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Inclusive and Cognitive Education

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Prague, 30th October-1st November 2005

Part 1 - General Papers.
Rationale, models of praxis and theory, research

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Part **1**

General Papers

Inclusive and Cognitive Education:
rationale, models of praxis and theory, research

EDITORIAL: WHY INCLUSIVE EDUCATION AND COGNITIVE EDUCATION SIGNIFY AN ENRICHMENT OF EDUCATION FOR ALL

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The present volume is based on the Proceedings of the International Network Conference of the INCLUES Network on Inclusive and Cognitive Education. This conference took place at Charles University of Prague, Faculty of Education, from October 30th till November 2nd 2005.

INCLUES is a European Network bringing together educational professionals and parents, who want to realize inclusive education as well as an optimal development and learning of children with learning impairments. Our aim is to obtain a shift of teachers' attitudes and teaching skills towards a more dynamic, cooperative and mediating teaching style, which facilitates (cognitive) learning processes of all children, regardless their diversity and yet is more inclusive to those who tend to different ways and speed of learning.

Participants were specialists from eighteen states from Europe, South and North America, Africa and Israel. Among the participants were such prominent representatives of cognitive psychology like Professor Reuven Feuerstein, who was awarded the Silver Medal of the Charles University at the opening ceremony.

Czech and Slovak educators and psychologists received a great opportunity to meet and to know colleagues from all the world and learn from their way of thinking and their attitudes to inclusion.

Why was inclusive education intentionally connected with cognitive education?

The experience from countries in which inclusive education has been introduced several decades ago – Italy, Denmark, Sweden, Norway and the U.K, or more recently, the Netherlands, Austria, Spain, France and other countries,

demonstrates that it is possible to let children with almost any disability participate in mainstream classes. In the first place this requires a school development process whereby barriers to participation and learning (curriculum and others) are reduced as much as possible in order to facilitate common learning of pupils with and without disability. Some children may need a personal assistant. All of them need to be prepared for integration so that they may be able to participate better in all the various school activities as far as possible. From this point of view it is necessary to develop cognitive functions, in order to enable them to adapt better and in a more independent way to challenging learning settings. This could motivate and inspire them for learning. This idea was developed in Reuven Feuerstein's key-note presentation as well as in many other research and empirical reports presented in this volume. Teaching, which is oriented towards developing cognition, contributes to better school performance of children without functional impairments in the classroom as well, so that everybody may benefit .

What is the mission of inclusion and what is its intent?

In our opinion the idea that all children should be educated together, is a pragmatic aim, which has a chance to be realized in the next few decades. Schools should develop a social setting in which children once will live as adults. In the Czech Republic, host of the Inclues conference, as well as in other countries where inclusive education is still hesitatingly being introduced, resistance against inclusive education is usually found in teachers, doctors, psychologists and people from the administration who do not have enough personal experience with individuals with disability. In the period of totalitarian rule in Eastern European countries, as well as in many Western European countries, children with disability were isolated from the rest of the population, so that they hardly received any opportunity to influence society as a whole. Until today this still unconsciously is shaping public opinion.

The significance and meaning of inclusive education may be expressed on three levels:

Significance of inclusive education for children with disability: Undoubtedly, inclusive education compels the child with disability to overcome obstacles and in this way it develops his or her potential learning abilities and its development as a whole person. In addition, children with disability learn to

communicate with their schoolmates and teachers in a quite natural way, they get experience in coping with conflict situations and solve their problems and they become more independent. The necessary condition is to create an atmosphere, in which children with disability are accepted as partners. The atmosphere in the class is more important than material conditions and equipment.

Significance of inclusive education for children without specific disability: daily contact with peers, limited with functional impairments, develops their empathy and they learn cooperation on a personal level. However, a necessary condition is that their teachers and their parents are convinced about inclusive education, that they are able to instruct their children about the meaning of this process and share with them a corresponding behaviour.

Significance of inclusive education for society: Last but not least we would like to stress the significance of inclusion for a healthy society. There are many cases of social crises caused by the fact that society did not care for people with disability . The extreme example is the ideology of the Third Reich in Germany, killing people of non-Arier race and people with physical or mental disability. Even nowadays the world is still coping with this past. Not only Germany, but the whole world has to build up a new social ethos, since every society which is not able to include its minorities becomes weak and unstable. The disregard or even an aggression towards people with disability can de-stabilize basic interpersonal relations. The United States till now cope with the problem of integration of Afro-Americans. And the Eastern European societies are still handicapped by the fact that during the communist rule people with disability have been isolated from the rest of society.

The French paleontologist and philosopher Pierre Teilhard de Chardin, in his short essay about human suffering, attempted to express the meaning of human life against the background of its temporal limitations. Nevertheless the basic human need is to live a “fulfilled” life and the highest human mission is the service to life in all its dimensions, including the compensation of individual deficits. In this context people with disability stand in the forefront of the battle for humanity – they demonstrate the vulnerability of human life as a present sign of its limits, as well as the fact that human hope is a hope of the whole society or it is not a hope at all.

Therefore we dare to say that postponing inclusion could be a sign of a coming crisis. On the other hand a criterion of a healthy society is its development as a whole without marginalizing any groups and individuals.

We have to thank our partners colleagues of the INCLUES Network, the many collaborators who helped in the logistics of the conference in Prague. We are grateful to Mr. J.M. Boullier, Head of Unit of Comenius Networks of the European Commission, who supported our initiatives. We gratefully acknowledge the financial help of the European Commission's Comenius Programme for school innovation. We also thank our colleagues Maria Roth, Istvan Szamosközi and others at the Babes-Bolyai University of Cluj-Napoca (Romania) for editing and publishing this volume as a special supplement of the Transylvanian Journal of Psychology (Erdélyi Pszichológiai Szemle), which has an outstanding scientific reputation and is recognized by the American Psychological Society as a peer-reviewed journal.

The Proceedings have been published earlier in Czech, in a slightly different and less edited version, as not all the full papers had been available at that time. For the English version we have been able to obtain all full papers. The first part deals with more general subjects related to the synthesis between inclusive and cognitive education (Feuerstein, Lebeer, Falik) conditions (Pokorna & Lebeer); experiences from different countries where inclusion has been well established (Norway reported by Haug and Italy by Ianes); cognitive interventions (the Štech, Robson & Kozulin paper) and a personal account by a woman with Down syndrome (Engels). The second part brings papers on various more specific subjects: cognitive intervention and behavior, diversity and curriculum differentiation in the classroom; dynamic assessment and cognitive activation; mathematics; counseling and parent training.

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SHAPING MODIFYING ENVIRONMENTS THROUGH INCLUSION

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Abstract: The conceptual and practical foundations for integration of students with special needs in normalized educational environments. A discussion of the role of the environment in promoting human modifiability, the necessity for preparation and support of students who are integrated. Presentation of several examples from earlier work structuring the conditions for successful inclusion.

Keywords: modifiability, preparation, mediated learning experience

Cognitive Modifiability: A Necessary Prelude to Inclusion

In our work in cognitive modifiability, we are referring to a movement which is meant to create conditions of life for human beings to make possible their adaptability, which today is an issue of quality of life and essential survival. Adaptation is not a luxury, it is a life issue. We live under conditions which the inadapted are in many ways condemned, doomed to a life which is pervasively limiting. Cognitive modifiability, as a theory and active movement, tries to address those elements in the human being which enable adaptability to the great changes which occur in the world and which require the individual to become cognitively more plastic and more flexible. There is an opposing point of view, as it is described in *The Bell Curve* (by Herrnstein and Murray), wherein large masses of populations are considered as being unable to become integrated into the great stream of modern technology and development. From this perspective, such individuals are doomed to stay as simple users of whatever is produced by the intelligent, flexible, and adaptable people of society, but not be to a part of this production and generation of the necessary technology.

The alternative is to develop human beings' capacity to adapt–in their life, their contributions, to be part of a development which does not leave any per-

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son indifferent. One cannot be indifferent. Either the person is integrated into society, as a contributing member to its existence and development; or is on the outside and unable to participate. For such individuals, to be outside presents a gloomy message. To be for inclusion is therefore by definition to believe in human modifiability, and to be committed to finding ways to make people become a part of society–this is the essence of the concept of modifiability, and the necessity for inclusion.

The Role of the Environment

We know how important the environment is, and inclusion into the environment for the destiny of the human being. But we must be very cautious! There is in the post biblical literature a dialogue between G-d and two of his angels, which I paraphrase here.

G-d expressed sadness that the human beings he created in his image did not follow his image in their functioning on Earth. The two angels said "G-d, we told you that human beings are not good!" And G-d answers, "what would the world be without the human being?" So the angels say "G-d, let us go down, mix with the people, and you will see how we will make them sanctify your name." And G-d tells them "if you will join this environment, if you will be out of your own environment, you will become like them, perhaps even being worse than them!"

This suggests that the environment has the power to change even an angel, perhaps even to change the genes–the inherent and inherited characteristics of being. This tells us that "even the angels will be affected by those who they will join." The legend ends up be describing the total deterioration of the two angels.

This metaphor teaches us that the environment has an enormous impact on the human being. This is the basis of our attempt to offer each individual an environment which–and here we introduce what may seem like a radical point of view- will enable him/her to "choose the genes" which will determine the course of development and functioning. The option is not to be determined by the genes but to choose those genes–from the large pool we have–which are desired to activate to direct one's life. This is the ultimate concept of freedom. That human beings can choose their genes, and thus make a choice of the kind of life they would like to have.

When I proposed this concept to a professor of molecular biology he was a

little taken aback by the suggestion. And then described his work in "gene therapy." When I suggested that he was choosing the genes he was offering to the individual to give a different condition, and that this is not only possible but desirable to change essential conditions of life experience, he could not disagree. So the concept of choosing the genes is not so far from what is really happening. In this context, if we do not shape the environment according to the goals which we set for the human being, the environment may make us choose very different genes than those which we need.

Implementing Structural Cognitive Modifiability

In order to consider the concept of inclusion, and its meaning for the individual, I would like to offer a brief review of the theory of structural cognitive modifiability (SCM), and then describe the act of integration of individuals from high risk populations. We have done this with large numbers of people, over a period more than fifty years in Israel. I will also describe some of the conditions and techniques related to cognitive modifiability, by help of which such integration became possible.

In the beginning we spoke about human modifiability, about the fact that human beings have an option to modify themselves. To change, to develop, to grow! To respond positively to the requirements of the changes happening around them. Human beings are sensitive to these changes, and can modify themselves. Modifiability is equated here with the concept of adaptation. I modify myself, I change myself in order to adapt myself to a given condition, inside or outside of my self. I have to adapt myself to certain changes in my own existence. I have to adapt myself to a given age, and behave differently than I did in a different period of my life. When adaptation is required the one who does not adapt suffers. In this way, modifiability is an adaptability to the change in one's condition due to certain responses which must be given in the environment, both internal or external to the self.

When we spoke about human modifiability–that human beings can modify themselves, change themselves, have the option to change, we spoke about it as a postulate of a belief system. We *believed* that human beings are modifiable. We freely admit that a belief system is not a scientific concept. Scientists do not like to be confronted with the concept "I believe." One can believe or not as one wishes, but this is divorced from data and proof, and

other things that scientists hold dear. Why did we use the postulate of a belief system? Our reason is quite important: a belief system is generated by a need. There was a great, an overwhelming need! When I saw the children coming out from the Holocaust, some of them not far from the site of this lecture, from Theresin (in what is now the Czech Republic), I recognized a need. For example, and I recall a child of 16, looking like he was a 9 year old. He was brought to Israel by a group of adults, and no one believed he was the age of 16. And I asked myself, "Can I educate this child? Can I bring him up to a level of functioning for his chronological age? Can I ever make him become what he is?" And it was a great question. My need system dictated to me not look for his limitations, but believe that he could be changed. And to do it–to act on the belief. To finish this particular story, this young man, with time and hard work has become a skilled pediatrician, a helper of others, and in his profession has helped children overcome the effects of their traumas.

So it was a belief system that generated the concept of human modifiability. We believed that human beings can be modified irrespective of the etiology which makes them behave as they are. We believed in something that was not accepted at all (and to this day is doubted by many)–that human beings can be modified irrespective of their age: it does not matter if they are not talking by the age of 6 or 7 (as some theoreticians of speech or language consider the "critical period" for language development), they can learn to speak at later periods of their lives. We spoke of human modifiability as something that extends itself to all ages. No critical periods, as the scientists of the time, and into present day, were and are considering. We even whet so far as to consider that the severity of the condition was not a necessary barrier to permitting the individual to go beyond existent levels of functioning.

All we could do at this early time, acting on our belief system, was bring empirical data to show that it can be done. And more so, to show *what* can be done and *how* to do it in order to make it possible. This is reflected in the history of Instrumental Enrichment, as one of the applied systems that have been derived of the theory of SCM.

We started to assess these children. I remember sitting in front of this boy about whom I spoke about earlier, who was very small. He needed a higher chair so he could sit in front of me and look into my eyes. I taught him where to look, how to follow with his eyes which tended to wander around. He didn't know what was the goal of his looking. He needed cognitive structures to search and look so that he could focus and learn from that which was in his environment. I started with a very basic mediation of the world–what to look

at, how to look, what things go together, what to separate. After about 30 hours of work, and as we worked I observed a process of growing, as he came up and up. I observed that he was drawing beautifully, with charcoal. I decided to bypass the academic studies, which were giving him great difficulties in learning to read. Let him learn to draw, and indeed this was the area in which he excelled, and then some of the other skills followed–"let loose" by the competencies and integration that the drawing produced.

Indeed, the search for empirical evidence for human modifiability became a strong source of our work, of further hypothesis making, of observations which permitted us to describe the elements of the cognitive functions in terms of what can be affected, how they should be affected, and what kinds of modifiability is needed to sustain and elaborate higher levels of performance. With time, and the gathering of thousands of sources of evidence–examining many thousands of children from the Holocaust, from North Africa, and increasingly special needs children from throughout the world who were brought to us, we accumulated enough sources of evidence about human modifiability to ascertain that it is indeed possible. But it requires going deeply into an analysis of the processes of thinking–the various characteristics of changing the structures of learning, the capacity for representational thinking, virtual realities, and the like. Thus, out of the postulate of modifiability, out of the precipitating belief system which was created by a need system, we found strong evidence for modifiability.

Sources of Evidence for Cognitive Modifiability

At this point we started to look for a more "scientific" platform for the concept of modifiability. We came to the development of three basic assumptions which strengthen the validity of the concept:

(1) The first is that the human being is not formed by a single ontogeny. One is not the sole product of the biology. Much of the rhythm of development in human beings is biologically determined, but is there no way to alter its course, does it stand by itself, does it do exactly what it is pre-determined to do? We think not, and our observations and evidence confirm this. As a French journalist wrote in *Le Monde* after one of my presentations on our work with children with Down Syndrome, "for Feuerstein, the chromosomes do not have the last word." We have shown in such children that despite the

chromosomes, we can modify the child's functions in very meaningful ways.

Following Vygotsky and Rom Harre, it became obvious that the individual has a "double ontogeny." Notably to the biological determinants of existence must be added that of the socio-cultural, environmental elements. It is clear that the environment forms the human being–not only in the realm of behavioral experience but also in the biology. To this point in time we have considered this double ontogeny as a source of struggle between two systems. The human culture changes the biology, subdues it, modifies it. What is genetic therapy if not a modification of the biology through the imposition of cultural experience.

We have added a third ontogeny. That which is typical and somewhat unique for the human being – the transmission of the self and the culture. The shaping of the environment. The preparation of the next generation to develop, grow, progress, and be modified. We have described this as the means of preservation and perpetuation of the generations–of the self and value system through and beyond one's progeny. The mechanism for this, its "vehicle" for the process, is that of *mediated learning experience* (MLE). The provision of MLE as a conscious act on the part of the human being is a source of change. The mediator, the provider of MLE, is also and importantly a source of change for the human being.

