conditions to compensate it by organising all influences he suffers at early ages. If the child is born without any organic problem, due to bad function of his capacities he may develop at early ages functional deficiencies. This is the way in which appears the category called children with special needs. Those educational needs refers to sensorial deficiencies, problems due to functional aspects and social and cultural environment as well, because they marginalize or vurnerabilize children (deprivation).

The problem which appears for educators is how they can identify those children problems and how to solve them so that their development is facilitated

5.3.3. **Attitudes towards children with Special Educational Needs**

A long history children with special educational needs (SEN) were either killed (Spartans threw from a rock kids who were born with a malformation) or, excluded, ignored, neglected, abandoned, for the same reason that they are different compared to others.

If describing this problem one has to be aware that there are a lot of practices, data, conceptions and psychological perspectives. For long time those children’s family lived as them in shame, fear, insecurity, feelings determined by their differences of development and behaviour. When society tried to understand them show its pity, understanding as well as contempt, fear, ridicule.

Most reactions are due to social perceptions of what means differences between children and people in general. At the same time it is due to ignorance and misunderstanding of the causes that determine these differences.

Some philosophical concept explain people’s deficiency as a result of God’s punishments addressed to parents, conception that may be considered as the main cause of rejection and
shame at social level. Fear was determined by unknown and need of special protection for children at risk. There were some concepts which considered child at risk as antisocial person; therefore this person should be isolated because he represented a danger. Those children were ridicule because they lived outside active life, completely dependent on their families, as a consequence useless. There are many examples of children who were hidden along their whole life, because their family considered them a shame, attitude which really made them passive members of society.

Contemporary society has managed to determine that the development problems and deficiencies of children represent an area that should concern education and educators expressly.

Differences between children are often learning and development opportunity. Each child has the right to have a chance of a life as close to normal as possible. All children are different and need special care and support for development. Some of them have bigger needs, more than what we are ready to offer. It has to be set that those children special needs require a support for them and their family, from the community, which has to be less discriminative, less segregation.

Children with special educational needs (SEN) need a stronger support for their development. Any child has periods in his life when he needs special attention and support. If those needs are not understood they may turn into special ones.

_Viorica is a 5 year old girl, very gentle and loving. She takes care of her toys, talks to them but she does not have friends. She is very gentle, spends minutes looking at a book or playing. You hardly hear her. Why nobody plays with her? She cannot understand, because she likes children. She was not admitted in nursery school and she had so many dreams. They did not even look at her when she wanted to register. The teacher said quite clear that she does not want to have her in her group. (Mental debility, mongolism)_

_Roxana is a beautiful girl, healthy and very intelligent. She is very independent and likes meeting with other children and that is why she used to go in many summer camps. Things changed after the accident. No one can be blamed. It just happened. One day in a railway station she lost a leg. She was 7 and it was hard for her to understand that she became different compared to her colleagues. She suffered a lot, and only her parents comfort her. The most difficult thing is to understand why her colleagues treat her so different. She would like to_
have friends just like before. Because they changed she changed and stayed to like to stay alone and to be afraid of new friends. (Motor deficiency)

In medical books concepts as handicap, deficiency, disorder, disability incapacity, are terms used to determine children’s special problems, but today we speak about educational needs and risk situations. This change in language does not show only a new concept but also a change in attitude, because from simple statements and labels, people evaluated to understanding of real need and change of mentality concerning children at risk.

Moreover, the whole issue of children with special educational needs is seen as a highly diverse understanding of the differences between levels, rhythms, styles and features of their growth, learning and development.

In light of open international educational policies, promotion of new openings to a school for all, which enhances the differences and uses them as an opportunity for learning and experimenting different dimensions of children with special educational needs. This issues becomes strategic opportunity for developing formative strategies.

Existence of special educational needs is a starting point that can prevent normal development of the child. Adults’ perception sometimes too easily labelled a child who is in training and has the right to develop as more appropriate in support of the adults around them. As it was already set, the infant is one of the most vulnerable human beings. He depends on others, their love and care and on favourable conditions for living. The way in which a child demands are fulfilled is the basic condition of a harmonious development. Some children are asking for more care than others. Actually they way in which they are taken care of and support in their early age is essential for their future development and if missing can develop certain disabilities. Some children are born with deficiencies that determines their way of learning and that is way they need special support. It is essential that adults should support children to build a positive image about them, so that they can learn and develop their personality. Our personal experience as well as many studies demonstrate that children at risk have a weak image of themselves, they are not confident and they are afraid of exploring the surrounding world.

As set before, a weak image about you is a problem for a child. His image is shaped by his interaction with other children and with adults around him, as well by the way in which he compare himself with others. The body image is the starting point, therefore a child at risk see that he is different and so will be his image.
WOOLFSON (1989) listed the components of an image which indicates that a child at risk has a weak image about himself:

- They have difficulties in receiving and give love to other children or adults, including the parents,
- They do not easily establish relationships with their peers and feel socially isolated from others around them,
- Even when acceptable performance in a field, they are not convinced of their success
- They feel ashamed of their feelings of guilt and even depression
- They have high levels of anxiety and feel extremely stressful by everyday experiences.
- They have a lack of confidence in their own opinions, have difficulty being fair and honest with others, are defensive when they relate to others, with adults and assumes the worst in any activity,
- They have low academic results and difficulties in school adjustment.

An important component of educators work is to support children at risk positive image. They may be the first adults acting and interacting in order to support child’s confidence in him, in his behavior and results. Parents are not always very supportive and sometimes they need a support themselves

5.4. Risks for child development

The concept of risk develops a new dimension of children at risk understanding. It refers to knowledge, prevention, support when needed issues that may give them a chance to social adaptation and integration.

Viewed in this sense they refer to three risk groups of problems (Evans, J.1998):

1. Risks set, determinate by the dowry those children are born. It refers to disabilities children have from the very beginning. In this group we mention different disabilities of senses (blind persons, or very poor hearing, deaf), organic, neurological deficiencies as well as severe mental ones.

2. Biological risks. This issue refers to children who have at birth physical problems that may be cured, as for example, those children who are born with a very low weight or premature and requiring increased careful and special treatment to grow.
3. Risks determinate by development environment. This type refers to risks due to the growing, development and educational environment, an environment which is not supportive enough, especially at small ages when external influences are essential for his personality. Those are the problems to which we refer when we mention children that grow in poverty, whose parents belong to various socially marginalized groups (ethnic, religious, etc.) grown under conditions of violence, war and abuse.

All the three mentioned groups can be understand and supported under a program for early education. Not only through special services or structures, but also through a special pedagogical approach, which puts into value the differences and uses environment in an efficient and simulative way, creates an educational partnership.

The main concern of early education should be to raise the quality of life for children with special educational needs. It has to be underlined that, no matter how good an educational program cannot change a child at risk into one with stabile risks. But what can be done successfully is to support the development and to intensify education within existing skills. For the other two groups of issues it is clear that early intervention is decisive if done properly.

Who can support a child at risk? Is a question that should be asked? Most of experiments that have been done worldwide are in favour of special services which can identify the problem and quickly set an adequate solution this is a correct answer for set risks. But is it correct for an inadequate environment? Or for problems that appeared lately as in Roxana’s example?

It is obvious that we have to think to a new approach, one that can offer alternatives to special education and able to improve traditional educational approach, in order to design a better educational support, to eliminate risks and to solve problems.

The suggested early educational program is based on that way o designing intervention and social perception. All children have the right to an independent and correct development, to a life that should be called normal for their époque. What is normal today is not in renaissance or during the French revolution. There is a certain relativity which may make us think to best solutions. Even if some children are different due to their physical, mental or sensorial problems, they all live in society and it is up to us to make them part of our life and that of their society.

All children have the right to participate, to be included in activities of daily living. Inclusion Policy (Evans, J., 1998) promotes the process through which all children are
encouraged to take part in educational programs. The suggested early educational program is an inclusive one.

Applying the philosophy of inclusion inside the early education program means that there is a main objective, centred on an effective program which includes all children, without any difference and support child’s own image, in order to support his development and education.

When children have special needs due to the risks mentioned above, the issue of supporting their inclusion as possible in an environment in which to grow together with others and not separately, turns into an important one.

5.5. Children at risk in kindergarten - action lines

On this field, it is necessary to move from large public policy to direct teaching and from concepts to action. It highlights the need for awareness of the role of an appropriate teaching strategy in solving many problems of development. Proposing an educational space organized and arranged for the development and stimulation effectiveness. Educational partnership is effective and it is necessary to know the initial individuality of children. The most difficult problem is connected to registration of children’s progress and evaluation of their evolution.

Initial identification of children who are at risk is delicate but not impossible. It has to be done by careful initial evaluation of difficulties they encounter. Infant knowledge revealed some evaluation methods which can be easily used by educators and parents.

Some tips and advices from professional experience working with children with disabilities:

- treated the child as an individual and always make sure that he is for you a child and then a person with disability,
- do never ask address to the person who pushes the trolley, but to that who occupies it, even if a small child,
- Make sure that he stay with other children and is not isolated.
- make sure that other children are not ironic and treat him with respect
- Put him into value, encourage the child even if his results are not brilliant.
- involved the child into the activities taking place, and encouraged him to explore the surroundings
– Present the child’s progress to parents and other adults and persons who come into contact with him and make sure that they cherish every success, even if small.
– have realistic expectations about the child and his skills, develop appropriate activities for his abilities, give him the chance to get positive results and progress even if small
– Give opportunity for every child, including those with disabilities and encourage him to decide and to find solutions.
– Every adult who acts as a professional in the life of a disabled child can become an example of best practices in training other adults and professionals in the child’s life.

It is therefore important to encourage the child to live as close as possible to a normal lifestyle.

5.5.1. Signs of risk for infants from 0 to 2 years

More delicate and subtle the problem is, it is more difficult to detect. Therefore highlighting the observable behavior is difficult in the first two years of life. Samples and tests dedicated this first period are more expensive and usually can not be applied by educators. The medical staff is in the best position to give us data and solutions for the first ages of children. At the same time we are more concern to offer to parants instruments able to help them to know their young child, to stimulate them to discover some special problems. It is obvious that at very young ages, assessing the problems of a child, has to be done by professionals, especially doctors and psychologist, but also by parants. T herefore the question of using such tools means to have tools that are easy to apply, easy to interpret, inexpensive, possibly used by caregivers, or any adult taking care of him

Such an instrument is presented below, with the specification that he signals risk in infancy.

Parents and other adults who deal with children with problems - including teachers who has a child with certain disabilities in their group, we identify a risk situations when the child presents some of the following behaviours:

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HEARING - If the child

- does not return after a new sound source or new voices
- has frequent ear infections;
- does not respond if you call when you can not see;
- is watching your lips when talking;
- speaks very slowly and very loudly;
- does not speak or is talking funny

SIGHT - If the child

- is unable to find objects and small parts of toys that he throw;
- has red eye or chronic dysfunction of the eyes, spots on eyes, fog, and often rub the eye and say that it hurts;
- often slams the objects in the room;
- when they look at something, is in the habit to look and tilt the head in a certain position that proves he does not see enough;
- after 6 months crosses one eye or both

SPEAKING - If the child

- at 18 months baby still does not tell the word mother (or equivalent)
- at 2 years he cannot name familiar objects and people;
- at 3 years he cannot repeat small poems or songs;
- at 4 years still does not speak simple sentences;
- To 5 years is not understood by people outside the family; speaks differently than children the same age.

UNDERSTANDING. If the child:

- at 1 year does not react when he hears his name;
- at 3 years cannot identify the different parts of the face;
- at 4 years does not respond to simple questions;
- at 3 years can not follow simple stories;
- seems that he does not understand, understands with difficulties, under simple things that I say is unlike (compared with) children of his age.

PLAY. If the child:

- 1 year does not enjoy simple games of movement;
- 2 years does not playing with ordinary objects (spoon, soap, etc.).
- 4 years is not still play with other children (the Fate seek, look me up, etc.)
- just do not play the same way as children of the same age with him.

**MOVEMENT.** If the child:

- at 10 months cannot yet sit up without support;
- at 2 years cannot walk without assistance;
- at 4 years cannot stand steady on one leg, a few seconds;
- moves differently from children of the same age with him

The next step after identifying a problem in child’s development is to become aware of the problem dimension and to take adequate measures.

If parents are able to identify the problem, its evaluation should be done by professional staff: doctors, educators and psychologists.

In the chapter on children in kindergarten knowledge, we specified the need for the teacher to know the development of each child in his the group, so that he should be able to intervene educationally on that behaviour that are capabilities to support the curriculum followed at pre-school ages.

Educational evaluation process is a process that refers to motor cognitive, psychosocial and motor profile of the child. This process must follow the child as a whole, comprehensive and include a variety of measures. Samples, observation notes, simple tests, scales of development

When it comes to children with special educational needs or with signs of increased risk, teacher needs a professional help from a psychologist, counsellor education, or a psycho-pedagogue. This support is required by the family partnership as well, for educational activities go together: teacher-parent-psycho-pedagogical support and medical support, sometimes medical support. A complex evaluation allows to take the most adequate pedagogical attitudes and to pedants to continue the program at home. It should be emphasize once again the need for identification and initial knowledge of all children, and therefore their level of development as a teacher's task to determine their educational needs.

For adequate support for children at risk, parents and other professionals should be involved.
5.5.2. Early assessment in kindergarten for children at risk

Early evaluation is a necessary condition of an adequate intervention. The sooner the problem is identify, the easier and better the intervention is and the deficiency may be fixed. Children’s evaluation should see as a process. That is why the teacher’s role is very important, to observe, to take notes, to register all aspects of a child behaviour in organised environment.

Bruder (1997) speaks of the possibility of using an environmental inventory. That inventory is made of sequences needed by all children who take part to environmental actions. There is information relevant for the quality of child’s family life, relevant for actions and interactions with family environment. They are useful because they focus on intervention on functional skills of different development domains. An environmental inventory consists of the following conditions for identifying problems:

- Highlighting development issues to make the situation as comfortable as possible for the child, not in given situations;
- Assessment to be made taking into account the items act / function, meaning that it evaluates the child in his daily life, in ordinary situations in which he presumably can participate;
- Assessment is relying on game situations and game techniques and child behaviours show the way in which he display his behavioural inventory;
- Child’s evaluation is based on several sources of information on child’s development and many tools are used for gathering this information;
- The evaluation process considers all areas of child development and sees him in his natural context (family and culture).

A fair and effective assessment must take account of the following areas:

- Interaction between the child and those who take care of him. What is natural in his life environment?
- Child motivation. What makes a child to act in a way or another? Which are the rewards that please him?
- Problem Solving. How does he imagine a problem? What attracts attention?
- Adaptation. How does the child's handle his disability?
- The responses to the environment and people. How do children react in different environments and with different people?
- Social Competences. How does he interact with his peers?
Another requirement referring to evaluation of children with special educational needs in nursery school refers its clear aim. Evaluation aim is to design an action meant to stimulate child’s development.

Evaluation should make together with his parents, using in all stages the action and decision partnership between family and nursery school.

5.5.3. Teacher’s role in children and their needs evaluation

The teacher has to know all the children she is working with. She permanently registers all progresses induced by educational program. Children at risk are part of the children’s group and take part according to their capacity to all activities.

The teacher should identify all problems or risks that may occur in development, as an answer to different activities, as well as all information and the issues noticed by doctors or family. If during a certain period teacher notices that the problems have a certain frequency, are intense and very clear, she has to ask for a specialised help (psychologist, speech therapist, psycho-pedagogue counsellor) even if the child follows a specialised and personalised program in order to fix his problems, the teacher’s role is still important, as she follows him permanently during nursery school daily activities and she can consolidate all the program achievements. The same thing can be apply to parents’ role in supporting or fixing the children’s progress. They have to continue the program in the family as a friendly development environment.

Early individualized educational program requires an open and inclusive approach of children. This means that there may be children at risk in an ordinary group. For kindergarten teachers, this does not necessarily mean extra tasks, but flexible educational strategies. As we talk about child support in the educational process, we must assume that the teacher needs support too. How can she take this support?

The main source of support is grouping other kindergarten teachers. Exchange of experience and exchange of ideas for action, of methods, participation in certain activities as a team, methodological discussions are many ways of using the experience and practice of all colleagues and to solve problems.

Team work involves an action in which the teacher is working with another colleague to organize, conduct and evaluate educational customized activities
Activities supported by volunteers, parents, grandparents, members of non-governmental associations, students working for children at risk integration and active inclusion of children at risk.

Family partnership – is another source of support for those involved in activities with children with SEN.

Partnership with other professionals or supportive structures (speech therapy clinics, doctor of psychology, pedagogical assistance centres, medical units). Inclusion policy development will lead to supportive services development. Therefore special kindergarten counselling issues will be supported by educational psychologists, itinerant teachers, support teachers, counsellors or psycho-pedagogues. At the same time, the disadvantage of support services solutions is that they require negotiation, communication, solving relations team, etc. The inclusion of SEN children in kindergarten requires from teachers a continuous challenge in finding appropriate educational solutions.

Professional resource centres and resource centres for parents represent methodological structures which can be a support in solving different problems that may occur for teachers when working with children with SEN.

Preschool management and institutional partnership. It is becoming more and more evident that the kindergarten needs a management that assume continuous training, exchange of ideas and experience, value activities performed on these ages.

Professional self-improvement is the most important source of support.

From everything it has been presented in this chapter, it can be concluded that an early education program should addresses all children in an inclusive manner, and it can largely solve some special educational needs. Principles which lead the stimulation and challenge activities of learning situations / development are largely the same that those which stimulate adaptation and rehabilitation of children at risk.

Environmental issues stimulating knowledge and treatment to individual needs contribute to early education program and can be the basis of an inclusion program. In this sense, all the problems like: mild mental deficiency, limit deficiency and impaired motor learning can be solved in daily activities. At the same time a specialised support and family collaboration are required.
It should be considered that a quality early education program has many features of an inclusive program, but to work with all special needs requires new skills of educators, collaborative and often direct support of other professionals.

Educators’ fear of having children with disabilities in their group is often justified by the large number of children in the group and lack of support. Although inclusion is the most appropriate solution deserved by children at risk, we should be realistic and try to even create a stimulating environment that supports learning for all children while seeking to know and to meet the needs of all children.

Developing educational practices of participation and activation of children, valuing the differences and motivation to continue training, help the teacher to make good decisions and to organize an educational program as inclusive as possible.

On the other hand, it is natural that the kindergarten should provide an educational partnership model, to support families and professionals to be able to support different and proper treatment of children at risk.

Refusal to receive in kindergarten a child at risk is most often equal to the loss of chances for his normal development. Participation in activities with other children of his age, even if not always supported by other services, is already a step forward for integration and adaptation. Children support each other; learn from each other and this is another advantage of open groups. A teacher by vocation will never matter the degree or type of educational problems that a child may have. She will try first of all to support him.

The secret of integration and inclusion of children in kindergarten is to not deny them the chance to education and seek with adequate family support to their learning.
VI. Practical and integrative approaches in European space: NetQ6 consortium

The content of this deliverable was focused until now on policies, principles and development models, human resources to bring in front the activities conducted throughout the NetQ6 consortium for the WP 6. The practical activities presented below are new perspectives and new approaches of early childhood and preschool education, for the range of 0 to 3 and 3 to 6 years.

6.1. Data collection

For the practical part of the study, in July 2012 it was elaborated a guide to collect information on the innovative approaches. The research area is established at the level of the involved countries: Germany, Italy, Northern Ireland, Poland, Romania, Spain, and United Kingdom. The examples are representative at the level of geographical area.

The scope of the study is to identify modern approaches and alternatives in early childhood and preschool education.

In order to collect data, into the guide were included the following sections:

1. Name
2. Target group
3. Keywords
4. Description of teaching approach
5. Didactical resources
6. The use of this approach in the research area
7. Advantages
8. Limits
9. ICT and teaching approaches
10. Educational policies focused on promoting innovation in education

The diversity of visions into the consortium and multiple possibilities to develop programs for early childhood education and preschool education we can state that this process of re-thinking education at this level is necessary but it has as starting points economical factors of different societies and social archetypes.

In the next subchapters will be presented, in extenso, the examples collected from the partnership. These can be used as a base in designing new and innovative pedagogical approaches in the field of early childhood education and care, in new contexts and educational realities.
6.2. Examples of innovative approaches: 0 – 3 years old. Contributions

6.2.1. Certified child-minding
Contributor: LEB Thüringen e.V, Germany

1. Target group
The target group includes children from the age of 0 until the age of 3. Children at risk of any kind can be integrated in a group of a child-minder as long as the child minder has a special qualification for disadvantaged and disabled children.

2. Keywords
- Individual
- Small groups
- Similar to family conditions

3. Description of teaching approach

A. Short description of teaching approach

The child-minding approach means to care for children in a family similar situation connected with special educational offers.

2 to 5 children learn to live together in a group. They come together in the morning, have breakfast together, sing, play and learn together. If possible they cook together, clean up dishes or other things together with the child minder.

They learn cooperation, inclusion, helping each other in their small group in a situation comparable to a family.

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene

The children learn all the processes and activities that happen in daily life situations playfully. They spend time inside and outside, go for a walk, go to the playground, and go buying things with their child-minder. But they also took part on processes inside like setting the table, cleaning up things and also cleaning themselves, cooking together, eating, playing, and sleeping and so on. All those activities support the physical development and the sensual development of the children.

ii. Socio emotional development

Within the family similar situation and environment the children develop soft skills referring to:
- Team work – living and learning in a “family”
- Self-confidence
- Cooperativeness
- Mutual consideration

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7 Contributions from the partnership
Frustration tolerance
Helping each other

iii. Developing the language and communication:
Promotion of language – speaking and listening is part of the educational responsibility of a child – minder. There are activities like talking, singing, reading to the children.

iv. Cognitive development:
Children who are with a child-minder are between 0 and 3 years old. Their cognitive development refers to learn daily processes and the schedule they follow. They start to understand how a group or a family works. Furthermore they learn more or less set theory while solving tasks like setting the table or cooking.

v. Skills and attitudes in learning:
Children are curious and interested. They are active and creative as long as they have the possibilities to be. A child – minder cares for maximum 5 children and does not depend on other groups or schedules. That means a child-minder can take time and follow the speed of the children and give them time to live their curiosity and their interests.
Furthermore children are prepared for an active participation in a nursery. That is one of the tasks of a child-minder.

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.

- Small groups
- Education in situation and environment close to family
- Flexible
- It considers the needs of children and their families
- Offers education and care in an individual way for those who are disadvantaged in a way like single parent who has to work late or early

4. Didactical resources
Each child-minder has a special and individual concept he or she is working with. But they are in a special kind free to choose how to reach their educational aims. They choose different approaches for their concepts like e.g. Montessori and build up their concept on it. The concept is a demand of the youth welfare office they are working with to get a child-minder license. And the concept has to be developed on a special approach.

5. The use of this approach in the research area
The field of child-minding is growing. Adult education organizations like the LEB who are certified to train child-minders are ongoing training new child-minders. On the one hand parents ask for individual care that fits to their personal situation. On the other hand there are not enough nursery offers for all the demands. The development in the field of child-minding will go on. There will be more child-minder, child-minders with specializations. There will also be demands for further training.

6. Advantages
- Small groups
- Family similar learning situation
• individual

7. **Limits**
   A child-minder has to be very flexible. That is not always to manage.
   Child-minding can be very exhausting if the children are at nearly the same age.

8. **ICT and teaching approaches**
   Because of an educational situation close to family just no special technology is used.
   Particularly it is not necessary for the work with children between 0 and 3.

9. **Educational policies focused on promoting innovation in education**
   Child – minding is no new approach. But the national policy decided to regulate it to assure quality. Child minders don’t just have to care for children but also have to support them by their self-learning processes and offering education to them. There is a central curriculum to train child-minders and an association who controls the training and certifies child-minders. In the meantime just those who did the training, pass the exam and receive a certification are allowed to work as child-minders.
6.2.2. Media Initiative for Children (MIFC) Respecting Difference Programme

Contributor: EARLY YEARS – THE ORGANISATION FOR YOUNG CHILDREN, Northern Ireland

1. Target group

This robustly evidence-based and evidence led programme addresses a variety of issues prevalent in the region but which also have wider international applicability including sectarianism, race/ethnicity, culture, physical difference, disability and bullying behaviours. The programme seeks to increase awareness of diversity and difference issues among young children, early childhood practitioners, parents and management committees by promoting more positive attitudes and behaviours towards those who are different. MIFC Respecting Difference is currently available in Northern Ireland in SureStart Programmes for 2 year olds, pre-school services for 3-5 year olds and in Primary Schools for children 4-8 years old. Engaging meaningfully with parents and the development of a community outreach approach is another key component. Coupled with the centre based approach the programme also incorporates home play activities and parent support and training and management committee workshops.

2. Keywords

Diversity
Social/Emotional
Peace Building

3. Description of teaching approach

A. Brief description

MIFC Respecting Difference supports the personal, social and emotional development of the pre-school child and the personal development and mutual understanding area of the foundation stage curriculum by addressing diversity and respect for difference through a range of resources and activities. The programme is underpinned by an anti-bias philosophy and provides children with opportunities to discuss and acknowledge the similarities and differences between themselves and others. Children are also able to express more effectively feelings associated with similarities and differences, including those of exclusion and inclusion. It is hoped that by integrating Respecting Difference into the early years curricula young children will begin to understand the meaning of acceptance and respect for others, and will be more likely to include others who are different from themselves.

A core aspect of the programme engages parents in their understanding of how children develop prejudices and the proactive and positive role parents can have in the home. In parent workshops associated with the programme is often the first time parents have discussed issues in relation to difference, newly arrived members of the community or indigenous ethnic minorities such as the Irish Traveller community. It is vital that opportunities are opened up to parents and others to openly discuss issues otherwise prejudice and misconceptions can be maintained and passed to the

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8 This programme is designed for both age groups considered in the project
next generation. The role of parents and also Management Committees or School Boards of Governors is critical as key influencers both in settings and in the home. A strategic approach to working with such groups at all stages is crucial to the long term impact of this work. The MIFC emphasises that in order to effectively influence attitudes and behaviours in the long term the approach must start in early childhood, have a prevention focus and include parents, families and communities as children's most important influencers. The programme strongly advocates that the concept of Early Intervention supported at local level be implemented and seen as a long term goal which can also yield significant short and mid term benefits.

B. Learning activities.

   i. Physical development, health and personal hygiene (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security)

   ii. Socio emotional development (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

   iii. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing

   iv. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.


During the academic year 2008/2009 an interdisciplinary research team comprising the Centre for Effective Education at Queen’s University Belfast, the National Children’s Bureau (NCB) Northern Ireland and Stranmillis University College, undertook a rigorous and independent evaluation of the MIFC Respecting Difference Programme. The evaluation took the form of a cluster randomised controlled trial, led by the Centre for Effective Education, and in-depth qualitative case studies undertaken by NCB and Stranmillis University College to test whether the programme was having a positive and measurable effect.

The research, the largest of its kind to be carried out internationally covering 74 settings, 1,181 children aged 3-4 years, 868 parents and 232 practitioners across the Island or Ireland, found clear and robust evidence that the MIFC Respecting Difference Programme achieved positive effects regarding children’s attitudes and awareness in relation to socio-emotional development; cultural awareness and inclusive behaviour. Moreover such effects were consistent across the whole sample of children regardless of gender, religion, socio-economic background or national identity. Further detail can be accessed at the following online location: http://www.early-years.org/coral/research.php
The process evaluation also showed while engaging in the programme children are gaining skills in all of the development areas such as the physical development as they dance to different types of music, try out different sports equipment and complete jig-saws and creative activities etc.

C. Arguments for innovation

Research has shown that internationally there are numerous programmes that address good relations with older children and teenagers but there is a significant gap in relation to early intervention (The Machel Report 1997; From Conflict to Peace Building - the Power of Early Childhood Initiatives: Lessons from Around the World 2007).

The development of this particular initiative was greatly influenced by research 'Too Young to Notice?' carried out by Professor Paul Connolly from Queen's University, Belfast which showed that by the age of six a significant proportion of children (1 in 6) in Northern Ireland are making sectarian and racial remarks and that there is a vital window of opportunity to work with children from the ages of three to six years old to make sense of difference and develop social skills and positive attitudes towards difference. In addition the work of Louise Derman Sparks (USA) on the anti bias curriculum and Daniel Goleman's research on emotional and social intelligence had a big impact on the development of the programme.

A particularly innovative aspect of this programme has been the use of the media to support the respecting difference curriculum in the classroom. Five one minute cartoon messages were developed depicting messages from the curriculum and are shown on national television three times per year for three weeks at a time. Programming includes children's television as well as when parents and children view programmes together.

4. Didactical resources

The programme has a number of components and combines the use of:

- Five one minute animated media messages reflecting messages about race, ethnicity, sectarianism, physical disability and bullying. In addition to being included in the training approach these are also played on national television three times per year for three weeks at a time in both children's television slots and in more traditional adult viewing times

- A service design manual describing the Respecting Difference curricular activities and desired outcomes for children, teachers and parents

- A culturally appropriate box of resources to support curriculum implementation

- A set of resources and story books for parents to use in the home environment

- A four day training programme for teachers with follow up onsite implementation support
• Workshops for parents and community leaders (The training for teachers, parents and community leaders focuses on both experiential learning as well as content for curriculum implementation)

• Support for implementation by an Early Years Specialist who provides ongoing external mentoring and modeling acting as a critical friend and agent for change.

5. The use/extend of this approach in the research area

The MIFC Respecting Difference Programme has established a considerable track record domestically of successful partnership working, at both departmental and local authority / agency level, in training and supporting early childhood education and care settings across Northern Ireland and also in Counties of the Republic of Ireland through relevant cross-border initiatives. This success has also proved to be of wider international applicability as part of efforts to export knowledge and best practice in this area. The MIFC Respecting Difference Programme features as a core practice example of Northern Ireland's contribution to an International Network on Peace Building project (see http://www.early-years.org/international) leading the sharing of best practice across countries experiencing conflict and post-conflict situations through the use of programmatic tools, advocacy and shared learning. Projects are also underway to effectively incorporate the key principles of the approach into applicable pre-school programmes and curricula operating in Serbia and Turkey and further pilot work is currently being negotiated regarding practical applicability in Scotland and Colombia also.

6. Advantages

Overall, practitioners feel that the programme is a success and many report undertaking a great deal of diversity work with children throughout the academic year, using both the activities presented in the Service Design Manual and incorporating additional ideas of their own. They feel that the programme impacts positively on their own skills and confidence in working with children around issues of diversity and also that they could see positive impacts on the children as well.

The practitioners and teachers like the fact that there is research to show that the programme works. They also like that it is rooted in child development and provides them with an evidenced based developmentally appropriate tool to address those areas of the early years curriculum which they often find challenging. They also like that it is a 'turn key package' in a way. It comes with the all the components to address diversity.

The important ingredients of successful implementation of the Programme identified by practitioners include the quality of the training provided together with what they consider to be the invaluable ongoing support received from Early Years Specialists. The variety and quality of the resources provided are also cited as a key element of the success of the programme and especially the emphasis placed on promoting socio-emotional development that was felt to provide the foundations upon which targeted diversity work could be undertaken.

The emphasis within the programme on engaging meaningfully with parents was also felt to be a critical element of the programme, although some recognised the continuing difficulties faced in
doing this. One key issue identified that impacted upon the development of relationships with parents and the local community, and on the successful implementation of the programme more generally, was the presence of effective and committed leadership from the setting management.

From the parents’ perspective, initial parent information sessions are found to be extremely useful in helping to address any questions or concerns parents may have about the programme. Parent workshops as part of the programme are also found to be extremely beneficial by those who attend in helping them develop practical skills and confidence in dealing with diversity issues with their children. They also feel that this issue is becoming more important given that local communities are becoming increasingly diverse.

As the programme is about building the skills base and capacity of surestarts, day nurseries, community playgroups, nursery schools, primary schools and amongst young people and families, this will be a sustainable legacy in communities. The legacy of this programme will be that both the community and the statutory infrastructure supporting young children and parents, particularly in contested spaces or interface areas will be resourced, trained and experienced in implementing the Respecting Difference approach.

In some areas (particularly in contested spaces) children can be exposed to the programme from age two in a SureStart setting or a day nursery right through to age seven in year two of the primary school setting. The programme works at various levels according to the child’s age and stage of development. With the two year old child the focus is on the socio-emotional development at the pre-school stage children will be discussing diversity issues and in the primary school these issues will be addressed at a deeper level as children’s knowledge and skills develop.

7. **Limits**

The comprehensive nature of the training covered requires practitioners to undertake a four day training programme, which in turn can have an impact on staff cover arrangements at the relevant setting. However, concerns around this are often superseded by acknowledgement of the many benefits and skills acquired through participating in the programme.

Additionally, as is elaborated in greater detail in Section 10, the present absence of a regional, overarching strategic vision or supportive policy and funding framework for early childhood education and care in Northern Ireland remains a key limitation in the very necessary mainstreaming of this approach in that delivery of this innovative programme is presently dependent on the availability of existing regional and international programmatic funding streams. Another key challenge is ensuring programme fidelity as the programme goes to scale and is rolled out across Northern Ireland and beyond.

8. **ICT and teaching approaches**

The MIFC Respecting Difference Programme training incorporates a multi-media approach through the combination of live action videos and PowerPoint presentations enhanced by physical group activity and interaction. The learning approach also utilises five one minute animations reflecting messages about race, ethnicity, sectarianism, physical disability and bullying. The animations are set in a play park and feature characters and scenarios that young children can easily identify with. The
messages in the animations seek to promote positive attitudes to physical, social, cultural and ethnic differences amongst young children, practitioners and parents. These messages are reinforced in early years settings through the use of resources and curricular activities that prompt young children to talk about their feelings and attitudes to differences.