(2) A second assumption which I will briefly outline is the formulation of the behavior of the human being. It is usually considered to be the result of certain biologically determined *traits* which cannot be modified (and therefore consists of elements are not flexible and amenable to change). We view intelligence to be the outcome of *states,* which are the product of a condition. A "condition" can be modified, and by changing the conditions of experience or functioning, the state of the individual can be modified. Indeed, if we see children who are in certain states, and we look at them from the point of view of traits, then what can one do. If a repetitive or even severe behavior is considered as a state, as a potentially temporary reaction to conditions (either internal or external, or both), and one looks for the condition which has produced the state, as the conditions are changed the nature of the behavior is changed. You can modify states by attacking the condition which produced them.

(3) Finally, the third assumption which is a platform for modifiability is a "gift of god." In this stage of my life, after many years, I must admit I have been waiting for this confirmation. When I spoke about human modifiability, I never dared to speak about the modifiability of the brain. This would have

been, in my mind and at the times, a heresy! I remember the care I took to speak of modifiability as the "mental behavior" of the individual. We did not speak about changing the brain. But, behind this caution I was thinking "how is it possible that when we change this child, who was functioning like a four year old, and bring the level of function up to levels where the individual was a professor, how can we do this and not change the brain? How can I change the "software" and not change the "hardware." Now, we can openly speak of this because the neurophysiology of this time, using the non-invasive technologies of imaging, and other methods, show clearly that human modifiability changes not just the behavior, but also neurophysiological substructures of the brain. And that the brain in changeable. We affect the brain and its level of functioning in the various modalities of creating links between the brain and behaviors, and in regenerating certain types of lost functions in the brain. We can now confidently assert that as the brain determines our behavior, our behavior determines the nature of our brain. We do not need more than this to speak of human modifiability as something that exists–there is now evidence and a scientific basis for this belief (and the actions which can and should be taken). One of our great hopes, in our work with severely brain injured people, is to be able to show what kinds of changes in the "hardware" follow certain types of intervention affecting the "software," and what are the most effective types of intervention in order to modify the brain.

Cognitive Rehabilitation of Traumatic Brain Injury: A Case in Point

We are working now with people who have lost great masses of their brains through traumatic injury. In some cases, the scientists were adamant in their belief (and advise) that behavioral functions could not be restored. We have taught individuals to read and write who lost their entire left hemispheres, and were presumed by the neurologists to not have the neurophysiological structures to accomplish such learning. Here and in many other cases, we have data to show that certain behaviors imposed on the brain in order to modify it are successful, and that higher and in some instances fully restored functioning is possible.

We now know that we are also affecting, in large measure, to the structure of the brain. We have now a great deal of evidence, with more to be available to us in the studies and research that is being undertaken in the present time.

We have the opportunity to use the non-invasive methodologies to study the real time activities of the brain under different conditions of stimulation. With this kind of result in our hands we can come and say, "the effect of the environment may be crucial."

The work with brain injury provides strong support for the concept of inclusion. It is not that we take a child with a specific difficulty and we place him/her in an environment, hoping that perhaps something will happen. We have evidence that changing the environment leads crucial changes which occur when an individual if one is in one type of environment, with its demands, expectations, and structures, compared to being in an environment where nothing is happening.

Implementing Cognitive Modifiability

The concept of human modifiability, in the sense of structural changes which permit the individual to use the changes in a variety of situations, and in a variety of adaptations which must be made in order to exist, is today not an issue of luxury. It is not among the seven disciplines which were once studied at the university in order to become a cultured man. Today, it is a matter of life. My experience with the children of the holocaust reinforces this–approximately 350,000 children and another 100,000 children who were brought over to Israel from a variety of other oppressing countries. And a parallel with today–what is happening in Africa, where we see millions and millions of children perish daily. Not necessarily because they do not have enough food. Food is given to them. But because they do not know how to learn from their experience, to use their minds to shape their environment. The question is how to make themselves able to subsist under a variety of conditions. Yet we see them perish daily, not only with hunger but with disease, and be involved in conditions which create animosities and antagonisms which end up in their killing one another. As we sit here, and we teach the children who need us, shall we forget the existence of such a mass of children perishing before our eyes and not consider how to give them what they need. As the saying goes, if someone is in need "don't give them fish to eat, don't give them fishing rods. Teach them how to make the rods, and how to fish. Then you will save them."

We postulate that human beings are modifiable, irrespective of age, irrespective of race, irrespective of the conditions under which they grew up, and

a variety of other conditions which once were considered as barriers to change. There is, unfortunately, another point of view. Arthur Jensen contended in 1969 that many learners–typically those from culturally different and discriminated social classes–could not learn. I can paraphrase his position in these terms: "Stop teaching these children to think, they have no mind for it, they will never learn!" All they could do, in his view, was perform tasks from what he called Level I intelligence: they will know the names of their classmates in school, but when you ask them "how many" they will not know. They will not learn numbers, or the mental operations of summation, and so on, because he considered this as abstract thinking (Level II intelligence) which such children are not able to achieve. Lest you think that this is merely an "academic debate," please know that Jensen, and those who followed him, asked the American government to stop funding programs such as Head Start, which were invested in teaching disadvantaged young children higher mental processes. Their *inherited* intelligence makes them totally insensitive and inaccessible to this kind of learning. In many quarters, this view prevails today.

Now we have evidence, from our work and those of many others, that this can be changed, that their presumed conditions can be modified. Therefore, inclusion becomes a radically important element. We cannot any more afford to do what psychology has done–create the concept of aptitude/intelligence grouping. The psychometric methodology was essentially created to classify and place individuals together according to their intelligence, in order to know whom to group with whom. Psychometrics were specially made to separate, single out people who "cannot learn," and place them one side. Place those who can learn on the other side. And who is placed on the "cannot learn" side. People who can only learn a little bit: for example, to decode but not necessarily to understand what they read. People who are presumed never to be able to understand what they see, people who cannot project themselves into the future and plan ahead. These are people who are presumed to be unable to combine things, put together sources of information and turn them into something that did not previously exist. The result of this kind of dichotomizing led to millions of dollars which were supposed to go these children in programs such as Head Start being taken away.

From the point of view of human modifiability, we can show that not only can these children (those placed on the "can't learn" side) learn, but that the conditions for their modifiability rest to a significant degree in the creating and shaping for them of an environment that enables them to be modified.

Developing Methods to Create Conditions for Modifiability

In our work, for these children, we have derived three major methods. One is the *Learning Propensity Assessment Device*, which has come to be known as the LPAD. This is a dynamic assessment methodology which presents instruments (or tools) which identify the learner's cognitive functions and areas of deficiency, and ways in which to modify functioning to achieve higher levels of performance. Our LPAD methodology has spawned a number of other programs, based to varying degrees on our theory and methods, and has been instrumental in creating an awareness of necessary and possible alternative approaches to the psychometric. There are many important differences from the conventional psychometric methodology, but here is perhaps the most crucial. The goal of the LPAD is to assess children's functioning from the perspective of not what the child is able to do at a given point, but how can the child become modified, how can the child be helped to achieve certain things which at the given point are not accessible. The operational questions that the LPAD answers are how can cognitive structures, inexistent at the outset of the assessment process, become established, activated, and generalized for the adaptive capacity of the individual. And we can now say that the use of the LPAD, over a period of more than 40 years, has given us an incredible source of information about the nature of intelligence, how intelligence develops, how children can be introduced to concepts that they never had, and how they can be taught to observe, perceive, combine, and so on into higher mental operations.

Through this, and correlative to it, we developed the modality of mediated learning experience, as a particular type of interaction which enables the child to become accessible to these learning processes.

Following these developments (in theory and method), we developed the *Instrumental Enrichment* program. Instrumental Enrichment (IE) is a form of mediated learning experience, whose goal is to create in the individual the cognitive structures that facilitate learning (basic and higher order). The instruments of IE are the tools to become changed by exposure to learning situations. We have created a whole methodology, which is now affecting millions of people all over the world. For example, in the state of Bahia in Brazil, there are 600,000 students above the level of grade 7, learning the program, taught to them by approximately 20,000 trained teachers. Because of this experience, we are confident that these children have a very different future

ahead of them, and this confidence is confirmed by much research and many anecdotal reports.

The IE program is a way in which individuals can become affected by learning processes, in their daily life experiences as well as in their academic achievements and options. We have developed teachers to be mediators, and thus affected the broader curriculum of the schools in which the program is offered. In this way, the program becomes a source of change in students, their teachers, and the schools and communities of which they are a part. The effect also is manifested in the families of the students so exposed, and this leads to the third of our major interventions.

This third aspect of our activity joins closely the concept of inclusion. We realized that if we assess a child and see that there is modifiability, and the child is exposed to Instrumental Enrichment and that modifiability is both manifested, increased, and elaborated, but the child is left in an environment which does not require that the modifiability (actual and potential) be utilized, encouraged, and given the opportunity to adapt to new and more complex demands (to use what has been learned) there will be no benefit. Without the third element, which is the integration into environments which require from the individual the use of capacities which were acquired (as for example through exposure to the Instrumental Enrichment program), the effects will not sustain or expand. We have thus come to the conclusion that there must be three elements to create a complete, effective, and ultimately modifying experience–dynamic assessment, systematic cognitive teaching (exemplified in the IE program), and *the shaping of modifying environments*.

The Essential Conditions for Benefical Inclusion: Preparation

To create and sustain a modifying environment, and create opportunities for beneficial inclusion, there must be a process of preparation. I have addressed above what we consider to be some of the critical elements. They can be summarized as the creating in the individual, through an assessment to determine, linked to the kind of interventions which will have to be employed in order to produce benefits, and then providing the tools of learning which can be applied to the tasks of the environment which will be confronted. But then, we must provide the environment that enables the changes to be solidified, adapted, and experienced. Send the students to an environment in

which they will be able to modify themselves, to develop themselves, to *become*. But do not send students to the environment without equipping them with the pre-requisites of learning which will enable them to benefit from their presence in the modifying environment. Shape not only the environment, shape the students–prepare them, enable them, make them conscious and active and willing in their investment in their learning.

Two Examples of Inclusion: The "Treatment Group" and Preparatory Classes

When I speak today about inclusion, about the integration of the student with special needs in the normal, regular environment, I can look back to my 50 years of work within the framework of an organization called Youth Aliyah (Youth Immigration). This is the Jewish organization which was charged with the ingathering of the children, the survivors who escaped from the Holocaust, and who were dispersed all over Europe. These children experienced a variety of extremely traumatic conditions–for most of them, this started with looking into the faces of death, of their families, and most of the members of their community, even some who were victums of Mengele's medical experiments, recipients of brutal tortures, and other direct experiences with hunger, disease, and the like. It was a very hard task to bring these children together. And we brought children from all parts of the world, from environments which were not very adequate for their development, and affected their lives in many negative ways–including social disorganization and a variety of very severe traumas. These children represented a high risk population, both by being culturally different, inadequately prepared academically, by being traumatically affected by their experiences (often adolescents without their parents or a family support system), sent to a strange country. You can imagine that the psychologists sent to work with these children had to work very hard. Where could we place them? Here are illustrations of two of our organized and systematic attempts at inclusion:

The Treatment Groups: We organized hundreds of kibbutzim where groups of 40 and 50 children were placed, and then in classes where they were given the possibility to learn with normal children, and socialize with them as well, as these were very severely emotionally affected youngsters. Many were what were called then "pre-psychotic." Today we call them "autistic" and a variety of other names. For this population we developed a very ingenious method.

We could not place them as individuals. They needed a special regime. So we took groups of children, numbering 20 to 25, and we had about 7 groups like this. We placed them in a village where there were 10 to 15 other normative groups. We surrounded these groups of "difficult" children with what we called "an osmotic wall." We let these children interact with the normative group in planned and properly considered (controlled, monitored, and explicitly prepared for) way.

The follow up study that was made on what came to be known as "the treatment group technique" showed that many of these children developed as well as, and some even better than some of the "normative" groups. And some of them reached levels which permitted them to become involved in the difficult courses in the Army, and even to achieve higher academic degrees.

The Preparatory Classes: This program was developed for a group of children who presented a number of developmental and social adjustment risks, such that they could not be placed immediately in regular classroom settings. We recognized that prior to such placement, which we believed they were ultimately capable of benefitting from, they would need a very sophistocated, well articulated and planned enrichment experience. We began this program in 1958, and it continues to the present time. In the course of these years, almost 40,000 children have benefitted. Who were these children? They were either culturally different (from the mainstream groups of Israeli society) because of their immigration from other countries. Many of these children were also culturally deprived–their level of functioning in the context of their own cultural experience was so low they could not possibly be included in regular class programs (in Youth Aliyah) functioning approximately at appropriate age levels. Others demonstrated such low levels of academic performance and deficient school learning habits that they could not be included in the programs preparing students for higher academic or vocational functioning. And frequently, because of these low levels of functioning, they were not accepted in the social environments of the regular children of the kibbutzim or youth village communities.

The inclusion of such children, and the efforts needed to prepare them, required a process of preparing them which took a number of years for us to develop. How to prepare them to be included, by providing an intensive and rapid exposure to the cognitive, academic, and social skills needed for functioning in the normative groups? Out of this came the *preparatory classes*, which were classes where children living in residential schools were offered a program which was focused on those parts of the school and classroom ex-

perience that was necessary for them to master in order to become accepted. This created a sharply outlined program of study, and a state of awareness on the part of both the students and teachers that they could accomplish this in one year–*that they only had one year to get ready*! This creates the feeling or urgency– that everyone had to make the most of the time that was at their disposal, in order to be able to join the normative group at the end of the year.

One observed a feeling of motivation which had not existed in these children (and their teachers) before. All participants knew that at the end of the year they would have to have acquired skills, habits, social behaviors which would make them acceptable, and successful, in the normative groups in which they would be placed (schools, vocational programs, and the like). These preparatory classes became one of the greatest successes. Follow up studies made on these students, particularly those who also received Instrumental Enrichment, showed that a considerable number were able to successfully join these normative programs, and be fully successful in them.

These experiences, and many others like it enable us to say that the environment can be used properly *if the individual is prepared, if you create sensitivities to it*, and you thus enable them to benefit from its exposure.

To Summarize

Just placing a child in an environment and thinking that some kind of miraculous interaction will be effective is fortuitous–it may, if we are fortunate, but usually not to the degree which is needed. We must prepare individuals for their inclusion. No less than we have to prepare the environment for the included students. So inclusion is a very important element which we have to employ in order to help individuals, for only in this way will they be able to manifest their potentials. But, the most important thing is to consider the ways by which individuals need to be prepared to benefit from and become involved in the process of inclusion. I don't consider it an easy task. I do not say, "OK, lets put children in regular classes and make the authorities ready to accept them." No, the fight must be for the right and need to prepare the child for the environment in order to produce the kinds of integration which will and can be beneficial to their development and their futures. This conference–which I thank Professor Vera Pokorna for organizing, and for Charles University for opening their gates for it–is not for the proclaiming of a victory, but rather to understand the importance of developing strategies for the nec-

essary struggle. It is only by knowing what we are struggling for will we succeed.

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IT 'S A NICE LIFE: MY EXPERIENCE WITH INCLUSION

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Abstract: I want to tell about my nice life, about my own dog, my car, my hobbies, my house, my study, my practical work etc. And I will tell about Professor Feuerstein, why we went to Israel, and how my life changed and what was the influence from Instrumental Enrichment in my life.

Hello to all off you.

My name is Peetjie Engels. I am 27 years old. I live in the most southern part of Holland, called Limburg. I have Down syndrome and I would like to show you how I live my life. A normal life just like every one of my age.

I live in my own house, together with my dog Takkie. My house has a sleeping room, bathroom, kitchen and living room. Upstairs is a guestroom. So when you want to visit me, you can sleep in my house. My house is next to the house of my parents. I live independent but with coaching.

Takkie is my dog. She is 7 years old. I learned her all, I am her boss. At night she always sleeps in my house and guards over me. Takkie is a so-called German pointer.

In my house I do the cooking, the cleaning, wash my clothes and iron them. I learned how to do the groceries and how to pay. At this moment a professional coach comes two times a week. She helps me organize the household.

With my own car I can drive to my practical work and to most of my hobbies and the shops. It is not allowed to drive on the expressway with my car, but that is no problem.

Of course I have hobbies and I like to do sports.

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[1] This text has been presented by the author at the 4th Network Conference of the Inclues Network, at the Karlovy University in Prague, October 30th 2005. English is her second language. The text has only been corrected with a spelling checker, but is left as it is. Peetjie was the first person with Down syndrome to obtain a regular high school certificate in the Netherlands, i.e a diploma of caretaker in social care for the elderly and children. We include her full text in this issue, because we wanted to give a voice to people with a cognitive disability themselves. (editor's note)

For me, music is very important. I am very glad that my mother always stimulated me to practise on the recorder when I was 8. When I was 12, I choose for the clarinet. Sometimes I play with my sister Werny. She is playing the flute.

Every week I have clarinet lessons. My clarinet teacher is severe, but also very nice. A lot of time I played at a performance.

On Monday I have drawing lessons. Our group follows lessons at the house of a drawing teacher. I like to draw and also paint with acryl paint, mostly flowers in al kind of colours. When I started, I could hardly draw but now I improved myself a lot. Drawing is important for me because of my work with the children.

One of my hobbies is horse riding. I can do trot and gallop and love to ride on Indiana, the horse I usually ride on. For me it is not wise to jump because my sight is not good enough.

Twice a week I go swimming. I started swimming when I was 6. First I took swimming lessons and then I joined up a swimming club. I swim games for disabled people and normal games and I won a lot of gold medals in games for disabled people. My favourite stroke is butterfly, every one is looking at me when I swim butterfly.

Every week I play the clarinet in an ensemble, called “harmonie”. It consists of clarinet, drum, horn etc. I don’t go with my car to the harmonie. In Limburg, it is common to take a pint of beer after the repetition, so I take a beer also. We play on all kinds of festivals.

In Limburg are many choirs. I sing in the youth choir of Schinnen, my home county. I used to have a very low voice so I could not sing in a choir. When I was operated at my tongue this problem was solved. It was one of my dreams to be a member of a choir.

Every Saturday I play in a clarinet ensemble from the school of music. I go by my bike or my car to the railway station and then further by train. The members of the group can play clarinet very well. I was really honoured that they asked me to become a member of the ensemble. We gave performances, once even in Paris.

Me and my sister Werny used to go on ski holidays with my parents, who loved down hill skiing. Therefore I had to learn how to ski. I was 5 when I started to ski. We have been in Germany, Austria, and the Dolomites in Italy. Because my mum is giving lessons in the Czech Republic I can come with her and have the chance to ski.

In my living room is my piano. I bought it myself. I have no piano lessons, but I practice by my self.

One of the most important things I ever wanted is to work with children and be regarded and respected as a member of the team. On the moment I do practical work in a children crèche. I am studying for a job in social services. Also I am really proud that I already have all my theoretical certificates, which I passed the first time. In the centre I take children to bed, to the toilet, give them food and drinks and change diapers. (Sometimes it smells terrible). Of course I also watch out for the children.

Also I would like to tell you something about my health. My eyesight is not so good. That's why I did a lot of eye-exercises. I didn't always like it, but it helps me a lot in the things I like to do. Also my height is a little bit small about 1,50 m. I still have problems with my ears and thyroid gland. I suffer from hypoglycaemia, movement problems and knee problems.

When I consider all of these problems I would like to point out to you, that you really have to work, to achieve the things I did. Sometimes it is not easy and it doesn't matter to express so now and then. On the other hand I am really proud of myself how I handle all these disadvantages. The support of my family is one of the keystones of my success.

I have told you about all the things that I'm able to do know, but it wasn't easy to achieve this. When I was born the common opinion about children with Down syndrome was that they wouldn't be able to learn anything. Therefore people didn't work with these children.

I will show you now how my family and I managed to accomplish the things I can do now.

My parents told me that I was a sweet baby but hardly reacted to anything. Even for a Down syndrome child I reacted very badly. On my first I.Q. test I scored 50.

My sister Werny is 14 months younger than me. My parents decided to raise us the same way. I really loved and adored my sister and always tried to imitate her.

When I was two years old my parents send me to a special kindergarten because that was the normal procedure for children with a handicap. After a while my parents weren't satisfied about the way I was raised there. So they went on to teach me all kinds of things when I was at home.

Because my parents also wanted me to learn things at school they send me

to a MLK school. This is a special school for children with learning problems[2]. Actually I was expected to go to a school for very handicapped children. My parents didn't accept that because I wouldn't learn anything at this school and they fought for a place at the MLK.

When I was nearly ten years old my parents remembered an interview with professor Feuerstein on television. First they were sceptic about his method, but after a few conversations with people in Belgium who knew his method, they decided to go to Israel and to follow the first course of IE[3].

When we were in Israel, Professor Feuerstein and Jael Minszker tested me. Their conclusions were hard to understand for us. Professor Feuerstein thought it was better for me to go to a normal elementary school. We thought at the other hand that, that was impossible to achieve in Holland because no other children with Down syndrome went to a normal school.

My tongue was very long and for that reason my under jaw was standing out. Feuerstein advised a tongue correction by means of an operation. He also said that my mother had to work even harder with me, especially with his method. By doing so I would learn how to think.

At home my mum started to teach me IE. The first instrument is called the dots[4] and in the beginning it was really difficult for me. For doing the dots you have to think systematically, be precise and explain why you are doing things the way you do them. All of this I never did before. Still I had to learn it. With the second instrument (that concerns a boy in the garden and is called Orientation in Space), I had many problems to differentiate left and right, especially when the boy was turned. To learn this, Werny and I played it as a game in the kitchen. We had to close our eyes and for example my mother said "Where is the sink when the garden is in front of you" and more similar things.

We worked very hard and after a couple of months my parents observed changes in my functioning and behaviour. I started asking things as: Why is that and how do I have to do that? I also paid more attention to my surroundings and started to act spontaneously.

We now know, that was the moment when I started to think.

Because of my progression my parents started thinking about sending me

[2] MLK = special school for children with moderate learning difficulties. IQ range usually 70-90. Children with IQ range lower than 70 would usually go to a "lower level" special school *(editor's note)*

[3] IE= Feuerstein's Instrumental Enrichment Programme *(editor's note)*

[4] Organisation of dots: to find and draw, among a cloud of dots, a geometric figure corresponding to a model on top of the page. The figure must have the same shape and size, but can differ in orientation *(editor's note)*

to a regular school. We didn't expect it, but after half a year, I went to the elementary school in my village, the same school as Werny's.

During these years my life really progressed. When I was at the MLK, I rarely had contact with the other children when we were off school because we all lived far away from each other. Now it was different, I had the opportunity to make friends, to play with them when school was over and join them in their activities and clubs. Also the people in our village started to know me and talked with me. It's hard to explain how my live changed by going to a normal elementary school.

By the time I was ten, we went to Israel for the second time. That summer I had my tongue surgery and my mother followed IE 2. We kept on working with this method and every time my mom made it somewhat more difficult for me. In the beginning I only had to talk al little, later she started with bridging and at the end she asked me questions as: "Why do you think that Feuerstein made this instrument and what can you learn from this page?"

At school everything went well and I followed the same program as my classmates, however I must say that often the matter was very difficult. I wanted to stay with my friends and worked very hard to pass the years. At home I worked with my mother. Before I went to class, she explained all the matter in an easier way, before it was taught in the class. That's why I could handle the matter in class. I went to a lot of regular clubs for example: gymnastics, scouting, judo.

I'm convinced that without I.E. and all the hard work, I never could have functioned in regular clubs and have contact with normal children.

When I was 14, I finished the elementary school and during that summer we went to Israel for the third time. Feuerstein tested me again and advised me to go to a regular high school.

I have been at this school for four years, all that time I followed the regular program, but again I had to work very hard to get by. I had to do a lot of homework and often my mother had to explain the matter twice for me. I passed all the classes and at the end I got my certificate.

First I had to drive my bike to go to school. Later I went by scooter. The high school was nice, but harder than the elementary school. Fortunately I also had friends in that school.

When I reached the age of twenty, Feuerstein asked us to come to Israel. He created a special group for youngsters from all over the world, who were raised in the spirit of his learning's. That year my sister did IE and my mother

LPAD[5]. We made music together with Jo Lebeer on piano.

After high school, I went to the MDGO, a medium school for aspirant social care workers. I had to go by train. The first year was a bore. The second year I went to another group. That was a lot better for me. At that school we had to volunteer for work in an old peoples home, a day care, a geriatric home and a home for mentally handicapped people.

Finally I also got the certificate for this grade. At the moment I am working for the next grade called 'helpende welzijn'.

In 2001 Feuerstein came to the Netherlands and I followed together with my father the course IE 1. Because it was in English and I had to follow the same material as the other participants, I was really proud when I got my diploma

In 2004 Feuerstein was in Amsterdam. Together with my mother I did IE basic[6]. In that year my whole family was there. My father and sister followed IE 2.

Sometimes I work with children in the practice of my mom. I instruct them IE and help them with mathematics, reading and writing. When we are In the Czech Republic and in Slovakia, I help my mother with her work. Mostly I do IE basic with the youngsters.

In my opinion parents should work with their mentally retarded children. I think it's important for the children to go to a regular school and visit clubs for normal people. But when you want to achieve this, parents also have to pay attention to their behaviour. Just as other children they have to listen, learn to play with others and show decent behaviour. Maybe for children with Down syndrome it's more important than for other children that you are severe and strict. When you think that you're child will not ever learn anything, just have a break and try another approach.

I can also recommend a tongue surgery when the tongue is too long. After my surgery, I could talk better. Other people can understand me now and I can sing.

I really hope that you will try to give all the other children with Down syndrome or another handicap, the same amount of opportunities as me. I could always trust on my parents, friends, family, most of the teachers and the people who believed in me, like professor Feuerstein.

Please work with them. Don't give up.

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[5] Learning Propensity Assessment Device

[6] Instrumental Enrichment Basic, for age group 5-7 year olds (or corresponding mental age)

CLUES TO INCLUSIVE AND COGNITIVE EDUCATION: RECONCILING NEEDS TO INTEGRATE AND TO ACTIVATE LEARNING PROCESSES

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Abstract: Twelve years after the UNESCO world conference in Salamanca, inclusive education is far from realized in every European country. This article explores some of the differences and difficulties in implementation and understanding. Besides problems with insufficient understanding of the implications of inclusive education, many problems in implementation are caused by sets of belief systems and practices which belong to a special education paradigm, and continue to be used in the inclusive education, such as static assessment procedures and labelling according to medical models of disability. A key issue is a vision on learning and development based on modern findings of environmental neuroplasticity in neurosciences. In general a static concept on learning potential is continued to be used, and consequently a lack of cognitively oriented type of intervention. The challenge of inclusive education of children with disabilities should be seen broadly as a similar challenge to raise educational standards of low educational performers, often coming from poor socio-economic backgrounds. The role of cognitive education and mediated learning are discussed as a tool to increase teachers' teaching and child's learning processes. It also makes some fundamental reflections about the need to transform teachers' minds, psychologists' minds and the child's mind and thus contribute to a better inclusive education as well. Other pedagogical tools are discussed.

Keywords: inclusive education, learning disability, cognitive education, dynamic assessment, children with disability, education of ethnic minorities, educationally at risk children, school drop-outs

Inclusive education is a worldwide movement, initiated in the sixties of the 20th century based on a human rights issue: every child, whatever its level of difficulties or disability, should have the right to high quality education together with more able peers and not be excluded from the mainstream because of a certain learning difficulty or disability.

In 1994, UNESCO organized a world conference in Salamanca (Spain), where Ministers of Education of 180 countries declared that "Mainstream schools are the best places to develop social and cognitive competencies for all, provided a welcoming attitude for differences is created" (UNESCO Salamanca Conference 1994). Inclusive education has become official policy promoted by the United Nations as well as by the European Union (non-discri-

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mination paragraphs in the treaty of Maastricht, Amsterdam & Madrid). In others it has remained in the stage of scattered private initiatives.

However, 12 years after "Salamanca", inclusive education certainly is far from being achieved in Europe. There are widespread differences in the understanding of the definition and consequently in the practices of inclusive education throughout Europe. While some countries like Italy and Norway have implemented inclusive education in a systematic way, in many countries, it is still in an embryonic phase, meeting opposition from many sides: teachers in special as well as mainstream education, parents' pressure groups, ministers and inhibiting legal measures. Not everyone is convinced that inclusive education is indeed the best "solution" for education of children with a disability. Even for many of those who are convinced that it is the best option, there are many practical and theoretical issues and differences of opinion: do the objectives stress social inclusion of children with disabilities, or are there common educational goals? Is a class with special needs children within a mainstream school a step towards inclusive education, or is it a barrier? What are the conditions to organize good inclusive education? Are special schools still needed or can one do without?

While on the one hand there is a movement towards more inclusion, on the other hand, there is growing concern about lowering educational standards. There is a policy paradox, or is it a contradiction? The European Union wants to become more competitive on the world market and become a "knowledge economy". The education system is not well adapted to this objective. Our modern society calls for a capacity to adapt to social and technological changes. Without well developed transversal cognitive skills[2], one cannot access the many aspects of information, technology, economic life and social relations. In 1995 European commission's White Paper 'Towards the learning society", stressed the need to transform educational systems and teaching styles so as to increase qualification levels of all and to prevent dropouts. That involves, among other measures, teaching more transversal, general thinking skills. Yet, despite initiatives taken by the member countries' educational policy makers, schools continue to be rather exclusive than inclusive.

The problem of inclusive education should be regarded in a *wider perspective* than organizing a disabled child's participation to the mainstream school. *The real issue is to solve a dilemma: how to teach children with widely varying*

[2] transversal cognitive skills, i.e. cognitive skills that are used in many areas and subjects

differences (not only with visible disability but all kinds of different learning speeds and capacities), while at the same time *educating everyone to its potential*. Up till now the dilemma has been "solved" by referring those who cannot keep up the standards to special educational institutions. This is no longer feasible. The present school system creates many drop-outs and despite counter measures their number is still on the increase. These are called the "*educationally at risk pupils*". There still is an overrepresentation of children from poor socio-economic backgrounds to special education (La Paro e.a., 2002). This reinforces the vicious circle: poor schooling, poor employment, poor social opportunities, social exclusion, and repetition in the next generation. Older studies estimate that 85% of the population of special schools has learning disability linked to socio-economic deprivation (Kolstoe, 1972). Nowadays, with better medical diagnostics becoming available, more brain or genetic damage (or both) are pinpointed as possible causes of mental retardation, but especially in "mild" retardation. Nevertheless, there remains a clear correlation with social circumstances.

Mainstreaming therefore "at risk" children in normal schools, without providing proper support and activation, does not make much sense, as it would lead to drop out sooner or later.

How to prevent drop-out of at risk children, raise the standards of children with poor background, include children with more serious disabilities, without causing teacher burn-out?

To find some answers to these questions, 11 educational institutions from eight EU countries formed a partnership to create a network to exchange information, the "INCLUES" network. The name "Inclues" stands for "clues to inclusive and cognitive education".

This article explores some of these differences and difficulties in implementation and understanding. Illustrated with case analyses, it will review conditions to realize inclusive education. It also makes some fundamental reflections about the need to transform teachers' minds, psychologists' minds and the child's mind. The role of cognitive education and mediated learning is discussed in terms of tool to increase teachers' teaching and child's learning processes and thus contribute to a more inclusive education as well.

Variations in the understanding of inclusive education

There is some confusion regarding the definition and understanding of inclusive education. The UNESCO defines it as follows:

"Inclusive education is a system of education in which all the pupils with special educational needs are enrolled in ordinary classes in their district schools, and are provided with support services and an education based on their forces and needs. Inclusive schools are based on the basic principle that all schoolchildren in a given community should learn together, so far as is practicable, regardless of their handicaps or difficulties" (UNESCO, 2002)

The United Nations have favoured the option of inclusive education as a policy of choice (Jönsson, 1994):

> "Inclusive education is a flexible and individualised support system for children and young people with special educational needs (because of disability and other reasons). It forms an integral component of the overall education system and is provided in regular schools committed to an appropriate education for all"

In some countries with longstanding inclusive education legislation and practice, such as Italy, and Scandinavia, inclusive education means that children learn in heterogeneous groups in mainstream classrooms, together with "typically" developing children (Ianes, this volume). Children with disabilities are included in about the same proportion as they live in society, hence 1 or 2 per classroom. Inclusive education does not take child characteristics as preconditions: in this sense it can be and is being realized whatever the origin, or degree of disability. Curriculum and materials are diversified to the particular needs of every child, not only the child with a disability, in order to make the child participate in the group process. There are no standards, only differentiated educational objectives.