9. **Educational policies focused on promoting innovation in education**

While there is all party support for, and widespread recognition of, the need to invest early to achieve greater returns in the region it is a significant concern to many stakeholders, specialists and practitioners that this is presently being interpreted, both strategically and financially, in a manner whereby there is an insufficient focus on children from birth and the 0-3 age range. In addition to this, unlike other regions of the United Kingdom, in Northern Ireland there is no lead Minister or Government department driving forward policy in the area of early childhood education and care and presently no duty place on departments to co-operate in this area, which can result in inconsistent co-ordination between departmental plans, policies and strategies. Childcare and children’s Services are currently provided by a range of Government departments including the Office of the First Minister and deputy First Minister (OFMDFM); the Department of Education (DE); the Department of Health, Social Services & Public Safety (DHSSPS); the Department for Employment and Learning (DEL); the Department of Social Development (DSD) and the Department of Agricultural and Rural Development (DARD). This is further illustrated in the following table:

| (i) Department of Health, Social Services & Public Safety | - regulatory responsibilities |
| (ii) Department of Education | - readiness for school |
| (iii) Office of the First Minister and Deputy First Minister | - the anti-poverty strategy and children’s rights |
| (iv) Department for Employment and Learning | workforce issues and training/employment agenda |
| (v) Department for Social Development | - local regeneration (the contribution of childcare/daycare) and the identification of early years as a priority area for development and funding |
| (vi) Department of Agriculture and Rural Development | - rural regeneration |

*Source: Childcare Partnership Plan 2011-2014, Health & Social Care Board, 2011*

However, each Department concentrates on its own priorities and budgetary remits and an overarching vision for early childhood and education remains a key deficit. Some national examples of the above policies, plans and strategies, both published and presently in draft format, which link to the remit of the MIFC Respecting Difference Programme include a Social Investment Fund; Child Poverty Strategy; Community Safety Strategy; Welfare Reform proposals; a Young People Not in Education, Employment or Training (NEET) Strategy; a Review of Special Educational Needs and Inclusion; a Child Health Promotion Framework for Northern Ireland; a 10 Year Strategy for Children and Young People; a Strategy to Improve Outcomes in Literacy and Numeracy; a Racial Equality Strategy; a Play and Leisure Implementation Plan; and a Cohesion, Sharing and Integration Strategy.
The Northern Ireland Government is also committed to putting in place an Early Years (0-6) Strategy and an Integrated Childcare Strategy during the current Government term (2011–2015). It is hoped that the new 0-6 Strategy and new Child Care Strategy, both due for publication in 2012, will provide greater consistency and coherence towards the effective care and education of young children, shared and strong communities and hopefully also a lead department.

There has also been the development of a new Community Relations Equality and Diversity Policy within the Department of Education.
1. Target group

The Eager and Able to Learn Programme aims to impact on two year old children's eagerness and ability to learn by supporting their physical, social, emotional, language and cognitive development in group settings and in a home based learning and development programme carried out in partnership with parents at home. The programme is targeted at two year old children.

2. Keywords

Two Tear olds
Home Learning
Eager and Able to Learn

3. Description of teaching approach

A. Brief description

Operating from the principle that young children are whole bodied learners the aim of this programme is to support the development of social, emotional and physical learning in young children. The programme focuses on the curriculum and physical design of early childhood environments and on supporting parents in the home environment deliver a number of active learning activities at no cost / low cost using a range of readily available materials.

B. Learning activities.

i. Physical development, health and personal hygiene (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security)

ii. Socio emotional development (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

iii. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing

iv. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.

A particular emphasis is placed in the programme on physical movement focusing on what we know about two year old children as "whole bodied learners" and the fact that physical activity supports brain development for children of this age and impacts on their physical, social, cognitive and language skills.

Using a Service Design Manual the programme sets out clear guidance for practitioners to deliver a Developmental Movement and Play Programme in group settings and for parents to become involved in learning and play with their children at home, which compliments and extends much of the group based approach, towards the following identified outcomes:

**Outcomes for Children**

- Improved language and communication skills: increased vocabulary and increased ability to use vocabulary in context
- Improved social / emotional skills and behaviours: increased independence and self help skills
- Improved ability to think and solve problems
- Improved levels of involvement: increased levels of concentration, persistence and precision
- Improved levels of physical movement: improved gross, fine and sensory motor development
- Increased levels of physical activity: children moving around more

**Outcomes for Practitioners**

- Increased recognition of the importance and different purposes of play, in the development of two year old children; and increased frequency in providing different types of play opportunities, both indoors and outdoors
- Increased responsiveness in practitioners’ interactions and engagement with two year old children in order to support their communication, social, emotional, physical and cognitive development needs
- Increased recognition of the importance of movement for two-year old development and how it can be related to wider developmental goals (e.g., language, cognitive, social-emotional, as well as motor development)
- Increased recognition of the importance of working in partnership with parents around the developmental needs of two-year old children, increased opportunities to communicate with parents, and increased satisfaction with the communication.

**Outcomes for Parents**
• Increased recognition of the importance of play in the development of their two year old children; and increased frequency in providing different types of play opportunities, both indoors and outdoors

• Increased responsiveness in parents’ interactions and engagement with two year old children in order to support their communication, social, emotional, physical and cognitive development needs

• Increased recognition of the importance of movement for two-year old development and how it can be related to wider developmental goals (e.g., language, cognitive, social-emotional, as well as motor development)

• Increased recognition of the importance of working in partnership with practitioners around the developmental needs of their two-year old children, increased opportunities to communicate with practitioners, and increased satisfaction with the communication

C. Arguments for innovation

The programme represents a clearly evidence-based and evidence led initiative which robustly demonstrates the need for developmentally appropriate curricula for two year old children and for the effective participation of families to extend and expand learning in the home environment.

"Without family involvement, intervention is likely to be unsuccessful, and what few effects are achieved are likely to disappear once the intervention is discontinued."[^9]

Early Years designed this innovative intervention, drawing on a variety of theoretical and research-based approaches to early years education and care, as well as using their own professional expertise, to bring together home learning with centre-based early childhood services.

Prior to the roll out of the programme a base line study was carried out so that there was a clear understanding of the characteristics and experiences of two year olds in Northern Ireland. The survey was conducted on 655 two-year old children from a wide range of social and economic backgrounds at point of entry into setting-based early years education and care provision across 90 early years settings in Northern Ireland. One of the central objectives of the study was to explore the stage of development of the sample of two-year-old children across a variety of developmental domains, including cognitive, receptive language, expressive language and fine and gross motor development. Due to restrictions in the availability of UK published studies on general populations of children against which to benchmark the sample contained in the study (further evidence itself for the need of such work in this field) the study draws comparison against same-aged US children. The study reported that, although the Northern Ireland children in the sample were more developmentally advanced in the cognitive, receptive language, expressive language and fine motor development domains than US norms, they were less advanced for gross motor development (coming from the large muscle groups and whole body movement), and noted this as an area of developmental concern for this sample of Northern Ireland children. The study further noted that the Northern Ireland sample was

also largely less advanced compared to US same-aged children with regards to social, emotional, temperamental and behavioural domains rated by practitioners. More detail from findings associated with the study will be available during 2012.

This led to a focus on the concept of two year olds as whole bodied learners, innovation in the physical design of environments for two year olds, a focus on supporting parents enhance physical activities in the home and a particular emphasis on the importance of adult child interactions.

4. Didactical resources

The Eager and Able to Learn Programme consists of the following components:

a) A six week training programme for early years staff followed up by intensive onsite implementation support from a trained Early Years Specialist
b) A Service Design Manual for early childhood staff to support curriculum implementation
c) A set of resources to support curriculum implementation with a particular focus on physical movement
d) A home visiting programme and parents play manual to support parents to deliver aspects of the programme at home.

5. The use/extend of this approach in the research area

A major reason why Early Years embarked on the development of this programme was the absence of research in relation to the needs and experiences of two year olds in Northern Ireland. A comprehensive research programme accompanied the roll out of the Eager and Able to Learn service.

This included:

• A baseline study on the developmental characteristics of two and three year old children in Northern Ireland.

• A cross over design research programme to identify the impact of the Eager and Able to Learn Programme.

• A fidelity implementation study.

• A quality research study using the ECCERS and ITERS scales to measure the impact of the programme on the quality ratings of services.

6. Advantages

A range of benefits and advantages have been identified in using this approach including:

• Empowering practitioners to plan for and place a high rating on helping children to express and communicate their feelings during play and using movement to communicate feelings.

• Increasing the understanding of the role of play in children’s development and be able to use flexible strategies for interacting with children in playful ways

• Placing a high level of importance on parental involvement with early years education
• Engaging with both settings and parents to encourage feelings of shared responsibilities, joint activities and extending the work of the early years setting into the home.

• Engaging children in more whole bodied physical activities, whether indoors or outdoors, towards their enhanced playful interactions, participation, cooperation and confidence to help other children.

• Contributing to the National health agenda in keeping children fit and healthy and in line with United Kingdom Chief Medical Officer recommendations that children under five (who are capable of walking) should engage in physical activities (mostly active play) for at least 180 minutes spread throughout the day.

• Focusing on children’s gross motor development as well as the other developmental domains.

• Confirming the everyday experience of many parents and those who interact frequently with young children that ‘every child is different’ and that this must be taken sufficiently into account when designing programmes for young children, or when arranging everyday activities in early year settings.

7. Limits

A major challenge for practitioners was the focus on the physical development of young children and to change their physical environment to accommodate the approach. Practitioners were also challenged by the home visiting/home learning component of the programme which proved difficult especially for services who operated full day services. At the moment the programme has only been able to target a small proportion of two year old children in group based settings. Consideration needs to be given to the roll out of the programme across the entire two year old population.

8. ICT and teaching approaches

ICT was not used in this programme.

9. Educational policies focused on promoting innovation in education

While there is all party support for, and widespread recognition of, the need to invest early to achieve greater returns in the region it is a significant concern to many stakeholders, specialists and practitioners that this is presently being interpreted, both strategically and financially, in a manner whereby there is an insufficient focus on children from birth and the 0-3 age range. In addition to this, unlike other regions of the United Kingdom, in Northern Ireland there is no lead Minister or Government department driving forward policy in the area of early childhood education and care and presently no duty on departments to co-operate in this area, which can result in inconsistent co-ordination between departmental plans, policies and strategies. Childcare and children’s Services are currently provided by a range of Government departments including the Office of the First Minister and deputy First Minister (OFMDFM); the Department of Education (DE); the Department of Health, Social Services & Public Safety (DHSSPS); the Department for Employment and Learning (DEL); the Department of Social Development (DSD) and the Department of Agricultural and Rural Development (DARD).
Some national examples of the above policies, plans and strategies, both published and presently in draft format, which link to the remit of the Eager and Able to Learn Programme include a Social Investment Fund; Child Poverty Strategy; Welfare Reform proposals; a Young People Not in Education, Employment or Training (NEET) Strategy; a Review of Special Educational Needs and Inclusion; a Child Health Promotion Framework for Northern Ireland; a 10 Year Strategy for Children and Young People; a Strategy to Improve Outcomes in Literacy and Numeracy and a Play and Leisure Implementation Plan. The Northern Ireland Government is also committed to putting in place an Early Years (0-6) Strategy and an Integrated Childcare Strategy during the current Government term (2011–2015). It is hoped that the new 0-6 Strategy and new Child Care Strategy, both due for publication in 2012, will provide greater consistency and coherence towards the effective care and education of young children and hopefully also a lead department.
6.2.4. Dog Therapy and Speech Therapy
Contributor: WYZSZA SZKOLA INFORMATYKI-PEDAGOGY AND SCHOOL4CHILD, Poland

1. Target group

Adapted for children aged 2 years of age and more. Dog Therapy is also a good way to improve disturbed or delayed functions. Through the use of various forms of activities that allow for making friends and for acquiring a companion which accepts us unconditionally, children learn and gain new experiences, improve their acquired skills.

2. Keywords

Dog Therapy- multiple sensitivity- Speech Therapy

3. Description of teaching approach

A. Short description of teaching approach

During the classes, children learn and play in a spontaneous manner. Through touch and other senses and the experience of the world around them, they learn empathy, a sense of personal power and control over it, care for other beings, build self-esteem. Some children have a need to touch the dog, feel its heat, the type of hair, to cling to it, other want to walk it, comb it, stroke it. However, there are also those who need active engagement: tasks, commands, creating puzzles or even reading fairy tales or stories to their pet. Anyone, irrespective of the age, can find something for oneself during the classes.

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene

Participants overcome their fears and open themselves for animals. They know that after playing with the dog one must wash hands. Direct contact with the animal develops and enhances mobility and rehabilitation in children with impaired mobility.

ii. Socio emotional development

Every little man, in order to gain new experiences, seeks role models among both adults and their peers. Dog Therapy classes provide ideal conditions to follow and at the same time to undertake creative activities. Their primary objective is a comprehensive development. A four-legged friend helps restore joy, motivation and self-confidence. The choice of a game and an exercise is not accidental. For each child there are individually selected suggestions of various activities taking into account the current needs, interests and abilities of that child. During the classes, a child learns and plays in a spontaneous manner. By means of touch and other senses he/she experiences the world around, learns empathy and a sense of power and control over one’s self, cares for other beings, builds self-esteem.

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10 This programme is designed for both age groups considered in the project
iii. Developing the language and communication:

A very important need is the need to communicate. On day to day basis we do not really realize how important role it plays. It accompanies us in various forms since birth until the end of our lives. We communicate to convey our needs, to get information, to learn, to create and sustain relationships. The transfer of information takes place by means of a verbal and a non-verbal way. The verbal way is the transfer of information about external events such as what we see, what we observe. The nonverbal way transfers our emotions, attitudes or what we feel deep inside. Through a variety of games and exercises we can also improve the efficiency of communication, developing the speech apparatus, we develop a child’s verbal language. Speech development begins simultaneously with the child’s cognitive development. A spoken word transmitted directly to a child during a play, an exercise strengthens the perceptual experience, and enriches the language capacity, a wealth of concepts of the child. During the meetings with the animals we encourage the child to name, address, describe the animal, their feelings, emotions associated with the meeting. The child more eagerly sees, shows and differentiates.

iv. Cognitive development:

Direct contact with animals allows children to have fun and at the same time to develop their skills. Through the questions: What is its name?, What is it for? What is it used for?, we develop memorizing, reasoning and logical thinking. Fun and exercise performed with the participation of dogs not only motivates to act, but also to diversify and enrich the experience of the child.

v. Skills and attitudes in learning:

As mentioned above. In addition to the above-mentioned emotional, logical and social aspects, the Dod Therapy is especially important in speech therapy. Exercises practicing breathing help develop auditory sensitivity, phonemic hearing, auditory analysis and synthesis. Mouth and tongue games are much funnier with a dog than exercises in the mirror.

4. Didactical resources

Dogs specially trained for a dog therapy; carpeting, a stethoscope, feathers, etc.

5. The use of this approach in the research area

6. Advantages

This kind of speech therapy games are more appealing to children, their form is very attractive and extremely motivating. There is a possibility of using this method in every age group of children bearing in mind also those with special needs.

7. Limits

Arranging an adequate amount of trained dogs and teachers with speech therapy qualifications.

8. ICT and teaching approaches

Does not require the use of technology. It is based on direct contact.

9. Educational policies focused on promoting innovation in education

It is an innovative method of Anna Franczak, a teacher of Kindergarten No.206 in Lodz.
6.2.5. **WebQuest**
Contributor: University of Bucharest, Romania

1. **Target group**

Target group: children up to 3 years old, also children with mild disabilities

2. **Keywords**

*Interactivity, Learning, Game, Efficiency*

3. **Description of teaching approach**

   A. **Summary**

   Children are attracted by the computers, and they are participating in learning through games like try and error, repeatedly pushing with legs or hands different images which are displayed on the keyboard – carpet in front of the monitor. This is placed on a safe distance from the monitor to keep children out of the risk of different injuries. Once the buttons are pushed, the game trigger different responses according with the age, on a large area of topics (starting from the human body, nature, animals, plants), meant to satisfy children’s interest and to motivate them for interactive participation. The permanent feedback determine children to continue, stimulating their attention, through movement, repeating information ensuring a correct expression of the images displayed on the monitor.

   B. **Learning activities included in the teaching approach.**

   i. **Physical development, health and personal hygiene**

   As the child is engaged in a activity which stimulate the movement, this activity contributes to the physical development even if it seem a computer game. Also, depending on the topic selected by the teacher, children learn about health and personal hygiene and after that they have the chance to put in practice what they’ve learned.

   ii. **Socio emotional development**

   Children learn to perform many tasks contributing to socio emotional development, being encouraged to work independent by teacher, to be confident in their chooses.

   iii. **Developing the language and communication:**

   During these games children are asked to repeat loud the images they see, displayed on the monitor. Depending on the age, the game can become more complex, and they have to make sentences.

   iv. **Cognitive development:**

   Children are acquiring knowledge depending on the level; the information received is about nature, colors, human body, animals, so on.

C. This approach is a new one and the technology employment creates the context of designing activities adapted to a various range of activities for children up to 2 years old. Children are

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11 This programme is designed for both age groups considered in the project
encouraged to be independent, flexible, to communicate, to take decisions and to accept the consequences (feedback).

4. **Didactical resources**

Computers, the keyboard – carpet, educational software.

5. **The use of this approach in the research area**

This approach it is used in especially in private kindergartens due the costs of the equipments.

6. **Advantages**
   - The information has different difficulty levels and the learning philosophy is based on presenting information from simple to complex
   - The quantity of information is quite large and various
   - Learning is made through investigation and discovery
   - Unconditional learning
   - The answers are appreciated by the virtual partner.
   - Permanent movement of children
   - Children become a partner in learning process
   - The educator is a guide, a moderator she supervise but doesn’t intervene.

7. **Limits**
   - Costs related to the infrastructure

8. **ICT and teaching approaches**

The technology is present through the computers and specific software, internet connection.

9. **Educational policies focused on promoting innovation in education**
6.2.6. Programme for the Detection and Early attention to Hearing Difficulties from the School

Contributor: Aragon Government, Education, Culture and Sport Department- Administrative Education Directorate Department.

1. Target group

Children who receive attention within the programme of detection and early attention to auditory impairment range in age from 1 month to 6 years old.

In the school of “La Purísima for deaf children” the ages of the children go from 3 to 6 years old. All of the children in this school have hearing and language difficulties. There are children with hearing impairment, children with problems associated with hearing impairment, children who have hearing and sight impairment and children with language delay.

2. Keywords

Cochlear implants, speech processor, rehabilitation.

3. Description of teaching approach

A. Short description of teaching approach

The school “La Purísima for deaf children” has a main objective which is to educate the pupils so that they always choose the option of peace and what is right in a fraternal, fair and supportive environment providing the pupils with communicative strategies, developing their cultural and technical level and integrating them into society.

This school was founded in 1910 based on an open, flexible and creative pedagogical approach which has permitted the assimilation of changes, innovations and new challenges that have occurred in the world of deaf people in particular and in society in general. Along side this flexible and creative pedagogical approach the focus on rehabilitation is evident.

The main objective of this Institution since its creation has been “To help deaf people be able to integrate themselves into society, providing them with the key tool to be able to do that:- communication”

It has been necessary to investigate new working approaches such as this one described below. It is based on the combination of the technological components of the implants and new pedagogical tools, investigation and the adaptation to our social environment.

This new surgical technique provides our children with a speech processor which permits them to receive acoustic information of all the sounds.

It is a project in which the clinical team of the Hospital “Lozano Blesa”, the programmers and the staff of the school “La Purísima” work together.

The organization with the children, due to their peculiar characteristics, must be on an individual basis.

The children in the school “La Purísima for deaf children” are grouped in the following way: according to age: 1 month to 6 years old and according to their Level of competence: based on linguistic ability and hearing capability and curricular level.

B. Learning activities included in the teaching approach.
i. Physical development, health and personal hygiene (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security), theoretical frame of their approach in building skills and attitudes for a proper development.

ii. Socio emotional development (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

iii. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing. A special attention should be played to vocabulary development and methods for achieving this goal.

iv. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.


How the developed attitudes and skills contributes to further learning stages

It was in 2001 when the first contact between the team of rehabilitation and the clinical team of the Hospital “Lozano Blesa” began the project of implants with objectives in common.

This new surgical technique gave these children a hearing system based on a speech processor which permits, according to how it is programmed, the reception of the acoustic information of the sounds. All of this meant a new challenge in the area of rehabilitation, since the experience in other countries concludes that the results of the children who had received implants depended to a large extent on the rehabilitation intervention they received.

Working side by side with the medical staff who carry out the implants, the staff of this school discovered that the methodology Verbotonal which they had been applying for years was very similar to the one required and described as rehabilitation necessary for those with cochlear implants.

The pedagogical process and rehabilitation had reached its full potential and from this moment on it is when the work in rehabilitation of “La Purísima” unites with the centre which carries out the transplants and with the Hospital Clínico Universitario “Lozano Blesa”

Different types of attention and times of attention in the programme with Infant Education.

From the detection until 2 years of age.

First of all the hearing difficulty is detected in the hospitals of the Autonomous Community of Aragón. The medical process of detection begins.

Secondly, this case of detection is derived from the reference hospitals to the school “La Purísima for deaf children”.

Next the process of reception and welcoming of the families begins:

Within this process there are three parts

Firstly, the explanation of all of the medical process which has taken place, the tests that have been carried out, the diagnosis that have derived from these medical processes, an estimation of the
prognosis. Next, the programme of early attention of the centre is presented and thirdly, the timetable is established.

There are sessions every two weeks with the presence of the parents or one person from the family environment of the child in question.

The development of the programme is carried out in the following way: there is an initial evaluation. This initial evaluation includes the following aspects: the level of global development, the detection of possible deviations and associated pathologies, an auditory evaluation and an evaluation of the communicative development.

In the first report the Provincial Directorate of Education is informed so as to begin the bureaucratic process of the authorization of the attention.

The carrying out of the individual programme of early attention.

Another part of the development of the programme is the termly evaluation of evolution and development. Coordination and the exchange of information between the medical services, audio prosthesis services and the infant schools, if the child is already enrolled in schooling. And the final part of the programme consists of the attention and guidance offered to the individual or group, this is carried out through the work sessions or the training programme for families.

From 2 years old to three years old.
There are four parts:
Schooling in the center of ordinary schooling. Individual treatment or in group according to the criteria established with regards to schooling.
Individual or group attention, depending on the necessities of the child.
Continual evaluation carried out by the child guidance and psycho pedagogical team of the centre to be able to determine:
   i. needs and type of treatment
   ii. Communicative type
   iii. Curricular development (significant curricular adaptations or non significant, reinforcement steps, programmes of basic development. Individualized pedagogical and rehabilitation programmes.)

From 3 years old to six years old
Individual or group attention depending on the needs of the child.
Continual evaluation to be taken on by the team of pyschopedagogical and child guidance team of the school:
   a) needs, types of treatment: physiotherapy, occupational therapy
   b) communicative type
   c) curricular development (significant curricular adaptations or non-significant, reinforcement steps, programmes of basic development, programme of development by areas
   d) The carrying out of individualized pedagogical or rehabilitation programmes
   e) Coordination with the teaching teams and the teams of child guidance of the schools in which the children are enrolled during the school day.
   f) Attention and guidance to families.

We are going to present an example of a project of pedagogical innovation which was applied in the classroom of children aged 5 years during the school year 2011- 2012. The following activities have taken place:

   A) **Multiple Intelligences Palette** (The array of competencies found in each intelligence.)
B) A comprehension project
C) The project of the water cycle
D) Styles of thinking: The parts of one whole and comparing and contrasting
  Thinking routines:- Venn Diagrams (phonological conscience, comparing objects)
  Learning based on problem resolution
E) Art exhibition.

A) Multiple Intelligences Palette (The array of competencies found in each intelligence.)
Subject area- globalized
Comprehension milestone/ understanding goal: that the children know how to act and manage or cope in their most immediate surroundings, they need to know what happens, what is there and who is there in their neighbourhood. Road safety is worked on, vehicles of their neighbourhood and jobs and professions.

Linguistic verbal intelligence, communication- linguistic competence and technologies of communication and information technology and the digital skills.
  By using an electronic diary the chosen theme is explored and developed.
Logical mathematical intelligence and mathematical skill.
  The children carry out a Venn diagram in groups of 3 children.
  Each child must stick onto the diagram the vehicles he or she has seen during the week, the professions or jobs he/she has seen. In this way the children will see which is the most seen by the three children over the course of a week.
Visual-spatial intelligence. Cultural and artistic skill and the technologies of information and communication and the digital skills.
  A sculpture related to this topic is created.
Kinetic- corporal intelligence and Cultural and artistic skill
  Creative dance through the creation of a dance or choreography which uses the concept of idea or the process.
Musical intelligence. Cultural and artistic competence/skill The technologies of information and communication and the digital skills.
  Percussion vibrations. The rhythms of the policeman’s whistle and the sounds emitted by the traffic lights which work with sound are explained to the children drawing their attention to the fact that both of these examples are codes that drivers and pedestrians should know.
Interpersonal intelligence Social competence and citizenship
  The children are offered feedback. Two groups in the class should interpret the rhythms of the policemen and those who are interpreting the vehicles should drive following the instructions, then they will have to decide and give their opinion about which of the groups has been the best.
Interpersonal intelligence and personal initiative autonomous competence
  Concentration techniques. Which vehicles do we not see in our neighbourhood?
Naturalist intelligence knowledge and interaction with the physical world.
Reactions and feedback about the environment. Speaking about vehicles, which vehicles contaminate, why, which do not, respect for the traffic rules regarding traffic lights.

B) A comprehension Project
The through lines or the year-long standing understanding goals which run throughout this project of comprehension are
1. To value the written language as a means of communication, information which can interest us and from which we can gain pleasure.
2. To progressively acquire a logical mathematical knowledge using active experimentation
3. To appreciate the influence of the atmospheric weather in how people organize their lives.

The Generating topic chosen is winter: changes which occur during this season in Spain.

The comprehension goals which are set out are:
1. The changes to the countryside which occur in winter
2. The relation between winter and the other seasons in the year.
3. The fact that winter occurs in different countries at different times in the year.
4. The fact that we do leisure activities specific to winter.

**C) The project of the Water cycle**

The water cycle is going to be worked on from all of the perspectives of the Multiple Intelligences.

**D) Styles of thinking**

Ways of thinking and helping children think are two aspects that are worked on in the 5 year old class. We can mention three ways in particular. The first, parts of a whole. With the help of the teachers the children can see that the grouping together of individual parts constructs something much bigger. Using visual images fixed onto continual paper the children can see that the sun, clouds, raindrops and the sea together form the water cycle.

The second technique used to increase the thinking ability of these children is comparing and contrasting. To be able to compare something makes you consider it from different points of view and then to contrast it. This activity broadens the thinking ability of the children.

The third example used in “La Purísima for deaf children” are the Venn diagrams. The Venn diagrams exploit the comparison of similar objects and different objects. In the intersection between the big circles the children can see which elements are common to both categories and which are not. They can think about the reasons why. Phonological conscience is also worked on.

**E) Art Exhibition**

All of the work produced by the children in art is displayed on the walls forming a big exhibition of art which remains in place for the school year. In this way it helps the children to link understanding and learning and lets them see the progresses that they have made over time.

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.

The team of teachers of “La Purísima” of Zaragoza works using the concepts of renovation, pedagogical innovation, and rehabilitation.

Within a subject area such as hearing, it is inherent that innovation must form a part of it, since the techniques and the technology itself is constantly moving forward and changing.

This project unites the pedagogical work in schools with the work of hospital staff and the latest technology. The close collaboration between the Health department and Education makes this project extremely interesting and complex. The involvement of all the agents who are part of this project using
motivation and the sharing of responsibility makes it particularly interesting and the families of the children are actively involved on a fortnightly basis.

Moreover, it is necessary to point out the fact that using the system of working the Multiple Intelligences and the projects of comprehension the teaching units are placed in a framework which bases the children’s work on the attainment of skills. The combination of different methodologies is enriching for the children and ensures that at some point each child will be successful in some area. In this way his self esteem is reinforced.

4. **Didactical resources**

   Apart from the technological equipment explained at the beginning of this report we can include as resources all of the necessary art and craft equipment, continual paper as the work is presented in a large scale on the walls.

5. **The use of this approach in the research area**

   How a method contributes to develop the above mentioned attitudes, skills or abilities. One method may contribute to develop only a certain group of skills and abilities (either the target group has to focus on certain abilities, or the teacher is a specialist), in this case only those aspects have to be described. Advantages and limits should refer to those aspects.

   The evaluation of this kind of innovative experience and work process shows that working using cooperative methodologies helps develop good listening attitudes and attitudes of collaboration. The fact that the art work done by the children is left on show during the school year helps the children to remember what they did and helps them associate new learning with concepts that the children have previously seen. This concept of visible thinking is especially reinforced in this school. The fact that the teachers use and promote different styles and routines of thinking throughout the school year has helped in the internalizing of mental maps which are necessary for the structuring of thought. These skills are completely compatible with the concepts and activities of phonological conscience that are programmed for the school year.

6. **Advantages**

   - Working using projects helps in the organization of the work and in its evaluation.

   - All of the different agents are involved through motivation and the sharing of responsibilities.

   - Continual evaluation to have the possibility to rectify actions.

   - Coordination with other institutions and organizations.

7. **Limits**

   Due to the fact that this approach is something specific to the children who have certain difficulties there does not seem to be any room for imagining that there are limits or disadvantages which could be applicable

8. **ICT and teaching approaches**

   Technology is a central element within this innovation.
During the phase of detection and diagnosis in the hospitals and during the medical diagnosis technology plays a fundamental role.

The cases that are derived from the hospitals of reference to the School “La Purísima” use technology during this process.

9. **Educational policies focused on promoting innovation in education**

Organic Law of Education 2/2006, 3 May, in its preliminary title, encourages and promotes investigation, experimentation and educative innovation as one of the principles and aims of education. In the same way, it establishes that the public authorities as a priority will pay attention to the factors which favour quality in teaching and in particular, amongst other aspects, investigation, experimentation and educative renovation.

Within this same law in article 91, as one of the functions of teaching staff, investigation, experimentation and continual improvement in the corresponding teaching processes. Article 102.3 establishes that it corresponds to the educative administrations to encourage programmes of investigation and innovation which must have as a fundamental objective to make contributions to the scientific and educative community and provide teachers with new perspectives, guidance and support in their educative practice and for their professional development, and for the pupils improvement in their learning processes.

One of the competences which the aforementioned law attributes to the teaching staff, according to the article 129, is “d) Promote initiatives in the field of experimentation and pedagogical investigation” Competence which is completed with what is expressed in article 132c) which authorizes the director/ head of school to promote educative innovation in the centre.

Organic law 5/2007, 20 April, reform of the Statute of Autonomy of Aragón, in its article 73, attributes to the autonomous community of Aragón the shared competence of teaching in all its extension, levels and grades, and specialities.

Decree 336/2011, 6 October, Government of Aragón, in which the organic structure of the Department of Education, University, Culture and Sport, attributes competences to this department in the area of planning, implantation, development management and follow-up of the education in Aragón through the encouragement and support of programmes of experimentation, innovation and educative investigation, and the drawing up and dissemination of materials and documents and other support elements with the objective of attaining an improvement in the quality of teaching which permits the educative centres and the teachers improve the learning of the pupils.

Moreover, Article 17 of the aforementioned decree attributes the General Directorate of Educative Policies and Lifelong Learning the following competences: a) Development of educative policies set up by the Department of Education, University, Culture and Sport; b) The implementation of reform improvement proposals of the educative system non universitary by means of the carrying out studies and reports, and the dissemination of the results; f) Planning and impulse of the use of information and communication technologies in the processes of learning and teaching; and h)
Encouragement and support of programmes of experimentation, innovation and educative investigation
6.2.7. *MimArte*

Contributor: Aragon Government, Education, Culture and Sport Department- Administrative Education Directorate Department.

**AIM:**

Working with projects, taking as main concepts/guidelines emotions and art linked to the family-school relationship.

**Teaching style:** work with projects.

1. **Target group**

Primary school of “La Paz” (Zaragoza).

**Age of the students:** from 0 to 3 years old.

**Groups:**
- 2 units of 2-3 years old (18 children per unit)
- 2 units of 1-2 years old (11 children per unit)
- 2 units of 0-1 years old (6 children per unit)

**Total of students: 70**

**Presence of students at risk:**

There is no mention of students at risk, neither risk of exclusion nor with specific educational need.

The main goal of pre-school education is to develop at its best the potential of each individual, in a well-adjusted way so that each children can make progress in developing his/her own identity, autonomy and socializing process. According to this aim, the priority at this point of the educational process is to assume a preventive function and to compensate possible social, economic or cultural disadvantages, as well as those caused by problems or disorders in the child’s development.

This practice is not based on a concept of an homogenizing and equalitarian education, but on diversity as a value that enriches a whole community: each child, each teacher, each center, each family, each environment is unique and different from the others, this is a factor that needs to be strengthened so that working by projects finds a concrete expression as a global educational philosophy.

2. **Keywords**

**Kind of approach:**

Work by projects, emotions and art.
3. Description of teaching approach

A. Brief description

Teaching style: projects.

A project is a combination of various activities related between each other that serves a series of educational intentions and goals. In a broader sense, it is all about offering children the possibility to get involved in projects of their interest that are meaningful to them. Always taking into account the relationship existing between affective, social and cognitive fields.

This method takes into account methodological principles that are suitable for this stage of the education process, namely:

- Experimenting (Dewey)
- Learning through discovering (Brunner)
- Learning through action and movement (Freinet)

Main concepts of the Project:

- Emotions
- Art

Students’ role in class (implication and participation):

In this approach, children are absorbed in activities that involve them actively, obliging them to update the previous knowledge they already possess, restructure them and enrich them in a process characterized by the great number of connections they need to create between what they know and what they are being taught.

When a child is absorbed in a specific project, he/she is not conscious about the fact that he/she is learning new vocabulary, becoming familiar with his/her environment or gaining more personal autonomy. His/her goals are related to resolving a task that requires his/her active and enthusiastic participation. It is always possible to find projects that require a wide range of contents and that fulfill at the same time a multiplicity of goals.

Stages of the project:

A project has some permanent elements that structure its development. These are the different stages of a project:

a) **Choosing a topic to study.** In this case, it is chosen by the teachers staff: emotions and art.

b) **What do we know and what do we need to know?** By this stage, we have to investigate about ideas children already have about the topic. This is when you collect their questions about what they wish to learn, as well as activity proposals of all kind, according to their preferences.

c) **Exposing previous ideas and contrast between them.** When such a rich interaction takes place this is when language becomes a true value as a mediator for communication and development. When providing ideas, new things are learnt, resulting in its true purpose.

d) **Finding sources of documentation.**
Planning work. At this stage, the educator organizes, draws and plans strictly speaking.

- Defining goals.
- Elaborating a first timetable.
- Organizing space and resources in the most suitable way: offering different atmospheres, warm, friendly and safe.
- Arranging activities in sequence, guarantying that approximation processes to knowledge are varied and suitable. Playing games being the main source of learning.
- Defining observation patterns through guidelines that allow regular adjustments.
- Establishing collaboration patterns with both the families and the child’s environment.

Realization of activities. At this point, we will realize everything that has been planned. Being specially careful about the fact that opportunities are varied for all and that everyone can participate actively, sometimes in the big group, sometimes in small groups or at an individual level.

evaluation:

- Of the project
- Of the experiences
- Of spaces, material and timing
- Of the educator’s role
- The families’ implication
- Students’ learning

Planning:

The role of a teacher, both in his/her work and in planning a project, consists in planning it from a globalized point of view. Organizing his/her intervention so that it adjusts to children’s process and interests. Doing so, he/she knows what and how deep we are working at each stage of the project.

A project is not improvised, nor is it elaborated “on the go”. There is a core idea that structures the work, in this case, emotions and art.

Characteristics of the approach:

a. The project is a goal in itself. It deals with developing the necessary abilities to provoke autonomous learnings. So doing, inter-relationship between areas happens naturally.

b. The topic meets children’s interests, with the aim of developing creativity, arising curiosity and interest to learn through art.

c. We take into account what children already know and what they want to learn.

d. Timing is flexible and approximate

e. We seek to create a ludic and affective environment that generates learning. A place for sensorial experiences.

f. Teaches work team.

g. Seek to create links between families and school.