There is a difference in conceptual definitions between Anglo-Saxon literature and French-Italian literature. France and Italy prefer the concept of "integrated education" (education intégrée – Bonjour & Lapeyre, 1994) whereas they consider "inclusion" as a minor, more passive step. In Italy, where all children with a disability are integrated in normal schools, integrated education is seen as a *process of transforming the school* so that the integration of a child with a disability *becomes an enrichment* for the entire class and school, an environment where all children *learn together*. Disability is not

seen as a problem, but as a source of enrichment. A child with disability in Italy has a right to learn in a normal school setting, and the system provides the necessary support to make it possible: a support teacher and materials (Nocera, 2002 Ianes, 2006).

In Belgium, on the other hand, there has been "integrated education" (known as "GON; geïntegreerd onderwijs") for 25 years, meaning the orientation children with disabilities into mainstream schools, on the condition that they are able to adapt to the normal school programme and could participate to state exams, without exceptions. Hence in this concept of integrated education, there was hardly curricular adaptation, and the school system was never questioned. It remained very exclusive, excluding all children who cannot learn in the same speed as others. Children were given technical tools (e.g. a camera and a Braille machine for the visually impaired) and a support teacher for maximum 2 hours a week. Only 2-3% of children with disability were in this way "included". But, under pressure of a parents' movement, especially those of children with intellectual disabilities, this concept of "integrated education" has been criticized, because it excludes all low performing children. A school would for instance include a child with physical and sensorial disability, while at the same time referring all children with learning difficulties to special schools. That can hardly be called inclusive education. Parents, want more than integration in Belgium, therefore they require "inclusive education", in the sense used by the United Nations. This movement is still small, but significant. Similar developments are taking place in other countries such as France, the Netherlands, Germany, and Austria.

In international literature (UNESCO, UN Standard Rules, Inclusion International) inclusive education is considered a step further than "integrated education" in the "Belgian" sense, but a step closer to "integration" in the Italian sense.

In many countries, even in the "inclusive" ones, however, one can see watered-down or staged versions of inclusive education. Some talk about inclusive education when the child with disability is included in a mainstream classroom, but the goal is mainly to participate for social reasons: belonging. Children with disabilities learn most of the day in separate classrooms and get together during meal- or playground times; or they might be in the classroom, but are given activities with low expectations to keep them busy, because the teacher does not know how to include them in educational activities or there is not enough support available. Many do not see a necessity to teach academic skills in a highly challenging way. Sometimes this is because teachers

do not really understand inclusive education, or they want to comply with existing pressure from mainly special education institutions, or they want to make a good impression in European evaluations or statistics. E.g. in Belgium, the Ministry of Education made a plan distinguishing 3 categories of children. "Cluster1" children would be activated and stimulated to raise their educational performance up to a better standard. Cluster 2 children, the ones with more serious developmental disabilities, would be included mainly for social reasons. Educational goals are formulated per category of handicap, based on an old labelling, mental handicap type 2, often defined in IQ categories. In concrete, this would mean that when you are e.g. a child with Down syndrome, you would belong in cluster 2, and you would not be stimulated in your educational plan to learn to read and write. Cluster 3 would contain the children who need (at least temporarily) separate schooling, e.g. children with severe behavioural problems. Educational reform plans are often based on the old categories IQ-based definitions of mental retardation.

In some countries inclusive education is interpreted as a special class in a mainstream school. This is the case in the Austrian concept of "Integrativ Schule", which can also be seen in the Netherlands and France (the CLIS classes). Difficult learners are taught together in a separate classroom in the same school building, leaving inclusion moments to social activities during mealtimes and playground activities or outings. Although this model may offer some advantages, e.g. making more individualized mediation and instruction more intensive, it has been criticized for reinforcing classic discriminatory labels with a negative connotation as that of "idiots" (Hovorka, 1998).

Some even talk they are doing inclusive education when children with disability, who stay for most part of the week in separate schools, occasionally have cultural or leisure activities together with normal peers.

Whether these "watered-down" versions of inclusion tend to obstruct or are a way towards the realization of "real" inclusive education, has to be demonstrated by research. When discussing inclusion projects, it is important, however, to clarify underlying motives, beliefs, objectives and conceptions.

Motives for inclusive education

The main motives of defenders of inclusive education are based on an *issue of human rights*: the *right to belong*, to be part of "normal society", and not be excluded because of some deviant characteristics, be it disability, skin colour or ethnic origin (McLaughlin e.a., 1999). Associations of parents of dis-

abled children have been advocates of inclusive education since the eighties. In this sense a name change of the International League of Societies for Mental Handicap to Inclusion International is significant. Simultaneously these parents' associations also continue to fight for a right to resources for special needs. Sometimes these are insufficiently provided for in inclusive schools. The driving forces behind the United Nations Declaration of the Standard Rules for Equal Opportunities have been these associations, who define the main educational objectives of inclusive education are to develop relationships & *social learning processes* for all children. *Challenging* a disabled child's functions as much as possible prevents regression. In relationship with the "other", a person, disabled or not, may find opportunities and a drive towards development and education (Canevaro, 2003). Children learn to accept differences in appearance and in abilities. They learn by discovering meaning in relationship with the diverse human and physical environment.

Academic reasons have also been invoked to defend inclusive education: there is no proof that a separate special schools system provides better academic achievements. On the contrary, research has shown that 18 year old adolescents with Down syndrome outweigh their special school counterparts in literacy and numeracy, though not in social relationships network and autonomy (Buckley e.a., 2000 and Buckley, this volume). Critical analysis of the educational conditions, however, shows that these better performing children received quite some extra help, had supportive families and an intensive support team. The assumption that a child with a disability will learn better in smaller, homogenous groups is unproven (Lebeer, 2001). Our own qualitative research in Belgium, the Netherlands and Italy has shown that parents often complain about the lack of sufficient academic challenging for children with intellectual disability.

On the other hand, the same arguments are invoked by opponents of inclusive education. There are parents of children with learning difficulties who advocate special needs schools with smaller classes, because there the child would have more opportunities to learn, receives better assistance and does not feel discriminated or has low self-esteem because of his slower performances. They claim that inclusive schools often do not provide sufficient learning opportunities and the child is often isolated. Those parents have as a primary motive the *wellbeing* of the child, together with *individualized learning objectives* adapted to the child's capacity.

In summary, it seems that the enthusiasm for inclusive education is conditional and not unequivocal. The real issue, however, is how to create educa-

tional environment which foster learning processes as well as whole person development for all children.

Problems in realization of inclusive education

When there is so much difference in definitions and understanding, there are even more widespread differences in the realization of inclusive education in Europe.

Some countries have a legislation which has radically chosen inclusive education and have practically closed down the special education system (Italy) or transformed special education into resource centres (Norway). *Italy and Norway* institutionalized and generalized inclusive education since the late 70-ies. Every child with disability goes to a regular school and receives theoretically adequate assistance. Individual curricular adaptations are discussed at the beginning of the school year, together with classroom and support teachers, external experts such as speech therapists and parents (Nocera, 2003). When everybody in the team works well, this system works well. Excluding obvious lack of personal and professional commitment as a cause of inclusion failure, there are nevertheless some structural problems. Sometimes there are too many children with disability in one classroom, or a child who has a severe multiple disability, is left without enough support, without proper integrated participation activities and without an adequate individual education plan. Though in this case the law may have been followed "ad literam", some of the basic "conditio sine qua non" have not been fulfilled.

It surely is needed to analyse models of good practice. This will be done elsewhere in this volume. Let us summarize some of the problems and challenges that are being met in different EU countries when trying to implement inclusive education.

In the Netherlands inclusive education is officially favoured, but meets a lot of resistance in the field. While retaining – unlike Norway and Italy - a well established system of special schools, the Dutch government financially stimulates inclusive education: regular schools get a bonus in financing when they integrate a special needs child, which allows the school to employ extra special needs staff, mostly coming from a regional special school. Families receive financial support from the Ministry of Welfare to pay personal assistance for stimulating independence, or for assisting in daily practical needs.

Despite all this, inclusive education meets with opposition from regular as well as special schools: regular teachers hesitate because they have already big classes with an often high load of behaviourally disturbed children. Reform of mainstream schools is lagging behind and schools are far from being "welcoming schools" in the Salamanca sense. Special schools are hesitant to let children go; it might be for financial reasons as well, or for the ""classic arguments: smaller classes, more therapeutic staff available, children feeling better because lack of competitive atmosphere. Other factors inhibiting inclusion are an IQ based schooling classification: secondary schools with an individual assistance adapted curriculum possibility, take in only children with an IQ above 85, or with a score labelled "sufficient" on the national primary school achievement test at the age of 12. Schools require adequate test performances. At the Feuerstein centre in Amsterdam we continuously struggle with these obstacles when trying to include children. In the Dutch society, inclusion is far from generalized, though there has been quite some progress in the number of children with intellectual disabilities integrated in the regular system.

Unlike in the Netherlands, in the U.K. parents are not free to choose. They depend on a decision of the local education authorities (LEA), who also decide on the special needs budget and allocation to regular or special school, the so-called "statementing" system. The system has recently been under heavy scrutiny, from many different parts. Inclusion depends too much on LEA's and not on a pedagogical viewpoint and proper responsibility. After 15 years of blossoming, there is a renewed trend towards separation in the U.K.(Rustemier & Vaughan, 2005).

Similar processes are happening in other countries. Spain has officially embraced inclusive education. Several regional initiatives have been taken to promote inclusive education practices. There are many good examples, usually build around university centres, which particularly make a lot of effort in training teachers and activating local implementation. A well structured support system is lacking, mainstream school teachers are not yet trained, attitudes are lacking. In the large catholic private education school system taking care of 2000000 children, until 2004 there have been only scarce implementations of inclusive education, usually in the limited sense of the "integrated", conditional mainstreaming for the most intelligent disabled. But things are slowly changing.

Most other Western or Eastern European countries have a strongly established special education school system. Parents meet with harsh resistance

against inclusion. We have mentioned already the example of Belgium, which may be illustrative of the complexity of the problems: a threefold increase in referrals to special schools during the past 10 years, has forced the Belgian government to take countering measures. Especially schools for children with mild learning problems and normal IQ, as well as for children with mild mental retardation and schools for children with behavioural problems are on an alarming increase. Recently the government made a massive investment in regular schools catering for socio-economically at risk pupils, often with a high percentage of immigrant families. Every primary school receives extra finances to appoint a coordinator for "extra care"[3]. School psychological services, which up till 2002 used to be completely separated into "special school" and "mainstream school" psychological services, underwent a massive fusion operation. These measures have not stopped the *increase of referrals to special schools*. Teachers are eager to make every child achieve minimal educational objectives and when they see they cannot reach them, they feel frustrated, and there is nothing else to do as to refer to special education. They don't know what to do when children do not achieve.

The regional Flemish government in Belgium is also experimenting with inclusive education pilot projects for children with (moderate) mental retardation, in a very limited way. Limited in quantity: only 50 (out of 30000) children benefit; they are entitled to 5,5 hours of support by a special needs teacher per week. The general evaluation of this project has been positive: it created many times a process of the whole system (child- school – parents) of transformation towards an inclusive school (Van Hove e.a., 2005). It demonstrated that inclusive education is possible with intellectually disabled children also outside Italy and Norway (governments always need local proofs and do not rely on foreign experience). However, the same problems appear as cited above. The support teacher comes from a special school and is hardly prepared to "think inclusive". He/she is often seen by the mainstream school as "the outside specialist who knows how to teach special children". There hardly is a compulsion to discuss besides personal initiative the regular school's education policy, besides some personal initiative. Curricular adaptation is left to the special needs teacher's initiative and a lot is based on goodwill. The regular teacher is not trained beforehand and has no tools.

[3] In Dutch the concept is "zorgbreedte", which would be translated litterally in "broad care", carrying the connotation of "attention for the at risk children and broadness in differentiation of standards and tempos.

However, the structure of the separated special schools and mainstream schools in itself is not touched.

Teachers also feel the *pressure of educational standards*. They know that at the end of primary school all children will be tested on state- or province-based academic achievement tests, which are based on governmental educational standards. Although children with a diagnosis of disability can be exempted from participation, nevertheless schools are judged on statistics of achievement. Therefore schools tend to limit the number of underachieving children if they want to get good marks in the country's ranking of school performances. Apparently this is a phenomenon which is international: schools are not valued on input - on investments they make in helping children achieve - but on achievement output. This mechanism may counter inclusion.

Psychologists and regular schools continue to refer children to special schools on the basis of a *classic diagnostic process*: school failure, leading to cognitive psychometric assessment, leading to referral to special needs. Diagnosis of ADHD, behaviour disorders and autistic spectrum disorders have taken epidemic proportions (Timimi & Radcliffe, 2006). They are often a reason for referral to special education.

Problems may be due to *lack of finances*. Parents' pressure groups for inclusive education in Belgium claim an equal amount of governmental financing for children with disability in special schools as in mainstream schools, enough financial support via the Ministry of Welfare to organize assistance, and enough financing to the mainstream schools.

Teachers still lack a proper "*inclusive attitude*": there is a rigidity in teacher's attitudes, a uniformity in ways of teaching and evaluation. When the child learns "independently" and demonstrates its knowledge and skills on tests, they are happy. When the child doesn't, they don't know what to do. They are hardly aware of learning processes or why these are hampered, and how they can be improved. From a cognitive point of view, teachers should be taught methods of learning how to learn. Teachers are also insufficiently trained to know and use methods how to include, teach and evaluate a broad range of children with various levels of competence and levels of difficulties, as well as cognitive activation methods of "learning how to learn".

A fundamental problem: Which viewpoint on learning & development?

Beyond organisational, attitudinal and human right issues, there are more fundamental reasons why inclusive education might not work properly. This is illustrated by the situation described below where something essential was missing, even when all educational professionals were compassionate, loving people, worked at the best of their performances, parents were supportive and there were enough people to help the child:

B. is a 15 year old girl with Down syndrome. She is able to speak understandably, though she is aware of her bad pronunciation and she would like to improve it. She has been very sociable all her life, she has a close friend (also with an intellectual disability). She has a rich social life, in her family as well as outside. She takes jazz ballet lessons. She is socially well integrated in her class in an inclusive school. She learnt a lot at school: literature, history, geography, art. The subjects are well adapted to her capacities. E.g. in history lessons, she also learns about other time eras, who people used to live, and she would draw a temple. The problem was she needed a lot of assistance in working and she had no autonomy in basic academic skills. Despite she had been given numerous reading and maths lessons, she was barely able to read, write or master numbers. She was not able to synthesize a word of 4 letters. She did not understand quantities and numbers even below 5 and she was not able to write. She was trained in the procedures, but she did not understand what she was doing. Her parents were not happy with this and wanted to invest more in academic skills learning, but they were discouraged in their endeavour by specialists who were afraid to disturb B.'s happy equilibrium. However, dynamic assessment of learning processes - based on Feuerstein's LPAD methodology (Feuerstein, 1979, 2003) - revealed a far greater learning potential than her performances and a modifiability of her deficient cognitive functions. LPAD also revealed that she had a low learning disposition: she gave up easily, she had low attention span (not more than a few minutes). She was not oriented to making efforts. When making a cognitive effort, she would start complaining about being tired, not being capable, even to the point of crying. Her environment reinforced her in her low beliefs as towards her capabilities, and did not challenge her. During the LPAD process, she discovered some previously unknown learning capabilities. The LPAD process elicited in her a positive circle of learning motivation. This required an intensive input of mediation. On the basis of the discoveries made during the LPAD, an

intensive, 3 hours daily, home based, cognitive programme, was set up, consisting of teaching basic literacy, numeracy, writing and activating general thinking skills. She became much better oriented towards learning, had a much greater attention span (up to 1 hour uninterrupted), she learned to master basic mathematical operations (after 1 year addition up to 100 and subtraction below 10), she understood the order of numbers, and she became able to read simple sentences and to write. Her pronunciation became better.

This one example is illustrative of hundreds of similar situations we came across in various countries. By being in inclusive education, B. certainly had many learning advantages over peers with Down syndrome in more separatist countries, where practically all young people with intellectual disability would be in special schools. However, despite of the accomplishment of some of the objectives of inclusive education in B.'s case - there was social inclusion, personality growth, autonomy, feeling of belonging, language development - she had missed development of basic academic skills. This was due to a lack of basic cognitive functions, which professionals tended to regard in a static and passive way: "the child is intrinsically not capable because of genetic predisposition; the child is happy like she is and should be kept happy and not be disturbed in her fragile social equilibrium; the child's wellbeing is primordial." Dynamic assessment has proven differently: the child was evaluated as able to learn, and she has indeed learnt basic academic skills.

This case analysis pinpoints to four main problems of the educational system:

1. a rather static underlying concept of intelligence and learning
2. low expectations resulting from a static evaluation of cognitive functioning
3. lack of proper mediation by teachers and parents
4. lack of teachers' training and abilities in activating cognitive functioning of children with learning difficulties.

This is a paradigmatic issue. First of all, there is a fundamental issue if psychological wellbeing is the main or only criterion in planning educational intervention. Of course every parent or professional educator would put wellbeing of a child on top of the value list. Psychological wellbeing is composed of many aspects: self-esteem, being recognized as a person in relation to others, feelings of competence in learning, etc.. One of the assumptions (in inclusive as well as special education) in children with intellectual disability is that , if the child feels well, everything is O.K. and we do not need to disturb the bal-

ance. Yet, cognitive development necessarily involves disturbing equilibriums; this is how cognitive functions are generated. "If the child feels well without knowing how to count until 5, then why bother him?", is what many people seem to think. Again this has to do with belief systems, conceptions about modifiability, needs and objectives.

The above example exposes an old dichotomy which is still dominating much of educational and medical counselling. A medical model sees cognitive development as largely determined by what goes wrong in the genetic code or the brain's architecture. This is a *pathogenic model* of defining cognitive problems, like in B's example, which uncovers that her inclusion model was still based on an "old", deterministic, static view on a child's intellectual development.

This static model of understanding disabilities is confirmed by the same *kind of testing*. Children with obvious deviations from the "normal" are classified according to (lack of) performances, either on academic achievements, behaviour problems or psychometric tests, and are then given a pathological label, which serves as a basis for referral to a corresponding educational setting. When this setting adapts its curriculum to a pathological perspective (stressing deficiencies rather than potential), a circle of self-fulfilling prophecies is generated. There is a whole *industry in test batteries* on all these levels. Extensive research is invested (wasted?) in developing new and finer tests for detecting deficiencies. The *DSM-IV criteria* of the American Association of Psychiatry, which are used throughout the world are basically pathogenic. They may be useful for some professional communication, but when children come to school carrying their DSM labels, and when educationalists look at them in a static way, then educational programmes may not be suitable to the child's developmental needs. We have come across children who had received multiple DSM labels simultaneously (e.g. a 9 year old boy with hemiplegic cerebral palsy and a train of "DD"s: ADD, ODD, OCD, PDD)[4], which greatly decreased teachers' and parents' expectations. In this pathogenic perspective a child's learning is attributed to child characteristics, which are seen as fixed permanent properties of the individual. In the special education paradigm educational programmes are adapted to these characteristics, e.g. the teaching in Braille for visually impaired, or teaching in sign language for hearing impaired, concrete teaching for mentally retarded or autistic. Adapta-

[4] Attention Deficit Disorder, Oppositional Defiant Disorder, Obsessive Compulsive Disorder, Pervasive Developmental Disorder

tion in itself is of course a good thing, but when adaptation is based on an underlying, static model of unchangeable characteristics, then it becomes a self-confirming belief system.

What is at stake is whether or not special needs education is based on a concept of modifiability. A *social-construction model of intelligence* sees cognitive development much more as a dynamic result of social interaction and culture (Vygostky, Bruner, Feuerstein). That could be called a *salutogenic* model- based on the word "salus" or health, meaning the study of what goes right.

Social-construction learning theories find support nowadays in the modern neurosciences. In recent years neurosciences have demonstrated that brain architecture is not finished at birth, but needs environmental activation for further development. Emotional human interaction triggers brain development (Trevarthen, 1990; Greenspan e.a. 1997). The construction of the child's mind, i.e. of higher cognitive functions, needs social activation. Feuerstein (1980) found that a child builds his cognitive functions gradually, proportionally to the degree of mediated learning experience. This process can be hampered by internal (brain, genetic) or external (emotional, relational, socio-economic) causes. Mediation is offered by parents, teachers, peers or other people with a definite intention to teach a concept or behaviour which transcends the actual interaction. Nyborg (1983) found that when a child is taught concepts and principles in a systematic way, learning becomes more accessible. Plasticity of the brain under the influence of activation by the environment c.q. emotions, culture and education – s.c. "*ecological plasticity*" - is an ongoing phenomenon during the entire life time (Rosenzweig & Bennet,1996, Lebeer, 1998).

| The vicious circle of the Matteus-effect

It takes a long time before counselling and education will base their interventions on ideas of environmental plasticity of the brain. When teachers unconsciously adopt an old, static model of learning, they will not invest as much energy as when they take a plastic and dynamic viewpoint. If assessment reports on special children they have in class reinforce this belief system, they will tend to abandon challenging them. Children with intellectual or learning disability, as well as culturally disadvantaged children are a victim of

this attitude. This leads to a so-called *Matteus-effect*[5]: the children who perform well at school receive more positive comments and more input from teachers, whereas the low performers receive less. The ones with more input will have more opportunities to construct higher order cognitive functions, learn better, get diplomas and participate more in the economy. Those with less input and expectations will not construct so much higher order thinking and learning processes and will remain on a low level, especially if they also receive less mediation in their families. This phenomenon is taking place in many countries with a large proportion of immigrant children from poor socio-economic backgrounds, with or without ethnic minority origin. For example, the proportion of immigrant children in special schools in Belgium, France, the Netherlands and Germany is way higher than in the average population. Roth & Szamosközi (2003) have described a similar process for Roma children in Romania. Feuerstein et al. (1980) demonstrated that the fact of being of an ethnic minority is only a distant, indirect factor in causing cognitive developmental delay or deficiency; the key factor is lack of mediated learning experience, whether the cause is organic, socio-economical or other. These findings justify a more optimistic attitude towards possibilities of intervention, yet they also evoke a big responsibility.

Low educational performance may have many reasons: child characteristics as well as contextual-educational characteristics. Whereas distant causes can be multiple and difficult to influence - brain or genetic damage, socio-economic circumstances - a common "proximal" cause of low performance is *lack of mediated learning experience* leading to *deficient cognitive functioning, which is possible to influence by education*(Feuerstein, 1993 and this volume). Lack of mediated learning experience may be the result of poor cognitive stimulation, lack of proper education within the family circle, lack of proper mediation within the school system. Cognitive deficiencies are reversible, even to some extent in so-called "organic" causes, provided cognitive functions are properly activated. This can be done in families and schools, using a variety of cognitive stimulation programmes.

Developmental psychologists say that by the age of 18, man has reached his full potential of abstract, formal, operational thinking capacity. Yet a large study has shown that half of the youngsters do not get there (Shayer & Adey, 1998) They learn facts and skills, but they don't know *how to learn*. Not only do they have difficulty in understanding mathematics, science, literature and

[5] from the Gospel of St Matthew: "Those who shall have, shall be given"

anything abstract, but they also have a dangerously poor level of critical thinking. Perhaps this contributes to political and social narrow-mindedness. Therefore, it is no superfluous luxury to develop critical thinking habits in youngsters: to learn how to think and act well, to learn to look at problems with an open mind. This is linked to social needs: develop social values, e.g. democracy, respect for other's opinions and life styles. Inclusive schools may contribute to the development of universal values by creating a more humane and welcoming attitude.

Hence, inclusive education without proper cognitive education does not solve the problem of the Matteus-effect. A massive investment is needed in inclusive education together with proper cognitive education of at risk groups, if society wants to preserve its human resources capital.

From a special education to an inclusive education paradigm in a post-modern society

In summary, there are many layers involved in constituting obstacles against inclusive education: attitudes, expectations, paradigmatic views, laws, organisation, finances, regulations, teacher-child interaction, parents, peers, programmes. Table 1 summarizes the obstacles.

Belief systems
• Society is not ready for inclusive education
• Children with special needs are better off in special education schools
• In special education the level of stress is less
• Special needs children need to be happy
• Normal children have little consideration for special children and tend to exclude
• Children with special needs lower the academic achievement level of the class
• Children with special needs learn better when taught in homogenous small groups
• Children learn best by exploring the world in an autonomous way
• A child's intellectual development is largely determined by its genetic of brain endowment
• Low expectations as to child's modifiability of intellectual and learning potential

• Children with intellectual disability have difficulty with abstract thinking and should be given concrete ways of teaching, with its main objective daily life autonomy
• explaining a child's deficiencies exclusively by medical pathology
Attitudes
• lack of welcoming attitude
• teachers or peers do not have an accepting attitude regarding wide differences in functioning (preference for homogeneity)
• a school culture oriented at valuing competition and high intellectual performance tends to undervalue different performance
• lack of a school culture, oriented at value-based social relationships
• lack of mediating attitude of teachers: not mediating individuation, feelings of competence, sharing
Organisation
• large number of children in mainstream classrooms
• lack of support teaching staff and practical assistance
• lack of special needs expert advice
• too many special needs children in mainstream classroom
• lack of team work
• no time provided for team discussions
Curricular planning
• Lack of individual education plan
• Curriculum based on low expectations regarding potential development
• Lack of differentiation in objectives
• Lack of creative thinking in planning child's participation in classroom activities
Finances
• Insufficient financing of support in mainstream schools
• Special needs budget preferentially allocated to special schools, attraction effect of special schools' financing system
Pedagogical teaching styles
• emphasis on autonomous, non-mediated learning
• frontal teaching and mainly auditive instructions
• lack of mediation
• emphasis on individual learning
• emphasis on content & procedural learning

Training
• undergraduate training of mainstream teachers hardly includes any preparation for inclusive education
• lack of training of teachers in cognitive education
Evaluation procedures
• uniform achievement tests
• school evaluation is output-based and not process-based: school performance indicators are based on academic achievement tests
• learning problems of the child are evaluated in terms of static psychometric tests
• problems of children are labelled by static medical categories.

Table 1. Obstacles rendering inclusive education difficult

The basic idea about special education is that it is better, more efficient, less emotionally stressing for child and teacher, more successful in developing social relationships between peers, easier to adapt programmes to the child's special needs, and one has more time to devote to the special needs' child. A number of these assumptions are correct, but most often because the alternative, inclusive education, is not properly organized.

In post-Salamanca endeavours to realize inclusive education, problems can be viewed in the perspective of a transition from a "special education paradigm" to an *inclusive education paradigm*. In this new inclusive education paradigm the basis of educational organisation is the social model of learning and development. *Learning problems of a child are as much a teacher's teaching problem*, as a problem of a deficient school or family system (Ainscow, 1994). In principle all children have special needs, because they are all individuals. Individualisation of educational objectives and consequently curricular differentiation are natural consequences. Cognitive deficiencies are not a prerogative of children carrying the label of "intellectual or learning disability" but occur more or less in all individuals, in various degrees and at varying times. Everyone can make stupid decisions, forgets to plan, to check. Egocentric thinking may be seen in individuals with mental retardation but also in university trained people. Hence labelling into categories "mild", "moderate", "severe" mental retardation may be suitable for population studies but not for educational planning. In the inclusive education paradigm these categories

are no longer useful, rather inhibiting.

The inclusive education paradigm is based on the modern definition of disability by the World Health Organisation (WHO) and American Association for Mental Retardation, which define disability in a functional and contextual way. How disabled one is, has to do with the context, physical, social, emotional, barriers. Based on these definitions, learning difficulties become a characteristic not only of the child, but of the teacher- child system, including here the child with special needs. Learning becomes a responsibility of the group, consisting of teacher(s), peer-children, support people, the school as a whole. Consequently, it makes little sense to test children according to classic psychometric measurements, which are explicitly deficiency-oriented. It makes much more sense to look at learning processes in context.

This transition requires actions taken on all levels, more or less simultaneously (figure 1). Using Bronfenbrenner's model of levels of intervention (1989) one could distinguish actions to be taken on various system levels.

The *micro level* is the level of the family and the classroom: teacher, child with special needs, peers, parents, because they will daily interact. First of all they create a welcoming attitude where the child may feel accepted with its individual needs. But that is not enough. It involves creating an active learning environment for every child. Teachers, parents, family members and peers become mediators of the child's learning processes. All people need a learning environment to grow and develop. Teachers and parents (and teacher trainers) need to learn and perhaps need to be trained (and teacher trainers need to be trained).

The *meso*-level is the level of relationships between all these people involved. The *exo-level* is the level of the school and local community, which need to undergo a *process of transformation*. When there is a request to include a child, the school will have to reflect on its vision about learning and inclusion, shared by its teachers. It involves careful curricular planning, with a team (not only by the supposedly specialist support teacher), consisting of classroom teacher, support teacher, special needs' experts (e.g. speech therapist, cognitive rehabilitation specialist, etc.), parents, educational psychologists, based on a functional dynamic assessment of the particular needs of the child. The team should be able to meet regularly and given time. A coordinator should be appointed, who ensures that all people work in the same direction. Psychologists need to adopt different, more dynamic ways of looking at children's problems and assessing development. That involves a huge change in training and vision. Adequate support should be organised to mediate

learning. Perhaps support may be found in the local community: retired teachers, volunteers. Organisation of included leisure time activities is an important element in this process, because otherwise inclusion at school remains an isolated phenomenon without transfer.

On the *macro level of society* there are laws, policies, ways of financing, of organizing schools, providing support people. All inhibiting factors will have to be taken away, e.g. the rule that all children need to pass the same kind of exam at the age of 12 or 18. Financing mechanisms need to be changed. Now society still favours separated care in categories (psychiatric institutions, home for the elderly, the mentally handicapped, etc.). Inclusive education undermines this categorisation. Most financing systems of European countries favour separate education (Pijl & Meijer, 1999). This mechanism has to change: there needs to be a very flexible financing system. A child's special needs should be budgeted and the child should receive a similar amount of budget whether it is in inclusive or special education. Of course all these measures will have to be based on a shared value and belief system about what is needed and useful. More research will be needed to compare possible alternatives. Attitudes towards children with disability will always influence inclusion, but children cannot wait for a society to change its attitudes; this will happen by pioneering individuals.

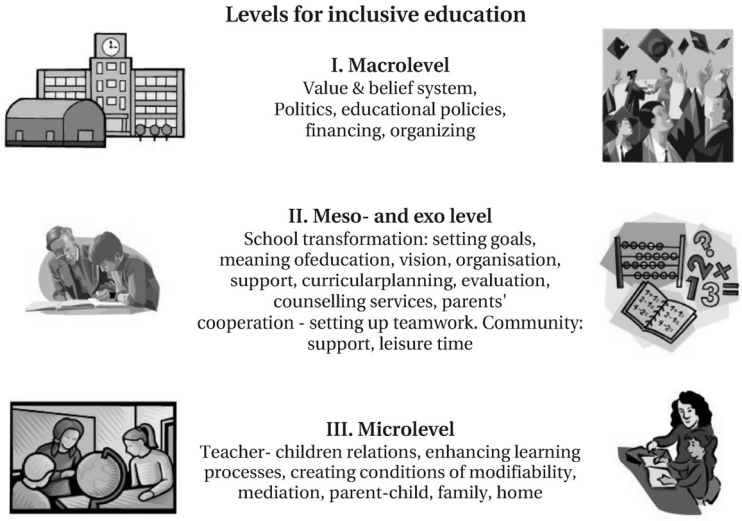

Figure 1. Process levels of inclusive education

Is this change process an Utopia? No, this is actually taking place, not only in countries with a long established tradition of inclusive education. Also in countries in which it is just starting. Concrete cases of inclusive education together with proper cognitive activation can be seen in every country. They prove that it is possible.

Tools in creating inclusive and active learning environments

In the process of creating inclusive learning environments, besides creating optimal conditions, teachers need facilitating tools. They are available on different levels: cognitive, pedagogical, institutional.