Learning activities.
i. **Physical development, health and personal hygiene** (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security)

ii. **Socio emotional development** (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

iii. **Developing the language and communication**: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing

iv. **Cognitive development**: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.

v. **Skills and attitudes in learning**: curiosity and interest, initiative, persistence in activity, creativity.

**Physical development, health and personal hygiene:**

The goal of pre-school education is to contribute to children’s physical, affective, social and intellectual development, respecting their rights and taking care of their well-being.

In this project, we will deal gradually with physical development, movement, and habits of physical control, as well as with the discovery of physical and social characteristics of the environment in which children live.

**Socio-emotional development:**

Through this approach, children learn only when they are interested and curious, when they relate new knowledge with the one they already had, when what they learn is meaningful and linked to its context, then it includes thought, feelings, emotions and action, when they share, debate, interact in an affective, emotional environment, when they propose, define, plan, organize, do, check, transform...

In other words, children learn when they are autonomous and protagonists of their own process.

**Language and communication development:**

In this project, special focus has been put on the language of emotion and feeling, creating expression and communication moments through activities of different kind.

**Cognitive development:**

A series of concepts selected from the curriculum are being transmitted by orienting, guiding, accompanying the child in his/her investigations, discoveries, experiences, him/her being the true protagonist of his/her discoveries.

**Abilities and attitude to be able to learn:**

Fine arts are a great tool to stimulate the development of children’s creativity. Through their drawings they express their wishes, emotions and fears. They also project their fantasies. Through those activities, children create their very own piece of art, they imagine something and then materialize it with different material. This kind of artistic activity contributes to developing children’s precise psychomotor activity and intelligence.
C. Arguments for innovation

Authors consider working with projects to be innovative as it is based on an active, participative and experimental methodology; playing games being the main source of learning.

The topic, combining emotions and art, is, in itself, innovative. Fine arts are an excellent means for children to express their creativity. In order to learn, it is useful that the child becomes familiar with the materials and different supports through drawing, colours, modeling, through the use of traditional techniques and other different ones.

Handcraft activities impulses the psychomotor abilities and intellectual development of the child, apart from being a great means of expression. It is also an opportunity to relax and enjoy their time.

4. Educational resources

Resources used:

- Human resources: teachers staff, non-teachers staff, children, families and external agents.
- Material resources:
  - Perishable goods: paper, painting, glue, plasticine, cardboard, pencils, sponges, rollers...
  - Recycled material: boxes, bottles, packs, canvas, tubes, corks, ...
  - Natural material: stones, sand, feathers, water, wood, branches, soil...
  - Visual material: photos, sheets, albums, work of art...
  - Audiovisual material: computer, camera, television, video projector, video camera...

5. The use/extend of this approach in the research area

Extend of the approach:

As they are linked to other primary schools under the same patronage, they can share experience, doubts, ideas, projects... it is necessary to be familiar with projects in order to be able to use them.

Involving the whole educational community allows the project to benefit from a wider extension.

6. Advantages

Advantages from the teachers’ point of view:

Working with projects makes the teachers’ part more rewarding as it adapts to their necessities and satisfies them. It enriches the educational community as each member brings his/her own ideas and at the same time learns from the other students.
Teacher’s staff has noticed that the approach deals with topics such as eating, doing, co-existing and being (pillars of education according to the Delors Unesco report).

Students learn through investigation, experimenting processes of teaching-learning and thus learn in a more meaningful way.

It covers children’s interests, thus increasing their motivation and curiosity.

Work team stimulates cooperation and a climate of coexistence.

Teachers feel satisfied which increases their self-confidence.

7. **Limits**

**Limits and disadvantages:**

Authors mention the financial difficulties to buy material as well as the lack of staff. To choose to work through projects implies a change of attitude as it is a true challenge for those who do not have experienced it yet; it implies a change of focus from its participants.

8. **ICT and teaching approaches**

**Use of ICTs:**

It is not an important part of this project. Yet we can appreciate:

- **Style:** user the teacher and used as a projection and investigation tool
- **Time of use:** not measured.
- **Type of technology:** computer with internet access.

9. **Educational policies focused on promoting innovation in education**

6.2.8. Discovering biodiversity

Contributor: Aragon Government, Education, Culture and Sport Department- Administrative Education Directorate Department.

Aim:

Students planting trees and aromatic herbs in the playground involving the whole scholar community.

Kind of teaching:

Teaching through an environmental project based on a global approach which offers meaningful teaching through practical activities and using games as a main methodological tool and source of learning.

1. Target group

Realization group: kindergarten of Santa Maria, DGA public center (Zaragoza).

Age of the students: from 1 to 3 years old.

Groups:
- 3 classes of children from 1 to 2 years old (12 seats per class)
- 3 classes of 3 years old children (18 seats per class)

N° of students: 90 students

Presence of children at risk:

Center in which work is focused on teaching diversity, respect and integration in collaboration with the specialised early intervention team. There is space for students who need special educational attention. Each year we attend a variable number of students with such needs and different characteristics.

2. Keywords

Kind of teaching: Based on experimenting (discovering the environment), globalization, game.

3. Description of teaching approach

A. Brief description

Kind of teaching:

- Based on experience: starts from the students’ most immediate environment and make benefit of daily life situations that happen in the ambit of the playground.

- A globalizing point of view: the child learns in a global way. Taking the biodiversity project as a starting point, we work on all the different contents of the curriculum. The didactic process established tries to bring the child closer to immediate reality so that he/she can experience it and understand it, in a global, integral and complete way, through observing, manipulating, assimilating and, later on, expressing.
- **Meaningful learning:** children must find a meaning in their learning, there must be a substantive link between new contents they need to learn and those they already possess in their cognitive structures. Motivating experiences are offered so that they can immediately experiment learning tasks in their close environment.

- **Active:** as children themselves are the ones who experiment, observe, investigate and act. The adult has a guiding role in the learning process, as such he/she offers various activities throughout the project.

- **Game used as a development driving force:** it facilitates the elaboration and development of the learning structures and the way they relate to each other. The project develops itself through playful understanding.

- **Fluid and continuous relationship with the families** will allow to unify standards and patterns of action between adults who intervene directly in the students’ education. In order to do so, families will be kept informed, asked to collaborate, etc.

**Students’ role in class (implication and participation):**

We are all the time seeking for the student’s motivation and active participation. The standard of the project is based on the implication of the whole educational community implied by a necessity: taking care of the playground in order to improve its environmental conditions.

The child is not a passive receiver of the teaching but an actor and protagonist of the process.

**Stages:**

- We can make a selection within the activities planned by the class of some that are specific for biodiversity.

**Planning:**

1. **Preliminary stage:** detection of the necessities and lacks of the playground at an environmental level (Eco-audit)
   
   Contact the environmental services of the Council and Government of Aragon.
   
   Initial training of people in charge of the project: “biodiversity in the playground and neighborhood”.

2. **First stage:**
   - To inform the families
   - To include biodiversity in the class curriculum
   - Audit in the playground and improvement proposals
   - Contact with the insertion center that trains youths in gardening for them to make their training practice at school.

   - Baptise the area to treat: “Magic garden”.

3. **Second stage:**
   - Constitution of an Environmental Commission in the school center.
   - Planting trees and autochthonous aromatic herbs.
   - Other activities to take care of the environmental area.
   - Celebration

4. **Third stage:**
   - Learn how to take care of new species.
   - Evaluation and valuation of the experience.
New proposals for the future linked to biodiversity.

**Characteristics of the approach:**

The discovery of the environment is one of the ambits that needs to be dealt with in pre-school education and this project tackles it from the biodiversity point of view.

There are three goals to achieve:

- To know and value how important the environment is in our lives.
- Learning to take care of it with the help of adults.
- To assume this responsibility. Commitment.

This is the motivating guideline of the project, therefore the rest of the prescriptive contents is included in the curriculum of the class.

**B. Learning activities.**

_i. Physical development, health and personal hygiene_ (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security)

_ii. Socio emotional development_ (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

_iii. Developing the language and communication:_ developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing

_iv. Cognitive development:_ developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.

_v. Skills and attitudes in learning:_ curiosity and interest, initiative, persistence in activity, creativity.

**Physical, health and personal hygiene development:**

In this bloc of contents we want to highlight how important it is that kindergarten puts a suitable attention on the satisfaction of necessities such as: feeding, hygiene, resting and physical security of the children.

Goals, contents and educational approach contribute all together to the children’s health and well-being as they constitute a way for them to satisfy their basic need of affection, relationship, action, exploration, comprehension of the world that surrounds them, as well as the strengthening of their own identity and abilities.

Every student has lunch at school and the center considers this time as part of the education, dealing specifically with hygiene habits, manners on the table, eating habits and socialization.

**Socio-emotional development:**

Everything that surrounds the child (persons, objects, situations, time, space, etc.) determines his/her personnality. The stability of this environment creates reference points on which the child acts and consequently receives back greater security in action, in his/her abilities of reaction, appropriate
surroundings (through which he/she can start to learn, make links, etc.) the stability needed by a child becomes concrete thanks to the regularity of the adults' actions on him/her. Regularity in the schedule, in attitudes adopted in the relationship, in the material environment, in the space where he/she evolves, in the deal between the different persons that take care of him/her and, in general, in every aspect.

The families’ active collaboration in the project contributes to creating a homely environment for the child, where there is no family breakdown.

Language and communication development:
Stimulation and going to school make possible, apart from cognitive improvements, a gradual control of linguistic. Little by little and through interactive communication, children will develop oral expression: they will discriminate sounds, learn to articulate words, widen their vocabulary and organise it in sentences and conversations more and more complex.

Cognitive development:
During those years, cognito-linguistic stimulation acquires a fundamental importance; so as to progress in their development, children need to be given the opportunity to interact on a regular basis in a social and physical environment rich in stimulus, changing in their nature and contingent in their actions so as to establish a relationship between their action and possible changes in their environment. Such stimulation, together with biological maturity, allows action, memory and other cognitive processes to gain adaptability, flexibility and planning. To benefit from basic cognitive processes more flexible and suitable, allows children to perceive the regularity of situations and experiences, a key aspect to make progress in the discovery of the world that surrounds them, through elaborating knowledge patterns and categories.

Abilities and attitude to be able to learn:
While observing the elements that surround him/her, the child will create some behaviour patterns that will help his/her insertion and respect in his/her social and physical environment. Activities linked to exploring the natural environment will help children to go from a mere sensorial experience to formulating questions that satisfy their curiosity in that field. Everything that surrounds them (objects, plants, animals, atmospheric phenomena – rain, cold, … - are subject of interest for the youngest.

Thanks to the guided observation of some of the more relevant phenomena in that field (growth of a plant, how to take care of it, …), children will make themselves more familiar with the concept of “living being” and taking care of the environment.

C. Arguments for innovation
The main innovative aspect of this project is the incorporation into the teaching process of the close environment that is the playground, turning it into a “magic garden”. From a globalizing and active point of view where series of educational strategies are proposed which allow and stimulate children to participate as true protagonists of their own learning experience.

An inch of imagination, the possibility to observe changes in their environment and their implication in taking care of it together with other children and adults leads, in an innovative way, to widening the king of contact they have with the world.
4. Didactical resources

Specific resources used:

- Those needed for planting and taking care of a garden: soil, trees, plants, gardening tools
- Elements of the garden to realize activities planned by the class: seeds, leaves, fruits, etc.

5. The use/extend of this approach in the research area

Extend of the approach:
Various organizations have collaborated in this program:

- Education & Environmental Government of Aragón
- Nursery from Ejea de los Caballeros de la Diputación Provincial.
- Teachers and Resources Centres nº 1 in Zaragoza
- Labour insertion companies Consolida-Oliver, de San José...
- Parents committees.

The project has served to carry on taking care of the environment, to keep including environmental activities in the class’s curriculum and develop further new projects such as creating perfums with aromatic plants from the garden, etc.

6. Advantages

Advantages from the teachers point of view:
- The project has brought about environmental concern among the whole educational community.
- It has widened the participation and commitment of the families towards the educative center.
- It has impulsed an improvement of personal relationship among the school community.
- It has served to confirm in the eye of the teaching staff that, provided you adapt to their specificities and work in groups with some clear goals, it is possible to involve very young children in topics that are usually considered to be more suitable for adults.
- It served to create new fields of experience with students as it brought nature closer to the center, thus improving behaviors towards the environment.
- It has changed the teachers’ way of working: using new aspects of their environment in their teaching.

7. Limits

Limits and disadvantages:

- The project requires a space outdoors that makes possible the creation of a garden.
- It needs external support of people specialized in gardening, bringing resources, etc.
- The continuity of the project due to temporary staff

8. **ICT and teaching approaches**

   **ICT use:**
   A webpage was created for the school in which all different activities that were developed with the students could be reported through pictures and graphic documents.
   It served as a communication vehicle with the whole educational community.

9. **Educational policies focused on promoting innovation in education**

6.2.9. *Exploration in the woods: “Shoes are much more than a game”*. 
Contributor: Aragon Government, Education, Culture and Sport Department- Administrative Education Directorate Department.

**Aim:**

To observe, explore and manipulate objects from daily life: shoes; and discover, through the senses, the diversity of their characteristics.

**Kind of teaching:**

The methodology is based on a rigorous observation of young children in order to analyze their interests and be able to offer them suitable educational tools so as to unfold their abilities, giving much importance to the setting and use of school areas, to giving a motivating presentation of the activities and to use educational resources coming from recycled daily life objects.

1. **Target group**

Primary school “El bosque” (Zaragoza). Member of the Escuelas Infantiles Municipales, whose ownership holds the Education Municipal Patronage and The Libraries of the local government of this city.

**Age of the students:** from 0 to 3 years old.

**N° of students:** 70 students from 4 mounths to 3 years old.

**Groups:**
2 groups of 6 children from 0 to 1 year old.
2 groups of 11 children from 1 to 2 years old.
2 groups of 18 children from 2 to 3 years old.

**Presence of students at risk:** In one of the 2 to 3 years old group, a child was diagnosed with specific educational needs, he/she was looked after care by the EAT.

2. **Keywords**

**Keywords:**
Project, manipulation, game.

3. **Description of teaching approach**
   A. **Brief description**

**Kind of teaching:**
Characteristics of the approach:
- **Meaningful learning:** constructivist conception of teaching (Vygotsky)
- **The Individualization Principle** has been taken specially into account (the rhythm and evolutive characteristics of each child), that is why in each project special attention has been given to:
- **Direct and systematic observation** of the children, which gives information about motivations, interests, progresses and difficulties of each student, his/her abilities to play games, cooperative behaviour.

- **Activity principle.** We seek to involve the students in every single educational proposal and special activity. Making them feel comfortable, play, discover, learn, etc.

- **Educational proposal** focused on using recycled material and objects of daily use that offer a huge range of possibilities in terms of action, work, didactic activities.

- **Playing games** is the center that motivates all those proposals and activities as it is the best tool for strengthening learning. They gain a constructive aspect as through playing, action and experience, children discover properties and links, and therefore builds up his/her knowledge.

- **Globalization principle,** projects start from reality. The child interprets his very own existential realities or at least parts of them, and establishes links, giving them meaning.

**Students’ role in class (Implication and participation):**

Children are the protagonists of their own learning experience while adults are in charge of guiding them into their discovery process, offering them experiences as varied as possible, motivating, creative, ludic and fun, organizing them according to their age and creating a safe environment, comfortable and full of affection.

Resources and space required are provided for each experience so that children can observe, manipulate, discover and experiment while developing behaviours, ways of proceeding and strategies for an autonomous learning. They are turned into active participants of their own learning process.

**Stages in class:**

Educational proposals are not directed, they let children act freely, take initiatives and use their creativity and autonomy to achieve them.

**Planning:**

- Torrent of ideas popping up from direct observation of the children.

- Selection of those that seem more positive for every student of the school.

- Organization and unification of action criterias.

- Starting preparation of a project to realize it in class.

- Think about which aspects of the curriculum can be dealt with and how to sequence them according to the students’ age, which goals, how to focus the setting that will impulse the project, educative resources that must be used and what will be the implication of the families.

- Set how to make the groups, how to organize space and to evaluate what has been learnt.

- Informing the families and request for material.
Before starting a project a name must be chosen in reference to the contents that will be introduced, it will be the globalizing guideline of the aims and activities to work on in the different fields of the experience: knowledge of oneself, of the surrounding natural and social environment, and communication.

The project starts turning the whole school (hall, corridors, classrooms) into an educational, creative, enriching field of experience, into a place where children can touch, observe and learn. The atmosphere is created by objects and images whether real whether made of transformed recycled material, in reference to the topics we chose to deal with.

Timing of educational proposals and activities is flexible; children are the ones who will determine their length as each child follows his/her own learning rhythm. This allows the participation of every student.

Projects do not come to a definitive end with all this program but they complete themselves as they develop: with new contents brought by the students’ action that lead us to make new proposals, to turn upside-down the ones that had already been thought over, to look for new material and widen our goals. In some occasions, the material brought by the families make us transform some of our activities and create some new ones.

At the end, after evaluating the children’s learning, we analyze our intervention, value the project, etc.

**Characteristics of the approach:**

The experience was born from the observation of children’s growing lack of interest towards conventional toys that had been prepared for this project.

On the other hand, we notice some interest for daily-life objects of common use and their exploration:

- 2 years old children enjoy putting on and taking off their shoes -above all the ones of their peers’- manipulating them, to tie and untie them... put them to other children.

- 1 year old children start to enjoy the autonomy they feel when putting out their shoes themselves. They are very keen on exploring textures and shapes.

- We have noticed that it is very pleasant for the youngest, from 4 to 12 mounths, to discover their feet, find them naked, how to make this happen, stamp their feet, stretch their socks. We also notice a natural interest for exploring objects through the senses and knock them.

**B. Learning activities.**

   i. **Physical development, health and personal hygiene** (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security)

   ii. **Socio emotional development** (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)
III. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing

IV. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.

V. Skills and attitudes in learning: curiosity and interest, initiative, persistence in activity, creativity.

Physical development, health and personal hygiene:

In this block of contents we would like to highlight, above all, how crucial it is that primary schools give suitable attention to satisfying necessities such as: food, hygiene, resting and children’s physical security.

Goals, contents and educational approach contribute all together to the children’s health and well-being as they constitute a way for them to satisfy their basic need of affection, relationship, action, exploration, comprehension of the world that surrounds them, as well as the strengthening of their own identity and abilities.

Socio-emotional development:

This project pretends to:

- Discover and accept the others’ identity, establishing social relationship, creating affective links in contexts each time wider and learning basic rules for coexisting.

- Establish links of communication and relationship with the adults and with their peers through oral and physical language in order to express feelings, wishes and needs, recognize the ones of the others, develop attitudes that imply interest and assistance, and influence the others’ behaviour.

Language and communication development:

Stimulation and school allow, apart from cognitive progresses, a gradual control of the language. Gradually, through communicative interaction, children will develop their oral expression: they will manage to discriminate sounds, learn to articulate words, widen their vocabulary and organize sentences and conversations more and more complex within the topic of the project: shoes.

Cognitive development:

The teachers staff elaborates different projects and educational proposals according to the physical, affective, cognitive and social characteristics of children of this age, taking their motivations and interests as a reference and according to the goals that stipulates the academic curriculum of Aragon. Timing is flexible, according to the realization of each project.
The project allows to work in a globalized way on aims from the three different fields of the curriculum (knowing oneself and personal autonomy, knowledge of the environment and language, communication and representation).

Through free manipulation, children can observe different kind of shoes, look for the one of their peers, manipulate their components (buckles, rubbers, “velcros”, hook and eye, cords,…) try some of them on (which obliges them to put theirs out), show them to their peers, explore colours, shapes, textures, sizes,…

During each activity offered they learn to classify, match, gather according to specific characteristics,

In the 1 year old group, the main activities are exploring, manipulating, noticing different textures shoes are made of, recognizing whose shoes they are

In the lactancy group, activities use games which imply the children’s own body, in this case, feet.

**Abilities and attitude to learn:**
The project deals with the following aims:

- Discover, know, control in a gradual way one’s body, acting in a more autonomous way each time, valuing our capacities and limits in order to acquire the most adequate image of oneself.

- Observe and explore immediate environment and some elements that are constitutive of it in order to elaborate, with the support of adults, a meaningful perception of it and evolve efficiently in it.

**C. Arguments for innovation**

This innovative approach is mainly focused on the methodology applied and material resources used.

For the educational work material resources are mainly made of objects of daily use and recycled material, giving them a new ludic aspect and use, turning them into the best educational and game instrument that can be offered to young children, stimulating a high level of intervention, creativity and social interaction, developing autonomy, reinforcing self-confidence… elements that are compulsory for developing one’s personality.

4. **Didactical resources**

**Resources used:**

*Material resources: resources used are recycled material, objects of daily use, real images, natural material that children see in their everyday life and environment. They create atmosphere and experiences rich in stimulus that help achieve our very own conquests.*
- Shoes donated by families
- Shoes brought by the teachers staff
- Big boxes recycled from the kitchen (empty fruit crates) to collect everything
- Recycled shoe boxes.
- A recycled box to create a box of experiment with a variety of shoes for the lactancy classroom.

*Human resources:* staff of the center.

*Space:* polyvalent rooms and classrooms.

5. The use/extend of this approach in the research area

*Extended practice:*

It is possible to switch centers and thus exchange ideas and innovative proposals that are made in each school, educational practices with unconventional material similar to the ones mentioned above.

The proposal is made of recycled material to which any of the centers willing to put into practice our methodology can have access to.

Families are another collectivity that notices and understands on a daily basis that this kind of active and experimental teaching approach is suitable to the evolutionary process of their children, their interests, and are therefore interested in applying it at home (box of games made of recycled material). In practice it applies to the whole educational community.

6. Advantages

*Advantages from the teachers staff point of view:*

*On children:*

- They show happiness while learning through games, experiences, and become active builders of their own learning process.
- Stimulates cooperation and facilitates corporative learning: what one does not think about occurs to another, he/she imitates him/her and adopts it in his/her own repertoire: it helps to discover new patterns.
- Favorizes individual learning, respecting the rhythm of maturation of each child.
- Relates previous ideas to new learning and its experience, meaningful learning.
- Develops the feeling of “being part of a group”. Favours social and emotional development. They spontaneously interact all together; they exchange signs of affection, help each other...

- Stimulates curiosity, interest, creativity and imagination towards spaces that are being created and educational and material proposals that are being offered.

- Favorizes the development of an entertaining, safe and joyful atmosphere provoked by material changes in space, making the learning process and achievement of its aim easier.

- Generates a high degree of intervention, creativity and social intervention, factors that favorize the development of autonomy and increase self-confidence.

**Within the teachers staff:**

- Foments enthusiasm, interest, compromise, effort and commitment to be able to stick to this working guideline; considering that it is suitable, motivating and rewarding for our children, answering their needs and interests.

- Team work. The teachers staff shares ideas, observations, information and experiences before reaching an agreement on which project will be worked on and developed (special setting, material and human resources required, timing of the project, what educational proposals can be offered and how will they be sequenced, taking into account the rhythm of learning and the level of maturity of children of each age).

- Satisfaction of using again recycled material with ludic and pedagogic goals. According to the contents that need to be worked on in each project, educational, communicative and motivating spaces are being created for children, using images, objects from everyday life or transforming recycled material in other objects.

**Within families and school community:**

- Arises curiosity in the families for spaces created at school and material used.

- Implication, collaboration and participation of the whole school community: teachers, non-teachers staff and families. Bringing material to realize various activities or actively participating in the class or in the school.

- An atmosphere of confidence, affection, respect is created, where everyone feels welcomed, integrated and active protagonist of the school life.

- Satisfaction of the families who value new educational practices and are proud of being part of our educational community.

7. **Limits**

**Limits and disadvantages:**
Opting for this kind of work by project implies a change of attitude as it is a real challenge for those who are not familiar with such a practice; it requires a change of focus from its participants.

To leave the entire proposal to the child’s may leave some of the curriculum out, it is therefore necessary to notice which of the aims and contents are not covered.

8. **ICT and teaching approaches**

**ICT use:**

ICT are not used in this project. In some of the activities they are used as a supporting material for communicating on the experience (power point).

9. **Educational policies focused on promoting innovation in education**

6.2.10. Forest School\textsuperscript{12}
Contributor: WANDSWORTH COUNCIL – LIFELONG LEARNING SERVICE, United Kingdom

Forest School- this is a national and international movement but I am looking at its application in one nursery- Eastwood nursery in Roehampton in the South West corner of Wandsworth, London. Forest Schools were started in Sweden and Denmark in the 1950s and studies found that it improved concentration and coordination in children. It was set up in Britain 15 years ago.

1. **Target group**

0-5 years old (though nationally it covers all age groups)

Eastwood nursery has ten places for children with Autistic Spectrum disorder

A percentage of children are on the child protection register and children with a variety of disabilities (e.g. Downs syndrome) may attend the nursery at any one time.

All children at the nursery take part in Forest School

2. **Keywords**

Outdoors, Inspiring learning, Noticing, Achievable

3. **Description of teaching approach**

A. Short description of teaching approach

A main principle of Forest School is that it is fundamental that Children’s basic needs are met before any higher learning can take place (Maslow’s Pyramid of Hierarchical Needs). Warmth – correct clothing provided

Food- Health Snacks and meals

Drink – Hydrated water /hot drinks

Safe – individuals feel safe both physically and emotionally.

Every child attending nursery or crèche goes to Forest School for at least one stint of six weeks-two hours per week. There is also a pilot to take some school aged children for a whole day at a time. There are also Saturday sessions involving parents.

The approach is innovative because-

- The curriculum allows children to undertake risky activities e.g. tree climbing, lighting fires which they could not do indoors. It enables them to experience risky activities

\textsuperscript{12} This programme is designed for both age groups considered in the project
- Children acquire “intrinsic motivation” and plans are updated according to interests displayed by children themselves

- Uses Accelerated learning techniques

Stages of the lesson-

Each week the session follows the same pattern so that children know what to expect and what is expected of them. The children walk to the woods adjoining the nursery which are owned by the local Froebel institute of teacher Training. Here is an example:

9.30 The children arrive at the site and have a Safety brief
9.40 Review of last week activities and introduction to link to the theme of the day (insects, fairies, etc.) Staff use different media to accommodate different sensory learning styles, pictures, songs, acting out what will happen. Group follow a trail to the site.
10.00 Sit at Forest School site and count trail cards along with number theme and talking about anything interesting on the way up. Sing the Forest School Song
10.15 Toilet, Wash Hands, Snack and story time
10.30 Game...1,2,3 Where are you and other themed activities. Fairy houses, Mini beast hunts, Picture making.

All children will take back an item they have made or created. This is the link with home to create positive communication.
11.30 Review of session and Collect up everything and walk back.

The children will be invited to bring collections back to the classroom and make pictures of them, display on a tray, make mobiles and Christmas decorations. Each group of children will do this for a 6 week period and some will go more than once during their time at nursery. The teachers will try to capture some observations of the children for their Learning Journals. They will continue some of the activities- for example there is a fire pit at the nursery as well as in the forest.

In the first sessions the teacher intervention is high e.g. they will set up games and stories and songs and set ground rules.

B. Learning activities included in the teaching approach.

Activities include:
- Making fires
- Looking for and naming wildlife e.g. bugs, birds
- Making wind sticks
- Making weather charts
- Making rope swings
- Den building

During the course of the Forest School it is hoped that schemas will be identified which might not have been identified in the “indoor “ classroom. Schemas include enveloping, enclosing, trajectory,
rotation and activities can be set up in the indoor classroom which correspond to this. Activities in Forest School are also versatile to fit different schemas.

i. Physical development, health and personal hygiene

Activities such as rope swing, tree climbing, rolling downhill help to develop gross motor skills and fine motor are developed as well- handling insects, babies are encouraged to touch and feel things in the environment. Toddlers even develop skills around walking on grass which many are not used to doing.

Children who are often told off in the classroom because their physical activity is inappropriate in an enclosed space can do something in front of their peers and get praised for it e.g. everyone watched a usually naughty child climb a tree and when they got back to school the other children told everyone about it. What would be negative physicality becomes positive. Also, physical contact with each other is easier to manage in this larger environment

ii. Socio emotional development

The staff ratio is better than in the indoor classroom-1:4 so the children have more interaction with adults around their preferences and needs. The parents are invited to take part and are also informed through the learning journal about how their child has reacted to the experience of Forest School. One parent reported that finding out that her child loved to play with a bowl and mortar with earth and later has provided him with hours of free entertainment in the park whereas before she wouldn’t have known what to do with him there.

Forest school also helps with behavioural issues- children can be involved in big movements with a lot of rough and tumble and they can indulge in risk and challenge in a way that is not possible in the indoor classroom. This helps when they are older because research has shown that exploring risk and challenge in a safe framework when younger can stop children in getting involved in risky behaviour which is not as safe, as a teenager.

iii. Developing the language and communication:

Language development is key in Forest school. Children learn to communicate with each other in a wider variety of ways and for certain practical purposes e.g. to build a den or take turns on the rope swing. Eight children go out at a time with 2 adults so the communication is more intense. There is a huge emphasis on singing and storytelling as well. Children learn the names of flora and fauna and there are many instances where they tell their parents this.

Quieter children feel less self-conscious in an outdoor environment. They get involved in an activity and they just talk about that e.g. making a den or making a soup with mud and twigs etc. There was one child who would only whisper when she spoke inside and when she came to Forest School, she felt ok to shout

Stories are integral to it- e.g. might have a theme of fairies so children will bring props for this.

iv. Cognitive development:

The children undertake tasks in a group of in pairs and have to develop problem solving skills. They have to use their imagination and skills in context rather than say using mathematical instruments like counters – they will use realia like stones.

They have to apply concepts they have learnt e.g. to make a wind stick they have to measure and all the relevant tools are brought depending on the theme of the day.

v. Skills and attitudes in learning:

Forest School aims to develop the following
• Self Awareness
• Self Regulation
• Intrinsic motivation
• Empathy
• Good social communication skills
• Independence
• A positive mental attitude, self-esteem and confidence

All of these are important underpinning attitudes towards leaning. Teachers especially notice intrinsic motivation— that is a growing curiosity. The children go to the same place every week and every week it is different— they are encouraged to notice this and describe what they see.

Children are encouraged to pursue what interests them within a framework. For example if the theme is fairies, they can take dolls along or they can paint onto trees as part of a story or climb trees—it suits all learning styles.

Children develop their curiosity and are encouraged to discuss their findings. One teacher had an example of parent asking them about where snails go when it’s not raining because their child and they were wondering. Everyone then discussed it and searched on the internet for the answer.

Emphasis is on reflection on learning during the session, from session to session and on return to the classroom. As part of this reflection process, the teachers use the opportunities to extend and establishing schema—notes are added to the child’s learning journal on return to the classroom.

C. Outline one or more aspects that have led you to appreciate this approach as innovative.

As far as we are aware, the Eastwood Nursery, Roehampton Forest school example is one of only four in London—most Forest schools tend to be in more rural areas and are not necessarily focused on Early Years. In Norway the approach was written into the Early Years curriculum in the 1980s and Early Years Practitioners from this country began to visit in the 1990s and bring ideas back. In 2000, Forest schools-Wales was set up and in 2002 Forest schools-England. These national networks offer training at different levels to Early Years practitioners and hold annual conferences as well as give advice on funding etc.

4. Didactical resources
• Real tools- e.g. for digging, lighting fires, hammers
• Rope, string
• Safety jackets
• Healthy snacks
• Pestle and mortar
• Suitable clothing for children

5. The use of this approach in the research area
As already mentioned Forest school aims to develop children in the following ways:
• Self Awareness
• Self Regulation
• Intrinsic motivation
• Empathy
• Good social communication skills
• Independence
• A positive mental attitude, self-esteem and confidence

A survey in Sweden found that children who had been through Forest School kindergartens were more able to concentrate, had better coordination and had less time off sick than children in the control group of kindergartens.

Eastwood nursery has a Forest School coordinator and several members of staff who are Forest School trained.

6. **Advantages**

   The main advantages are:
   • Increased confidence
   • Good attitude to learning
   • Development of good observational skills in children
   • Parental involvement

   See above for descriptions of these and other advantages

7. **Limits**

   There are no limits that cannot be overcome. It would be nice for the children to have longer time in forest school but that is an issue of staff resources and the other demands of the Early Years curriculum. Also, sometimes parents worry about safety issues (they may not be in the habit of letting their children do many of the things they are allowed to do in Forest School but the teachers are trained in how to set the boundaries and the health and safety procedures for the activities

8. **ICT and teaching approaches**

   Use internet for further research e.g. see above for e.g. of snail
   Use drawing programmes in some follow up activities.

9. **Educational policies focused on promoting innovation in education**
6.2.11. Family Learning

Contributor: WANDSWORTH COUNCIL – LIFELONG LEARNING SERVICE, United Kingdom

Family Learning. This draws on a number of traditions including adult literacy, early years learning, parenting, parental involvement, supporting children’s learning.

1. Target group

Age ranges from 0-6 years with parents or grandparents

2. Keywords

Parental involvement, children at risk of school failure, partnerships

3. Description of teaching approach

A. Short description of teaching approach

This teaching approach is based on the idea that the parent is the first teacher. Family Learning was based on two important pieces of research which in some ways have formed the basis of Government Policy in the last fifteen-twenty years:

Firstly Epstein in 1995 described 6 areas of parental involvement: communication; parenting; pupil learning; volunteering; decision making around the child and collaborating with the community.

Following this, the OFSTED (2000) report on family learning surveyed 28 Local Education Authorities and found that successful family learning programmes resulted in the following benefits for children: accelerated development of oracy and pre-literacy skills, improved standards in literacy and numeracy, positive behavioural and attitudinal changes, enhanced confidence and self-esteem, awareness that learning is a normal activity throughout life, and pleasure from collaborative learning.

In 2003 a further report by Charles Desforges concluded that:

"Parental involvement in the form of 'at-home good parenting' has a significant positive effect on children's achievement and adjustment even after all other factors shaping attainment have been taken out of the equation."


The report concluded that:

- Children do better when the school/teacher is working in partnership with the parent
- The earlier parental involvement in education begins the better- 25% of children’s achievement is said to derive from family input

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This programme is designed for both age groups considered in the project
The most effective way for a parent to be involved is in the home environment, undertaking learning activities together.

There are three different models for Family Learning:

- Children and parents learn together
- Parents learn on their own about how to help their child
- Split session - parents have input separately and then children join them for a plenary session

Courses vary from two hour workshops to 72 hours. Different courses which are funded or run by Family Learning departments include the following:

- “Keeping up with the Children” - English or Maths;
- ROAR (a programme for parents and volunteers to help with reading);
- Helping my child with reading and writing; various arts and crafts and sports workshops
- Let’s Pretend - drama workshops
- Bring a Book to life - puppet making and story telling
- Explore the outdoors
- Family Maths
- Introduction to the Early Years curriculum

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene

Type of workshops that are run through Family Learning funding and ethos that would contribute toward a child’s development in these areas are:

- Healthy eating and swimming - with parents and children swimming together and then eating some healthy food which is prepared with them and a Health practitioner.
- Yoga bugs session - where male and female yoga professionals work with a group of either mums and children or dads and children on yoga
- Baby massage - where parents/carers and their babies come along and learn massage techniques for their babies which has important effect on their future physical development
- Health professionals are invited in to run a joint session with tutors for parents and children on healthy eating - these can be one off sessions or ongoing.