Cognitive tools in constructing learning processes

First of all a good learning theory is needed which takes into account modern findings of environmental neuroplasticity and social construction theory of intelligence. Teachers are weary of theorizing, but even the most practical teacher uses unconsciously a lot of theories about learning and development. According to social-construction theory of intelligence, higher order cognitive functions are created by being exposed to a complex environment, to needs, to experiences (Vygostky). Feuerstein would add: by being mediated by another human being. It follows that an inclusive learning environment is more favourable than a special environment, because it is heterogeneous, provokes more challenges and needs and exposes to a wider variety of experiences, on the condition that these experiences are properly mediated to the child. If the child is merely exposed, there is not necessarily autonomous learning and transfer. Stephen Ceci demonstrated that people carrying a label of mental retardation are sometimes capable of very smart complex problem solutions, applicable in the complex environment where they are needed. However, they lack transfer. The capacity of transfer is the result of adequate mediated learning experience. Autonomy is the result, not the prerequisite, of adequate mediated learning experiences. Time and again, I heard teachers complain about the lack of autonomy of children with learning difficulties. This is because teachers hardly understand this process of building cognitive functions – as a result of mediated learning experience – which lead to autonomy.

Above, we have already explained why a cognitive activation approach is needed in inclusive education. It has to be made clear what exactly is meant

by "cognitive". It has to do with gathering, elaborating and expressing information. Cognitive is not the opposite of emotional, it supplements it. Emotion and cognition are two sides of a coin, at least in a human being. One needs cognitive functions in all forms of learning: to gather knowledge in acquiring concepts, to learn a skill, to learn about the world, including the world of relationships, emotions and social behaviour. Cognitive functions are needed to understand the world in all its complexity. One needs to learn to be systematic, to refrain impulsivity, to be precise, to label, to compare, to plan ahead, to hypothesize, etc. Feuerstein described 29 cognitive functions (Lebeer, 2003). Teacher may find great help in using them to understand and activate thinking processes.

Another tool is the *Cognitive Map* as described by R. Feuerstein (1980), which is very useful in analyzing suitability of educational materials. A cognitive map attributes 7 parameters to educational material: content, modality, phases of mental act, mental operations, degree of complexity, degree of abstraction and level of efficiency in its use. With this tool a teacher can adapt any existing material to the particular needs of a child, by changing one or more of its parameters. This counters the idea that children with disability need special materials to be taught.

Next, a radically different way of assessment is needed. Cognitive assessment has been a long time regarded as the exclusive right of psychologists. We outlined above what damage can be done if assessment is based on a static, psychometric model of intelligence. *Dynamic assessment* is more suitable for educational planning (Tzuriel, 2005; Feuerstein et al., 2005; Lebeer, 2005). It evaluates learning processes of the child, as a reaction to teaching attempts (mediation) by a mediator. It maps a wealth of information regarding cognitive functions, mental operations, affective-motivational factors, attention characteristics, mediation needs that are required to bring about change, thus demonstrating a picture of the modifiability of the child. This is what teachers need more than a list of what cannot be done or some vague advice regarding placement. There are many tools available, which are all based on extensive clinical evidence and research. They may vary, however, in the degree to which they allow creative forms of mediation. The danger is that, in trying to make dynamic assessment procedures fulfil criteria of traditional psychometric assessment, the essence of its dynamics will be lost. Dynamic assessment is time consuming. Another problem is the huge challenge implied by a change of assessment procedures in terms of training psychologists and evaluators.

Finally children as well as teachers might benefit from working with specific programmes to activate cognitive functioning. Examples are Feuerstein's Instrumental Enrichment programme, which is composed of 14 "instruments" to teach thinking skills (Feuerstein, 1980, Lebeer, 2003). Instruments consist of paper and pencil exercises, containing a set of gradually build exercises, which are mediated by a mediator teacher. In each thinking lesson, concepts are evoked, operations, ways of problem solving discussed. Children share their thinking, a principle is inferred together with the mediator, and then "applied" in various contexts. The programme is a substitute, or an excuse one could say, to offer an increased "dose" of mediated learning experience. The FIE programme is cognitive as well as metacognitive in its very nature; at the same time devoid of content as well as contextual, because constantly transfer to experiences within the child's context is sought; cognitive as well as affective/motivational (because mediation supposes a strong emotional commitment). The programme has been extensively researched (Kozulin, 1999). Other transversal cognitive programmes which have proven benefit in acquisition of learning skills and fostering inclusive education are e.g. Grunnlaget (Foundations) based on Nyborg's Concept Teaching Model (Hansen et al, 2003). This programme systematically teaches abstract concepts and stresses language acquisition in relation to learning.

There are many interesting programmes available which have similar objectives. A shortlist is published by the Inclues Network. Most importantly, a teacher with a good understanding may mediate with any material available.

Buckley & Bird e.a.(2003) have worked intensively with inclusion of children and adolescents with Down syndrome. They developed guidelines for parents and teachers how to adapt materials, how to activate numeracy skills and early reading skills, how to adapt the curriculum. These guidelines are not only suitable to children with a specific developmental disability such as Down syndrome, but also to all children with serious difficulties in language development, as is typical for children with Down syndrome.

Ways to optimize education to children with different levels

| Mediated learning attitudes and criteria

Programmes are instruments, but as in music, it is the musician and the orchestra who make the music sound well. The role of the teacher cannot be

underestimated in creating conditions of good inclusive education. A good teacher can realize inclusion even in the absence of favourable conditions. An attitude of willingness, inquisitiveness, creativity and flexibility is crucial. A good teacher is a good mediator of thinking processes, of self-esteem, of feelings of competences, of planning, of self-regulations. More than ever teachers need to become mediators rather than mere instructors of knowledge and skills. This is because nowadays many modern schools are filled with children who have difficulties with self-regulating behaviour. We have referred to the epidemic increase of ADHD in Western countries. This may be due to factors in the physical environment, but more than probable there is a cultural cause. Jackson (2005) forward the hypothesis of a modern cultural pollution of the child's brain. Teachers have a hard time with this new generation of children who receive little mediation from their home environment. The classic teaching is enormously fatiguing. Teachers may benefit from working with a cognitive activation programme , because there they learn to teach in a more process-oriented and mediating way and they become more oriented to eliciting each child's potential (Skuy et al. 2001, Tebar, 2003). Feuerstein's mediated learning criteria are a tool to acquire a mediating attitude (Lebeer, 2003).

On the other hand, the modern teacher in an inclusive classroom, containing several ADHD children, one or two with a disability, a few gifted children and children with different language backgrounds coming from several ethnic minority, is undergoing many pressures: it look likes he or she almost needs to be a super-(wo)man. There has to be enough assistance, guidance and support to make the job feasible, as well as school work involving parents. Klein's MISC (More Intelligent and Sensitive Children) programme has been adapted from Feuerstein's MLE criteria, into a programme suitable for early intervention with parents and pre-school teachers (Klein, 2000).

| Cooperative learning

Teachers in inclusive settings often complain they do not have the time to devote to mediating children with varying special needs. This often has to do with an underlying belief system that the teacher needs to do all teaching. But this does not necessarily be so. Cooperative learning is a pedagogical approach which is very useful in a group with widely different levels of learning speed and conceptual level. The teacher can give group tasks, while varying contributions according to the child's particular needs. It is very well possible

to study e.g. volcanic eruptions at very different levels, thus satisfying the needs of gifted as well as retarded children. The teacher then becomes the mediator of the group, and more instructed peers become mediators of their peers. Children can learn to become mediators to their peers. Shamir & Tzuriel (2004) taught 3rd graders to mediate computer-based games to their younger peers, without giving them the solution, but teach in a problem-solving way.

Tools for guidance and evaluation of inclusive education

There are tools which may be useful in setting up and accompanying a school in its inclusive education process. During the nineties Ainscow and colleagues(1994) developed with the support of UNESCO an in-service teacher training programme and experimented it in a number of countries in throughout the world. There is a teachers 'guide, videos and a accompanying book, translated in English, French, Russian and Spanish. This tool has proved its superb effectiveness in transforming ordinary to more inclusive schools. The more recent Index for Inclusion (Booth & Ainscow, 2002) goes a step further, in providing schools with a self-evaluation tool regarding attitudes and organisation of adjustment to all children.

The Step-by-Step programme is oriented at accompanying transformation towards more child-oriented classrooms, based on current knowledge about emotional-social and cognitive child development, cooperative learning and parent-involvement. Classrooms become "living and learning environments" where learning is a pleasure, directed by the teacher. Parents are involved in many ways, by for example gathering and making educational materials. The Step-by-Step programme has been implemented in former Soviet countries and has shown that it allows for better inclusion of children with all kinds of diversities (Rona & Lee,2001). Specific tools to design individual education plans are not really available. What is available is a conceptual framework of the individual education plan based on a functional dynamic profile of the learner, in which needs are formulated in terms of function (de Anna & Garbo, 2005).

Cognitive tools
• A vision on modifiability and plasticity
• Analysis of child's thinking in terms of cognitive functions
• Analysis of education materials in terms of Cognitive Map (Feuerstein): content, modality, phases of mental act, mental operations, degree of complexity, degree of abstraction, efficiency
• Dynamic assessment of learning processes
• Programmes to activate transversal thinking skills
• Programmes to activate language & communication skills
• Programmes to activate numeracy and literacy
Ways to optimize education to children with different levels
• Analysis of teachers' teaching style in terms of mediated learning criteria: profile of teacher as mediator • cooperative learning
Tools for guidance and evaluation of inclusive education
• Analysis of inclusive education process in a process-oriented way, e.g. Index for Inclusion (CSIE); Special Needs in the Classroom (UNESCO)
• Individual educational plan based on dynamic functional profile (de Anna & Garbo, 2005)
• Organising a child-oriented classroom, e.g. Step-by-Step programme

Table 2. Tools to create inclusive learning environments

Networking as a way to reach goals

It will be clear from the above discourse that implementing inclusive and cognitive education is a necessarily time-consuming process. Italy and Norway – as well as the U.S – have institutionalized it since one generation, yet the process has not come to a good equilibrium. The challenge remains to create and recreate the process constantly towards inclusive education in a school, which is more than just putting the child in a mainstream environment. Teacher training, especially in cognitive and mediation approaches, in the new didactics of cooperative learning, psychologists' retraining in dynamic methods of assessment, training assistants, parents, peers: it is a huge operation. In order to avoid that in every country the wheel should be reinvented, networking across borders is an absolute necessity. Teachers and par-

ents do not tend to publish their experiences in scientific journals. In this way a wealth of experience often remains confined to local applications. Experience with particularly successful approaches and methodologies needs to circulate. The large variety in European languages, legislations and cultures can complicate exchanges related to school inclusion and teacher training, but networking helps to overcome these barriers.

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SPECIFIC FEATURES OF COGNITION AND LEARNING IN THE SCHOOL CONTEXT PARADOXES OF THE EMPHASIS ON CULTURAL PRACTICES OF COGNITION CLOSE TO THE CHILD

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Abstract: The first part of the paper deals with contributions of the cultural psychological approach to learning and cognition (in comparison with individual cognitivist tradition): these are contained in the theory of situated learning (Resnick; Lave-Wenger) or in that of distributed learning (Perkins). Their representatives stress the difference between learning and apprenticeship and develop the ideas of Vygotsky, Leontiev and Luria concerning the role of artifacts of culture as tools of learning.

Second part criticizes the fact that many authors joining situated learning theory implicitly put cognitive processes displayed in practice (understood exclusively as everyday apprenticeship) as model for learning in school – without analysing the specificity of school way of cognition.

To conclude, different conceptions of the term "context" will be presented through examples of cultural psychological researches.

After fifty years of rule of the individual-psychological approach to cognition and learning, the last two decades have seen renewed interest in the socio-cultural character of human cognition. Initially, neo-behaviorism asserted itself since the latter half of the 1930's and eclipsed the remarkable impulses of the cultural historical theory of psychological functions. Later, from the final years of the 1950's onwards, the cognitivist stream, which stands on the unfortunate conception of man as a machine processing information with the brain as the central processor, came to dominate the discipline. This resulted in a reaction which took the form of renewed interest in the social and cultural-historical character of human cognition and of mental development in general.

This emphasis has been remarkably rising in prominence since the 1980's. It could draw on earlier inspirations: the unachieved work of Vygotsky from 1925-1934 followed by the works by Luria and Leontiev. Unfortunately, these were usually published relatively late and translated into foreign languages only from the 1980's onwards – remaining virtually unknown till then. Further, in the 1970's and 1980's there was the cultural anthropological research

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and theoretical work in the field of intercultural psychology by Cole, Gay et al. (1971), Scribner and Cole (1981), Lave (1977; 1988) and above all M. Cole (1996), admirer and indirectly the pupil of A.R. Luria, concerned with the influence of formal scholarization on the mental development and ways of thinking of people in Africa.

What I have in mind is the boom of literature on the so-called **situated or distributed learning**. Significantly, this translates into French as "learning in context" (apprentissage en contexte), a somehow inaccurate expression, but one which makes explicit reference to an important dimension of situated learning, to **context –** which in turn reminds us of the other necessary term of the relation, "text". Above all, we need to note that the increase in interest in the cultural and social roots, genesis and nature of cognition of the individual is in line with the *Zeitgeist* of the last three decades of the 20th century in social sciences and humanities. Focus has shifted from structures and their functions to agents and their activities, from mental and social entities to emerging processes of construction of meaning in discourse or narrative. For this reason, as far as psychology is concerned, we observe a simultaneous rise of social constructivism, narrative psychology, discourse analysis or critical psychology. Their advocates reject the idea of the mental as located exclusively in the "internal" world of the individual, in which culture and the social world play a part only as an external and individual-independent cover that affects the mental life of man as an outside factor of equal status to genetic and other "internal" influences. (The Swiss Michele Grossen, in 2001, claims that in the individual-cognitivistic conception, context is considered as an independent variable or a set of independent variables, e.g. in the revisions of Piaget's tests by his successors).

The turn towards situated learning, towards forms of cognition and learning in practical situations in the life of people (of J. Lave's Liberian tailors or of seafarers in the Pacific), towards learning in practice (e.g. everyday arithmetic in the research concerning milkmen conducted by B. Rogoff, in 1990) led to a **full appreciation of cognition as a set of cultural practices.** At the same time, as I am intent to prove, it led to the **over-estimation** of this form of learning at the expense of the importance and function of the school form of cognition and learning. In concurrence with the reviving educational reformism and the come-back of pedocentrism, this led to the overall negation of the developmental significance of the school form of cognition. Situated learning in contexts of practical life of the individual was placed on a pedestal, almost as a model for learning in school.

Due to historical coincidence, it is often even identified with Vygotsky's cultural-historical paradigm (publications by Lave and Wenger, 1991, Cole and Scribner, 1981, Rogoff etc. appeared during the same time as the translations into English and other Western European languages of the key works of L.S. Vygotsky, a fact pointed to independently by C. Moro, 2002 and Alex Kozulin, 2004). I'll attempt to show that there is a substantial difference between situated learning, i.e. learning in the extra-curricular, everyday (e.g. family) context, and school learning which was described by Vygotsky as learning of "scientific" concepts (1976). Furthermore, excessive emphasis on cognitive practices close to the pupil's everyday experience, or on procedures that imitate them in school, can lead to paradoxical effects – that is, obstruct precisely that which we wanted to achieve through school education/ learning.

1. The benefits and limitations of learning situated in practical contexts of everyday life

It is certain that analyses of situated learning have re-oriented educational conceptions which had still been under a strong influence of the individual-cognitivistic tradition. What do they stand for, though? The pivotal idea is the following: learning, apprehending an item of knowledge can only be construed in a "situation", i.e. is dependent on the pupil's participation in social and material contexts, the person and his/her world being mutually constitutive. This idea underlies the following theories (cf. Moro, 2002):

- learning as **apprenticeship** associated with the works of Lave (1977, 1988) and Lave and Wenger (1991). Learning as apprenticeship is contrasted with formalized learning, or **learning** in the narrow sense of the word. Participation, that is peripheral engagement of the novice in social practices, is what constitutes the specific trait of apprenticeship. The acquisition of a certain competence or the apprehension of a certain item of knowledge takes place via the participation of the learner in the "community of practices" – not by the apprehension of a set of abstract and de-contextualized items of knowledge to be subsequently applied in a particular context. The "community of practices" is understood to consist in a group of people considered as experts in a particular cultural practice (e.g. midwives, teachers, navigators, cured alcoholics in an interest organization etc.) Practical activities which the apprentice/pupil takes part in include the relations between people and between people

and objects/tools, particular norms, values, attitudes – and thus constitute learning;

- learning as **guided particip**ation associated with the theoretical work by Barbara Rogoff (1990). In studying cognitive development and the processes of learning involved therein, she emphasizes the importance of going through, of experiencing apprenticeship in a variety of institutional and community contexts (encountering a variety of face-to-face situations, conversations, tutorial relationships etc.). Rogoff contends that this comparative passage through a series of contexts leads to "changing participation" and is only possible in the situation of so-called "guided participation". This however is not identical to the "scaffolding" of Wood, Bruner and Ross (1976). Even if it is the adult who actively provides the child with pertinent activities in various communities, the decisive part of the "construction" of an item of knowledge does not so much depend on the tutor and does not ignore cultural and institutional contexts. Guided participation focuses to a far greater extent on the activity of the learner and on his ways of reflecting on the interaction with tutors and on their instructions;
- learning in the man – tool(s) system usually described as **distributed learning,** associated with the names of E.Hutchins (1995; 1990) and L.B.Resnick (1987). Especially Hutchins carries out research of working activities and corresponding mental processes (e.g. pilots in a cockpit, subway dispatchers or sailors on a warship) in the field of ergonomic psychology. He concludes that mental processes or functions cannot be grasped by focusing on the individual or on relations between individuals; it is necessary to examine the entire system involving the individual, the others, means/tools and the material lay-out of the situation. The cognitive complexity of tasks in those situations is beyond the capacities and possibilities of an individual. Success in piloting or navigation requires knowledge which is not stored in an isolated individual but distributed amongst elements of the system. Knowledge is thus mediated in the structure of the system where artifacts play a very important part (e.g. the change in the instrument used in the navigation of ships from orientation by the stars to the compass and later to computer representation lead to considerable changes in the relations between sailors and to shifts in attention, memory and thought analysis).

All theories of situated learning redirect our attention towards the analysis

of the situations in which learning takes place, and each in its own way puts the emphasis on one of the elements of Vygotsky's cultural-historical approach towards psychological functions (the prime importance of social activities, i.e. of the inter-psychological nature of psychological functions; the key importance of mediation and the role of the adult-expert; the formative effect of the artifact-tool). Thanks to these theories, Leontiev's concept of activity and the question of the unit of analysis in examining psychological phenomena rise in prominence. What, then, is the problem? Why not rank these theories within the stream of socially mediated approach to learning and make use of them at school?

First of all, it is necessary to note that these theories (1) localize the dynamic of learning almost exclusively into the world of everyday experience and neglect the importance of activities provided and made necessary by the school, i.e. of activities directed at reflection and abstraction. Thus, they hinder investigations into the differences and tension between an item of knowledge in its everyday form and one which is formalized and therefore bypass the decisive moment of the cognitive and personal development of the individual. (2) In effect, these theories overestimate the formative influence of artifacts and situational configurations on mental functions - as if these were embodied in tools. This is because they fail to distinguish between the capacity to operate in context on the basis of the tool and the mental work of an individual transforming particular psychological functions. (3) They fail to dispel the impression that in their psychology of situations "the psyche in fact belongs to situations", thus only mechanically transposing mental *gestalts* originally localized in the minds of individuals into situations.

2. Learning and development in the school context

The theory of learning in the everyday practical context differs significantly from the approach of Vygotsky's school in its conception of the unit of analysis and in its conception of mediation. Along with Leontiev, in using the term *unit of analysis* I refer to the isolation of units of enquiry which enable the objectivation of psychological facts in their inter- and intra-psychological dimensions. "Participation in apprenticeship" can help grasp activities in the socio-cultural framework and can substitute for the mechanical understanding of internalization; however, the nature of the intra-individual activity itself

largely escapes it. On the other hand, mediation is considered by Lave and Rogoff above all as communication between individuals and the prospective zone of proximal development as a communicative-relational network. The cognitive activity itself, i.e. the apprehension of the item of knowledge qua apprehension of **norms** of activities with the given item of knowledge, is left aside. Similarly, Hutchins' tool in the pilot's cockpit is admittedly instrumental and mediating; however, it is not Vygotsky's psychological tool, since it cannot demonstrate how permanent transformation of psychological functions and the development of the individual come about. Finally, what is striking is the insensitivity to the fact that learning at school is also learning in a context with its own specificities, a context which represents a community of practices derived from science. A comparison with extra-curricular contexts makes it evident that its objective is epistemic. It aims at the transformation of modes of thinking, of experiencing, of the self. This requires a clear conception of the relations between spontaneous learning, education, formal learning and development. What are, in Vygotsky's terms, the main differences between apprehending spontaneous concepts and those which are scientific (acquired mainly at school)?

2.1. The practical, utilitarian vs. epistemic attitude to the world and to language

The theories of situated learning have excessively reduced the social aspect of learning to the flexibility and adaptability of the learner to a variety of situations and their requirements. Resnick claims that *learning rests in adaptation, yielding to the immediate situation; to learn means to become good in a situation in which we act.* Situations provide and dictate the guidelines, the criterion being the appropriateness of the individual's act or action to the requirement of the situation, i.e. practical effectiveness. What is left aside are the mechanisms of thought construction (in line with this is the negation or abandonment of the concept of internalization). The aim of this type of learning is to achieve something, to make a change in a state of affairs, to make oneself understood. P.Bourdieu (1996) says that in practical action the word used fits the situation. Olson and Torrance (1983) introduce another striking criterion. On their view, both the *context* and the *text* are available to man in his practical attitude to the world. But the situation of spontaneous learning forces him to give priority to information from the context, that is to say to

rely on what is most probable in the given context. Olson and Torrance cite the following example.

> *They observe that according to classical Piagetian tests children up to 8 years of age understand instructions contextually (and proceed in their thoughts on the basis of such understanding). The critique of these tests features the classical example of a logical sub-class – class relation (there are 9 flowers in the picture, 6 of them tulips and 3 roses). The question is: "Are there more tulips or more flowers in the picture?" Children answer on the basis of comparing the sub-class "tulips" with the sub-class "roses" and conclude that there are more tulips than flowers. Olson points out that children answer not on the basis of text but depending on the context, i.e. on their everyday experience and act as is common in such contexts. For we usually compare sets of the same kind or level (e.g. girls and boys; in everyday life, we rarely ask if there are more girls than pupils in a class). The child is thus guided by the context and not the linguistic contents of the question and its logical structure, i.e. "text". To follow the text, the child must undergo another type of learning than the more or less "spontaneous" reaction recorded by Piaget.*

In this connection, the above-mentioned P. Bourdieu remarks that the "scholastic view", derived from *skholē*, implies an interruption, a distancing from the practical context, its bracketing. On his view, the neutralization of all practical intention is even considered to be the main condition for cognition. Hence, in the school or academic world, a word is not meant to fit the situation, with "making oneself understood" as the goal. The word is examined for instance in an overview of all its possible meanings without reference to a particular situation. Instead of this attitude which sets the practiced activity apart as a special object of knowledge, in contrast to the child's attitude up to then, some reject learning at school as a form of suspension of the practical contextual attitude. Olson or Bourdieu rather confirm Vygotsky's theses, though. Let us recall one of his classical comparisons – the apprehension of spoken language vs. language learning at school with the support of writing.

Formalized learning can start where spontaneous learning in contexts of everyday life comes to an end (i.e. where it reaches its limit). The latter stands on *instrumental* usage (knowing **how** to say something; say how the notion "brother" works, or who is a particular brother, to make oneself understood). The former paves the way for *reflection* and builds on it (knowing **why** something can/cannot be said in this particular way; what is essential about the structures of "kinship" and why a "sister" is the same as a brother according

to these laws, even if this is sheer nonsense in the context of everyday usage).

Although formalized learning of de-contextualized "scientific" knowledge makes use of spontaneous learning (is based on it), the important thing is that it transforms substantially the knowledge thus acquired. Due to formal learning and its tendency to de-contextualize, the child is brought to reflect upon and realize the specificities of the mother tongue, and to the necessary generalization of linguistic phenomena. By means of the new attitude towards language, its attitude towards the world changes into one which is epistemic and not practical. This in turn opens new horizons in other domains of knowledge.

I have mentioned that **writing and written culture** plays an enormous part in school learning. The difference between oral and written culture can be used as an analogy to illuminate the difference between spontaneous practical learning and formal learning at school. In his study *The World On Paper* (1994), Olson suggests that in an apprenticeship attitude towards the world, what is said is not distinguished from what is meant. This is the case because the context makes it possible to understand the meaning of words by gestures, facial expressions, intonation, dress, the articulation of the space of interaction etc. The vast majority of these characteristics of the practical (oral, in our case) attitude towards the world cannot be seized in the attitude to the world and to its understanding based on writing. The writer must – to communicate meaning, his intentions etc. – use new forms (explicit verbs: *to believe, to doubt*), graphic symbols (punctuation, paragraphs) or discursive forms (indirect speech, references). Writing thus introduces a significant **change in the cognitive relation** of the individual to the world: it singles out the **interpretation** of the said thing as an independent, special task and compels him/her to exercise this activity consciously and systematically. This exercise takes on different forms in various fields of knowledge (the veracity of statements is verified in different ways in history and in geometry). Writing, the main tool in school cognition and learning thus gives rise to new activities of the intellect and their development – the ability to reflect upon discourses themselves. In the writing literacy developed in school, meanings and interpretations are not only practiced; writers and readers are forced to engage in reflection on meanings themselves. The processes of acquisition of written knowledge are thus the decisive factor in the change of ways of thinking. Olson cites a Vygotskian distinction to that effect: *"thanks to writing, we have moved from thinking about things to thinking about the representations of things"* (Vygotsky himself says that spontaneous notions are generalizations

about things, while scientific concepts are generalizations of those generalizations).

2.2. Unreflected, or not consciously developed vs. planned and conscious procedure

The basic trait of spontaneous learning is its assimilation to practical activities or usage. We already stated that the spoken mother tongue is apprehended by the child in everyday use. It has to be added that this is so without there being any didactic intention on the part of the adult talking with the child. The child uses the "phonological system" and the rules of syntax before it can perceive its elements and those rules; it conjugates verbs without knowing that it "conjugates" and why it changes their form morphologically (e.g. in Czech and other Slavonic languages).

In formal learning, however, a different element comes to the forefront – the deliberate **construction of a conscious** handling of language. Vygotsky shows this in comparing the learning of a mother tongue and of a foreign language. He observes that the first notions of a foreign language, its phonetic, lexical and syntactic structure and grammatical laws transform one's relation to his/her own mother tongue (for this reason, Vygotsky quotes the famous phrase by Goethe: *"He who does not know any foreign language does not know his own"*). Till the stage of learning a language (native or foreign) as **an object of knowledge** (which presupposes an adoption of the above-mentioned non-practical, academic standpoint) the child is unable to extract the rules of language from empirical material. Apprehending the mother tongue is non-conscious, since it is based on practical usage and is only on the way to systematization. Learning a foreign language as an object of knowledge is based on the system and aims at conscious usage of its characteristics. In any case, learning which opens the way to development cannot be directed by haphazard stimuli of the situations and spontaneous "needs" of the child. Let us notice that from this point of view, such guidance is guidance from "without". On the other hand, the "new" conscious learning at school is that directed by the requirements of the contents, or the object of the cognitive activity – and, in this sense, from "within". The pupil studies the "program" proper to a given type of thinking and its observance is guaranteed by the institution of the school and the teacher. If we put this in Olson's terms, the "textual" approach is exercised at school – sometimes with success, sometimes less so – an ap-

proach which is supervised, systematic and planned. A brief example will serve to illustrate the effects of this approach. Our research focused on the apprehension of the term "prehistory" in a history class in the 6th year (11-12 year olds) of elementary school (cf. Titěrová, 2005).

- **concept apprehension in school deals with pupils' previous knowledge which takes on narrowly situational, literal or haphazard forms;** *prior to their lessons, pupils were asked to give any response to the question "What is prehistory?" Enumerations of elements, objects, animals, etc. and vague temporal determinations prevailed, often subjectively biased on the basis of the comparison with the pupil's own present (a harsh ruthless world under threat from natural forces). Meanwhile, the scale of elements adduced was very broad and pointed to notions of prehistory which originate in haphazard associations;*
- **by means of formalizations, education makes it possible to discover the relations between elements and their logic;** *the analysis of lessons has shown that the teacher focuses on the periodization of epochs and development stages of man according to the criterion of usage of tools (stone, iron, bronze etc.) and means of subsistence (hunting, agriculture). What is thus introduced are new elements and above all* ***relations between*** *them. Distance from the original form ("cave, mammoth, fire"; "they had no heating or washing machines" – as impressions from reading, films or storytelling where knowledge about prehistory serves to entertain) and purpose of the item of knowledge is established. In particular educational situations, pupils were supposed to reproduce those relations (e.g. every epoch was to be characterized by the specific relation of man towards nature, instruments, others and community);*
- **to a large extent, this is possible due to writing as a tool that enables concentration on form and distancing from haphazard associations**; *charts, time scales, graphs, representations of objects subordinate vivid illustrations and individual reading experience and restore them to the order of basic relations;*
- **generalizations of a higher order are the result**; *abstract logic is developed which enables an overview of the entire conceptual field. Prehistory can be situated within the conceptual network: what distinguishes it from antiquity, the middle-ages and our age and what has remained the same? The discovery of the agricultural means of subsistence as a particular instance of social reproduction is the decisive conceptual discovery – that of*

the logic of the concept. It is not possible without understanding the man – nature – tool relationship and paves the way to the understanding of the dynamic of social development (over-production, surplus, property, social differences between people, power struggle etc.) The difference between prehistory and antiquity or between prehistory and our age is then the difference in the modes of social reproduction.

Naturally, a relatively significant number of pupils have shown in the post-test to have above all learnt to reproduce mechanically the periodization of eras and stages in the development of man, or have remained at the level of some sort of syncretic notions. Nevertheless, they have coped with many exercises satisfactorily or very well. This leads me to underline the last difference between spontaneous and formalized learning.

2.3. Performance in the situation vs. development

The difference between a *performance in the situation* (performance of a function) consisting in the repetition of invariants of an activity in a variety of situations on the one hand and *development* on the other is stressed by the French psychologist Yves Clot in his analysis of the activity of work (cf. for example Clot, 1999, and Beguin, Clot, 2002). Spontaneous learning first and foremost pursues efficient **performance of a function** in a situation whose boundaries are not transcended (reproducing the correct order of the eras; determining what tools were used in the neolith – in short, "giving correct answers to the questions"; as we can see the finality of spontaneous learning is often preserved even within learning of scientific concepts at school and remains resistant to its requirements). However, this "information" – rather than knowledge – represents the basic prerequisite for the subsequent conceptual work. In Leontievian terms, we have to do with a level of operations (manipulating "tools") and with that of actions (dyeistvyi). Their incorporation into a routine is a sort of an organizational condition for the cognitive activity itself (this is especially true of the memory automatism regarding certain algorithms, e.g. arithmetic ones). However, spontaneous learning rarely goes beyond the level of the performance of a function in a situation. Hence, no opportunity is provided for the apprehension of the concept to open the way for development, for spontaneous learning fails to grasp the object of cognitive activity itself.

On the other hand, effectively mediated learning of the concept paves the way for **development** - of the pupil's thinking and of his personality. This requires that routine tools be used in a variety of tasks (actions), that they pass through various situational contexts to have pressure put on the enrichment of their functionality (e.g. basic mathematical operators should be practiced in the context of calculus operating with both one-digit and double-digit numbers, in the context of a task in arithmetic and a task in geometry). In our research, this concerns the use of the item of knowledge related to the development of the life of man – in relation to his mode of subsistence and the state of his material and intellectual tools – in changing cognitive situations ranging from the reproduction of facts to the resolution of a problem task (why did a hierarchical structure of human society come about?). Only such cognitive work – learning – enables a relevant generalization going beyond the limits of particular situations. Only thus could prehistory become – at least for some – a special particular instance of a more general set of conceptualizations. Learning which releases items of knowledge from their context without ignoring particular situations renders development possible: first of all the development of the child's thinking; connected with this is the development of other psychological functions (e.g. we memorize better those things the inner logic of which we have apprehended) and finally the development of the personality of the pupil (he develops a feeling of mastering himself and his knowledge, he is harder to manipulate or less likely to fall victim to biased information).