Arts and crafts sessions will also focus on demonstrating to parents the importance of small motor development e.g. showing them how to get their children to use scissors, which many parents are reluctant to do.

ii. Socio emotional development

In most sessions the main aim is to increase the confidence of the adult in working with their child and to ensure that the child has quality time with the parent. Facilitators will model behaviour on how to get a child involved in an activity, how to encourage the child with positive feedback etc. Most children really enjoy this one to one time with a parent and can benefit from interaction with a parent in a semi-formal setting where instruction is coming from the facilitator rather than the parent. Parents play a role of interpreting instructions and relaying them to their children. Both parents and children view each other in a new light.

iii. Developing the language and communication:

Several programmes which focus on communication:
Family Language - takes place in schools or Children’s Centres. Crèches are provided for younger children. Parents for whom English is not the first language learn English in the context of the school or nursery. Their activities focus on contextualized learning e.g. how to communicate with the school/Children’s Centre, how to help their child, how to interact in the community. In some classes the children will come into the classroom for the last hour or half hour of the session and do some joint activities around what they have been learning.

Family drama sessions have focused on communication between parents and children. Children enjoyed seeing their parents dress up and get into role. Parents and children are interacting on an equal footing. Parent and child are also learning to cooperate within a larger group.

Another programme at Paddock school for children on the autistic spectrum, taught the parents how to use Makaton with their children. For many parents this was the first time they had found a way of communicating with their children. One parent described how her child had been making a certain sign to her for months and she had been ignoring the child, not understanding that her gesture was a makaton sign. Having done the course, she now understands that the child just wanted a piece of toast.

Several of the longer and shorter programmes deal with helping parents to help their child with reading for example the Dads Reading Breakfast aimed at the Dads or male carers of children in the Reception year (age 5 years) - giving tips on how to read together, making puppets, and other props for storytelling, completing the home/school reading log etc.

iv. Cognitive development:
This is not the main pedagogical issue in Family Learning but there is an emphasis on making games for children, learning maths together, developing an understanding by the parents of cognitive development and how certain activities can contribute to this.

v. Skills and attitudes in learning:
Children see their parents in school or nursery or they experience learning alongside their parents and this helps them to value education and even to understand the idea of lifelong learning. In a survey of the children whose parents were taking the Family Language classes in their child’s school we found that all the teachers reported an increased level of engagement on the part of those children.

In the joint adult and child workshops the parents/carers act as role models in how to learn and, in working with their child, they demonstrate the possibilities of a collaborative approach. For example one programme “Learning through Play” includes sessions on sensory play, treasure baskets, messy play, and communication. It helps parents and carers to appreciate the importance of their role in providing play opportunities for their children and the vital part they play in helping their child to develop self-esteem. The nursery teachers and Family Learning facilitators can also model behaviours to parents in a learning environment- demonstrating, giving praise, breaking learning into stages, starting where the child is at etc.

Another programme focuses on the Early Years Foundation programme- where parents find out about how and what their children are learning and get to plan activities with their children.

Children’s Centres in the borough are especially keen to develop joint child/parent sessions sometimes focusing on Dads and Grandparents. There have been examples of yoga sessions targeting dads, grandparents doing messy play with their grandchildren etc.

The main emphasis of all this is on home learning- the aim is to give parents and carers ideas on things they can do at home with their children, to give parents the chance to find out what their child enjoys, what they need encouragement in etc.
Family Learning has been receiving government funding since 2000 through councils' lifelong learning departments. At the same time early years settings have been placing greater and greater emphasis on parental involvement with Learning logs for each child which parents contribute to, with parent volunteers etc. The Extended schools movement has done the same at primary and secondary school level.

4. **Didactical resources**

   Because of the variety of subject areas that Family Learning covers, the list of resources are endless. However, the emphasis is on using resources that are accessible for parents and carers and sometimes parents and carers are sent away with packs and instructions. Sometimes Family Learning can share resources with schools and Children’s Centres. We also use a local recycling scheme called Scrapstore to encourage parents and children to use everyday objects to make things and be creative.

5. **The use of this approach in the research area**

   Family learning is both a method and a system of funding which aids the development of the child and the parent /carer together in all areas. It is demand led in that classes and workshops that are popular are run more often. However the underlying aim is, through the use of specialist teachers, in arts and crafts, storytelling, makaton, to inspire parents and children learning together and to encourage parents in the home learning environment.

6. **Advantages**

   - Targets families as a whole as part of Early Years learning- especially the most needy families.
   - The child has quality time with a parent or carer, way from domestic duties, the phone etc.
   - The parent/carer is enabled to become a partner in the child’s learning
   - The learning is embedded- that is parent and child are getting ideas on activities e.g. how to make a kite out of a plastic bag, how to make puppets etc. but are also learning underlying skills around how to lean, how to receive instruction, how to sequence etc.

7. **Limits**

   - High cost of resources for example two tutors
   - Sustainability- again because of cost many of the programmes are not ongoing

8. **ICT and teaching approaches**

   Some joint child and adult programmes in ICT have run e in photo shop or parents only programmes but these are limited because of resources- this will only develop when children’s centres and schools develop their IT resources.

9. **Educational policies focused on promoting innovation in education**

   As mentioned Family Learning is government funded via the Local Authorities and is run on a small national budget of £214m. With cuts in public spending the amount is reducing in value year on year and is not increasing. However it is also not decreasing and at the moment the government have ordered a review of Family Learning to be conducted by the National organization for lifelong learning in this country- NIACE. Meanwhile Family learning providers are coming under increasing pressure to prove the impact of family learning by measuring children’s achievement in schools and by assessing the impact on some of the more troubled families in particular community.
In terms of children at risk, Wandsworth has several special schools (see WP5) and there have been Family Learning courses at most of them. Already cited above is the Makaton course at Paddock School.

The main area in which Family Learning has a real impact is in the area of Bilingual learners. (see above) Family learning has enabled parents from ethnic minority groups to engage with the wider community, to begin to come to terms with the way the education system works in this country, how to communicate with the nursery or school, how to teach their child their mother tongue, how to work with their child on different activities.
6.3. Examples of innovative approaches: 3 – 6 years old. Contributions

6.3.1. The conference of children
Contributor: LEB Thüringen e.V, Germany

1. Target group
The target group includes children from 4 to 7 years old.
The intention is to include all children. The conference of children is first of all for all those children who don’t experience activities at home. Therefore also the parents are part of the target group because it is intended to include and encourage them to more activities together with their children.

2. Keywords
• Team work of children and parents is activated and supported
• Contents and project issues and topics come directly and indirectly from the children

3. Description of teaching approach

A. Short description of teaching approach

Conference of the children means projects for children by children. The children are included from the first moment of identifying a topic they want to work at until the moment of representing their results in a group to their parents or another group.

The nurseries watch the children and talk to them to find out the several and different interests of the children. The nurseries talk about the interests of the children in a meeting and develop topics with the intention to include as many interests as possible. The topics are introduced in the conference of the children. The children have to decide democratically which topic they want to work at. There are translators for those children who don’t speak German very well. Furthermore the several topics are introduced by pictures and symbols and examples to make sure that each child will be able to decide which his or her favorite topic is. The nurseries inquire if each child has understood the offered topics. Those children who already took part at a conference help those who are new.

After the conference the project work starts including the parents and the daily life experiences of the children as much as possible.

More or less the children decide when the project is finished. The results are represented to other groups and to the parents in different ways.

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene
The children spent a lot of time outside, with sports, dancing, collecting materials, watching their environment and so on.

ii. Socio emotional development
That approach influences and supports:
- Team work
- Reflection of oneself, of others and of the group
- Self-confidence
- Cooperativeness
- Mutual consideration
- Frustration tolerance
- Helping each other

**iii. Developing the language and communication:**

The children have to:
- introduce their interests
- communicate in a group
- plan the project work
- talk in German (if German is not their mother tongue)
- work with signs and symbols, e.g. traffic, nature
- represent the results of their project

**iv. Cognitive development:**
- creativity
- phantasy
- theory of sets
- simultaneous realization

**v. Skills and attitudes in learning:**

The children are interested in new projects and are developing new ideas and interests that promote their interest in new topics and in learning new things. They learn to argument, to defend own ideas but to make compromises as well.

**C. Outline one or more aspects that have led you to appreciate this approach as an innovative.**

- Supports social competences and a base for democracy
- Individual
- Relating to the family of the children by involving them into learning processes. This leads to intergenerational learning.
- Including experts to give each child the possibility to take part, e.g. translator, speech therapist, social worker

**4. Didactical resources**

The didactical resource of that approach is the children’s court by Janusz Korczak.

**5. The use of this approach in the research area**

There are several institutions using that approach. But it is not sure how many, to what extent, how long and with what results. The institution representing that approach to us is working with it for more than a year now. And they evaluate their work with that approach as successful and supportive.
6. **Advantages**
   - Inclusion of all children
   - Consideration of the children’s interests
   - Including and activating parents
   - Learning by project work – by doing

7. **Limits**
   It is not always possible to include all interests of all children. But groups can be split to fulfill interests. That at least means more work for the nurseries.

8. **ICT and teaching approaches**
   Generally there is no special technology used. Nurseries work with pictures, sounds, music, environments referring to the topic.

9. **Educational policies focused on promoting innovation in education**
   In general each child has to be included. Referring to this approach there are no national or regional regulations. Kindergartens are free to choose their methods to make sure the inclusion of each child in educational processes. But there are regulations by the educational law that each child has to be supported and educated. There has to be special methods to include and integrate all children into education from the age of 0.
6.3.2. Psychology of learning mathematics - learning assessment and enhancement of abilities involved.

Contributor: Polo Europeo della Conoscenza-I.C. Lorenzi-Fumane, Italy

1. Target group
   Children 5 years of age. The programme has been tested in two kindergartens in the municipality of Venice. The experimental group and the control group consists of children attending the last year of Kindergarten School aged 5 years old. The experimental group consists of 22 children, 15 females and 7 males, and the control group of 20 children, 12 females and 8 males. Experiments are currently underway in Kindergartens in the provinces of Venice and Padua on the complete programme.

2. Keywords
   Mathematical skills, standardized tests, games and manipulation, direct observation.

3. Description of teaching approach
   A. Short description of teaching approach

   The National Curriculum for personal Projects of educational activities in Kindergartens are prescriptive and define their specific objectives, towards which the educational activity should be finalized. Among the useful actions for the design of the Learning Units that "transform personal abilities into skills," there are:

   1. counting objects, pictures, people;
   2. adding, subtracting, and estimating an amount;
   3. reordering and grouping by colour, shape and size;
   4. placing peoples, facts and events in time;
   5. reconstructing and developing succession and simultaneity;
   6. recording regularity and time cycles.

   The Indications also point out that the Kindergarten should be "an educational environment of concrete experiences that excludes “scholastic settings that tend to publicize formal learning” and recognizes as essential “the game structure of teaching."

   Suggestions for the implementation of the Guidelines can be found in the Recommendations, which only have orientation value. It is the teacher's task to transform the specific learning objectives, which are present in the guidelines, into educational objectives, i.e. contextualize them, by using them in school, in a class, with a specific group of children who have their own personal ability, then transformed [...] into reliable and certified individual skills (Recommendations, III, 1). Formative objectives, educational activities which they accomplish and ways of testing, organized in individual or group learning Units, form the customized Project of educational activities, which produce documents...
relevant to the compilation of the Portfolio of individual skills. Knowledge and skills (specific objectives) must therefore take the form of individual skills. A person is competent when (ibid.) "...he is able to use all its abilities and, above all, to amplify and optimize them: to use the knowledge and skills it has to transform and enrich the personal way of being in the world, to be with others, to deal with situations and solve problems". "But use and mastery are not the only expression of competence. Competence encompasses in itself as object not only the knowledge required, but meta-cognitive factors. It can be seen as an attitude rather than a doing. Compared to the various spheres of the child's doing, the Indications define "space, order and measure (III, 2) as the field that provides knowledge and exercises abilities according to the mathematical interpretation of experience phenomena, making the rational aspects emerge and consciously working on them both from a practical and a representative point of view". The significant ability to develop in this way are as follows:

1. observation of reality (identifying property, recognizing common properties in more objects, etc.);
2. interpretation of reality both in a quantitative and in a qualitative sense (doing numerical estimates, metrics and measures, identifying invariants, classifying on the basis of one or more attributes etc.).
3. possibility to intervene rationally on reality (developing the ability to solve problems, inferring, using strategic behaviour etc.).

At three years of age a child develops it own insight on the number (Recommendations, III, 2): "it expresses its insights by assessing approximately the numerosity of collections of objects, or by comparing different quantities, and later - working effectively - he is able to order more items according to size, length, height, or other properties, classifying them by colour, shape or other features, in counting, assessing the amount, performing real or symbolic tasks, giving the same numerical value to different symbolic representations."

From a methodological point of view, it is recommended that the teacher first explores and explains the insights concerning the concept of number "by asking specific clinical questions, stimulating free discussion among children" (Recommendation, III, 2). Later (ibid.) "the construction of the concept of number can proceed, educationally, from the comparison of situations that make the use of numbers intervene in different ways and for different purposes, thus reducing the number concept to the multiplicity of its meanings and its representational means: cardinal, ordinal meaning as an expression of a measurement, such as computation of time and, moreover, as a value in relation to money, as number-size, as number-index. "It is also suggested to stimulate the development of logical and mathematical processes through real experiences, taking into account the activities of daily life (many children are there in this class? How many people are there in your family? How many days are there in a week? etc.). The activities put forward must be based essentially on game, manipulation and direct observation.

The documents of the Reform, referring to numbers, mention size, quantity, sorting, classifying, serializing, meaning of ordinals and cardinals, counting. All these factors certainly concur, between the ages of two to six to build numerical intelligence.

The law text, however, does not state how these skills are organized and developed. Is it possible already at this age to outline some specific areas of intervention, without limiting oneself
to "doing a bit of everything"? According to psychological research, the answer is affirmative, it has identified the basic processes of number skill: lexical, semantic, syntactic (presyntactic for Kindergarten), counting processes.

The process developed by the Kindergarten “I. Barbon” in Venice aims at working specifically on the basic processes described in the research, to bring the theory to daily educational practice experimenting “The numerical intelligence” programme of Lucangeli, Poli, Molin, 2003, whose aim is to guide teachers in the use of teaching strategies necessary to enhance the specific cognitive processes at the base of the construction of numerical and calculus knowledge, offering exercises based on the results obtained by the scientific research.

The programme is divided into the following stages:

1. administration of the questionnaire, *The kingdom of numbers* that allows you to explore what children already know about numbers, their numerical interpretation of the world and it gives teachers the opportunity to understand and recognize if and how the world of numbers has aroused interest and curiosity. It is particularly suitable for small children, aged four.

   The questionnaire is a semistructured interview consisting of 10 open-ended questions, some are related to the context of use of the number and its users (“Where are numbers found?”, “Where do you see them?”; “Who uses them?”), and others regarding the function (“What are numbers used for,” “Do they seem useful and why?”), others still look into the ideas that children might have on numbers (“Do you know how many there are?”, “What are they?”). The main aim of the questionnaire is to provide an overview of the knowledge gained by the child around the number and its use. The questionnaire is given individually to ensure that children are not influenced by the responses of their peers. The answers to the questions are collected and followed up, above all when it is not clear what the child refers to.

   For example, a lot of children do not distinguish between letters and numbers and they refer to them to writing in general. It is therefore necessary for the teacher to clarify this aspect and determine the actual knowledge acquired and already consolidated by the child. It should also be borne in mind that some children observe the environment in which they live less effectively than others and this can affect their answers. The teacher will need to interpret and guide the child towards the numerical aspects that the environment proposes in different forms. Once the questionnaire has been administered to the group of children, the different ideas expressed are summarized in a general framework that will serve as a starting point for the work on numbers.

2. The administration of PRCR Number set (Lucangeli, Molin, Poles and Cortesi): the pre-test and post-test consists of 11 tests for the various areas involved in the development of numerical competence:

   a. writing Arabic numbers
   b. listing
   c. reading of coded Arabic numbers
   d. matching name-number
   e. comparing Arabic numbers
   f. matching number-quantity
   g. comparing abundances
   h. presyntax A
   i. presyntax B
3. The constitution of the research group and the control group

4. The implementation of training, with the proposal of working the specific areas that resulted problematic from the pre-test

5. The re-administration of PRCR Number Set as post-test

THEORETICAL PRINCIPLES The crucial question where to start from is: how the children recognize quantities, how they represent and manipulate them through a complex symbolic system such as that of numbers? The research focuses mainly on two distinct issues. The first and most general question attempts to understand the delicate relationship between the development of numerical knowledge and that of other basic cognitive skills (language in particular).

On the one hand, the general debate concerning the study of the relationship between numerical knowledge and general intellectual functions (Piaget's model) was taken into consideration and, on the other, the study of the greater or lesser interdependence between cognitive systems and those preposed in the elaboration of numerical knowledge and those preposed in the elaboration of language.

The second issue regards more specifically and in greater detail the hypothesis of the origin of numerical knowledge that numerous experimental studies, conducted on infants and some animal species, identify in the processes of discrimination and recognition of non-verbal quantity.

Therefore, if the human race can understand the phenomena in terms of quantity even before knowing how to count, this suggests that the development of numerical intelligence depends on innate cognitive principles. However, even in this case, the interpretative models present in literature are twofold: Gelman and Gallistel define the theory of counting principles, according to which, it is the evolutionary drive itself that allows both the origin and evolution of the complete numerical knowledge. Fuson, instead, develops the theory of different contexts, recognizing an inseparable relationship between development and the environment. Evolutionary pressure, due to its nature, structurally related to learning processes, integrates innate principles and learnt principles, quantitative knowledge and verbal skills. According to the author, both the competence in the mechanisms of counting and the ability to use the language of the symbolic written and verbal number system depend on this integration.

Finally, by analyzing the development of the ability to read and write numbers, we have come to understand how the ability to use the symbolic system of numbers does not involve only being able to understand the phenomena in terms of quantity and knowing how to manipulate them through mechanisms of counting, but it assumes the ability to transform these processes in signs and languages, regulated within them by specific grammars. Reading and writing numbers is different from knowing how to count competently, it implies the development of functions and further learning which does not end and, in its turn, does not use up the knowledge of counting.

In conclusion, every child who needs to make use of its own numerical knowledge to learn the complex mechanisms of calculation, must be able to deal with numbers at all levels: recognizing the quantitative meanings and developing all the necessary counting processes, using them in their written
and spoken language code. When, therefore, at about six years of age, the school teaches the child the first steps of calculation, convinced to start in this way the long process of learning and development of numerical intelligence, in actual fact, it will made a mistake, because each child will have started to "intellread" the world through numbers a long time earlier.

EDUCATIONAL PRINCIPLES

The programme is divided into four teaching related areas that are based on the theoretical principles set out above and on the following educational principles:

1. active participation of the child and the teacher;
2. child manufacturer of awareness and knowledge;
3. teacher awareness as a guide in the learning process;
4. teacher’s attention towards the awareness of the child regarding the requirements of the task and focused on learning the most appropriate strategies;
5. teacher’s attention towards making the child acquire constant self-control of its own learning process.

It thus promotes an approach to the number, from the outset, characterized by:

1. the recovery of their experiences
2. the enhancement of individual cognitive characteristics
3. the acquisition of number sense.

In the organization of the material, it was decided to start from the activities on lexical processes as the linguistic part of the number is strongly stimulated by the environment, as part of the development of language in general. In this case, the priority compared to the semantic, syntactic and counting area is understandable. The syntactic area does not seem to be feasible in the Kindergarten, as it regards the particular relationship between position and the value of the number, which requires the acquisition of the concepts of numerical quantities (hundreds, tens, units). But, at the level of prerequisite, the system of magnitudes can be introduced with practical situations of the type “a marker and a box of markers”, or “two snacks and two packs of snacks”, which can be considered an analogic representation of the same and recall a classification system of numerosity.

As Table 1 clearly shows, each area of the programme includes a series of specific objectives that didactically translate the general process. Each target has one or more Lesson Plan Cards that present the activities that need to be done through written tasks which the operator or teacher will read to the child. This person will also write down the verbal answers the children give, especially the most significant ones. Almost all the Cards feature a core task that follows the procedural objective, and another that concerns the meta cognitive reflection. This second aspect is developed from the suggestions and from the reflections on the task offered to the child through cartoons in which two characters (Gigio and Gigia) introduce as a problem, but in a playful way, the complexity of the proposed concept.
The aim is, on the one hand, to make the child aware of the many aspects involved in the knowledge of the number and its use, on the other, to make this world familiar and pleasant.

**TABLE 1 Areas and aims of the Numerical intelligence programme (vol. I)**

<table>
<thead>
<tr>
<th>Areas</th>
<th>Aims</th>
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| **Lexical processes** | Use language as the basis of the listing mechanism  
                     | Use language to enhance auditory sequential memory  
                     | Encourage learning of the names of numbers  
                     | Facilitate automation of the number sequence  
                     | Start numerical increase through the addition of a unit  
                     | Writing of numbers in the Arabic code  
                     | Reading numbers in the Arabic code |
| **Semantic processes** | Estimating the weight in direct relation with the volume and independently from the volume  
                        | Estimating the space in relation to the size  
                        | Estimating the number, regardless of the size of the objects  
                        | Formulate an assumption on the increase in number  
                        | Retrieve knowledge of the quantitative type  
                        | Estimating the space in relation to the quantity  
                        | Draw the amount “one” and introduce the concept of “zero”  
                        | Define the quantity “one” and consolidate it through differences and additions  
                        | Show the number “two” to increase  
                        | Understand quantitatively the numbers 3, 4 and 5 by increase (n +1)  
                        | Help the child in the visuospatial representation of quantity  
                        | Start the child towards the reflection of numeric equality  
                        | Resolve and represent the quantity using the analogic way  
                        | Reflect on the use of numerical groupings  
                        | Facilitate the rapid visual recognition (subitizing)  
                        | Represent the quantity 6,7,8,9 to increase  
                        | Request a quantitative representation in keeping with the child's cognitive style  
                        | Urge the metacognitive reflection |
| **Syntactic processes** | Select the objects differentiating them according to attributes  
                              | Select the objects differentiating them by function  
                              | Select the objects differentiating them by size  
                              | Distinguish an amount from the set of elements that constitute it  
                              | Introducing the ordinal  
                              | Distinguish the dimensions of large, small and medium |
**Counting**

- Acquire and consolidate the one to one correspondence
- Build a progressive and orderly sequence
- Retrieve the lexicon of numbers from 1 to ... and the semantic-quantitative aspects
- Start to count and use the Arabic code, urging the direct recognition of small amounts
- Urge subitizing compared to the 5 quantity
- Increase the quantity: “n +1”
- Count and introduce the idea of “none” as a precursor of the concept of zero.

**Area of lexical processes**

The area of lexical processes is the ability to give the name to the numbers, skills that falls under the more general language skills. However, it relies not only on the skills of verbal nature, but also of the more general ones, as, for example, understanding the relationship between sign and meaning, then the understanding of the connection between written symbols of the number and relative quantities. The ability to say the name of the numbers is also present in very young children. At first, if not very small the count is not tied to the corresponding amount, but very simply the pleasure to say the name of the numbers in an order learned, right or wrong as may be. For this reason, the first area concerns the lexical processes and seeks to develop the ability to say/pronounce the name of the numbers, with the understanding that it is the ability to assign a label to record quantities.

Attention to specific processes allows us to offer the child activities to develop the lexical component of the number automating the sequence. This type of activity should be insisted because the automatism provides direct access to the number. They are part of the lexicon, even the representations related to the numerical notation, writing in Arabic code and reading of Arabic numbers.

To facilitate these learnings, the tendency of the child to learn short rhymes was taken into account, as well as the pleasure that the child derives from naming sets of objects. Proposals are, therefore, of linguistic activities such as chants and songs, which introduce the language of numbers, on the track of very simple rhythms.

To insert the name of learnt numbers that induce verbal fluency, means strengthening areas of mental functioning that are very close. The rhythmic support induces a more secure storage and quick retrieval of the information. Furthermore, it also promotes verbal fluency, based on the automatic retrieval of vocabulary connected with the objective, as well as being essential in counting backwards and forwards. The rhythmic enunciation and the idea of giving a name to each object are the basis of the enumeration: a name for each object as a number for each unit or group of units. Quick access to the name of the objects induces verbal fluency which is used to match more quickly the number to the name.

**Area of semantic processes**

The area of semantic processes is the ability to understand the meaning of the numbers through a mental representation of a quantitative nature, with the ultimate aim of the corresponding number-quantity.

The course provides an opportunity for children to move gradually understand and to differentiate the qualitative aspects (weight, space) to the quantitative dimension expressed through
the intensity with which an object presents a characteristic (e.g. more or less red, more or less heavy) as more aspects are simultaneously present in reality. To learn to distinguish different degrees of intensity within an attribute, is a very important step because it leads the child to processes of abstract nature and quantitative development.

To introduce numerosity, some dimensions as weight and size are examined and sorted by intensity, not only one by one but also in relation to one another other (weight versus volume). To emphasize and complete this very important step towards numerosity, the child is given the opportunity to distinguish between *what* and *how many*. The relationship between size and number is analyzed, which is essential to the semantics of the number, to induce reflection on the independence of the abundance of other attributes: large things and small things, objects very different from each other with the only equal dimension in the number (three giants and three flies, five butterflies and five bisons).

Work on the estimation of number is also proposed, as it is an innate ability for small quantities (subitizing), and therefore can be easily developed in Kindergarten. A small problem allows to investigate the type of knowledge that the child has on the number-quantity relationship. Still on the subject of the estimates, the children are asked a further step, to distinguish and sort objects according to their value in order to separate the relationship between the cost and the size of the object. This type of work can bring some knowledge into the learning process that is part of the real world, everyday life and it is linked to the family and/or social context (how much does something costs ...).

To introduce the concepts of increase and decrease, *more* and *less*, comparison activities are proposed regarding quantitative dimension, thus other estimates. The expressions *too much* and *too little* are associated compared to the non definite quantity, and *more* and *less* compared to the numerosity, even if not definite from the numerical point of view. In this case the verbal label allows the expression of certain quantity concepts belonging to the semantic area. Some authors talk about different ways of encoding numbers, including those of semantics. In any case, all require a means of expression.

In this programme, the semantic of the number starts by taking into consideration indefinite quantities (many/few) up to distinguishing the quantity number 1, *just one*. It was considered appropriate to present number 1 in decrease from numerically non definite quantity, as this knowledge is already present in the child. The decrease allows to isolate a *single element* to which to assign by convention the symbol 1. To consolidate the 1, several situations were developed in which the amount 1 was opposed to others not yet defined numerically. From the number 1 starts the intuition of the *zero* quantity through the use and understanding of the attribute *none*..

Quantities of up to 5 are defined for the next increment of one unit (n +1). To fix the amount from 2 to 5 better, the numbers are associated to knowledge already consolidated in the child: three as the wheels of a tricycle, four like the legs of an animal, and so on. At the same time the association between number and quantity is strengthened and it is generalized to different contents. The number 5 gives rise to a very intense work. This amount is considered basic as it is highly suitable for numerical breakdown. Through groupings arranged differently from the spatial point of view, it promotes instant recognition of quantities (subitizing) leaving the child free to choose the one which is most appropriate to its cognitive characteristics.
The numbers 6-10 are also presented by increasing n +1 through spatial groupings to facilitate quick recognition of quantities. Each time the work continues with proposals that favour the understanding of the number in relation to number-quantity.

**Area of syntactical processes**

The problem of the syntax of the number does not seem to be relevant either to the level of knowledge of the child or to the types of possible activities in Kindergarten. It concerns in fact the particular spatial relationships between the digits that make up the numbers: the position of the digits determines its value within a system organized in the order of magnitude (units, tens, hundreds, etc.).

In anticipation of the meaning of the position of the numbers which modifies the value, given by belonging to a class of sizes, considerations were introduced starting, once again, from the differentiation by attributes, by functions and by dimensions. To work coherently with the skills that the child is developing, it was necessary to start from the classification of qualitative aspects. Attributes such as softness, temperature, the function are opportunities to enable classifications of qualitative aspects that precede the quantitative ones. The classification passage of qualitative aspects to quantitative aspects brings the child to distinguish sizes gradually arranged (large, medium, small).

Essential in this passage is understanding of the difference between unit and set of units (e.g. pearl and pearl necklace). This understanding is based on the implicit recognition of inclusion. Helping the child to see through examples that an element can be formed by a series of other elements contained in it, the objective is followed up by distinguishing the set units of elements that constitute it and continued with different value sets: an apple and a set of apples in analogy to a unit and a ten unit. Even in this case, the connection with the lexis is evidenced. within which the belonging to the same quantitative class can be properly expressed by using different expressions as a group of children, many children, in analogy to tens of children and ten children.

This step is supported by metacognitive reflection induced by the two guide characters, which are placed in conflict with one another in the dialogue to give the teacher the opportunity to start a profitable discussion amongst pupils.

The proposed activities are presented only as the beginning to the syntactic processes. In fact, they do not introduce any aspect directly related to the knowledge of place value of the digits. However, they stimulate much more efficiently the functions involved directly in the syntax of the numbers as they propose situations known to the child, in which the unit represents a more or less definite set and variable unit. The concepts of first, second, last and large, medium and small are introduced as precursors of the order of sequence where the correct fulfillment of the ordinal is essential.

**Counting Area** First of all it is necessary, to distinguish between enumeration and counting: to enumerate means to give a verbal label to numbers both in reference to concrete objects, and in reciting the sequence of numbers. It refers more to the lexical part of the number, while the counting regards the ability to count.

It is a complex skill because it implies the acquisition of the principles of one to one correspondence, of the stable order and of cardinality according to which the last word-number used in the count represents the numerosity of the elements counted. The counting therefore requires the integration of knowledge whose nature is verbal-sequential, spatial, and analogic, and requires the integration of various aspects included in the number. Summarizing, we can state that counting is the
ability that allows you to answer the question “How many?”. In this area too, one proceeds gradually and with reference to what is cognitively already possessed by the child, who needs to integrate the different aspects of number (lexical, semantic, syntactic) within the contexts in which the increase and the decrease \( n +1 \) \( n-1 \) is involved.

Concrete situations are proposed drawn from everyday life, that pick up and develop previous acquisitions. For the one-to-one correspondence, work is on the correspondence of objects by function and spatial dimension; in regards to the stable order in which the activities are proposed for which sequential order is required as it refers to the quantity. Subsequently, lexical type activities are done with the request integration also of the semantic aspects, associated to the cardinality of the number.

The counting itself is proposed in activities in which children are urged - collectively or in small groups - to count using the Arabic code and recognizing directly small quantities. In counting, the spatial and analogic aspects are mainly enhanced. Some instructions are always repeated in the same way, albeit with different observations, in order to make the child discover counting strategies that exploit subitizing. This type of activity is dependent on the counting speed and predisposes a more strategic approach based on the calculation. The proposal of small problems associated with counting operations make the children reflect, right from the first approaches to the world of numbers, on to the concrete uses that can be made. An action that requires counting skills with respect to certain characteristics completes this area. The process is very gradual, to allow the integration of the different aspects of the number and its manipulation (adding and subtracting) designed for a purpose.

**HOW TO SUBMIT CONTENT.** Making the course pleasant and enjoyable was the key that allowed the teacher to get closer to the children and the children to approach numbers willingly. A learning environment was designed that could serve as a positive stimulus: a room in the school was set up, which was previously completely empty, and turned into a special room in order to make it suitable for numerical and functional learning. Numbers were hung everywhere, in the many different forms in which they can occur: Arabic numbers in code quantities represented graphically or with fingers, “common” numbers taken from the environment in which we live, such as the clock or calendar. Some “space-number” were then provided which allowed the child to become familiar with numbers, through manipulative activities, writing, counting and playing. At each meeting, the teacher introduced a new element to attract the attention and stimulate the powers of observation and interest of the children.

Throughout the series of meetings games have played a crucial and reassuring role, and were introduced whenever possible. The contents to be treated were particularly complex. The playful approach, moreover, allowed learning even where it didn't seem possible, we refer in particular to free play time, where behind the spontaneity there was a well thoughtout set up.

The “space-number” room which allowed the children to have fun, but at the same time to gain experience with numbers, stimulating the cognitive processes involved in numeric intelligence are:

- space 1: blackboard and chalk to practise writing numbers
- space 2: cash till, scale, phone numbers, magnetized numbers, clock
- space 3: snakes and ladders game
- space 4: dices
Important elements were then fun and fantasy - which, contextualizing the cards, made them easier - and the rules that allowed to meet specific deadlines at each moment, from the activity on the card, up to the game, promoting a good working atmosphere.

**STRUCTURE OF THE MEETINGS** The meetings were characterized by a common structure to provide the child with continuity and order. Two meetings of 90 minutes each were carried out for 9 weeks.

The concepts discussed the previous time were initially repeated after which the topic of the day was presented, first as direct experience and then in printed form with one or more Cards. These followed themed games to consolidate the content and finally free play in the room “space-numbers” previously prepared. After the game moment there was a brief summary of what had been done, before concluding.

Here below is an example of four meetings which were presented, one for each area: the letter L is for the lexical profiles of the area, the SE is for the semantical area, SY is for the syntactical area and finally C for counting.

**Lexical processes - Meeting no. 2**

**Objectives:**
- beginning of writing numbers in Arabic code
- promoting the learning of the names of the numbers by automating the sequence of the number
- consolidating the name of the numbers and starting the numerical increase by adding a unit
- beginning of writing numbers in Arabic code

**Activities:**
- reading of the rhyme on numbers;
- listening to the song from the Fantabosco "The Milky Way" (Various Authors, 2002, Melevisione songs, Halidon) miming with gestures (Aim of Lesson Plan L 6 Card);
- inviting the children to accompany the name of the numbers with their fingers and making them note the quantity increase;
• the topic of the following lesson is introduced, asking the children to write a large or a small number and the explanation;
• free play in the spaces set out for the number experiment.

Performance carried out:
Being the second meeting, the first 5 minutes are devoted to represent the environment for the absentees and to summarize what had been done the previous time. Together with the teacher the children trace the contents in the room of numbers. When teacher and children enter the room of the "Kingdom of numbers", the children quietly observe the surroundings: they all like it a lot. The rhyme of numbers is read again and the teacher lets the children name, from time to time, the number and the object mentioned.

Number Rhyme
1 The sun is warm and round
2 are the eyes to look at the world
3 are the pigs of a famous tale
4 are the fragrant flowers of a plant
5 are the cats in the garden
6 are the mushrooms under the pine tree
7 have the leaves fallen from the branch
8 are the swallows that fly far away
9 are the ripe fruits on the apple tree
10 are the shining stars in the sky

Then children and teacher form a circle and sing the song together and mime the Fantabosco song:

THE MILKY WAY.
I wonder if the Milky Way is drunk with a glass
and if the Great Bear can travel with a wagon
I wonder if the Little Bear sleeps with a teddy bear
and if all the stars go to bed during the day
The stars are many candles in the night
that fight with the children's bad dreams
kick their fears, and light the path
to show where the black wolf is hiding.
"Who me?"
"Yes"
One, two, three ... even the king closes his eyes, four, five, six .. how I would yawn.
When I count to nine, the moon is moving and if I get up to a hundred, I'll end up falling asleep.
I wonder if the Milky Way
is milked from cows
grazing in the sky
or are they silly questions.
I wonder if the comet
combs its tail
as the black wolf when it wants to follow fashion
"Who me?"
"Yes"

One, two, three ... even the king closes his eyes,
four, five, six .. how I would yawn.
When I count to nine, the moon is moving
and if I get up to a hundred, I'll end up falling asleep.

Then the teacher resumes the elephant rhyme from the previous time (Lesson Plan L8 Card) and, using a magic wand, turns every child into an elephant. Even in this case, teacher and children sing, mime and act out the rhyme together: the group of “child-elephants” is in a corner, the teacher begins to move the edge of the cobweb and, in turn, calls another “elephant”. Children may thus observe how the amount increases (n +1) and they accompany the name of the numbers with their fingers.

Before concluding the meeting, the teacher takes the blackboard and asks which of the children knows how to write a small number. Samuele raises his hand, so the teacher calls him. He writes a small 2, but cannot explain what it means to him to write a small number.

After him it is Anna's turn and she knowingly writes 0. Even Giacomo and Giada both write 0, but both cannot tell the teacher what number they wrote. Jade looks around trying to figure out what number it is, and not finding it, keeps silent. Maria, when asked to write a number, writes a z and does not say what number it is for her, she waits for information from her twin who promptly suggested 5.

Nadia, when asked to write a big number, consciously writes a 4, then Elisa writes a 3, Federica a 2, Mark 6. Asia as a small number writes an 8, not knowing what number it is. Silvia writes a 5 and, thinking about it a bit, can tell the teacher it is a 5.

None of the children, however, manages to interpret correctly the delivery of writing a large number or a small number, understood as indicators of the amount they imply. For them, the reference is to the size of the number, i.e. writing "large" or "small." No one can then give an explanation for the reason he has written his number.

When tidying up the room, the teacher counts to 30, useful expedient to promote the learning of the names of the numbers and to avoid that the classroom remains untidy. By this time the children have to tidy it up ... and they get down to it ! Finally, the teacher and children briefly summarize together what has been done and the lesson ends.

Statements made by the children: before starting to paint the handout the teacher takes 10 balls and, pretending they are elephants, from time to time adds one. Then she asks: “What has changed from before until now.” Alexander promptly responds, giving it almost for granted: “There are more.”

The question “What have we done today?”, The children reply: Anna: "The board of elephants card" Asia: "We have learnt numbers" Federica: "We have learnt to count"

Difficulties encountered: not all the children are able to read Arabic numbers in code, particularly Jade and the twins Maria and Silvia. However, when asking them to count, they are able to track down the number which represents the quantity. They have no problem with Giada's
Semantic processes - Meeting no. 8

Objectives:

1. formulate a hypothesis on the increase of numerosity;
2. recover quantitative knowledge;
3. define space in relation to quantity;
4. derive the amount “one” and introduce the concept of zero

Activities:

1. The delivery on Lesson Plan SE5 Card is read carefully to the children, stopping at each paragraph and trying to steer the answers to the increase of number. Other similar situations are then proposed without expecting numerically correct answers.

2. On Lesson Plan Se7 Card children are made to reflect on indefinite quantity "too much" and "too little" and invited to comment the role-plays concluding with the questions at the bottom. We then move on to concrete examples with chocolate;

3. On Lesson Plan SE8 Card children are encouraged to carry out the drawing and to reflect on the question of the guide-character, the teacher accepts the answers of children and urges them to compare what they have done together; and finally, invites them to understand the different sizes of the sets;

4. In Lesson Plan Se10 Card the "empty space" is shown which anticipates the concept of zero.

Performance carried out:

After a short summary for the absentees of the previous time, the teacher reads the instructions of Lesson Plan SE5 Card, after inviting the children to speculate on the increase of numbers. Much to the teacher’s surprise some – not all obviously- can make an estimate of magnitude. The teacher then proposes Lesson Plan Se7 Card: "Too much or too little." She shows the drawings to the children, commenting on them together, then moves on to questions, then reaching a concrete example using a bar of chocolate.

She reads the instructions of Lesson Plans Se8 and Se10 Cards. Then the children begin to carry out the instructions, drawing a heavy object and a light one, a very expensive toy and a little one, this activity concludes the topic started two previous lessons and continued the previous time. Then they draw the fences and colour the fish.

Finally it is time for free play followed by the usual summary. Statements from the children: The teacher reads the instructions of the Lesson Plan Card SE5 and asks the children to formulate hypotheses on the increase in numerosity To the question "If Luke lived on the third floor, how many steps do you think he should do?" Children respond:

Asia (answers without thinking): "70"
Riccardo: "10 because that's right"
Matilda: "10" (influenced by Riccardo)
Samuele (starts counting with fingers): "15 because the top floor is 15"
Elisa: "50 because it is a higher level"
Federica: "60 because it is a higher level"
Anna: "35 because it is a higher level"
Giada: "5 steps"
Gabriele (with the tone of one who knows): "See... look that is higher, eh!"
Marco: "30, because they are so many"
Giacomo: is silent, then says he does not know.
The teacher then proceeds with the second question: "What if he lived on the fifth floor, how many steps would there be?" The children answer:
Ambra: "1000, because it is on the top floor"
Anna: "100000 because it is the highest number of all"
Federica: "100, because it is higher"

Someone else agrees that the steps increase, even if he cannot indicate the exact figure. Somebody else states random numbers.
In regards to Lesson Plan Card Se7, the teacher asks the children if they eat a whole pizza or maybe it's too much. Here are their answers:
Samuelle: "When we go to a pizzeria, my mom has a smaller one made for me!"
Elisa: "On Sunday I had half with Federica"

To the question: "Are 5 children on a chair too many?" Marco says, "Noo" Then the teacher takes a chair and invites five children to sit together and repeats the question to Mark: "Are 5 children on a chair too many." And he answers: "Yeah"
The teacher goes on to the second question. "Is one ice cream for 5 children too much?". The teacher asks Giada, a little plump girl, to reply, who is not much climbing in the very good at logical-mathematical reasoning, but who becomes immediately focused when it comes to food! Giada replies: "Oh no, one ice cream for each child."

Finally, the teacher asks Giacomo: "Can the water of a bottle fit in a glass? Why not?"
He replies: "No, because it is too much and it does not fit" Anna adds: "Yes, it does!" Anna is a very clever girl and lately she makes witty remarks distracting others. The teacher looks at her quizzically as if to say: "Let's hear what you have to say and she, with the utmost nonchalance, replies: "Yes, really, at home we have glasses this large!", Showing with her hands the dimensions of a glass bigger than a normal bottle.
The teacher passes on to a concrete example by using the chocolate bar. She calls Ambra and offers her a very small crumb. Ambra remains silent, but looks at the teacher angrily. The teacher asks her if it is too little and the girl nods. The teacher asks her if it is okay if she gives her the whole bar (it is rather large) and the child responds nodding yes again with her head. The teacher makes the class notice that it is perhaps a bit too much for her, so they agree to two squares, even though she is not enthusiastic, since it is chocolate! The teacher repeats the process with another two, three children, and then offers the chocolate to all of them.
On Lesson Plan SE10 Card the teacher asks each child individually to indicate where there are a lot of fish, where there are few, where there is only one, and what there is in the next space. Someone answers "nothing," someone else says "zero fish."

**Difficulties encountered:**

Recently the children amuse themselves when playing, by transforming numbers into shields and the bottles, used by the teacher only to propose the amount of 5, as swords, and making the balls fly instead of counting them. They improvise baseball and bowling. The blackboard for writing numbers has become a canvas to paint landscapes. In short, they have forgotten for a while to play with numbers. So the teacher tells them off and it is useful: the children play the goose game in groups of 6, using the dices and waiting for their turn, and the numbers on the blackboard reappear. Some children, on Lesson Plan SE8 Card, draw three enclosures of equal size, not considering the fact that, each enclosure has to be adapted to a different amount of sheep, therefore they must also have different sizes. Thinking about this together they understand the reasoning and correct the drawing. Even in regards to price some children have some difficulty. For example Marco and Giacomo simply draw a toy and do not have the slightest idea of its possible cost.

Finally a recurring difficulty: while they work on the cards, the children tend to copy each other in the drawings, in the use of colours and the more specific instructions. Although encouraged to think for themselves and to work on the card on their own, in the end they look at each other's card.

**Syntactic processes - Meeting n° 10**

**Objectives:**

- distinguish an amount from the set of elements that constitute it;
- introduce ordinality;
- distinguish the size of large, medium, small:

**Activities:**

1. take up again what has already been discussed the previous lesson, integrating it with examples;

2. the instructions on Lesson Plan Si6 and Sy7 Cards are read to them and they are invited to reply. A discussion takes place by asking, "What does first, second, last mean?"

3. with Lesson Plan Si8 Card, other examples are set forward taken from regular school activities that point out the order;

4. examples are given to measure large, small, medium with situations close to the children's experiences, using both objects and the children themselves, and inviting them to find alternative definitions for the use of large, small and medium (Si9 Card).

**Performance carried out:**

Initially what has been done during the previous session is revised and elaborated regarding how an element can be made up of multiple elements. This concept was not very clear to children and some, in particular, are unable to grasp the link between the item and what it is made of. We refer in particular to Lesson Plan Si7 Card: the previous time what came up was that "a class is made up of
many ..." windows, toys, desks, sweets. "A football team is made up of many ...": balls, football T-shirts, kids, football players. "An hour is made up of many ..." numbers, watches.

Thus the teacher proposes to think together on what is drawn, citing other examples. The football match is not made by the balls: the ball is certainly essential for the game, but the players form the football team. The same goes for the T-shirts the football players wear them, but the t-shirts do not play. The children begin to follow the discussion, so much so that someone (Samuele) takes ear in this reasoning and tells the teacher that in fact the shirts are fine: the players who wear them are there, but that you cannot see them because they are ghosts!

The teacher presents other examples:
"1 bag of confetti is made up of ..." "Many confetti" the bag is one yet the confetti contained in it are many;"1 box of eggs contains?" "6 eggs": the box is one and yet it contains 6 eggs.

And then lots of ships make a fleet, a lot of grape are a cluster, a bag of balloons contains 12 balloons. The teacher tries to underline the fact that an element, despite being one, can actually contain many others.

The teacher then introduces the concepts of first, second and last, medium, large and small using tangible examples (simulating a race with some toy horses and three cars respectively in three series small, medium and large). The teacher then calls the children in groups of three or four at a time, inviting them to line up according to weight, height or length of hair. Finally, the teacher gives the cards on the content covered, the game is played freely and ends with a short sum up.

Asked to complete the sentence "A lot of trees form a ...", the children answered:
Asia: "A leaf"
Riccardo: "A bush"
Samuele: "A wood"

To the question "How would you explain to your partner what the word medium mean?" the children answered:
Samuele: "I would explain that a large is a large, a medium is a medium and a small is a small"
Matilda: "Monica is medium"
Anna: "Medium is something that is smaller than big and bigger than what is small"

Difficulties encountered:
All the children have already internalized well what "medium" means and yet no one, except for Anna, knows how to give a definition of the term.

Counting princesses - Meet N° 14
Objectives:

1. recover the vocabulary of numbers and their semantic-quantitative aspects;

2. ask for the recognition (subitizing) with respect to the quantity 5

   activities:

• situations are shown that require the number rhyme;

• the instructions of Lesson Plan C7 cARDare read to the children, guiding them in the task (by colouring the 5 it helps to identify it quickly). If children do not identify the 5 as a fixed quantity, they can be
oriented in this direction, so that they are led to recognize the constant amount and can add the other dots one by one.

Performance carried out:
After having revised quickly what was done the previous session, the teacher presents Lesson Plan C7 Card.

The number nursery rhyme is repeated and the song is sung again: One, two, three ... The teacher asks the children to draw, on the card the number of dots indicated by the number, and they do so.

Then she reads the instructions on Lesson Plan C9 Card and the children carry out the work, they often encounter difficulties in understanding these instructions and the question posed by the character-guide (Gigio). After the challenging part of the card, they get to the longed for, free game time and they game "Queeny, queeny".

Finally, there is a brief summary, returning to the importance of quantity 5 and the "trick" of recognizing it for its particular arrangement of dots.

To the statement of the character-guide "I now understand why we can be quick" in Lesson Plan C9 Card, the children answered: Elisa: "I was fast because I thought correctly. I did not count the 6 and 8, because I already knew them" Riccardo "I was fast because I did the numbers fast because I was able to. I'm good at numbers and I'm fast. "Anna: "Why am I fast. I counted them with my hands " Gabriele: "I thought a lot, I tried hard and I was faster" Veronica: "Because 3 and %, I understood immediately that it was 8"

Samuele: "Gigio (the leader) was quick with his arm, he was like lightning, and so was I" Samuele: "Because I recognized all the numbers: 2, 3, 1, 2, 5, 5, 5 ..." Federica: "I understood immediately that it as 7 because it's 5:and 2"

Difficulties encountered:
Some children still cannot read and write numbers in the Arabic code. The teacher has difficulty in presenting the quantity 5 and the ability to quickly identify it. All children understand that the dots arranged in a certain way correspond to the quantity five, but when the teacher asks them to count the dots, as in Lesson Plan C9 Card, they do not count adding the dots to the quantity number 5, but start at 0.

More than some do not understand the instructions and count only the groups of 5dots or groups of white dots left.

A general difficulty of the children is to explain to the teacher how to be fast, like how to be able to count the dots correctly and how the character-guide is so fast, what discovery could he have made.

Finally, a couple of children, are in difficulty because even though they know how to count properly, they cannot write the corresponding number in the Arabic code; of course the teacher helps them.

RESULTS
Figure 2 summarizes the scores obtained by the children in the entry and exit tests. The figure is organized "in cross" section, in such a way as to allow horizontal entry and exit test comparison., and vertically, between the control group and the experimental group. As can be seen from the graphs, both groups improved compared to the starting situation. The average
reported from the control group (67.8) in the tests input is slightly lower than that shown by the experimental group (69). However, while the first part of the situation is fairly homogeneous, in fact only two children are significantly below the average, the second, while obtaining scores significantly above the average, gets as many appreciably below average. Observing the situation in exit, it can be noted instead that the average obtained by the control group is higher (89 versus 86.9 in the experimental group), but while the cases significantly below average of the experimental group recover their shortcomings, those of the Control group vary slightly.

CONCLUSIONS

The initial idea was to be able to stimulate children to learn mathematics as they are encouraged to learn the language, using action Cards proposed in the first volume of the programme The numerical intelligence.

What emerged during the research is that the children, if properly stimulated, learn the various aspects involved in the knowledge of the number. The Cards used during the working experiment and the way they have been proposed formed the privileged instrument which has allowed such learning.

On the basis of the results obtained it is shown that the experimental class improves significantly more than the control class and therefore the treatment is effective. It can also be noticed that the series of meetings proposed to the experimental group were particularly valid especially for those children who have shown some weaknesses in the initial situation. In fact, if these could be initially defined as "cases at risk" because they were appreciably below the average, and, accordingly, could be identified as potential subjects with difficulties in mathematics, at the end of the experiment not only did they re-entered in the average level, but they were even shown to be motivated to learn numbers,. Motivation to learn has played a crucial function throughout the entire series of meetings.

The teacher has a central role in obtaining this aim, and must provide interesting learning situations for the children, able to arouse interest and desire to know more. Moreover, the teacher, with her statements and attitudes, reinforces the self-esteem of each child. It was very important for children to live in an environment favourable to knowledge. Creating a good working atmosphere, in fact, has allowed the children to feel at ease, active protagonists in the learning process, competent subjects and eager to learn. Finally, it is emphasized that the validity of this treatment does not end with the results which were immediately obtained, but can be significant over a longer period of time.
The questionnaire “The Realm of numbers”; PRCR Test on Numbers (edited by Lucangeli, Molin, Poli, and Cortesi)


B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene: manipulation of the numerical aspects of environments also through oneself body and other artifacts is preparatory to control and coordination of actions and to knowledge of space-time coordinates in one’s life.

ii. Social-emotional development: not involved

iii. Developing the language and communication: developing of the lexical aspects of numbers and their useful contextualization in the pupils' environment.

iv. Cognitive development: developing basic knowledge of mathematics and knowledge about world’s numerical aspects
v. Skills and attitudes in learning: experience of effective learning processes connected to real experiences and with a metacognitonal discursive tendency to reflect about what is under the learning process

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.

This programme is a didactical course outside the traditional schemes. Generally in fact, teaching aims at the knowledge of educational contents and the teaching proceeds step by step with the gradual increase of the quantity considered. Moreover, the number is presented as an "abstract concept" to be used in a given context, the school one, according to a formal notation that causes distrust and reluctance towards mathematics, as can be seen in the numerous investigations carried out in recent years.

This programme instead is based on studies and on psychological research that have shed light on the mental forms that develop the inbred numerical intuitions present in each one of us from birth.

In particular, the programme aims at guiding teachers in the use of teaching strategies useful in increasing the specific cognitive processes that underlie the construction of numerical knowledge and calculation. Today, psychological research in fact shows that we are born both with numerical intelligence as well as verbal intelligence.

If it is crucial therefore, from an educational point of view, to support the development of the language through adequate education, it is also necessary to accompany the development of the ability to "intelligere" the phenomena through the quantity and its principles.

4. Didactical resources

Arts and crafts material
Games
Various counting tools
Oral and visual material

5. The use of this approach in the research area

This approach is designed following the most recent national and international researches about the development of number intelligence in childhood. From these studies our empowerment of the four areas is supposed to build up a strong and necessary base for every other mathematical learning in the future of the children' school career.

At the same time, the method of attaching new knowledge and competencies to concrete examples of the pupils real life is in line to the actual didactic and microbiological theories about how learning works in humans and it is prerequisite for any further learning.

6. Advantages

Working with the support of a good and well scientific based theory.
The possibilities to take care of every single case even if working in class contest.
The respect of each individual differences without creating marking subgroups.
The effectiveness of learning by experience.
Preventing further learning difficulties.

7. Limits

Hard to apply when classes have too many pupils.

8. ICT and teaching approaches
This action in increasing numerical intelligence does not foresee the use of ICT, which is scarcely known both in state kindergartens as in private recognized kindergartens.

9. **Educational policies focused on promoting innovation in education**
   See 6.3.3. “Attentive and happy"
6.3.3. **Attentive and happy**

Contributor: Polo Europeo della Conoscenza-I.C. Lorenzi-Fumane, Italy

1. **Target group**

   Children aged 4 to 7

2. **Keywords**

   Identifying some difficulties in the class, controlling attention, controlling impulsiveness

3. **Description of teaching approach**

   A. Short description of teaching approach

   The ways of prevention and early intervention are particularly important because the preschool child is very receptive to environmental influences. Several studies (Wilens et al., 2002; Stormont and Zentall, 1999) report that in the majority of cases, the main symptoms of ADHD profile emerge between the ages of 3 and 5 years.

   In literature, there are few descriptions of early intervention carried out at school, but those that have been published seem to have had beneficial effects. It has been proved that it is possible to increase the awareness of the cognitive processes in children and facilitate learning (King and Cornoldi, 2007).

   On the basis of these considerations, the "Child Research Network" of Treviso, in collaboration with the University of Padova, has developed and field-tested a training aimed at strengthening self-attention, impulsive response and memory work aimed at children aged 3 to 7 (Caponi et al., 2008)

   **Description of the method of teaching:** a theoretical model that inspired the activities developed by Child Research Network of Treviso sees the educational process as a series of distinct phases, each of which performs a function and achieves a precise effect on the learner. (Caponi et al., 2009).

   All activities proposed to the children during the year have followed these basic steps:

   1. attracting and controlling one's attention
   2. informing the child of the objectives you want to achieve
   3. stimulating the memory of the relevant prerequisite skills
   4. presenting the stimuli related to the task
   5. ensuring that there is understanding of the instructions
   6. monitoring learning
   7. providing feedback
   8. evaluating performance
   9. ensuring consolidation
   10. providing transfer
   11. ensuring retention

   **Description of Teaching and Learning activities specified in the teaching method:** “Attentive and happy” was proposed during the 2010-2011 school year to children of five years of age at the primary school “G. Barbarigo” Valbona (Padua), under the guidance of Dr. Catulla Contadin. The group consisted of 13 children, 7 males and 6 females, who are very different from each other. In addition,
there are children who show interest and curiosity in educational activities, whilst there are students with very low attention spans, who are struggling to finish a game or a task and make a number of errors due to lack of attention or ability to listen to the instructions given by the teacher. Other children give impulse responses, without waiting for the teacher to ask a question or explain a task, unable to wait for their turn, struggling to participate in games with rules and to join in the peer group.

Even in terms of reading and writing prerequisites and of calculating, the group is very heterogeneous. In addition to students who earlier this year have already showed good accuracy in the pregraphic cards, there are children who are totally unable to draw a line within a predefined track. Graphically, the gap is even greater, ranging from the simple "little man with a big head" to the depiction of princesses with elaborate dresses and with great attention to detail.

After careful analysis of the initial situation the teachers gave the students a series of activities directed to improve and enhance progress, in order to prevent further difficulties in school learning. They chose to experiment, enriching the project developed by the Child Research Network of Treviso, and spend one afternoon a week in activities aimed at increasing the capacity of attention and the reduction of impulse response.

Before and after the training the pupils were given the individual tests in order to identify areas to be enhanced during the course, and then verify its effectiveness. The IPDA (Early Identification of Learning Difficulties, Tretti et al., 2002) was also tested, applying suitable modifications. It involved in particular two pupils in the class which had “at risk” results during the initial screening. It is an interesting course that involves three moments of achievement:

1. first phase: by October of the current school year, teachers carry out a general screening of the class, filling in the questionnaire for each student, observing IPDA (Terreni et al., 2002). In this way students are identified and the students “at risk” of learning disabilities are found;

2. second phase: only the children "at risk" are given a further set of tests to assess more accurately the prerequisites of basic school learning in order to exclude false positives to IPDA and to programme targeted rehabilitative plans (November-December);

3. Third phase: from January the teachers set the enhancement course with the pupils in difficulty. These courses are planned with varying frequency and duration depending on the specific case. Some activities may be offered to the entire class group, others are more effective if implemented individually.

In the kindergarten assessment must not lead to a classification of children nor lead to a psychological or medical diagnosis. To administer individual or group tests to such young subjects is useful on an educational and teaching basis, because it allows you to gather information on the state of learning and acquire important emotional and behavioural aspects to design targeted interventions.

Up to 3-4 years it is frequent to detect a wide variety of grades obtained by children in the tests. It a phenomenon linked to aspects of maturity that usually fades spontaneously with time.
5 years old, however, the precursors of later academic learning should already have been acquired and their accurate detection is useful (Caponi et al., 2008). Where particular difficulties arise it is desirable, however, to direct the family to a specialist service, for a discussion of the problem and a possible support for the child and the school. Early diagnosis in infancy is a sensitive issue not only because of the difficulty of distinguishing the first symptoms of a disorder from factor of immaturity typical of this age group, but also because the screening procedures for very young children have features of lower reliability and validity than the specific tools for older individuals (Adelman, 1982). Added to this is the lack of an agreement on the applicability of the criteria of ICD-10 or DSM-IV diagnosis of ADHD in preschool.

In order to detect the basic ability of the group that participated in the research, and set targeted learning courses in October 2010, the following tests were administered individually to the children:

Test MF 14

Two A4 sheets are shown to the child: on one the target object is drawn (such as a gift parcel) and on the other six pictures, one identical to the previous one and five with small differences. The child must find the one which is the same as the target. The task requires sustained attention, visual spatial skills, ability to restrain irrelevant information and to hold back impulsivity (Marzocchi et al., 2010). Two points were recorded:

1. the latency time, i.e. the time that elapses between the presentation of the stimulus and the first response given by the subject;

2. accuracy, given by the total number of errors committed by the child.

THE FROG TEST

The child is given a sheet where they are 20 columns of 14 squares. In each box there is a frog drawn to help the child’s understanding of the task that consists of moving from one box to the other. The child must listen carefully to two different sounds: the sound GO indicates that it has to jump into the next box putting a dot with a colour on the frog that is on the inside, while the sound no-GO shows that he needs to stop and move to the next column. The two sounds are similar for the first 208 ms but no-GO ends with an vocal accentuation. To do well in the test the child must follow the rhythm of the sound sequence, not lose the thread and block movement when needed. The test therefore measures the ability of auditory attention and control of the impulse response. It records the number of correct paths made by the pupil (Marzocchi et al., 2010).

SEMICIRCLES

The test consists of two series of visual stimuli made up of signs oriented differently (Series A: a single sign; series B: two signs). The teacher shows the child a stimulus at a time for a short time and then hides it. The child's task is to reproduce it on a sheet of answers. This is a analysis and visual memory test. The score is the sum of the errors committed by the child.

RECOGNITION OF LETTERS
The child must identify the same letter as the specimen choosing among four alternatives that include different letters or the same letter oriented differently in the space. The test allows to assess the child's ability to analyze the graphic signs that constitute the written language and to distinguish their spatial orientation. The score is the number of wrong answers except the first item, which is performed with the student and is given as an example.

**NAMING OF OBJECTS**

The child is handed a sheet with 30 different objects drawn, grouped on six lines. He must say the name of each figure, proceeding as quickly as possible from left to right and from top to bottom, without omitting any. This test allows to assess visual attention and the sequence of eye movements using pictures instead of letters. Naming errors are not calculated but only the time taken by the child to complete the task.

**NAME OF INTERWOVEN OBJECTS**

A sheet containing the same objects of the previous test is placed in front of the child, but smaller and slightly overlapping, so as to make the identification more complex. The child has to call them out again from left to right and top to bottom as quickly as possible. The aim of the task is to analyze the path and speed of the eye movements. The total number of errors are counted and the time taken to perform the test.

**NAMING OF DOTTED OBJECTS**

Once again, the child is shown a sheet containing the same objects of the previous tests grouped into three rows and slightly overlapping. Above some of them there are some bullet dots: the child must call only the latter. In this way, we evaluate the child's ability to look fixedly on very specific elements. The total number of errors made is registered.

**SEARCH FOR TWO LETTERS**

A pupil is shown a sheet with 12 rows of four letters printed in capital letters, he must identify and make a cross on all the Ls and Bs from left to right without ever going back. To facilitate the transition from one row to the next the child must cover the part already examined with a blank sheet of paper. This test allows to evaluate the skill of proceeding from left to right, to discriminate visual stimuli and to keep some information in mind for a short time. Errors, omissions and the time taken to complete the task are taken into account.

**SEQUENCE SEARCH OF “TOC” LETTERS**

The pupil must identify the sequence of the TOC letters within a set of equally spaced letters, and mark with a cross, always proceeding from left to right without ever turning back. As the letters are not divided into groups of three, the child must consider each letter as the possible beginning of the sequence search. Even in this case the parts already checked should be covered with a white sheet. The examiner must count the number of errors, omissions and the time taken (Molin and Poli, 2009).

**OBSERVATIONAL IPDA QUESTIONNAIRE**
In October 2010, a teacher completed an IPDA observation questionnaire for each student (Terreni et al., 2002). The paper consists of 43 items divided into two sections: the first evaluates general skills such as the child's behaviour, movement skills, the level of language comprehension and oral expression, meta cognitive skills, memory, some procedures and sense of direction. The second one takes into account the specific pre-requisites of reading and writing and mathematics. After an adequate period of observation of the students, the teacher has to answer questions from the paper using a Likert scale with four levels:

1. none at all/never
2. little/sometimes
3. enough/most of the time
4. a lot/always

The total score of each student is then compared with normative data collected on a large sample of children in their last year in kindergarten. All those who obtain a score below the 10° percentile distribution i.e. 113 are considered at risk. Only the children who scored so low (two in the group of subjects who participated in the project, cf. Table 1) were given other evidence from the IPDA text materials for the prevention of learning difficulties of Tretti and colleagues (2002) in order to programme a specific recovery training.

**TABLE 1 - IPDA results completed in October 2010**

<table>
<thead>
<tr>
<th>CHILDREN</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (1=male; 2= females)</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
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<td>2</td>
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<tr>
<td>Age (in months)</td>
<td>67</td>
<td>64</td>
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<td>67</td>
<td>69</td>
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<td>Behaviour</td>
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<tr>
<td>Can follow an activity without losing attention or distracting his/her peers</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>2</td>
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<td>3</td>
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<td>3</td>
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<tr>
<td>Shows it can accept waiting for praises and for all the things it would like to have as soon as possible</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
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<td>4</td>
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<tr>
<td>Follows regularly instructions and rules given</td>
<td>3</td>
<td>2</td>
<td>4</td>
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<td>Can carry out and complete the assignments given without being</td>
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<td>asked continually or encouraged to do so</td>
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<td>If asked, changes activity together with the rest of the class</td>
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<td>instead of persevering with the previous task</td>
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<td>Can cooperate well with his/her peers</td>
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<td>Solves simple problems alone, without asking the teacher's help</td>
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<td>Adapts easily to new situations</td>
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<td>Shows interest and curiosity towards new reading, writing and</td>
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<td>Physical movement</td>
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<td>Has a good general coordination of movements</td>
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<td>Has a good capacity in physical exercises</td>
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<td>Language comprehension</td>
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<td>Follows well for his/ her age dialogue and subjects done in</td>
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<tr>
<td>Understands the meaning of words that the teacher uses</td>
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<td>Understands the instructions given orally</td>
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### Oral Expressions

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<tbody>
<tr>
<td>Has a good ability in describing an episode that he/she has assisted or taken part in</td>
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<td>Can express clearly his/her own thoughts, feelings and needs</td>
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<td>Has a wide range of vocabulary</td>
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<td>Can describe a simple story following a sequence of cartoons</td>
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<td>Can express itself correctly lexically and grammatically</td>
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### Metacognition 4

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<tbody>
<tr>
<td>Understands that it is possible to improve memory to learn things &quot;better&quot;</td>
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<tr>
<td>When it does not understand something, it is aware of it.</td>
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<td>When faced with situations that put him/her into difficulty, it does not abandon the task but continuous with it.</td>
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<tr>
<td>Can understand that it can be disturbed by the presence of thoughts, noises and/or other stimuli in general.</td>
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### Other Cognitive Abilities

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<tr>
<td>Can learn short rhymes</td>
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<tr>
<td>Activity</td>
<td>Scores</td>
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<td>Can repeat in his own words what has just been said</td>
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<tr>
<td>Can remember the information, examples and the orders given orally in the past</td>
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<td>Recognizes that printed words, letters or graphic symbols are the same as those presented the previous day</td>
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<td>Can keep in mind more things at the same time</td>
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<td>Can draw a human body with a head, body, arms and legs.</td>
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<td>Can copy a simple geometrical figure with recognizable results</td>
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<td>Can use up adequately the space on a sheet of paper or copybook in general, when it draws or writes</td>
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<tr>
<td>Has a good capacity to follow simple commands that imply a spatial relation</td>
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<td>Can orient itself well and quickly in space</td>
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**Pre-literacy**

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<tr>
<th>Activity</th>
<th>Scores</th>
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<tbody>
<tr>
<td>Can distinguish orally the differences and similarities of sounds of letters within a word</td>
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<tr>
<td>Can perceive and repeat correctly new words immediately after hearing them</td>
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<tr>
<td>Understands that words are made up of separate sounds (phonemes)</td>
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<tr>
<td>Can distinguish graphemes from other graphic signs</td>
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<tr>
<td>Is aware that the written words in the books are the same as the spoken ones</td>
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<td>He can write his name</td>
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<td>Can copy a simple word</td>
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**Pre-mathematics**

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<tr>
<td>Understands what quantities correspond to the numbers from 1 to 4</td>
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<tr>
<td>Sa confrontare numerosità diverse: tra due insiemi di oggetti, riconosce quale ne contiene di più e quale di meno Can compare different numerosity between two sets of objects, recognizes which contains the most and which the least</td>
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<td>Can do small reasoning based on</td>
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When the administration phase of the individual tests had been completed, the teachers started the group activities by dedicating one afternoon a week from November to June, to games and activities to strengthen the capacity of self-regulation of attention and impulsivity.

The main character acting as guide was Tiramolla, a cartoon puppet who encouraged the children to learn an enjoyable rhyme at the beginning of every lesson, to remember the tricks of the “champions of attention and precision”. Do not move the chair, open your ears to listen to the teacher, always look at her in the face, keep your mouth shut and raise your hand when you do not understand; these are important actions to pay attention all the time. Know how to wait, try to understand the instructions well, ask yourself what to do and work calmly as these are the basic steps not to mess things up and then be forced to do them again.

To get the children’s attention, the teacher must explain in very simple words the aim of the activity they are going to do, in order to motivate them to participate with interest. After going over the prerequisites necessary to carry out the game well, the teacher presented the activities and checked that the spoken instruction were understood. (“Who can repeat in your own words what we have to do?”) and with some practical pre-task tests.

The aim of the adult is to make the child more aware of their actions, which is why, before you begin the actual game, the group was asked some questions to identify the most effective tactics to do well in the task (What could you do to be sure of being able to ...?). The strategies that emerged were compared and analyzed, but in the end each one was free to adopt what he preferred.

At the end of the activity, the children’s performance was not judged in terms of “right or wrong”, but each pupil was asked to reflect on how to modify their work in order to succeed better the following time. Each game included a final metacognitive card to stimulate further reflection on the strategies adopted.

The afternoon ended with a moment of collective encouragement: the teacher congratulated the children for their efforts and asked each of them to say: “I was good, I tried to work without hurrying ...” or “Next time I will try to do even better because now I know how to ...” All this in order to help students to relate to the positive result of a task with the use of effective tactics, commitment and the ability of self-regulation, and not with chance or luck (see the Cards 1A and 1B and 2A-2E).

During the course of another morning of the week, a teacher suggested to the class group the enhancement activity of the prerequisites of reading and writing (cf. Cards 3-6)

The exercises in the IPDA Materials texts for the prevention of learning difficulties by Tretti and colleagues (2002) and Ready for the First by Molin and Poli (2009) were useful.
Two children, whose results of the IPDA tests showed they were at risk, were followed for several hours individually: one of them was stimulated especially on the logical-mathematical side, the pre-writing and visuomotor coordination, while the other on the oral expression side.

**Learning Resources:** in the first case the materials proposed by Dunn (1990) proved to be very useful, while in the second pictures were used as mediators to describe and children’s books from the school library.

Sheet 1 A (Activity adapted from Caponi et al., 2008)

**Aim:** To recognize the name of a target colour in a story read by the teacher and raise the corresponding coloured flag

**Required materials:** colored flags and story "Sir Panciolla in the country of onions."

**Activity type:** Group work

Instruction: Listen carefully to the story. Every time you hear the name of the colour of the flag in your hand, hold it up and let your teacher see it.

<table>
<thead>
<tr>
<th>Teaching moments</th>
<th>Information for the teacher</th>
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<tbody>
<tr>
<td>Attract and keep the children’s attention</td>
<td>Have the children sit in a circle, invite them to keep silence and look into each others eyes. Fold your arms and shut your lips to act as a modal for the correct position.</td>
</tr>
<tr>
<td>Explain in a simple way the aim of the game to the children.</td>
<td>Say: “Today we will play a game that will help us to learn to focus only on one thing”</td>
</tr>
<tr>
<td>Ask questions to recall some prerequisites</td>
<td>Check the knowledge of colours by asking the children to name the colour of some objects in the classroom and the flags the teacher is holding.</td>
</tr>
<tr>
<td>Introduce the activity</td>
<td>Give the children a flag and say, “Now I’m going to tell a story. Every time you hear the colour of your flag mentioned raise it and then lower it immediately”.</td>
</tr>
<tr>
<td>Make sure that the pupils have understood</td>
<td>Invite the children to repeat in their own words.</td>
</tr>
<tr>
<td>How does the game work</td>
<td>Do some practical examples with sentences not present in the story</td>
</tr>
</tbody>
</table>
| Guide the learning                      | Ask children to think of the most effective ways to play this game well (for example, “I continue to
| **Give some feedback** | After you've told the story, encourage children to explain the strategies used. Help those who could not quite understand how to improve his performance the next time.

Repeat the story by exchanging the children's flags.

Variation: you can give children some flags of colours not mentioned in the text and say that you play do some tricks to see if they are really paying attention. |
|---|---|
| **Make sure that each pupil has achieved the aim** | The teacher must check if the pupils:

1. have paid attention to the whole story or only a part;
2. have raised the flag at the right time;
3. have explained in their own words the strategy used. |
| **Conclusion** | The children must complete the final card of metacognition, indicating if:

- they have listened to the story and raised the card at random;
- have only listened to the story until his/her colour was mentioned;
- have listened to the whole story and raised the flag each time his/her colour was mentioned;

The teacher congratulates the pupils and urges them to feel self gratification (“I tried to do the best I could ... I was good”). |

Cards 2 A - E (activities adapted by Caponi et al., 2009)

**Hunting for identical figures:** The balloons: the wind blew in the air many balloons. They are all in the
shape of little hearts but only two are the same. Can you say which ones? Observe them carefully, compare them two by two and then colour only the identical ones.

**The stars:** Marco loves staying with his nose in the air watching the stars after dark. Some are larger, some smaller, some very light, others are barely noticeable. Only two stars have the same shape and size. Marco helps to find them and then colour them. Remember to observe without being in a hurry and compare two stars at a time and then colour only when you are sure you have found the twins.

**The mysterious footsteps:** This morning Paoletto found footsteps of so many different animals in his garden. Only one, however, has passed twice leaving the same tracks. Can you tell which ones? Look carefully without rushing, compare pairs of footsteps and then colour the identical ones.

**The flowery meadow:** It is spring and the lawn of the school is full of many beautiful flowers. Anna wants to find the same ones to take them to mum and dad. Can you help her find the same flowers? Observe carefully, compare the groups of flowers two by two and then colour only the twins.

**Aim:** among many similar figures, identify two identical ones preventing hasty answers.

**Materials required:** photocopies of cards and markers

**Activity type:** Group work

<table>
<thead>
<tr>
<th>Teaching moments</th>
<th>Instructions to the teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attract and keep the children’s</td>
<td>Have the children sit in a circle, invite them to keep silence and to look into each others</td>
</tr>
<tr>
<td>attention</td>
<td>eyes. Fold your arms and shut your lips so as to act as a model of the correct position.</td>
</tr>
<tr>
<td></td>
<td>Have the pupils sit in a circle, invite them to be silent and to look at you in the eyes.</td>
</tr>
<tr>
<td></td>
<td>Fold your arms and shut your lips to act as a modal of the correct position.</td>
</tr>
<tr>
<td>Explain in a simple way the aim</td>
<td>Say: &quot;Today we will play a game that will help us to make good use of our eyes without</td>
</tr>
<tr>
<td>of the game to the children.</td>
<td>hurrying. You will have two pictures that are the same but you have to be careful because</td>
</tr>
<tr>
<td></td>
<td>I will trick you. There are pictures that are similar, but not identical. You’ll have</td>
</tr>
<tr>
<td></td>
<td>to find and paint only the twins.</td>
</tr>
<tr>
<td>Stimulate the memory of the</td>
<td>Ensure awareness of the concept “equal identical” showing the children similar objects but</td>
</tr>
<tr>
<td>pre-requisites.</td>
<td>with different details and objects which are identical in every way.</td>
</tr>
<tr>
<td>Present the activity</td>
<td>Handout a copy to the children, one at a time and describe it. Explain: &quot;Now you have to</td>
</tr>
</tbody>
</table>
|                                  | open your
<table>
<thead>
<tr>
<th>Make sure that pupils have understood</th>
<th>Invite the children to repeat in their own words how the game works. Give examples with drawings on the blackboard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guiding understanding</td>
<td>Urge children to think about the most effective ways to do this game well (for example, “a figure compared with all the other”).</td>
</tr>
<tr>
<td>Provide feedback</td>
<td>Better positive attitudes when carrying out the task (for example compare figures two by two, prolong observation of the details). At the end of the first card, get the children to reflect on their work and help the ones that have not been able to identify a more valid strategy. Propose other pictures.</td>
</tr>
</tbody>
</table>
| Make sure that each student has achieved the aims. | The teacher must observe if the students have:  
- performed the task without haste;  
- have identified the correct pictures;  
- were able to explain the strategy used and identified the reason for any mistakes |
| Conclusion                           | The children must complete the last metacognition card, specifying if they have:  
- immediately identified the identical figures without comparing them in detail;  
- observed the pictures just for a while but then got tired and coloured the pictures at random;  
- compared the pictures well one at a time with all the others and have checked that those chosen were exactly identical.  

The teacher congratulates the children and urges... |
them to self gratification ("I tried to look calmly, without being in a hurry ... I was good").

Card 3

Hunting for the letter 1

**Aim:** to identify a target letter recognizing it among others.

**Materials required:** a photocopy of the card with the colours in which some letters are represented, which are printed in capital letters inscribed in circles.

**Type of activity:** individual

The teacher says the following: "Now we'll have a game from Champions of attention. Many letters have been trapped in the bubbles in the box below. Your mission is to free B. Check the bubbles and colour only those that contain the letter with the two large front bellies.

Card 4

Look for the letter 2

**Aim:** to identify and circle a target letter recognizing it among many others.

**Materials required:** a photocopy of the card with seven lines of six letters in printed in capital letters and in pencil. (In each row there is, at least once, in a different position, the letter B)

**Type of activity:** individual

The teacher suggests: "Open your eyes well and look at the letters written on this page. Draw a circle around each letter B you can find. Look carefully and do not be fooled: B has two large front bellies!

Card 5

Be careful ... it's going to rain!

**Aim:** to identify a target letter recognizing it within a couple of letters

**Materials required:** a photocopy of the card that shows 14 bubbles of different sizes on three columns. Inside each one there are two printed capital letters Bs together with a vowel, in a different position (BA, AB, BO, EB, WB, IB, BE, AB, BI, OB, UB, BO, IB, BU).

**Type of activity:** individual.

The teacher suggests: "Look at the sky depicted here below: it is full of grey clouds ready to bring down the rain. There is only one way to avoid that happening: with the color red you must be able
to delete all the Bs you can find. Do not rush: look at the clouds one by one, look at the letters they contain and remove only the one with the two bellies in front.

Card 6

Burst the balloons

**Aim:** to identify a target letter by recognizing it within a word

**Materials required:** photocopy of card where there are 11 balloons with slogans printed on them in capital letters. These are simple words as (house, bank, bee, nut, book, sun, hole, shadow, ball, cap, bike) and well-sharpened pencil.

**Type of activity:** individual

The teacher suggests: "Now you can have fun and be spiteful. Look at the balloons drawn on this page, they have words formed by many letters. The game is to find the letters B hidden in some of these words. When you have identified them punch a hole in the sheet on the balloon with the tip of your pencil. But be careful: the balloons without B must continue to fly. Get ready, go!

**B. Learning activities included in the teaching approach.**

1. **Physical development, health and personal hygiene**
2. **Socio emotional development:** improvement of social skills related to activities with pairs and adults where attentiveness is important.
3. **Developing the language and communication:**
4. **Cognitive development:** self control and attention capacity, concentration.
5. **Skills and attitudes in learning:** attention is fundamental for most further learning processes

*How the developed attitudes and skills contributes to further learning stages*

**C. Outline one or more aspects that have led you to appreciate this approach as an innovative methodology and early screening are coming form an expert observer**

The precocious screening and training for children with attentive difficulties is probably the most innovative aspect of this approach. For children with special needs the early identification of these needs is often fundamental to prevent the development of more critical and even pathological consequences. The teachers are involved for an expert observation of the characteristics of their pupils and than to a first training that let them give indications to the family if to contact the sanitary services for a more detailed diagnosis. For the widening of attentive problems in our children, this subjects gain particular relevance.

4. **Didactic resources**

Arts and craft material

5. **The use of this approach in the research area**
the results before treatment, obtained by pupils in the individual semicircle tests, letter recognition, naming objects, naming dotted and interwoven objects, looking for two letters BL, searching for the sequence of TOC letters (time and mistakes) are the following:
- In the semicircles, 2 pupils reached the criterion, 11 showed a need of attention.

  In the recognition of letters, 1 pupil reached the aim, 6 showed a need of attention and 6 a need of assistance
  - When naming objects, 11 reached the aim and 2 needed assistance
  - In the interwoven objects, 2 pupils reached the criterion, 5 showed a need of attention, 6 a need of assistance
  - In the dotted object, 5 reached the aim, 4 showed a need of attention and 4 a need of assistance.

  In the search of the letters BL, 1 pupil achieved the aim, 2 showed a need of attention and 10 needed assistance
  In the search of the sequence of the letters TOC (time), 2 pupils achieved the aim, 6 showed a need of attention, 5 needed assistance
  In the search of the sequence of the letters TOC (errors), 8 children achieved the aim, 2 showed a need of attention, 3 needed assistance.

  The scores achieved by the pupils in the different tests were compared with those obtained from a large sample of the same age and put into three areas of performance:
  1. Aim achieved: the child shows adequate competence in the prerequisites of attention and visual learning
  2. Need of attention: the child has some difficulties that can be solved with individual teaching activities
  3. Need of assistance: the child shows serious difficulties that require immediate intervention, even specialized.

  After treatment, the number of pupils in the group who needed help decreased sharply and at the same time the number of children who achieved the aim increased. In fact, in the post-test:

  In the semicircles, 6 children achieved the aim, 6 showed a need of attention and only 1 needed assistance
  In the recognition of letters, 10 achieved the aim, 3 needed attention
  In naming objects all the children achieved the aim
  In the interwoven objects, 10 children achieved the aim, 3 children needed assistance.
  In the dotted objects, 11 children achieved the aim, 2 needed attention
  In the search of the letters BL, 9 achieved the aim, 2 showed a need of attention and 2 needed assistance
In the search of the sequence of letters TOC (time), 11 children achieved the aim, 1 showed a need of attention.

In the search of the sequence of letters TOC (errors), 11 children achieved the aim and 1 showed a need of attention.

In MF 14 test, with regards the latent period – i.e. the time gap between the presentation of the stimulus and the child’s first reply - the post-test shows that 9 pupils increased their ability to wait before expressing their own view, while 4 reduced it. However, comparing the latent period with the total number of errors made by the pupils, it can be noted that three of these children answered rapidly but correctly; therefore it can be assumed that the decrease in time for the first reply, in these cases, is not due to impulsiveness but to greater security acquired by the pupils in this type of test, thanks to the training carried out. At the end of the year, however, three problems were identified:

7. Pupil n. 7, has improved its ability to control its impulse response, but still ranks at the 19th percentile for time and the 5th percentile for number of errors;

8. Pupil n. 8, worsened both from the point of view of the number of errors and the first response time;

9. Pupil n. 11 who, despite having learned to wait before giving a reply, makes a large number of evaluation mistakes.

Before showing the test result of the little forgs, it must be pointed out that the early departure for the holidays of pupil n. 3 prevented the handing out of the end of training test.

In general the results of this test are more difficult to interpret. Three pupils have maintained a good ability in following the rhythm of the sound sequence, not missing the point, and stopping the movement reply on time, three improved and six gave a worse performance in June compared to October. What meaning can be given to these last scores? Was the training not effective in improving the ability of auditory attention and control of the impulsive response of these pupils? Undoubtedly fatigue at the end of the school year may have contributed to a decline in the performance of some children. In this test, only two obtained results which fall below the 20 percentile, n. 7 and n. 8, the same ones who didn't do well in the test MF.

Thinking in terms of class group, we can say that the project has overall good results. However, some children, despite the personal commitment and individualized educational intervention, are not able to draw great benefits from training. In addition to the cognitive difficulties, the teachers also found in these pupils emotional and behavioral problems that led teachers to suggest to families to seek help at the local services. It is hoped that early warning and early specialized interventions can help these children in the delicate moment of transition from kindergarten to primary school.

6. Advantages

The experience is an example of how it is possible to work with kindergarten children in the normal teaching courses in order to gather information on the state of learning and on important aspects of emotional and behavioral problems of the pupils, and to implement an early intervention in
order to prevent learning difficulties or improve school and social inclusion due to the fact that preschool children are very receptive to environmental influences, therefore prevention and early intervention programmes are particularly effective.

7. **Limits**

not related to the intervention itself, but the fact that in literature there are few descriptions of early intervention carried out at school.

8. **ICT and teaching approaches**

In kindergarten new technologies for communication are not widely present.

9. **Educational policies focused on promoting innovation in education**

If for innovation we mean the use of new technologies in school for pupils who are "digital since birth", the development programme of educational technology was launched in April 1997 with the Circular Letter 282 of the Ministry, with the aim of enabling all educational institutions to raise the quality of educational processes. Thanks to the widespread use of techniques and media technologies, there would have been an improvement in teaching and learning effectiveness and professional standard of teachers.

The programme lasted for four years and was divided into two main actions: the first (1st project) aimed at teachers was through the training of teachers themselves and the creation in the school of places of work reserved for them, the second (project 1b.), aimed at the use of multimedia in teaching. A subsequent circular letter, 196 in 1998, gave operational guidelines for accessing funding and urged schools to connect to Internet. It also foresaw a link to the website of the Ministry of Education and the European Centre of Education. Furthermore, it provided the website address of the BDP in Florence (Centre for Educational Documentation) and it promoted several European projects such as Netdays 98 and European Schoolnet. In addition, the circular letter advised on the opportunity to provide the school with a satellite disk to access broadcasts of cultural and national education.

The 1A project courses, lasting 48 hours, took place and had as its aim of study, the evaluation, processing, production of hypermedia, surfing the internet to search for information useful for this preparation. 1B Projects, characterized by technical choices, organizational, curricular and specific teachings were carried out independently by the individual schools. Throughout the country special projects were carried out (e.g. the teaching of English in primary schools) and pilot programmes that were original and served as models, as they were made available, and involve more schools in their implementation.

On the European level these signs were felt: the initiative "eEurope: An Information Society for Everyone", launched by the European Commission in December 1999, had the goal of making the EU by 2010, the economy of the most competitive and dynamic knowledge in the world by promoting internet connections. Since June 2001, the member countries approved the implementation of the eEurope Action Plan, which aims to accelerate reforms and modernization of the economies of the candidate countries, creating broadband access at competitive prices, making networks safe and spreading the use of information technologies in public administrations.
In this context the ICT projects fits in well with the indications launched by the Ministry of Education on two different levels:

- Circular letter 152 dated 18 September 2001 "Technological infrastructure in schools – Guidelines on work and finance for the year 2001";


TECHNOLOGICAL INFRASTRUCTURES

Circular Letter 152 aims to increase the use of internal resources for students, teachers and school staff, to improve the organization and increase school resources, to recognize the need for self-training and distance training of the school staff, to promote access to services on telecommunication network by all the school components. To enable to achieve these aims the Ministry allocates resources that serve to cable, at least in part, school buildings, creating a number of links on the net adequate to the number of pupils, together with devices to access the external network and telephone connection with wide network bandwidth large enough to allow multimedia educational work. Each regional management, at this point, operated independently, working group and workshops were created and in Lombardy, in order to raise awareness in the school staff involved in the innovation. In June 2002, schools were invited to apply for the basic funding of € 8,250.00 by filling in project forms where information on the initiatives started on the acquisition of the European Computer Licence (ECDL) thus starting “action a” of the project. At the same time, in the same month, instructions were also given to start “action b” which involved the aggregation of schools (school network) to encourage the creation of virtual communities, able to re-elaborate the best teaching and/or organizational practices related to the areas to be focused on, and to spread them on the network to be visible to others and to create “models”.

The National Training Project for computer and technological skills of school staff, object of C. M. 55/2002 concerns action "b" of the overall plan of ICT. All this had to be used by teachers for whom a special training plan had been drawn up, which was divided into three different levels: use of computers in teaching and school management (course A), coordination and guidance to the use of technological resources and multimedia in education (course B), configuration and management of technological infrastructure in schools (course C).

The teacher training would take place with specific courses undertaken by the participants present at the courses, self-training and through the use of tools and support services provided on the network. It was therefore necessary to build a platform accessible on the internet from which the material available for training could be downloaded, and selection of the class tutors who would attend specific training courses in order to standardize the training offered at the various schools. A website was organized by the National Institute of Documentation for Innovation and Educational Research (INDIRE) to achieve the first of these aims, a network environment on which to publish the material mentioned; Specific courses were organized at universities to train the tutors.

In the introduction to the training programmes of the “Guidelines for the implementation of the project ForlCT (ForTIC)”, it is specified that the teaching professionalism so far has moved on two axis:
knowledge of the disciplines and skills to design and manage learning processes in students. It was now appropriate to provide expertise to teachers on the use of technologies by providing them with tools to help with the organization and management of their professional activities, their cultural activities (Internet offers the possibility of obtaining useful materials for teaching subjects and the ability to communicate/collaborate successfully with colleagues and experts participating in debates and seminars from a distance), tools that would enable to improve and facilitate the learning process of subjects, on behalf of their students.

**TRAINING COURSES**

The action of ForICT starting from this basic situation that took into account the starting points of teachers, offers three training courses:

a) basic course “for users of technology for teaching” aimed at teachers with little knowledge within their educational field. This level should be achieved by all teachers, however, the number of participants is on average 20% of the permanent staff at each school (action A),

b) training course for the for people responsible “for the use of multimedia in teaching and technological resources” aimed at teachers who are already experts. At this course one teacher on the permanent staff takes part chosen by the head teacher. In total there are 15,000 trainees (action B),

c) training for “people responsible for the technological infrastructures in the school or school networks” aimed at teachers who are experts or specialists in ICT. This course involves people in all the country, therefore, as it is not possible to train a person for each school, the head teachers must decide to choose a person that can also ensure adequate technological assistance to several schools.

*Training course A (Basic Computer Course)* - offers 14 modules divided into two areas in which the trainee can build an individualized course by choosing 10 modules. The first area concerns basic computing and refers to the European computer license, the second explores the issues of cross-curricular subjects considering new technologies, teaching and learning models and the teaching professionalism with the presence of a module on some concepts of theoretical computer science.

*Training course B (teaching and technology)* - foresees 10 modules: innovation in the school, processes of learning/teaching, disciplines, learning environment, evaluation, continuing professional education, integration of disabled students, school management with the use of ICT, collaborating and learning in networking, training on-line.

*Training course C (Organization of Technological Infrastructure)* - It is divided in turn into two C1courses of 10 modules and C2 of 14 modules on the following topics: computer infrastructure within a school, hardware and software systems, fault detection, fundamental knowledge on networks (hardware, network operating systems, networks of networking, projects, administration and network management), structure and organization of the Internet, creation of web pages, creating and maintaining a website.

**THE TUTORS**
Several thousands teachers were found to perform the task of tutor in the classroom, a professional figure equivalent to that of the teacher-trainer. They were recruited from among the permanent staff on the basis of personal candidacy or amongst external experts (universities, training agencies, ...). In some regions, the running of the course was given to outsiders, in others the tutors came from school or mixed solutions were opted.

The choice made by the Local Education Department of Lombardy is interesting: Tutors' applications were collected on-line at a central point for all provinces by completing a series of information on skills and motivation. The assessment of the applications was operated by the regional school office together with the representatives of C. S. A. Some lists were produced, divided by province, by tutor candidates A, B and C from which the school headmasters of A course location and the Regional Administration for B and C courses drew to appoint their tutors. The tutors attended training courses (lasting from 32 to 80 hours depending on the course). In this way it was possible to exploit the talents already present in Lombardy, creating trainers of medium-high level, to be used for future initiatives. The work of self-education of the trainees was aided by a lot of material available online (and on CD-ROMs for action A) produced by INDIRE, INVALSI, ITD-CNR, Genoa, and from various regional administrations and by the material produced by the tutors in their training courses.

These initiatives are continuing with the National Project "Digital School", organized by the General Administration for Research, Statistics and Information Systems of the Ministry of Education, which aims at integrating technology in the teaching of subjects. The project aims at changing learning environments, the languages of school, work tools and content, thanks also to digital innovation which is expected to abandon the traditional concept of class as a closed environment where learning takes place, to arrive instead at creating a new learning space open to the world.

The actions currently implemented are two: the Cl@ssi 2.0 and the LIMs. The project Cl@ssi 2.0, began in 2009 in 156 last year classes of middle school (year 7 students), is seeking to modify the learning environments through a constant and widespread use of technology to support teaching. The idea of the project is to provide the participating classes with technological and multimedia devices and equipment for Internet connection. In addition, with the support of A.N.S.A.S. and a network of associated universities advanced teaching methods will be tried out.

The second action introduced interactive whiteboards (IWB) accompanied by projectors and PCs as the first step in a gradual process of innovation in teaching. The aim of the LIM is to do daily lessons in a digital environment. This digital innovation started at middle schools and will be extended to primary and secondary school levels. The training of 30,000 teachers has also been carried out as each school participating in the project must ensure the training of at least three teachers.

Rather than meeting a pressing demand for technological innovation expressed by schools, which in fact has always been weakly and sporadically manifested, it seems that the center's public initiative has been oriented towards persuading teachers to accept new technologies to align the data on computers present in schools to the parameters imposed by the international framework, especially of those under the Lisbon agreements.
Investments, which were quite substantial, were first directed to the purchase of equipment and later to the development of human resources with the training of teachers. The “For ICT” project has involved nearly 250,000 teachers, more than a quarter of the entire teaching staff.

The more recent projects, first the widespread of digital whiteboards, tend to unify two trends: there is a return to financing the purchase of equipment but associate to the purchase of projects aimed at training teachers involved, thus shifting the focus of the courses from computer skills to teaching integrated subjects.

It must be said, however, that teachers are concerned about the widespread of new media in all aspects of society, the pervasiveness with which they invade every moment of the lives of their students and teachers often complain about the negative effect new media has on education. It is an issue that cannot be ignored because it can result in a potential closure towards innovation.

As regards the use of video games, about a year after the presentation of the European study "Games in Schools" - in which the project "learn by playing" was presented by the IPRASE of the Autonomous Province of Trento with its outcomes after 4 years of experimentation - AESVI, the trade association of the game industry in Italy signed a protocol of understanding with the Ministry of Education, University and Research, which foresees the support plan for digital innovation in the school in the following three main areas:

1. The development of pilot projects for the use of video games in schools as support teaching to:
   a. Help start an innovative and modern process of the education system through information and communication technologies, in particular video games;
   b. Assess the potential of video game entertainment for learning in the light of current knowledge of the learning process;

2. The promotion of an informed use and awareness of videogames and widespread study, it implements the PEGI rating system and PEGI Online

3. Promotion of culture on legality, especially with regard to the use of online video games and the protection of intellectual property on the Internet.

The first implementation act of the protocol was the GREIS project (Role Plays and Social Interaction), developed by ANSASS (National Agency for the Development of Educational Autonomy) with the scientific help of the Study and Research Center of Communication Psychology of the University of the Sacred Heart of Milan in collaboration with AESVI and Blizzard Entertainment.

It started with the aim of evaluating the potential of video games and, in particular, of the MMORPG (Massive Multiplayer Online Role Playing Game), as instruments for the promotion of social relations in teenager contexts, experiments involved 149 students from the Scientific State Liceo "G. Marconi" in Milan, with students aged between 14 and 16 for a period of three months, between October and December 2009.
As regards the use of electronic games for language learning, a significant testimony was gathered in a language laboratory of Italian as a second language.

During the school year 2008/2009, with the project "Open Schools" of the Ministry of Education, University and Research, some extra tuition laboratories of the Italian language were organized for Spanish-speaking students aged between 11 and 16 years of age attending a middle school, with a short period of study of the Italian language- on average, the students had been in Italy for a few months, with some exceptions of students who had arrived in town a few weeks earlier.

On this small, yet statistically significant sample, an educational game was tested to learn the vocabulary of the most frequent Italian words which in schools that are most frequently and easily used.

The game, called "50 words", is part of a research project on the acquisition of vocabulary through games, and it has been specifically designed for this age group and targetted for the local immigration office with an appropriate software. The game was created on a previous project on the French language, that is "a simple game designed to make children learn thirty French words. The protagonist is Pacman (a video game star of the eighties), which must be driven to" eat "the objects that are shown in the French language "(Carosso 2009).

After giving this game to a class of learners, who has shown great enthusiasm in the use of a tool such as the computer, that is used so rarely in school, a bilingual questionnaire was handed out to the class, in order to get the opinions of students, direct users of the product.

Divertinglese (Enjoy English) is a joint project with the Ministry of Education and Rai Educational which started in 2002 as language learning programme. It started on TV and passed on to the web, accompanying students and parents to learn English and ensuring in particular the enjoyments element. A large number of television series are shown to the viewers, who are primary school and middle school children. Each television serie is divided into several episodes. The video shown and the educational activities panned are divided into target groups and by levels of difficulty. The main aim is to encourage communication and intercultural skills. In particular, the emphasis is on improving the listening ability. The videos are shown in the original language, produced in several different English-speaking countries in order to make the children listen to the pronunciation and intonation of different varieties of English which is a pluricentric language. In regards to the speaking activities there are karaoke activities so that the children can repeat the grammar and vocabulary acquired.

The teacher’s role becomes important above all during the feedback and when putting forward the teaching activities that the site offers to teachers who have registered (for free). At this stage of re-elaboration of the contents learnt, the video game aspects of Divertinglese can be intergrated with the activities suggested on site. There are multiple choice exercises to check understanding of the video, drag and drop activities on the reorganization of the sequences and cards containing simple grammar cloze type exercises. It is also possible to download the storyboard of each episode from the site, which could be used to be acted in class, as well as, preparing role plays.

ISFOL (Institute for the Development of Education in Workers) is also involved in the design and testing of educational applications of simulation and serious games. It specifically studies, designs,
implements, practical experience-based training and educational applications of simulation models inspired by the emerging paradigm of serious games. In a strongly research view, collaborations have been started with different aspects of the university and research worlds to promote the exchange of know-how and experience.

Currently the collaborations involve:

- University of Sannio - Department of Legal, Political and Social Studies "Persona Mercato and Institutions"
- University of Naples "Federico II" laboratory for the study of natural and artificial cognitive systems (NAC)
- University of Salerno - Department of Computer Science and Applications - Research Laboratory ISISLab

The following studies were done:

- Study of serious games from a theoretical, methodological point of view and technical-implementation;
  Drawing up serious games and simulations to experiment in educational and professional contexts with a focus on university law studies and postgraduate (project SimuLex);
- Identification of educational and professional contexts best suited for the testing of hypothesized learning models and devised tools;
- Organization on research topics of interdisciplinary confrontation involving the field of research, institutions and professions;
- Development of joint research projects in view of participation in national and Community tenders
- Circulation of scientific results through seminars, conferences and publications.

end of module

There are no systematic data on the actual use of monitoring equipment that is installed in schools. There is a widespread feeling that most of the machines become obsolete before schools are
able to make full use of them and that some of them end up unused or not used fully, or not easily accessible to teachers and students. We must continue to insist on the professional attitude of teachers to overcome this resistance and start a discussion on more specific aspects of their work.
6.3.4. *Dalton Plan Pedagogy*

Contributor: WYŻSZA SZKOŁA INFORMATYKI-PEDAGOGY AND SCHOOL4CHILD, Poland

1. **Target group**

Target group of 3-6 years (the concept also has a continuity in the older age groups, there are secondary schools, high schools and even universities working this way - this state of affairs shows patency of the method). Successfully the method has its justification in the group of children with a variety of developmental deficits. This does not include children moderately or deeply disabled.

2. **Keywords**

autonomy - responsibility - cooperation

3. **Description of teaching approach**

A. **Summary**

Dalton Plan Method provides students with ample opportunities of being able to:
- deal responsibly,
- work independently,
- work with others,

According to the concept of Dalton Plan Method one should go beyond one’s habits, and the dominant role should be left to students. Thanks to entrusting students with responsibility for the learning process, the emphasis moves from the exercise of command, often very time-consuming, in the direction of a true mastery of the material. The main burden of motivation for learning is transferred to the student.

Children learn autonomy through the accomplishment of their duties. The tasks are in fact designed so that children can manage to complete them by themselves without further explanation.

Appropriate visualization system determines:
- forms of work: individually, in pairs and in groups,
- the amount of time for the task,
- strong qualities of individual children in the group,
- various stages of the tasks within the day – timetable
- the current day of the week,
- types of tasks to be performed during the week

Children learn to work in different groups, whose main goal is to complete the task by all members of the group. Children participating in the educational process can decide by themselves about the time and the type of group in which they carry out a pre-planned schedule. The work being accomplished, a child assesses his/her satisfaction with his/her work, and thanks to the self-control system, he/she can check the correctness of their actions.

B. **Learning activities included in the teaching approach.**

**v. Physical development, health and personal hygiene**

Implementing the Dalton Plan Method, based on multiple intelligences by, Howard Gardner concept, provides an internal harmony and an equivalent development. Children regulate time and
activity breaks in a fairly natural way, which facilitates the development and hygiene of their working time.

vi. **Socio emotional development**

Children learn to perform a variety of tasks prepared in advance by the teacher that the children choose by themselves. They learn independence by doing tasks without unnecessary explanations of a teacher. As a rule, a child performs as many tasks as possible by himself/herself. If he/she needs help, he/she asks the tutors—those children who have already mastered a particular skill such as tying shoes, and the teacher is treated as the last resource of help.

vii. **Developing the language and communication:**

It is essential for the children in the early years of education to be taught to cooperate with anyone. The basis for cooperation is communication. The first years of education are the perfect time to acquire basic communication skills such as listening to each other, keeping the group, quiet talking, sharing knowledge with each other, being kind to respond to each other, etc. Working together, children naturally improve communication by developing the ability to listen and understand. The principle—ask three before you ask a teacher—develops in children the so-called transferred attention, which gives time to think about the problem and what really motivates children and community to seek solutions before a child gets a response from the teacher.

viii. **Cognitive development:**

Each of the above mentioned activities is equally developed by the children in accordance with the principle of multiple intelligence. Children, under previously accepted assumptions, achieve the cognitive aims at specific levels including a variety of opportunities to understand and the pace.

C. Dalton Education stresses the importance of children learning to learn, encourages collaborative learning, in particular, enables children to:

- flexibility in carrying out the activities,
- learn responsibility for themselves and others,
- ensure the implementation of the activities at their own pace and time,
- ability to engage in various activities at the same time,
- learn the skills of assessment of their work and the cooperation with others.

4. **Didactical resources**

- Dalton Clock

- Colorful symbols of the days of the week

- Worksheets in graphic form

- A board for planning the time and forms of work

- Duties pictograms

- Daily schedule pictograms

- Class arrangement into corners of interests

5. **The use of this approach in the research area**
Dalton Plan educational concept was developed by Helen Parkhurst. It was established nearly 100 years ago (in 1926) in the United States. Since 1985 has been successfully implemented in the Netherlands. Worldwide it can be found in Japan, Germany, Czech Republic, Austria, the USA, Spain and Senegal.

In Poland, this trend has been developing since 2008. The first kindergartens and schools have been already established and this method is already appreciated by the educational environment.

6. **Advantages**

- Children learn autonomy in carrying out their tasks
- Children are willing to work in different groups, the composition of which constantly changes
- Children plan the number and type of tasks within a specified time
- Children are integrated as a team and willing to work together – the stronger students help the weaker ones

7. **Limits**

The change of a teacher’s mentality and acceptance of the principles of working with children by taking into account the responsibility, autonomy and cooperation. The ability to perceive what the child already knows and to go further with the work, instead of basing on what a child does not know yet.

8. **ICT and teaching approaches**

Any type of media can be applied to the plan – an interactive whiteboard as well as a computer lab for individual work proves very helpful in the plan.

9. **Educational policies focused on promoting innovation in education**

The foundation of the Dalton Polish Association, the introduction of methods to kindergartens and schools. The creation of groups of consultants and trainers of the Dalton Plan within the country. This type of work takes into account the need for individualized education tailored to the needs of the children.

[www.plandaltonski.pl](http://www.plandaltonski.pl)
6.3.5. A different school

Contributor: University of Bucharest, Romania

1. Target group

Children between 3 and 10 years old, children with mild disabilities included

2. Keywords

Open space, Interactivity, flexibility, Creativity, intergenerational learning

3. Description of teaching approach

A. Summary

In each semester, in kindergartens and schools, during a week there are organized different activities which are held outside the classrooms. It is a governmental initiative, which connects the NGO’s, different companies and other persons with kindergartens, schools.

The main scope of this programme is to involve preschool children, parents and didactical staff in activities which respond to the children’s interests and preoccupations, in different domains, not specifically in those which are to be found in national curricula and to stimulate them to participate in various and complex actions, in nonformal contexts. Each school has the opportunity to organize the activities according with children’s needs, encouraging parents’ participation together with their children.

The activities can be related (and not only) to: cultural activities, scientific and technical activities, sports, citizenship, activities to promote human values, activities to promote a healthy lifestyle, ecological education and environment protection, education for a correct reaction in emergency situation, so on. Children can visit museums, factories, places of interests can participate in different workshops, open lessons, can go in parks, so on.

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene

The activities are organized outside school classes and the physical activities are the most and obvious activity, being encouraged through a variety of actions planned for children. Visits in parks, to museums or in other places involve activities for physical mobility. The open lessons have to include subjects as health and personal hygiene. If the school decides, doctors can be invited to speak to the children about the importance of hygiene in a healthy life.

ii. Socio emotional development

Through the interactions with adults children a complex of relationships occurs and children have to manage a large category of emotions to strengthen the self confidence, to improve communication skills, and creative thinking.

iii. Developing the language and communication:

Children can participate in thematic workshops, can interact with other children, small plays in which they all are small actors. A special activity I dedicated to the learning new words, with explanation of meanings.
iv. **Cognitive development:**
Problem solving, practical activities aiming at achieving knowledge according with developmental stage.

v. **Skills and attitudes in learning**
Collaboration and competition is encouraged, teachers have the opportunity to organize competitions on different themes, more children are encouraged to propose different activities to be performed during this week.

C. This initiative brings important changes in a traditional school in which most of the activities are inside classrooms. The approach brings novelty and creativity, developing different activities in which children to be in contact with events, places and people impossible to reach in daily activities.

4. **Didactical resources**
No specific didactical resources required.

5. **The use of this approach in the research area**
This activity is planned for a week, for each semester and it was implemented in all schools, kindergartens all over the country.

6. **Advantages**
- Stimulates both children and teachers creativity
- Flexibility in program organization
- Independent and team work and collaboration
- Parents and other family members are involved – consolidating relations between children and parents
- Minimum costs
- Personalized learning

7. **Limits**
No limits

8. **ICT and teaching approaches**
Depending on the activities planned, ICT can be involved or not.

9. **Educational policies focused on promoting innovation in education**

Innitiaves to organize in universities maseratal programmes dedicated to teachers, educators, with the main aim of guiding them to implement Computer Aided Instruction in their classes and disciplines.
6.3.6. The Sensorial Integration in the Multisensory and Relaxation Classrooms.

The Sensorial Integration in the Multisensory and Relaxation Classrooms.

Special Education School Gloria Fuertes, Andorra, Teruel, Spain

C.E.E. Colegio de Educación Especial Gloria Fuertes, Andorra, Teruel, Aragón”

Contributor: Aragon Government, Education, Culture and Sport Department- Administrative Education Directorate Department.

1. **Target group**

Children between 3 and 6 years of age who are pupils of the Special Education School Gloria Fuertes in Andorra Teruel Spain.

2. **Keywords**

Sensory integration, multisensory and relaxation classroom, vestibular system stimulation, tactile stimulation, proprioceptive stimulation

3. **Description of teaching approach**

A. Short description of teaching approach

This article shows some conceptual aspects and several practical experiences in educational intervention in Multisensory and relaxation rooms at the Special Education School Gloria Fuertes in Andorra Teruel Spain. Some of its main characteristics are explained in order to explain the theoretical framework where these experiences have been developed. The state school of Special Education Gloria Fuertes attends to children with specific educational needs, associated to different types of disabilities.

The school Gloria Fuertes has four specific classrooms. It has a distinctive character of school and social integration. This school has no architectural barriers and all the spaces within are specially adapted and are signposted using a pictographic system of communication. (This system of communication using pictograms was designed as a project financed by Department of Education, University, Culture and Sport-Government of Aragón, Spain and the Department of Industry and Innovation of the Government of Aragón and forms part of the action plan of the Aragon Centre of Technologies for Education, a centre which depends on the Department of Education, University, Culture and Sport-Government of Aragón, Spain)

Children with significant special educational needs start in this centre between the ages of 3 and 6 years old.

The general framework of the educative action contemplates, among other aspects, the continual participation in projects of innovation and investigation. The team of teachers and other members of staff have a common denominator which is the fact that they work in favour of people with disabilities.

The Multisensory and Relaxation room was designed in 2002

B. Learning activities included in the teaching approach.

   i. **Physical development, health and personal hygiene** (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security), theoretical frame of their approach in building skills and attitudes for a proper development.
ii. Socio emotional development (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

iii. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing. A special attention should be played to vocabulary development and methods for achieving this goal.

iv. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.


How the developed attitudes and skills contributes to further learning stages

The methodology of the educative intervention in multisensory and relaxation classrooms arises because of the need. This need to systematize an organized series of proposals which mark each of the sessions and which can be carried out using the apparatus in the classroom. We wish to point out that these proposals should be adapted to each individual child, physical characteristics, materials and the space available. We are going to enumerate and briefly describe each of the interventions.

Anticipation: before going to the classroom it is convenient to anticipate using sensorial stimulus what the child is going to find in the classroom: a fragrance, a tactile stimulus, a visual stimulus

Choice of place for initial ritual: place the child in the same place of the room where the necessary shoes and clothes need to be removed

Psycho physiological register: it is important to measure different parameters such as heart rate and the level of oxygen in blood.

Basic principles: the interaction takes place with the child according to the following 3 principles (symmetry, contrast and rhythm)

Inhibiting postures of reflex actions: we recommend different postures which can help in inhibiting reflex actions.

Help with reducing repeated actions, the help can be applied to arms and legs and. positive reinforcement is given when the child has collaborated in the action

Tactile stimulation is applied directly on to the skin. They are superficial stimuli which reach the different layers of the skin.

Proprioceptive stimulation uses profound and intense stimuli in articulations and muscles. These stimuli are repeated two or three times at intervals of 15 seconds in both sides of the body.

Programme of passive movements using a soft mattress or water mattress and letting the arms and legs passively fall.

Stimulation with optic fibres can be carried out with one or more fibres carrying out different games.

Stimulation with mattress of vibration massage aims at achieving the physical relaxation of the child but in an alert mental state.
Stimulation with bubble columns permits the child to feel a vibration at the same time as a visual stimulus is emitted.

Stimulation in pool of balls works on different aspects such as submerging oneself totally in the pool of balls and discovering sensations and working on coordination.

Stimulation with light and sound panel works on the necessity to get used to total darkness and among other things to be able to produce sounds.

Stimulation with tactile panel works on the sensitivity and lack of sensitivity in hands and fingers, the work can be passive and active.

Final ritual implies turning off the music and then turning on the neutral light. The child is led to the same place as where he started, and the psycho physiological register is measured again taking different parameters such as heart rate and the level of oxygen in blood.

We are going to describe a practical application of this methodology.

The case study we present here is that of a boy who is 5 years old who has cerebral paralysis in the right hemisphere, with alterations in the rest of the development areas. As a consequence of this the top right limbs present a certain spasticity in the flexor muscles, with flexing of the elbow, retraction of the shoulder in internal rotation, flexing of the wrist and fingers and pronation of the forearm. This position is fixed but above all when other activities occur in which the right arm does not actively participate, such as walking, running, walking up and downstairs. He is actively capable of opening his hand and is able to extend his elbow to rest on it and to throw a ball. When rhythms are marked out, he is able to imitate them with his left hand. If he is offered an abject, he takes it with his left hand, turning his torso when necessary when being offered it on his right.

With regards to the lower limbs he uses a non articulated ferula. When he does not wear it, he walks with his toes in a twisted position and his right heel raised.

From the area of physiotherapy the treatment focuses on: passive stretches of the hypertonic muscles of the top right hand part of his body. Functional work of the top right limb takes place. Functional work of the lower limbs: walking and moving about in different places of the school, ramp, stairs, gardens and very irregular terrain is also carried out.

With regards to the development of language, he presents a very serious delay in oral language but has shown a very positive evolution in the development of the three linguistic dimensions since he has been in the school.

Now he uses signs and symbols picture graphical systems such as augmentative systems of communication, supporting the development of his expressive and comprehensive language, with different functions: anticipation function (using a visual agenda); petition function (with a keyboard for choosing) and the information function (with the communication notebook).

Besides, he uses oral language with different functions: petition function; reject function; interactive function, and informative function.

On occasions, a pragmatic deviation of oral language is observed with the use of immediate echolalia and or deferred in time to attract the attention of the adult, avoid a task. Faced with this kind of non-functional use of the language, the adults who are present in the school have agreed to ignore these kinds of oral productions.

He uses the auditory canal as a preferential way of processing information. He has a great capability of imitation with regards to language and to the melodies of songs. His vocabulary is in
constant evolution. Given the level of language that he has, it is the example we take to be able to show the relation of this language with the representation of the stimulation received.

Multisensory classroom and relaxation room: water mattress

The general methodology of intervention, explained above can be summarized in the following aspects:

We begin all of the sessions following the same entry ritual

First, he is picked up from his classroom and this activity is anticipated to him through the use of a photograph of the multisensory classroom that he himself selects from the agenda.

Secondly, we enter in the classroom with the lights on and he sits on a chair. He takes his shoes off and he is shown the elements that we are going to work on. At times he is given the option of choosing an element from two photographs. At this point the psycho physiological steps begin

Thirdly, we turn off the white neutral lighting and we turn on the lights of the selected apparatus, at the same time verbalizing the actions and saying what we are going to play at. Fourthly, we begin the intervention with the water mattress.

Spatial position stimulation. In the first contact with the mattress, AVD experiences the swaying movements that occur. After, due to the experience, he perceives and recognizes the different types of swaying movements, more or less intense, with a longer duration, with different rhythms. Finally, he asks for a repetition of the swaying movements that he wants and when he wants: “More!”, “Again!.

Besides the work about the sequence we have commented on, this element also permits us to encourage the relaxation of the child he can be more receptive during all of the intervention.

Own body perception (being conscious of the state and position of the muscles and articulations.) a series of pressure points are exerted on his hands and along the top and lower limbs. We follow the sequence announced at the same time as the different parts of the body are named: shoulder, arm, elbow, wrist and hand, hip, leg, knee, shin, ankle and foot. Through these pressure points on the muscles and the articulations, AVD becomes aware and feels experiences.

These experiences are repeated in each session as a game, on both sides of the body but above all on the side he has most affected (as it is where he is less aware of and has less motor and sensory experience), and this repetition affects how he perceives, recognizes and begins to verbalize, and even can anticipate the pressure, in each one of the affected parts of the body.

Tactile stimulation in a similar way, through the shared manipulation of the light fibres, AVD experiences different sensations in his body. Different actions are carried out: gentle strokes on his head, arms and legs; taking the light near to his eyes; rolling the lights around his articulations; and introducing them under his clothing.

After, he can recognize how and where he perceives sensations and can make a mental representation of them which permits him to be able to ask where and how he wishes to receive the fibre stimulation.

The session finishes with the exit ritual: the light of the apparatus is turned off, the neutral white light is turned on, at the same time as what is happening is verbalized. He is accompanied to the chair to put on his shoes. In his communication notebook, we put the photographs of the apparatus and the materials used so he can tell his tutor what he has done. This allows another form of representation, using a system of support to oral communication, as we have said.

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.
The team of teachers of Special School Gloria Fuertes of Andorra, Teruel works using the concepts of renovation, pedagogical innovation, and rehabilitation.

Within a subject area such as multisensory and relaxation rooms, it is inherent that innovation must form a part of it, since the techniques and the technology itself is constantly moving forward and changing.

This project unites the pedagogical work in schools with the theoretical framework and the latest technology.

The Special Education School Gloria Fuertes of Teruel is at the forefront of the use of these techniques.

4. Didactical resources

These resources with a special treatment of light and sound and with specific equipment and materials which help to locate primitive, intense, holistic and emotional content which generate adapted responses. We find specific resources such as: the musical water bed, bubble columns, the beams of luminous fibres, vibration massage mattress, tactile panels, light and sound panels, ultraviolet lights, mirror balls, the oil projector the hanging luminous panel and the pool of balls.

5. The use of this approach in the research area

The educative intentions which have guided the setting up of the multisensory and relaxation rooms of the school Gloria Fuertes can be summed up in these two broad objectives.

Help access to, through sensorial - perceptive organizations and primary body experiences, individualized communication with children with serious disabilities.

To make possible bodily experiences, through relaxation and calm to feel better in the control over actions and in tone-emotional behaviours.

Other Schools of Special Education of Aragón have multisensory and relaxation rooms.

6. Advantages

Undoubtedly the advantages of this approach are the improvements and positive development that the child undergoes. He receives a one to one attention, adapted perfectly to him. The objectives are clear and the intensity of the sessions can be adapted to each child.

Furthermore, the evaluation process of the successes and positive development is mapped out with the presence of clear indicators.

7. Limits

The limits could be seen to be that it is a technique which is applied on a one to one basis.

8. ICT and teaching approaches

The specific resources and equipment that has been described earlier.

9. Educational policies focused on promoting innovation in education

6.3.7. Project of Raising awareness "We construct the future with and from the difference"
C.P.E.I.P Ramón y Cajal in Cuarte de Huerva (Zaragoza)
Colegio Público de Educación Infantil y Primaria

Contributor: Aragon Government, Education, Culture and Sport Department- Administrative Education Directorate Department.

1. Target group
CPEIP (Colegio Público de Educación Infantil y Primaria) Ramón y Cajal in Cuarte de Huerva (Zaragoza).

This project is addressed to all of the children of the centre and covers all the educational levels where there are children with specific needs of educational support, especially children with Austitic spectrum. Nevertheless, despite being addressed to all of the children of the school we are going to focus on the 2nd cycle of infant Education 3-5 years old.

The children are heterogeneous. Several children with autistic spectrum are integrated in the classrooms, these children have different levels in the areas of development. Children with Autism present some general characteristics, among which we find communication difficulties, anticipation, flexibility, social relations and social interactions and emotional expression and comprehension. Nevertheless we find differences and different grades within the Autistic spectrum.

2. Keywords
Autistic spectrum, augmentative systems of communication, inclusion

3. Description of teaching approach

A. Short description of teaching approach

Children involvement in the learning process, stages of the lesson, how the teaching is planned, executed.

Partners should provide a theoretical frame of such type of activities in their region/country and a brief description and arguments of its innovative aspects. (A method in use can be applied in an innovative way or a completely new method)

The creation of this project is justified because of the change of CPEIP Ramón y Cajal of Cuarte de Huerva to a centre with preferential integration of children with autistic spectrum.

The constitution in this centre to become a preferential centre for the integration of children with autistic spectrum involves the consideration of some basic work principles. Within these work principles we can include the functioning of the centre and of the classroom of autistic spectrum.

Here are some of the basic work principles: Inclusion, permitting the participation of all the children in all the activities of the centre, responding to diversity and considering diversity as a source of school and social enrichment, equality of opportunities, adapting ourselves to the possibilities each one has, improving the quality of life, assuring the full and complete development of all the children, encouraging respect, tolerance, empathy and finding value in the difference because all of us are different.

We are going to concentrate on the key methodological principles to be able to carry out the different activities included in this project. The child has an active role in the learning process, developing skills to be able to obtain and transform information, relate it with previous learning and
guarantee significant learning. Work will be focused in a global way which permits the integration of experiences and learning. It is important to encourage self esteem and to encourage the social integration of the children offering a comfortable surrounding which promotes social relations. The dynamics of play, stories and information and communication technology will ease in the guaranteeing of motivation towards learning and the significance in learning. Educating in values should be a fundamental part in all areas of the curriculum.

Collaboration and coordination with families, to establish common lines of actions, to help in being able to guarantee, in a natural way, the generalization of learning in different contexts.

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security), theoretical frame of their approach in building skills and attitudes for a proper development.

ii. Socio emotional development (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

iii. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing. A special attention should be played to vocabulary development and methods for achieving this goal.

iv. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.


How the developed attitudes and skills contributes to further learning stages

This project of raising awareness takes place over six sessions in one week, it is composed of several tasks and is included in the school’s programme of the development of social skills.

With regards to the second cycle of Infants, different activities take place to encourage a full development in the different development areas. Physical, communicative, cognitive, social and the area of emotional and social learning.

Firstly the introduction by the teacher of the task in question, presenting the story of “Elmer”, adapted using a power point and introducing picture sequences .(ARASAAC and ARAWORD. (This system of communication using pictograms was designed as a project financed by Department of Education, University, Culture and Sport- Government of Aragón, Spain and the Department of Industry and Innovation of the Government of Aragón and forms part of the action plan of the Aragon Centre of Technologies for Education, a centre which depends on the Department of Education, University, Culture and Sport- Government of Aragón, Spain)

Afterwards, the same story is to be seen in English. Some of the exercises are oral expression about the most important aspects of the story, underlining the most important ideas of the story.
of signs (colours and animals...) used by their classmates with autistic spectrum, order a temporal sequence of the story of Elmer in small groups.

Images adapted in a power point under the motto “It’s good to be different”, presenting different qualities, based on pictograms.

Oral expression related to each one of the pictures takes place to help the children understand that it is good to be different.

The games used reflect the difficulties and different ways of communicating with people with visual and hearing impairment. Exercises of hearing discrimination, games using sign languages and verbalizing the difficulties we find when we can not use our sense of sight are other examples of activities carried out.

Another example of a specific activity is the use of poetry adapted with pictograms “We are unique”, memorization exercises take place and reciting poetry.

Learning the song / “Simon says..” , a song which works on the physical differences using the corresponding gestures and actions.

Apart from these specific activities for Infant Education other group activities are proposed where the totality of the children participate collectively to give cohesion to the contents and favour the integration of all of the children.

We highlight the following group activities:

* Painting a mural of the elephant Elmer in the playground. All of the educative community collaborates in the construction of the mural of Elmer with the motto of the project.

* The outline of a silhouette of Elmer to take home and decorate with the family, explaining that they need to be creative and use different materials is another example. Once the outline of the silhouette of Elmer is decorated at home they are used to decorate the passage ways of the school.

* Directed Playtime: using the space outside is fostered. The game of the ribbon or the chain, with the objective of learning to cooperate everyone together to be able to achieve a joint objective.

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.

Encouragement in giving value and actively promoting respect towards individual differences, thinking highly of diversity and treating it as a source of personal enrichment, learning to live and learning to live with others is a fundamental aspect in the promotion of acceptance between children in general and specifically related to children in risk or in a disadvantaged situation.

4. Didactical resources

The didactical resources with regards to human resources include the team of attention to diversity.

With regards to material resources, it is important to count on Information and communication technology such as computer, projector, internet access to be able to project in power point the songs.

The adaptation of different material using pictograms extracted from ARASAAC and ARAWORD. (This system of communication using pictograms was designed as a project financed by Department of Education, University, Culture and Sport- Government of Aragón, Spain and the Department of Industry and Innovation of the Government of Aragón and forms part of the action plan of the Aragon Centre of
5. **The use of this approach in the research area**
   This project and method promotes positive attitudes which favour social inclusion and focuses on the capability of having empathy towards others.

6. **Advantages**
   The advantage of highlighting and giving a leading role to a situation means that you are speaking about something. The advantages of speaking about something helps in the finding solutions. Among the advantages we highlight the fact that all of the children are involved and that there are activities which contemplate the direct involvement of the families.

7. **Limits**
   As with any technique or approach at this level of education we need to ensure a repeated exposure to have more guarantees of a successful result above and beyond the time of direct instruction.

8. **ICT and teaching approaches**
   With regards to material resources, it is important to count on Information and communication technology computer, projector, internet access to be able to project the songs in a PowerPoint presentation.

   The adaptation of different material using pictograms extracted from ARASAAC and ARAWORD. (This system of communication using pictograms was designed as a project financed by Department of Education, University, Culture and Sport-Government of Aragón, Spain and the Department of Industry and Innovation of the Government of Aragón and forms part of the action plan of the Aragon Centre of Technologies for Education, a centre which depends on the Department of Education, University, Culture and Sport-Government of Aragón, Spain)

9. **Educational policies focused on promoting innovation in education**
6.3.8. Project of Innovation with Tablets PIT1 in the 2nd cycle of Infant Education (3-6 years of age).

Contributor: Aragon Government, Education, Culture and Sport Department- Administrative Education Directorate Department.

1. Target group

The children’s ages range from 3 to 6 years old. Within the schools of Infant Education of the Autonomous Community of Aragón there can be children who are considered “at risk” according to the definition in Eurydice in each of the schools.

2. Keywords

Tablets, interaction between children, cooperative learning, ICT introduction in Infant Education, cognitive development using ICT, Digital competence

3. Description of teaching approach

A. Short description of teaching approach

As part of one of the aims of the General Directorate of Educational Policies and Lifelong Learning this study, which will shed light on the impact and potential of the use of technology in Early Years education, has been commissioned in the school year 2012-2013. Aragón has a framework for the development in ICT and this is reflected in its curriculum.

As has been proved in studies carried out internationally previous to the year 2012 there is a broad move within society from the dominance of word to the dominance of image and the same phenomena occurs with a move from the medium of the book to the medium of the screen.

We aim to gather evidence on the potential of technology to support the development of the children who use it. There is certain evidence which suggests that children aged between 0-6 years old are growing up in an environment which is rich in technology of different types. In general, young children seem to be confident with new technology and are ready to explore new gadgets and equipment.

We have taken as a base information the fact that technology can contribute to three main areas of learning: development of attitudes to learning that link through personal, social and emotional development and across early years learning.; the extension of knowledge and understanding of the world, problem solving, reasoning and creative development; acquiring of certain operational skills.

The development of positive attitudes to learning which link their social development and promotes interaction between children is to be studied.

Within the area of cognition we aim to determine the extent to which perceptive discrimination, memory reasoning and other general school skills and conceptual development are affected by the continued and guided use of tablets.
Progressively the use of electronic supports can be regarded as a social activity and often takes place in a shared environment. The sharing of experiences and opinions is one of the elements we wish to explore.

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene (for physical development: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security), theoretical frame of their approach in building skills and attitudes for a proper development.

ii. Socio emotional development (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness)

iii. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing. A special attention should be played to vocabulary development and methods for achieving this goal.

iv. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.


How the developed attitudes and skills contributes to further learning stages

Given that there exists a general global nature of the structure of infant education the use of the hardware and software must comply to this structure.

A very careful selection of different applications to be able to offer multiple activities are installed in the tablets. Teachers may also make use of material that they may have which is formatted in Android.

The children are not only allowed to interact between each other but encouraged to do so by the teacher. During the first sessions the children are to be guided little by little finally reaching the point where by they are allowed a certain amount of freedom in the choice of what applications and activities they wish to do.

Contents and the applications available aim at fostering positive development in the following areas:

- social development as the use of technology develops abilities to interact with other children,
- acceptance and respect diversity,
- developing pro-social behaviors;
- emotional development:
• communication development
• Cognitive development in general (perceptive discrimination, memory reasoning and other general school skills and conceptual development)
• Skills and attitudes in learning: curiosity and interest, initiative, persistence in activity, creativity.

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.

For this autonomous community within the framework of Innovation it is the first time that a project of this kind takes place. Irrespective of the fact of the novelty of this endeavour it is necessary to contemplate the typology of educative innovations according to the way in which they are carried out. These typologies contemplate different aspects.

Within this innovation in particular we are dealing with an innovation of addition as we are adding something to the general functioning of the classes. The aspect of reinforcement is also present as we are consolidating an existing line which is the training of the teachers, intensifying the knowledge or control that the teachers have with regards to this technology.

This Project of Innovation has the format of study and analysis. It involves a pre evaluation of control groups and groups which participate in the innovative practice and involves a post evaluation of the same groups.

The training for the teachers who form part of the teaching teams in the centres which are involved in the innovative practice receive specific training regarding hardware, software and the methodology to be used.

4. Didactical resources

Tablets android, software Android,

5. The use of this approach in the research area

As mentioned below, this Project of Innovation is being launched in this school year. Therefore, the certainty, based on contrasted and analyzed data, of how it contributes to the development of groups of skills and abilities will have to be described at a later date, once the results have been analyzed.

6. Advantages

As this experience is about a Project of Innovation which is being launched this school year we can only make a rough estimate of the possible advantages as this remains to be seen once the experience has finished and conclusions based on evidence can be extracted and analysed. We can make an estimation that the advantages should include some of the following points:

Foster independent learning
Helps children see a connection between the technology in their surroundings and school surroundings.
Permits a child to have the space to think for himself.
Allows children to interact

7.  **Limits**
As this experience is about a Project of Innovation which is being launched this school year we can only make a rough estimate of the possible limits as this remains to be seen once the experience has finished and conclusions based on evidence can be extracted and analysed. We can make an estimation that the limits should include some of the following points:
- The challenge for the educators to have to receive specific training
- The challenge for the educators to incorporate a new element into their practice.

8.  **ICT and teaching approaches**

The use of the ICT referring to this project of Innovation is present during the teaching process. The recommendation given to the centres for the allocation of time slots of direct use is a minimum of 50 minutes to one hour per child per week. Once the information has been analysed a more specific reply can be formulated.

9.  **Educational policies focused on promoting innovation in education**

6.3.9. **Behaviour based full value acquisition**

Contributor: ANKARA MILLI EGITIM MUDURLUGU – AMEM, Turkey

1. **Target group**
   All pupils between 3-6; parents; teachers.

2. **Keywords**
   - Process oriented learning; Teaching and learning teacher; Social learning (Supporting the process with real-life projects); Description of the behavior; Promoting the feeling of need; Modeling; Supporting the behavior acquisition; Repetition; Family Education; Socialisation.

3. **Description of teaching approach**

   A. **Short description of teaching approach**

   The approach is based on three main principle:

   - **Teacher as a learner:** Teacher acts as a role model for students as s/he develops several projects of her/his own for the acquisition of a target value which is supposed to be learnt by the pupils. Through this principle teacher is also involved in the enthusiasm of exploring a new concept in a different way. The enthusiasm of the teacher is expected to motivate the pupils, as well.

   - **Process-based learning:** The principle underlines the importance of the time and work spent on the process. Special attention is paid on the process. It is observed that focusing on the result rather than process makes the teachers have tendency for shortcuts in getting the pupils learn. Such learning process is likely to be superficial and based on summarizing. By using the behavior-based approach for permanent learning various ways for the acquisition are adopted. Pupils experience the learning process through their own perception channels as each activity is designed considering the individual differences. Different activities are offered to involve each pupil and they all repeat the same message (the target value, for instance being clean). Various interest resources and the process that is long enough keeps their motivation ongoing and supports permanent learning.

   - **Integrating the learning process into real life:** As a person is social being, the most active place for learning takes place during the communication in real life environment around the individual. The full acquisition approach also involves the activities in society (such as, family, neighbours, street, peer, relatives, etc.) The approach holds the view that “learning is a very valuable period that cannot be limited to a classroom”. Therefore, it is aimed to make the learning period that not only enriches the cognitive skills but also reflects on behavior and whole life. Considering the fact that the wings of a butterfly can make a big difference in ecological environment, the positive and permanent changes in a pupil can make a big change not only in his/her life but also others, as well.

   A learning which is not transformed into a behavior cannot be accepted as real learning. Preschool period is a period during which the subconscious part is active. The education given through the experiences, learning channels and identification models is synthesized into behavior in the subconscious. This behavior is identified and is made permanent through operant conditioning and converted into acquisition. For example, cleaning habit including the behavior of washing hands, bath, brushing teeth, etc. Then the pupils are encouraged to experiencing the behavior through their learning.
channels dramatization, or games which are identified in the curriculum. The behavior in the pupil’s subconscious and conscious is supported through dramatizing a story, visual art activities, etc. At the same time, the effects of cleaning are observed through science and nature activities. For instance, the instinct of a cat for cleaning its own paws, a mother animal’s instinct for cleaning her babies, etc. Besides, the fact that excessive usage of water cause harm rather than benefit. In this case, students makes an experiment that shows if a flower is given too much water, it dies. Beside the pupils’ learning experience at school, they are also offered social projects in which parents, family, neighbours, or friends involved and in which they are also invited to learning procedure with the pupil. For example, the parents follow up and complete a chart for checking and motivating the pupil’s self-improvement in the acquisition of the target behavior.

Children involvement in the learning process:

The pupil is actively involved in all stages of the method: science and nature activities, drama, story, song, and family projects until the student fully acquire the behavior. Especially, in social projects, pupils both play an active role in the acquisition of the behavior by their environment and also acts as an advocate of the target behavior.

stages of the lesson:

An example

TARGET BEHAVIOR : RESPONSIBILITY

1. Identification: My personal responsibilities

TARGET ACQUISITION: I have to wash my hands

3. THE DESCRIPTION OF THE BEHAVIOR

Washing hands before and after the meal
Washing hands after going to restroom
Using water economically
Leaving the restroom clean
Turning off the lights when leaving the restroom

4. ENCOURAGING THE FEELING OF NEED FOR THE TARGET BEHAVIOR:

The teacher gets the pupils involve in the fingerpaint activity. After the activity the teacher gets the students stand still without having washed the hands (Standing still game). The pupil who stand without touching anything or anywhere. Then the children are asked whether they want to wash their hands or stay with dirty hands. Then, all the pupils and the teacher go to lavatory to wash hands. At the lavatory, the rules of washing hands are told.

5-MODELLING
The teacher accompanies the pupils while washing hands after the lunch and washes her hands according to rules.

The video that shows the cats while cleaning their paws.

The videos that well-known cartoon characters (such as Pepe—a Turkish cartoon character-) adopt the habit of cleaning are shown.

6- FEEDING THE ACQUISITION

The stories that support the types of intelligences and sensory organs are used.

For instance, a model of stomach made of a transparent plastic bag and esophagus made of cardboard are prepared.

A glass of roasted chickpea and some tea is also ready beside. The teacher tells the story “chickpea men”: A child was walking on the street. Then he entered in a nutshop and say the chickpea men there. They were waiting in a box. And then he decided to buy a glass of chickpea and began to eat them with his dirty hands. (The teacher puts the chickpeas into the transparent bag through the pipe made of cardboard as esophagus. The chickpeas were very happy to go inside and be there. (In the meantime the teacher gives some chickpea to pupils to eat) They slid into the stomach of the child happily. As they entered there they dance by going from side to side. (The teacher moves the bag) They sing a song: “Vow! We got rid of that boring nuthouse. After a while, the chickpeas notice there were something strange besides them. (The teacher adds the pieces of tea inside the bag —stomach- through the esophagus. They wonder about them and then understood these were the microbes that came from the child’s dirty hands. These microbes began to act naughtily and pollute inside. From now on the chickpeas began to lose their temper and happiness and tried to get rid of them by some water inside. They did not know what to do. The fever of the child began to increase as other organs were also affected by the microbes.

The teacher stops the story here and asks for solution from the pupils:

Why did the child get sick?

What did the child have to before eating the chickpeas?

The story is acted by the children from the beginning.

Some of the children stay hand in hand as they represent the stomach. They start to turn around as circle. The pupils beside try to enter into the circle and are accepted into the circle. They dance happily inside the circle. The teacher represents the microbe and try to enter inside the circle. As the teacher tries to enter, the pupils stand hand in hand and come closer to each other to keep the microbe –the teacher- outside the circle. The microbe tickles the pupils to enter inside between the pupils’ hand. At last the circle comes apart. The pupils start to flee around the classroom as the microbe tries to catch them. Then the students are encouraged to make a new circle to catch the microbe –teacher-. They catch the microbe and let him/her out. So, the stomach gets rid of it.
Science and Nature

Chickpea Germination

Each pupil has some cotton and a plastic glass. They put the cotton and then some chickpeas and then some cotton in the glass. Finally, they add some water into it and put the glasses on a corner. The chickpeas are watered, but the teacher waters his/her more than others. So, his/her chickpeas are not germinated due to the excessive watering. The result is told as: “Excessive usage of something even it is useful can cause damage rather than benefit. Watering the chickpeas has not been useful at all. So, while washing hands, we had better to consume too much water.”

The pupils are offered to watch a video of a microscope that shows the microbes on a hand.

The teacher and the pupils play finger game, and its rhymes are learnt and performed in the lavatory while washing hands:

Put some soap into your hand / Turn on the tap a little / Rub your hands each other / Lather an lather/ Look at your hand / How it is full of bubbles / The bubbles swallowed the microbes/ The water took all into the lavatory / Your hands smelled great / Now turn off the tab and the light / Look how you are ready to play at last.

Art :

Required Materials:

- Plastic gloves
- Yarns in different colours

The plastic gloves are inflated. The pieces of yarn are tied on the top of each finger. Faces are painted on each and each become a Tom Thumb.

7-REPETITION:

Surprise jar project is prepared.

Required Materials:

- Jar
- Ribbon or yarn
- Different candies or chewing gums, hairgrips

The teacher ties the candies, hairgrips and chewing gums with a ribbon and puts them into a jar and dangles the ribbons down the jar which s/he puts on a high place. Not all of the ribbons have an item. The pupils pull one of the ribbons when they wash their hands before or after meal. They got the present if it is tied to an item. Sometimes the ribbon may not have an item. So, they try it for the next time. If a boy pulls a hairgrip, he gives it to one of the girls as a present.
8-FAMILY EDUCATION

A piece of text that underlines the importance of the acquisition of cleaning habit in preschool period is sent to home. Moreover, the art activity and a project poster are also sent as home project. The parents puts a check on the symbols of the poster when the child washes his/her hand.

The parents sticks the poster on the wall of their bathroom where it can easily be seen and they put a check for each time the child wash his/her hand appropriately. After a wee, the project posters are brought back to the school and observed in the classroom.

9-SOCIALISATION

The parents are asked to prepare a “Clean Hands” poster together with their children and expected to hang the poster on the wall of their office or working place to remind about the importance of washing hands.

10-RECORDING

The project poster with the checklist is put in pupil’s portfolio. The teacher also shows the students the photos taken during the project and put them into the portfolio. Each pupil that acquired the habit of cleaning (Every pupil) takes a success certificate of adopting good cleaning habits.

11-REVISION

The stage aims at the pupils who are not adopt the habit of cleaning appropriately. At this stage, these pupils are chosen as the leader of cleaning and are responsible to remind their friends to wash their hands. They also wash their hands as they remind others.

The pupil who adopted the habit is matched with the one who did not and they are expected to go to the lavatory to wash their hands.

how the teaching is planned, executed:

The subjects (target behaviors) are chosen according to the observations / needs that have been done so far. The subjects are also parallel to the Turkish National Education Preschool Curriculum. They are put in an order according to their priority. (1. Love, 2. Friendship, 4. Empathy, 5. Responsibility, 6. Honesty, 7. Rules of Courtesy, 8. Trust (Love of country) Each topic should follow the order as the previous one makes a background for the next one. The professionals of child development and preschool education develop activities, such as games, songs, stories, etc. in order to make them more concrete.

The approach is totally a new one as it aims at the subconscious of the pupil by using his/her own channels of entertainment and learning. The content is also unique as it is prepared according to the needs and observations.

B. Learning activities included in the teaching approach.

i. Physical development, health and personal hygiene
The topic of being clean, nature activities, the physical games that appeals to Multiple Intelligences, art and craft activities that require eyes and hand coordination, supports small muscle development can be given as an example for Physical development, health and personal hygiene

ii. Socio emotional development

The pupils are encouraged to express themselves and what they learn with art and craft activities both in the classroom and also at home where they realise the work with their parents. In “Thank you” project, the pupils give a certificate to the adults whom they teach the importance of saying “thank you”. They also develop their leadership qualities in some projects as they are chosen the leader of the target behavior (See the revision stage above). They also develop their interpersonal qualities in peer education activities See the revision stage above). They also experience the team spirit and to be a group for handling with some difficulties or problem. For example, to stand hand in hand with each other and protect their circle against the microbe who tries to enter inside.

iii. Developing the language and communication:

The pupils can prepare their own presentation (poster, picture, puppet, etc.) of a certain topic and speak in front of his/her friends. They also act in drama, social projects, and songs by which they are able to develop the fluency, accuracy and self-confidence qualities. They also summarise the rhymes of a physical activity related to a habit (See feeding the acquisition part)

iv. Cognitive development:

Each topic necessarily has science and nature activities. Besides, the pupils encouraged to know the numbers in activities, such as social projects (For instance, they have to teach the importance of saying “Thank you” to three people and give three certificates: one for each; getting ten smiling face for the cleaning poster on the bathroom wall, etc) The pupils are also encouraged to acquire the geometrical shapes during the games or drama activities (For example, they made a circle by standing hand in hand with each other)

v. Skills and attitudes in learning:

Each target topic is expected to be in an order that follows each as the previous one creates a background for the next one. Each topic has the same 11 stages that appeal to MI and learning channels of the pupils individually. And the teachers have the opportunity to shape the stories, games, or videos, etc according to the needs, curiosity, interest and creativity of the pupils.

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.

1. There is no other method that supports the full acquisition in Turkey.

2. teaching method is structured considering the learning instincts of the pupil. For instance, firstly, in the first stage the pupil feels the need for learning the topic.

3. The learning process is also transferred to the social / real life. The pupil is the advocator, presenter, operator, disseminator and learner of a certain topic.

4. The teacher also defines several objectives for herself/himself. S/he can enrich or tailor up the curriculum according to the learners or his/her own methods. At the end of the year good practices are shared and whole curriculum is updated and improved according to feedback and extra activities.
5. The historical characters that can be considered as a good model or example are also involved in the curriculum through games, art activities, stories, etc.

4. Didactical resources
   1. Computer,
   2. Art and Craft materials
   3. Stories that are specially written for the topics,

5. The use of this approach in the research area
   One of the features of the project is that it involves all pupils with different skills, creativity level of interest, or a certain disadvantage. The last stage of the approach is “revision” during which any pupil who cannot manage the target objectives due to any reason is involved and encouraged for acquisition through his/her learning channel. This means individual projects are performed. For instance, for anger management, the pupil is encouraged to be the favor police of the class; for “being clean” topic, peer education is used for the pupil who has a disadvantage or has low level of acquisition. The pupil who cannot adapt himself/herself to the group is first encouraged to contact and build a friendship with a peer. Then, by the help of the peer support s/he is involved in a larger group.

6. Advantages
   a. Teachers are free to develop the approach, and they can also make some additions on what has already been offered,
   b. The teacher concentrates not only on teaching, but also developing oneself by research on alternatives for teaching the target behavior. S/he keeps himself / herself updated.
   c. The teacher feels himself /herself in safe as the curriculum is offered with all its aspects clearly and appropriately. Even the stories, rhymes, or songs are ready to be used while teaching the target topic. Needless to say, s/he can also add some parts according to the needs and motivation of the class.
   d. The teachers are observed to have a motivation towards learning, and developing new aspects under a certain topic. They also know that their additions can be considered to be worth to be added to the curriculum at the end of the year.

7. Limits
   1. It is probable that the social projects can lack the family participation due to the lack of motivation, interest, time, etc.
   2. The exploratory intelligence can also be supported in further studies on curriculum. The experiment and exploration activities can be increased. Several studies have been being arranged in that area.

8. ICT and teaching approaches
   ICT is used in all stages of the approach through presentation of the topic, giving an example from nature, watching cartoons as example for the context, presenting photos taken during the project, playing a computer game about the target behavior, etc.

9. Educational policies focused on promoting innovation in education
   Through an inservice training, the approach will be presented to two thousand teachers and they will get a certificate for participation. By the help of a sponsor company, they will also be able to take materials, and resources, such as syllabus, story books, transcript of the rhymes, etc. In the revision stage, the pupils under risk will be involved an individual project through the pupil’s own
learning and perception channels. By the way, the approach totally matches with the content of Turkish Preschool Education Curriculum.
6.3.10. Activities defined by preschool teachers

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The public school applies the curriculum through innovative activities defined by its preschool teachers. There are 6 activities including:
1. Tree of curiosity
2. My dreams
3. Family in action: Mending
4. Solution-centred activity
5. Self-expression activity
6. Creative reading

1. Target group
   6 years-children from different socio-economic levels-children of immigrant families from eastern Anatolia

2. Keywords
   Curiosity, language activity, orance, creative thinking, creative reading, art and craft, family participation, problem-based learning, solution-based activity, self-confidence, rhymes, poem, encouraging motivation and interest, memory, guessing, asking reflective questions.

3. Description of teaching approach
   A. Short description of teaching approach

   The activities are used to involve all pupils in learning environment by bringing their outside social life into the classroom, explaining himself/herself creatively and in his/her own way, finding solution for a particular occasion (a real-life problem of their own). All activities are characterized by the pupil-centered content.

   B. Learning activities included in the teaching approach.

   TREE OF CURIOSITY

   Parents are asked to spend 15 minutes with their children by reading a book and then determining the unknown words and explaining the meaning of the word and getting the students use it in a meaningful sentence. The families send the list of words that has been explained and studied to the teacher. The teacher once again asks the pupils explain the meaning of the word and use it in a sentence. The sentences are written on a piece of paper and hang on a tree.

   MY DREAMS

   The activity is based on Torance approach activities such as preparing the shapes to be used. Pupils are encouraged to produce new ideas by using their creativity and expressing themselves in different ways/in their own way. The teacher starts the activity with the instruction: “In each activity think about the most interesting, and the most different idea. Develop your work in order to tell an exciting story”. In different hours of the day, the pupils draw several shapes asked by the teacher. Then the teacher asks them to build a relation between their drawings and restructure the shapes by
connecting them. The teacher asks the pupil to explain his/her drawing, and s/he takes note. Then the teacher reads the notes to all the class and asks them to create a story out of the notes and then finally find a topic for the story.

**FAMILY IN ACTION: MENDING**

The broken toys are collected in a certain place of the classroom, and listed. In particular times, the parents are invited to the classroom and mend the toys with their children. The teacher also asks them about what can be done out of seriously broken toys. The teacher takes notes on the materials used during the mending process and also on the new items created out of the old toys.

**SOLUTION-BASED ACTIVITY**

There is a classical music in the classroom all through the lesson. First, the pupils are enabled to get relaxed by the help of Mandala approach. The pupils are asked to express the problems that they face at home and school. By brainstorming solutions for the problems are asked from the pupils. The teacher asks the pupils for the most appropriate attitude among all, and re-expresses it to whole class.

The teacher also notes down the problems that has been offered by the parents so far. The teacher reads stories based on these problems and lets the pupils comment on the solutions for the problem.

**SELF-EXPRESSION**

In the beginning of the activity, pupils are offered several activities that they can express themselves freely, and creatively; for instance, free drawings, play with dough, etc. Then the pupils are encouraged to take concrete responsibilities, such as contact with the school management for getting a board marker, paper, explaining a matter, etc. They are supported in contact with other teachers, and their peer. As a second step, the pupils are encouraged to say the rhymes, poems, tales in front of the pupils and teachers from other preschool classes. As a result, they become more aware of their capacity and are able to express themselves freely.

- After this activity, the students are asked:
- What did you like about this activity best? Why?
- Would like to do this activity again? Why?
- What did you like best about this song?
- Which part of the song was your favourite? Why?
- Which part of the game did you like best? Why?
- Did you like to imitate that animal? Why?
- Which animal would you like to imitate if we play the game again?
CREATIVE READING

Firstly, the parents are invited to an informative seminar. They are informed about when the activity will start and end and how the activity will be performed. The parents and the pupils who are volunteer to participate are determined and the books are also presented by giving one to each child. The activity includes:

- Reflective questioning,
- Memorizing
- Going beyond the story
- Reversing
- Timing

i. Physical development, health and personal hygiene: In self-expression activity the students have the opportunity to express themselves physically. In solution-centered activity, the students are also encouraged to adopt the habit for personal hygiene. They also develop their hand skills in “Parent in action: Mending” activity.

ii. Socio emotional development: In “My Dreams” activity the pupils can express their inner world through creative drawings and synthesise it with verbal skills when developing a story out it.

iii. Developing the language and communication: The pupils are able to develop their language skills with “Tree of Curiosity” activity as they learn new words and use them in a sentence meaningfully. In “Self-expression” activity they also present their own drawings and improve their self confidence.

iv. Cognitive development: The pupils develop their elementary geometrical representation “Self-expression” activity by drawing.

v. Skills and attitudes in learning: All activities are based on developing motivation towards learning. The pupils are able to express themselves with verbal, artistic, and physical activities.

C. Outline one or more aspects that have led you to appreciate this approach as an innovative.

The activities are defined and detailed by the teachers according to the needs of the learners. For instance, as the institution is a public one, instead of financial request for toys the teachers arranged a repair workshop for parents. By this way, they can both involve the parents in educational activities, and also repair the toys without any expenditure. As the school has families low-economy are not asked for extra financial support for the school.

4. Didactical resources
- Books in “Solution-based” activity.
- Art and craft materials
- Books in “Creative Reading” activity

5. The use of this approach in the research area
The activities are useful for the pupils who are too much introvert or have difficulty to express themselves. The activities are also for MI, as well.

6. **Advantages**  
The teachers can get rid of the burden of serious curriculum as each activity are interpretable differently.

7. **Limits**  
The activities require to be improved and enriched. Using ICT can also be very attractive for pupils.

8. **ICT and teaching approaches**  
ICT is not used.

9. **Educational policies focused on promoting innovation in education**  
The activities are parallel to the National Education Curriculum.
6.4. Results

The data collected since September 2012 allowed us to create a data base with new and innovative approaches from each region in study (see previous subchapters). There are eight countries covering different regions from Europe (Germany, Italy, Northern Ireland, Poland, Romania, Spain, United Kingdom), and Turkey.

Each partner sent two representative examples, except from Spain, with seven examples of innovative practices, in total 21 examples of good practice. The examples cover both age groups considered in the project (0 to 3 and 3 to 6 years). Some programs are designed and successfully applied for entire age range (0 to 6 years) and above, being adapted to respond to different needs that characterize each age and children. There are 6 examples focused specifically on the group of 0 to 3 years, 4 examples focused on the range of 3 to 6 years old and 10 approaches are implemented in a larger age range. In case children at risk are present, the programs are meant to start earlier and last a larger period of time.

The preoccupation for children at risk is present through the number of existing initiatives, programs, and projects concerning this domain.
Some of the examples presented have in the center of all actions children with different types and levels of disabilities, impairments, development deficits. The children evaluation and diagnose is presented and also all the early intervention measures, in which medical care is combined with an individualized educational plan and individualized pedagogical support.

Other innovative examples are not specifically designed for children at risk but these can be integrated in any moment having the benefit of the strategies presented in these examples. More, there are programs which are designed to promote social relationships reinforcing interpersonal relations, respect for children diversity, empathy, support for children integration and inclusion, support for families and intergenerational learning.

A synthesis of the innovative practices sent by partners is presented in following table:

<table>
<thead>
<tr>
<th>Country</th>
<th>Target group</th>
<th>Children at risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td><strong>E1</strong>: from 0 to 3 years</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td><strong>E2</strong>: from 4 to 7 years old</td>
<td>Yes</td>
</tr>
<tr>
<td>Italy</td>
<td><strong>E1</strong>: 5 years old</td>
<td>No specification</td>
</tr>
<tr>
<td></td>
<td><strong>E2</strong>: from 4 to 7 years old</td>
<td>Children with attention deficit disorder</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td><strong>E1</strong>: in SureStart Programmes for 2 year olds;</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>pre-school services for 3-5 year olds;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in Primary Schools for children 4-8 years old</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>E2</strong>: 2 years old</td>
<td>Yes</td>
</tr>
<tr>
<td>Poland</td>
<td><strong>E1</strong>: from 2 years old</td>
<td>Dedicated to children with different disabilities</td>
</tr>
<tr>
<td></td>
<td><strong>E2</strong>: from 3 to 6 years old</td>
<td>A variety of minor development deficits</td>
</tr>
<tr>
<td>Romania</td>
<td><strong>E1</strong>: up to 3 years</td>
<td>Children with minor disabilities</td>
</tr>
<tr>
<td></td>
<td><strong>E2</strong>: from 3 to 10 years old</td>
<td>Children with mild disabilities</td>
</tr>
<tr>
<td>Spain</td>
<td><strong>E1</strong>: from 1 month to 6 years old</td>
<td>Dedicated to children with disabilities (hearing impairment, problems associated with hearing impairment, hearing and sight impairment, language delay).</td>
</tr>
<tr>
<td></td>
<td><strong>E2</strong>: from 0 to 3 years old</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td><strong>E3</strong>: from 1 to 3 years old</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td><strong>E4</strong>: from 0 to 3 years old.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td><strong>E5</strong>: from 3 to 6 years</td>
<td>Children with severe impairments</td>
</tr>
<tr>
<td></td>
<td><strong>E6</strong>: from 3-5 to years old</td>
<td>Children with Autism</td>
</tr>
<tr>
<td></td>
<td><strong>E7</strong>: from 3 to 6 years old</td>
<td>Yes</td>
</tr>
<tr>
<td>Turkey</td>
<td><strong>E1</strong>: from 3 to 6 years old</td>
<td>No</td>
</tr>
<tr>
<td>Country</td>
<td>Target group</td>
<td>Children at risk</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>E1: 0-5 years old</td>
<td>Children with Autistic Spectrum disorder; Children from the child protection register; Other disabilities (e.g. Down’s syndrome)</td>
</tr>
<tr>
<td></td>
<td>E2: from 0 to 6 years old</td>
<td>Children at risk of school failure</td>
</tr>
</tbody>
</table>

The results emphasise once again that, when we speak about education, the focus is especially on the range of 3 to 6 years. This reiterates that on this age range the educational component is more organized, the communication with child is facile and the involved resources (material, infrastructure, human and financial) are not as expanded as in the case of programs for 0 to 3 years. The multiple examples offered by partners validate this statement (the number of innovative approaches for 3-6 years are more than the examples for 0 to 3 years.

The analysis will be conducted taking into account the key factors in harmonious children development, and these factors were presented in the theoretical framework. Starting from the fact that in the case of children education, care and protection, healthy environment cannot be separated, we will analyse the examples presented from this perspective. It is absolutely necessary that all six identified elements to be considered unitary; actually the examples demonstrate this hypothesis. Of course, these elements cannot be fragmented and the proportion in which each element appear depends on the actually needs and children evolution.

As already established in the theoretical framework, lately comes more important the problematization of recognizing the fact that intellectual development, emotional, physical and cultural acquisitions interact in the children development. The innovation is underlined on the environmental perspective and also on a new approach of the relation between parents and educators (educational partnership, community involvement) but also on care and modern education based on resources and quality services.

The educational services which comes from the partners’ examples are in consent with the three paradigms on the early childhood and preschool education development Martin Woodhead „Changing perspectives on early childhood: theory, research and policy” (2006):

- Economic and political;
- Social and cultural;
- Human rights.

The interpretation of data collected will be made both analytical and figurative. Figurative will be presented as cognitive map which helps in having a big picture on the new pedagogical approaches into the NetQ6 consortium. To understand the importance of children’s complex stimulation it was developed a panel of stimulation areas and key words which reflects the way in which new pedagogical approaches are met in each stimulation area.

For each of these pedagogical approaches a narrative description will be presented.

6.4.1. The Decalogue of innovation

This decalogue is an outcome which comes from partners’ contributions, examples. At any time can be enriched with new experiences, in fact, the list must remain open because the innovation is happen every day. From this reason we don’t consider it as a closed and finalized document taking into account the dynamic of educational realities.

This Decalogue respect the Salamanca Declaration the principles of children rights. All involved persons (parents, communities, educational stakeholders, practitioners in the field of education, governmental responsible) must be aware about the need of innovation and education in order to ensure the well being of children and their harmonious development.

All innovative approaches demonstrate an increased level of involvement in children education; the child is in the center of all action and the activities are organized and adapted to each child.

Each child is unique and non-recurring; the educational act must be organized in accord with these characteristics which will result in individualized learning.

Each child is unique in his/her development, growth, and acquisition of skills and competencies. Children typically progress through similar stages of development, but at individual rate. All children within an age range should not be expected to reach the same standards at precisely the same time.

Keywords: Gradual learning (IT), Learning in a personal rhythm (PL), Personalized learning (GER)
Care and development are fundamental rights for children, these must be ensured corroborating the institutional decision factors, family and community;

Many of the sent examples sugest a close relation between community and family, and institutional involvement (governmental or non governmental) creates the premises for educational programs implementation. The legal framework ensure and facilitate child care and education. The family is a significant contributor to children’s lifelong learning and development and all children learn and develop in the context of interactions and relationships with primary caregivers, their community, and their environment.

**Keywords:** Family involvement (TR), Support for families (IT), Human interaction and decisive role of educator (ES), Promote social relationships reinforcing interpersonal relations (es), Cooperation with families (ES), Cooperation (RO), Community involvement (IRL), Triad school – family-community (IRL), Early intervention (it, ES)

Preparing the future parents to be parents: bidirectional learning

As child education starts since he is still an embryo, parents should be helped to be conscious on the roles in care, nutrition, environment, development, learning direct and indirect support. Openness to learn together, intergenerational learning. The families from disadvantaged groups must have access to information, support, quality medical services.

**Keywords:** Intergenerational learning (UK, GER, IRL), Promote social relationships reinforcing interpersonal relations (ES).

The diversification of care and learning services must determine a quality educational act for all children, taking into account the the term of optimal development.

*Through optimal development is a concept refering at children abilities and to acquire knowledge and relevant behaviours from an individual and cultural. These will allow children to:*

- Function effectively in the current context;
- To succesful adapt to new contexts
- To understand changes

**Keywords:** Experiential learning (UK,) Learning by experience (IT), Learning through investigation (RO,) Learning through discovery (RO), Learning through games (RO).
The human resource must be dedicated, competent, responsible and qualified

*In order to sustain and promote innovation a psycho moral profile of the educator can be recommended. In this respect, the educator must be able to: decision taken, problem solving, creative thinking, effective communication, interpersonal relation skills, repressing emotion and stress.*

Keywords: Teachers’ initiative (TR), Human interaction and decisive role of educator (ES), Responsibility and initiative (PL), Flexibility (PL, GER) Empathy (UK, PL), Active education (IRL), Planning activities (RO).

In accord with children development, a new pedagogical approach must facilitate understanding from part to whole (caleidoscope)

*If we want to support children in the development process we have to understand the multiple sides of its development and to define the context is which it lives.*

Keywords: Independence (UK), Strategies for communication (ES), Autonomy (RO, PL), Independence (PL), Self esteem (PL), Multiple intelligences (PL), Independent work - reverse attention (PL), Responsibility and initiative (PL), Multitasking (PL), Cooperation (PL, RO).

The diversity of educational approach and individualized strategy in harmonious and complex children’s development

*The need of knowledge, of respecting and atomizing diversity, supposing the unicity which characterize the human being. The diversity implies oneness of each human being with different particularities determined by their subjective and individual characteristics and affiliation to a space and a socio-cultural identity – multiculturality.*

Keywords: Respect for diversity and for the needs of children (ES), Respect children diversity (UK)

Integration and inclusion as priority for disadvantaged groups.

*Children from disadvantaged groups must be included with priority in educational programs. Through inclusion we understand the process through*
which all children are included in educational programs; through integration: commune spaces, different educational activities.

*Keywords:* Respect for diversity and for the needs of children (ES), Support for children integration and inclusion (ES), cooperation and collaboration (RO).

Making the most of all the opportunities offered by the environment in which the child lives and develops

*We are speaking about and safe and healthy environment, helpful and with appropriate interactions, suitable models, stimulation, protection and time- all being part of the respecting the child rights.*

*Keywords:* Inside and outside school (UK), Informal and non formal learning (IRL), Home learning (IRL), Media involvement (IRL), Real life activities (GER), *Models (TR).*

Also, the analysis of the keywords made possible identification of four anchor ideas for innovation in early childhood education:

I. Triad: school – family-community

II. Education / Instruction

III. Educational planning

IV. New technologies

Each of these ideas was analyse from a theoretical perspective in the dedicated chapters and, at the end of the study recommendations for each will be made.
The current map is based on the examples provided by consortium members and is as in the legend below:

**GERMANY:**
- E1: Media Initiative for Children (MIC): Respecting Difference Programme
- E2: The Eager and Able to Learn Programme for Two Year Old Children and their Families

**NORTHERN IRELAND:**
- E1: Dalton Run Pedagogy
- E2: Dog Therapy and Speech Therapy

**POLAND:**
- E1: Web Quest
- E2: A different school

**ROMANIA:**
- E1: Family Learning

**ITALY:**
- E1: Forest School

**UNITED KINGDOM:**
- E1: Forest School
- E2: Family Learning

**TURKEY:**
- E1: Forest School
- E2: Family Learning

**SPAIN:**
- E1: Learning initiatives: children and families
- E2: Teacher Self-Evaluation
- E3: Project Empathy, Escuela Infantil Municipal La Paz, Zaragoza
- E4: Project Empathy, Escuela Infantil Municipal El Bosque, Zaragoza
- E5: Project Discovering the Biodiversity, Guardería Infantil Santa Maria del Pilar, Zaragoza
- E6: Project Learning more than an educational experience, BSI de Agramunt, Huesca
6.4.2. Developmental domains:

Most of the children have the potential to respond to specific stimulus, depending on the developmental domains, if a proper support and stimulation are assured. The developmental domains cover the child’s complex development.

In the category of developmental domain was included (see figure below)\(^{14}\):

A. Physical development, health and personal hygiene: Developing locomotion, sensorial development; for health and personal hygiene: promoting the health and nutrition, promoting personal care and practices for personal security), theoretical frame of their approach in building skills and attitudes for a proper development.

B. Socio emotional development (for social development: developing abilities to interact with adults and with other children, acceptance and respect diversity, developing pro-social behaviors; for emotional development: developing emotional control, self respect, and emotional expressiveness).

C. Developing the language and communication: developing the capacity to listen and understand (receptive communication), developing the capacity of speech and communication ability (expression communication); developing the premises of reading and writing. A special attention should be played to vocabulary development and methods for achieving this goal.

D. Cognitive development: developing logical thinking and problem solving, achieving and basic knowledge of mathematics and knowledge about world: elementary mathematical representation (numbers, numerical representations, operations, concept of space, geometrical shapes, understanding the models, measurements); Knowing and understanding of the world: living world, Earth, Space, scientific methods.

E. Skills and attitudes in learning: curiosity and interest, initiative, persistence in activity, creativity.

The modern curriculas approach the children development through the stimulation areas, which are understood as landmarks in children development and all partners have shown through provided examples the fact that these cover into a specific measure all the development areas.
<table>
<thead>
<tr>
<th>Country / Development areas</th>
<th>Physical development, health and personal hygiene</th>
<th>Socio-emotional development</th>
<th>Developing the language and communication</th>
<th>Cognitive development:</th>
<th>Skills and attitudes in learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Germany</strong></td>
<td>Daily life activities</td>
<td>Team work</td>
<td>Speaking</td>
<td>Practice -&gt; Theory</td>
<td>Active participation</td>
</tr>
<tr>
<td></td>
<td>In and out activities, games, walking</td>
<td>Self confidence</td>
<td>Listening</td>
<td>Acquire daily processes</td>
<td>Curiosity</td>
</tr>
<tr>
<td></td>
<td>Hygiene in daily life</td>
<td>Cooperativeness</td>
<td>Interaction and communication</td>
<td>Creativity</td>
<td>Interest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mutual consideration</td>
<td>communicate in a group</td>
<td>Phantasy</td>
<td>Learn to argument</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frustration tolerance</td>
<td>plan the project work</td>
<td>Theory of sets</td>
<td>define own ideas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Helping each other</td>
<td>talk in German (if German is not their mother tongue)</td>
<td>Simultaneous realization</td>
<td>make compromises</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>work with signs and symbols, e.g. traffic, nature</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>represent the results of their project</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Turkey</strong></td>
<td>Eyes and hand coordination</td>
<td>Self expression</td>
<td>Self presentation</td>
<td>Theory -&gt; Practice</td>
<td>Gradual learning</td>
</tr>
<tr>
<td></td>
<td>Muscle development</td>
<td>Leadership</td>
<td>Oralacy</td>
<td>Basic knowledge</td>
<td>Motivation toward learning</td>
</tr>
<tr>
<td></td>
<td>Muscle development</td>
<td>Self esteem &amp; confidence</td>
<td>Learning new words</td>
<td>Extracurricular activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hand skills</td>
<td>Team work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UK</strong></td>
<td>Gross motor skills</td>
<td>Deal with behavioral issues</td>
<td>Communication with peers</td>
<td>Problem solving skills</td>
<td>Self Awareness</td>
</tr>
<tr>
<td></td>
<td>Sensorial development</td>
<td>Positive feedback</td>
<td>Discussing own findings</td>
<td>Learning through games</td>
<td>Self Regulation</td>
</tr>
<tr>
<td></td>
<td>Yoga bell session</td>
<td>Interaction with adults</td>
<td>Communication with parents</td>
<td>Learning through discovery</td>
<td>Intrinsic motivation</td>
</tr>
<tr>
<td></td>
<td>Healthy eating and swimming</td>
<td></td>
<td>Communication through signs and symbols</td>
<td></td>
<td>Empathy</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Good social communication skills</td>
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<td></td>
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<td></td>
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<td></td>
<td>Independence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>positive attitude</td>
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<td></td>
<td></td>
<td></td>
<td>Collaborative approach</td>
</tr>
<tr>
<td><strong>ITALY</strong></td>
<td>Coordination of movements</td>
<td>Learning in groups</td>
<td>Through games, songs, gesture</td>
<td>acquisition of the concepts of numerical quantities</td>
<td>active participation</td>
</tr>
<tr>
<td></td>
<td>Physical exercises</td>
<td>Cooperation with peers</td>
<td>good ability in describing</td>
<td>lexical processes - give the name to the numbers</td>
<td>child as a manufacturer of awareness and knowledge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cooperation with teachers</td>
<td>express clearly his/her own thoughts</td>
<td>semantic processes - understand the meaning of the numbers</td>
<td>adaptation to new situation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>express itself correctly</td>
<td>syntactical processes - relationships between the digits that make up the numbers</td>
<td></td>
</tr>
<tr>
<td><strong>IRELAND</strong></td>
<td>Harmonious development through creative activities</td>
<td>personal, social and emotional development</td>
<td>Express more effectively on specific themes</td>
<td>Simulties and differences between children</td>
<td>Change attitudes and perception</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Problem solving</td>
<td>Tolerance</td>
</tr>
<tr>
<td>Country / Development areas</td>
<td>Physical development, health and personal hygiene</td>
<td>Socio-emotional development</td>
<td>Developing the language and communication</td>
<td>Cognitive development:</td>
<td>Skills and attitudes in learning</td>
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<td>-----------------------------</td>
<td>-----------------------------------------------</td>
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<td>-----------------------------------------------</td>
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<td>----------------------------------</td>
</tr>
<tr>
<td>SPAIN</td>
<td>Improved levels of physical movement</td>
<td>increased independence</td>
<td>increased vocabulary</td>
<td>Logical mathematical intelligence</td>
<td>Citizenship</td>
</tr>
<tr>
<td></td>
<td>Increased levels of physical activity</td>
<td>self help skills</td>
<td>use of the vocabulary in the context</td>
<td>mathematical skill</td>
<td>Obtaining and transforming knowledge</td>
</tr>
<tr>
<td></td>
<td>Kinetic*</td>
<td>Interpersonal intelligence</td>
<td>Interpersonal intelligence</td>
<td>Social competence</td>
<td>Creativity</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Logical thinking</td>
<td>Curiosity and interest,</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Mental thinking</td>
<td>Initiative,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Persistence in activity</td>
<td>persistence in activity</td>
</tr>
<tr>
<td>POLAND</td>
<td>Internal harmony</td>
<td>Team work</td>
<td>basic communication skills</td>
<td>achieve the cognitive aims at specific levels</td>
<td>Autonomy</td>
</tr>
<tr>
<td></td>
<td>equivalent development</td>
<td>Collaboration</td>
<td>listening to each other</td>
<td>memorizing</td>
<td>Decision making</td>
</tr>
<tr>
<td></td>
<td>Personal hygiene</td>
<td>Independence</td>
<td>keeping the group</td>
<td>reasoning</td>
<td>Self evaluation</td>
</tr>
<tr>
<td></td>
<td>Increased mobility</td>
<td>comprehensive development</td>
<td>quiet talking</td>
<td>logical thinking</td>
<td>Initiative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>motivation</td>
<td>sharing knowledge with each other</td>
<td></td>
<td>Correlate information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>self-confidence</td>
<td>being kind to respond to each other</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>ability to listen and understand</td>
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<td></td>
<td></td>
<td></td>
<td>Children are encouraged to express themselves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROMANIA</td>
<td>Hand and leg muscles</td>
<td>Collaboration with peers</td>
<td>expressing the needs</td>
<td>problem solving</td>
<td>Competition</td>
</tr>
<tr>
<td></td>
<td>Physical exercises and answer to specific stimuli</td>
<td>Communication</td>
<td>Correct expression</td>
<td>Acquire information according with development stage</td>
<td>Investigation</td>
</tr>
<tr>
<td></td>
<td>Eyes and hand coordination</td>
<td>Assuring rules</td>
<td>Learning new words</td>
<td></td>
<td>Discovery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Team work</td>
<td>Arsenic the image with the worth</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This document resulted from the partners’ examples, from which were extracted types of activities according with children’s development domains and can serve as a methodological suggestion in planning, designing future activities from the children’s development domains.

6.4.3. Educational policies focused on promoting innovation in education

Direct or indirect, in the educational policies innovation have their own place mentioned in legislative documents, in documents resulted from researches, in initiatives in European space. Private or governamental initiatives, projects support innovation and contribute with public awareness in implementing a legal frame for innovation.

Into the NetQ6 consortium, this topic revealed some differentiation in respect with initiatives and legal frame of innovation. For example, in Spain, the Organic Law of Education “encourages and promotes investigation, experimentation and educative innovation as one of the principles and aims of education” while in Germany, the legal frame for education specifies “Kindergartens are free to choose their methods to make sure the inclusion of each child in educational processes.” In Northern Ireland there are mentioned different initiatives to support innovation, instead, in Italy, it is mentioned that the innovation means “the use of new technologies”.

In Romania, there is not any mention about innovation in a legal frame but, there are initiatives to encourage educators to include appropriate the technology in learning process. In this frame, they have the opportunity to learn about the integration of computers in lessons, in several educational programs in universities.
CONCLUSIONS AND RECOMMENDATIONS

The current study presents a theoretical framework regarding new pedagogical approaches in early childhood education and also practical and integrative approaches in European space with a special focus on NetQ6 consortium. During the entire study were followed the basic ideas which must govern over early childhood education domain:

- The child is unique
- Care and protection cannot be separated by education
- The education is for all
- Each child has to have same opportunity to develop to his maximum potential
- The specific trajectory for early childhood education is: Game >> Learning >> Development.

The pedagogical approach is to be seen as overall perspectives used to plan and implement one or more instructional strategies, which are not mutually exclusive. *It is possible to speak of an “approach” when there is a corpus of knowledge and values, collectively assumed and transmitted, concerning the care and education of young children, as is the case in all traditional societies (B. Malinowski 1928, M. Mead, 1929).*

The recommendations and methodological suggestions are linked by the four anchor ideas for innovation in early childhood education:

I. Triad: school – family-community – from analysis of data presented in chapter VII, detailed in the partners’ contribution, it was emphasized the collaboration between the main actors responsible with children education. The institutions responsible with organizing the educational act have in the first place a role of facilitating communication and information in the relation between children and parents. Unfortunatelly these institutions are subject of the socio-economic contexts and also cultural contexts, and in some extent of the human resources’ quality and also of the communities’ constrains (the budget is not all the time enough to offer quality educational services).

Family is, in the modern society context needs permanent support, and this can be offered through different educational services (per day, or by hours), institutions able to continue the process started in family, suggestions for spending and organizing free time for
rounded family, community’s support through programs dedicated to parents, for their education and information. Actually community is an indirect beneficiary of complete and integrated development of children. Children from disadvantaged groups must have priority in the educational actors’ actions.

Community has as role to ensure the access to educational services, proofing openness to new educational and technological opportunities, support for families at risk.

II. Education / Instruction: The necessary elements in education and instruction has been proofed during the study to be educational projects focused on the children’s needs from the development domains, on creating relations between families, between families and institutions, relations based the need on communicating and socializing, to develop communities of practice for families at risk to share experience, information and to look for optimal solutions. The community has an important role in searching and developing best specialists in field of yearly childhood education. As for recommendation for didactical staff, they must:

- Facilitate the educational process
- Support all children
- Valorize and encourage all children participation in education

III. Educational planning

During the planning activities, in order to ensure the activities’ efficiency, educational specialist must:

- Accept and understand the children’s diversity and oneness
- Plann, implement and reflect on the actions in a way to ensure that the education is for all
- Design and draw up an personalized educational plan on the needs of children from disadvantaged groups
- Be part of a community of educational professionals
- Identify appropriate methods specific to the children age group

Between theories and viewpoints expressed in different organizations and forums that put into questions early childhood education, it has to be emphasized the need of educational programs very well designed, realized and implemented.
As suggestions of realizing educational programs, it can be summarized the J.Evans’ research, “Early Childhood Counts, A Programing Guide on Early Childhood Care for Development”

The educational programs must:

- be sustainable
- be flexible
- anchored in understanding the social environment as a main factor;
- promote access equity and equality of chances;
- reflect diversity;
- use a variety of strategies;
- ensure the increasing quality of education;
- be relative profitable comparing with total costs;
- obtain sustainable benefits.

IV. New technologies

The influence of new technologies is obviously increased day by day. The use of computer and other technologies comes as a necessity. It is also imperative to have a proper education to a judicious use. The opportunities and threats related to the introduction of computers in education have already been presented in the Chapter V. There are also other recommendations in this regard, so the use of computer must:

1. respond to an educational purpose
2. encourage collaboration between children and between children and educator

The educator must be prepared and aware about the impact of technology on children’s, must be trained to know how to use the computer itself, to create its own educational resources, and:

1. be sure that children is in control
2. integrate with other aspects of curriculum
3. choose applications proper to children age and needs
4. avoid applications containing violence or stereotyping

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5. be aware of health and safety issues.

It has to be emphasized as a threat which conducts to a misunderstanding how information technology can be used for training and facilitating education, is the lack of specific training for educators. This can be realized whether by training programs or better in university programs, which may help them to improve teaching techniques through Computer Aided Instruction, to be able to gradually remove their distrust in using technology and also parents’ reticence which are not yet ready to accept this alternative.

In early childhood education it is necessary to retain stimulation, care, constant readaptation of communication channels with children and didactical methods and resources, to keep an authentical connection with the family, to have the opportunity to hear and feel the children and its needs, to create appropriate evaluation tools in order to identify the potential of each child and lead him to an optimal development state.
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