For this reason, we should be warned against ill-considered preference of experience close to the child in education/learning.

3. Paradoxes of the emphasis on the practices of spontaneous learning

First paradox: according to its advocates, learning in the form of apprenticeship which imitates practices and forms of spontaneous learning in school and which emphasizes the continuity with existing and extra-curricular learning should above all ensure an efficient development of competencies and of the whole personality of the child, for the reason of being "natural". As we have seen however, even though children may learn a lot in this way, they have no notion of why they do what they do, how (following what rules) they have learned it and to what effect they know it. Such learning makes it possible to be efficient in a situation, but fails to encourage development.

Second paradox: spontaneous learning bound to practical (accidental) situations of everyday life encloses the child in his personal experience, for it hinders an effective confrontation of this experience with the historical experience of humankind (taking shape for instance in scientific concepts). The absence of this confrontation is at best replaced by intersubjective exchange and the comparison of various personal experiences. The child is thus denied the opportunity to make sense of his own personal experience.

Third paradox: spontaneous learning should enable a better, culturally adequate access to society itself via participation on the "community of practices". However, the system of intellectual activities and tools represents the community of practices most proper to man, one which differentiates him from other animal species. This system has its own specificities whose purity is seen to by the school. Spontaneous forms of learning are meant to prevent a premature or excessive intellectualization of cognition – paradoxically, emphasis on these forms prevents children from becoming full-blooded actors in their own social world.

Needless to say, I did not mean to say that formalized learning – in all the phenomenal forms it may take at school – is always ideal. Nor do I suggest that learning in everyday practice is pointless and should be fought against. My modest suggestion is only that – for the sake of a proper mental development – it is not in our interest to abolish the difference or even the tension between extra-curricular and school forms of cognition and learning.

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FRAMEWORKS FOR THINKING: SUPPORTING SUCCESSFUL THINKING AND LEARNING

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Abstract: How can we promote successful thinking and learning in learners of diverse abilities? Recent theories about successful thinking and learning take a broad view of cognition and acknowledge the conative, affective, and situational aspects of learning. Research suggests that thinking skills approaches can be effective in embracing these important aspects of learning and can help to create powerful learning environments in which individual learners are supported to reach their full potential.

A range of broad-based taxonomies, models and frameworks exist for understanding the processes involved in thinking and learning. These frameworks can inform the identification of talents in individuals and assist in the planning and evaluation of educational experiences for a diverse range of learners.

In this paper we outline an integrated framework which we suggest can provide course designers, teachers and learners with a 'language for thinking about learning' and can be used to deepen understanding and improve the management of the multi-dimensional aspects of successful learning[1].

Introduction: teaching for successful thinking

How can we promote successful thinking in learners of diverse abilities? In educational discourse, 'teaching thinking skills' is often used to refer to specific pedagogic approaches, courses or organised activities which require learners to plan, describe and evaluate their thinking and learning (Moseley et al 2004; Livingstone et al, 2004; Guest, 2000). A growing body of research suggests that thinking skill interventions can be effective at all levels, and that some aspects of thinking can be developed or strengthened by appropriate teaching practices (McGuinness, 1999; Nisbet and Davies, 1990; Moseley et al, 2004; Livingstone et al, 2004).

McGuinness (1999) recognised the importance of making thinking explicit

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in the curriculum and refers to thinking curricula, thinking classrooms and thinking schools. She notes that the more successful 'thinking skills' approaches have a strong theoretical base, well-designed, contextualised materials; explicit pedagogy and good teacher support.

Theoretical approaches

Cognitive or thinking skills may be developed from everyday experience, but there is significant scope to enhance the deliberate activation, monitoring and evaluation of such skills (Livingstone et al, 2004). A wide range of approaches have evolved, from thinking skills programmes that can be taught discretely, to programmes that can be taught as part of a subject, and approaches to infuse or encourage good thinking within the curriculum (McGuinness, 1999).

Discrete thinking skills programmes include Feuerstein et al's (1980) highly respected Instrumental Enrichment programme. Adey and Shayer's (1994) Cognitive Acceleration through Science Education (CASE), the derivative Cognitive Acceleration through Maths Education (CAME) programme, and Leat's (1998) Thinking through Geography are subject-specific programmes which are widely used and respected in the UK. Philosophy for Children (Lipman, 1983, 2003) was introduced as a discrete programme (e.g. McGuinness, 1999). However, the philosophical approach, involving learners and their teacher sharing a short story, picture, poem, object, or some other stimulus for discussion, can be infused into a range of subject domains (Fisher, 1999; Trickey and Topping, 2004).

Such approaches build on the conceptualisation of intellectual development as a social transaction mediated by significant adults or peers (Vygotsky, 1978; Feuerstein, 1980).

Contextualised materials

Thinking skills are now embedded within the National Curriculum in England and Wales. The Qualifications and Curriculum Authority (QCA) documents require learners to have the opportunity to engage in structured experiences under the broad headings of:

- information processing skills, which enable learners to locate and collect relevant information and to sort, classify, sequence, compare and

contrast and to analyse part/whole relationships;

- reasoning skills, which enable learners to give reasons for their opinions or actions, and to make deductions, judgements and decisions, using precise language to explain what they think; enquiry skills which enable learners to ask relevant questions, to deal with problems, to plan what to do and how to do it, to predict outcomes and consequences, and test conclusions;
- creative skills enable learners to generate and extend ideas, to suggest hypotheses and apply imagination and to look for a range of innovative outcomes;
- evaluation skills which enable learners to evaluate information, to make value judgements about what they hear, read or do and to, and have confidence in their opinions.

Thinking skills are linked to whole school improvement. The Leading in Learning programme (2004) is a key element of a phased programme of educational reform in the England and Wales focusing on the needs and aspirations of individual learners, or personalised learning. The reform is based on a view of learning as an interactive, social process and involves the systematic and explicit development of thinking and learning skills and strategies across the curriculum, so that learners can take responsibility for their learning, and are enabled to transfer their learning to different contexts and processes.

Explicit pedagogy

Leat (1998) has suggested that the biggest barrier to transfer of skills is the traditional culture of teaching. Teachers' pedagogical beliefs and concerns to meet curriculum targets and manage behaviour may take priority over listening to learners and building upon what they already know. Yet evidence suggests that the promotion of talking and listening in classrooms enhances learning, particularly for children from disadvantaged socio-economic backgrounds (Locke et al. 2002, cited in Trickey and Topping, 2004).

The emphasis on high quality dialogue in the classroom is one of the 'powerful pedagogical strategies' (PPS) Leat and Higgins (2002) regard as important building blocks in school improvement. PPS provide a means by which teachers can experiment with group work and co-operative work, and develop formative assessment and other creative teaching approaches. Teachers' skills in providing open-ended questions and modelling thinking skills to learners

helps to build 'thinking classrooms.' In a thinking classroom ground rules are explicitly agreed, individual differences are accepted and respected, and learners are encouraged to work effectively together (Cotton, 2002; Dawes et al, 2000).

Teacher support

Where teachers are supported to make manageable but significant changes to their teaching, this can bring an immediate response from students which in turn encourages and sustains changes and developments in teaching. Support from school managers for action research by teachers and the provision of ongoing professional development opportunities are important to sustain innovative teaching approaches (Black and William,1998; McGuinness,1999). Without ongoing support there is a danger that short-term positive effects of new approaches may wash out (McGuinness,1999) and significant long term changes in learners may be overlooked (Adey & Shayer, 1994; Black and William,1998).

Evaluating thinking skills programmes

The appropriateness of methodologies for evaluating thinking skills continue to be debated (Adey & Shayer, 1994; McGuinness, 1999; Trickey and Topping, 2003; Wilson, 2000; Cotton 2002). Experimental or quasi-experimental research has traditionally been used to test cognitive interventions. Such methods have been defended as rigorous but cannot claim to control all the variables in complex scenarios such as the classroom. Burden and Nichols (2000) have argued that traditional pre and post designs are not the most effective way to evaluate the impact of curriculum interventions. Measurement instruments are required that can detect small short term changes as well as being sensitive to Hawthorne effects when a novel approach is enthusiastically introduced, creating initial positive outcomes. Evaluations need also to take account of whether new learning is generalized to other contexts or sustained in the longer term (Trickey et al, 2004).

One of the problems in evaluation is that here is a lack of consensus about what characterizes successful learning. Cognitive approaches emphasize the importance of mental processes, such as analysis, evaluation, inference, and explanation. Yet increasingly, the emphasis on cognitive gains is being re-

viewed and broadened to take account of the conative, affective, and situational aspects of learning. Metacognitive approaches suggest that self-regulation and independent learning can be increased by means of a guiding framework, to combine assessment and teaching, build on prior knowledge, and improve outcomes (Guterman, 2003). Philosophical interpretations are linked with dispositions to self-examine and self-correct (Moseley et al, 2004; Facione, 1990), caring to be honest and to 'get it right' (Lipman, 1983; Jewell, 1996; Ennis 1985, 45). Trickey and Topping (2004) found a wide range of positive academic and social gains from philosophical approaches, including improvements in logical reasoning, reading comprehension, mathematics skills, self-esteem, listening skills, expressive language, creative thinking, cognitive ability and emotional intelligence were found.

Many schools have used Gardner's (1983) model of multiple intelligences to identify and profile abilities. Successful learners will have an individual intelligence profile, rather than a pattern of ability that can be norm-referenced (Smith, 2003). This shift from a general to a multi-faceted concept of intelligence may be helpful in identifying the strengths and and addressing the needs of sub-populations of learners, such as gifted females, children with ADHD, individuals with low socio-economic status (SES), culturally different students or learners with disabilities (Sutherland, 2003; Chaffey and Bailey, 2003; Moon, 2003).

Successful learning has been described as developed expertise rather than innate ability (Gagne, 2000; Sternberg, 2001). The ability of individuals to select and attain difficult life goals that match their interests, abilities, values and contexts, motivation or personality is dependent on specific environmental factors (Ziegler and Raul, 2000). Individual effort is enhanced by systematic training in a supportive environment which encourages autonomy, choice, and self-reflection (Dweck, 1999; Moon, 2003).

Frameworks or taxonomies for thinking about thinking

A range of complex frameworks or taxonomies for thinking about thinking exist with the potential to inform instructional design, teaching and learning, and assessment (Moseley et al, 2004). There may be value in considering a diversity of approaches and whether any one framework will be adequate to describe and evaluate the development of thinking in a range of learners and

contexts. Frameworks for thinking can also create a common language for course designers, teachers and learners to deepen understanding and improve management of the multi-dimensional aspects of successful learning.

A team of researchers from the Universities of Newcastle and Sunderland were commissioned by the Learning and Skills Development Agency (LSDA) to undertake an evaluation of frameworks or taxonomies of thinking (Moseley et al, 2004). A comprehensive and systematic literature search of over four hundred electronic and paper-based texts was conducted. A number of relevant websites were also identified, which in turn led to other useful sources.

The team considered a range of approaches designed for diverse age and ability groupings and useful features of fifty five thinking skills frameworks were identified and summarised. Pintrich's (2000) framework was found to be helpful in developing learners' understanding of their learning, and self-regulatory skills. Pintrich and Halpern (1997) identify cognition, motivation/affect, behaviour and context as aspects of self regulation. Halpern (1997) produced both a framework and learning resources to support teachers and learners in improving the acquisition and retention of knowledge and skills and what she terms value grounded thinking.

Categorisation involved locating each framework according to date of publication and fit within one of four family groups. From these frameworks thirty five were selected for further evaluation, all of which contained features related to Bloom's (1956) taxonomy of educational objectives for the cognitive domain. In Bloom's model thinking starts and ends with knowledge, whether in the form of facts, rules, concepts or skills. Basic thinking was renamed 'building understanding', and consists of relatively simple ways of understanding, elaborating, and using what is known.

The mapping exercise led to the formulation of a 'meta-model' against which each framework could be compared. All the frameworks evaluated included classifications of higher order thinking or productive thinking (Romiszowski, 1981) which correspond to Bloom's analysis, synthesis and evaluation. Various combinations of these and other processes lead to productive outcomes or goals, such as the deeper understanding of a topic, a decision or solution, or a tangible product, such as an invention or work of art. Critical thinking abilities are also subsumed within the more general term productive thinking, which is supported by critical thinking dispositions or habits of mind, energised by feelings and determination.

An Integrated Framework

The evaluation of a range of frameworks led to the creation of a new inclusive and generic framework for understanding thinking, learning and learning-to-learn, in which the interplay between strategic and reflective thinking and other aspects of thinking and learning are emphasized. The Integrated Model (Figure 1, Moseley et al, 2004) was designed to incorporate common features from the all-embracing frameworks which were investigated.

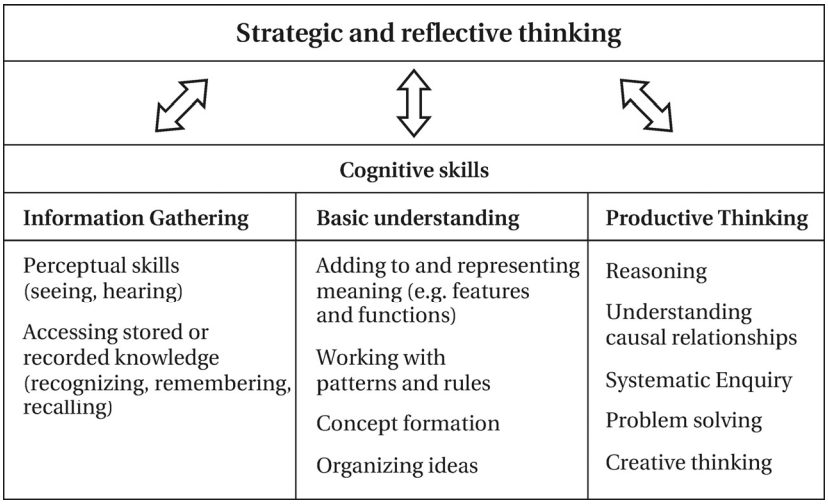

Figure 1. an integrated model for thinking about thinking
(Moseley et al 2004)

The integrated framework contains more detail, yet at the same time has a simpler structure, than other frameworks. It is not restricted to the cognitive domain, since engagement and value grounded thinking include both conative and affective dimensions of critical, creative and caring thinking. The model distinguishes between cognitive skills and strategic and reflective thinking, or in other words between cognition and self-regulation / metacognition (Higgins et al, 2004).

Thinking may develop through distinguishable, if overlapping phases, but this is not always the case. In the cognitive skill area, the three components (information gathering, building understanding and productive thinking) are ordered from left to right, but the phases are not always distinct, and movement can be from information gathering directly to productive thinking. The

interactive structure of the integrated model emphasizes the fact that strategic and reflective thinking can be used in conjunction with information gathering, for example when it is discovered at a late stage of a problem that a vital piece of information is missing (Moseley et al, 2004).

The framework is intended to apply to all kinds of thinking, including emotional intelligence, described by Gardner (1983) as interpersonal and intrapersonal intelligence. Reflection can deepen our understanding, for example, of how emotions are expressed and lead to use of effective strategies for managing feelings when we interact with others. The framework can be used in varied learning situations to enhance engagement with and management of learning. It may help teachers to recognise and nurture individual learner development and to plan appropriate learning experiences.

Equally, the framework can be given to learners to help them to articulate their values and strategies and to take control of planning their own learning. The two-level structure easily accommodates the various ways in which young and novice learners think strategically and reflectively as they develop information gathering skills and build understanding. Performance and motivation can be improved by developing greater self awareness and metacognitive knowledge of the usefulness of particular strategies for particular purposes (Moseley et al, 2004)

Using the framework to create powerful learning environments

There is a growing body of research which suggests that thinking skills approaches can be effective in helping to create powerful learning environments (De Corte, 1990) where a good balance between discovery learning, personal exploration and systematic guidance and instruction helps individuals to maximise their potential. The success of such approaches is dependent upon engaging the interest of learners and on the development of appropriate 'habits of mind,' including that of thinking about thinking and learning, or metacognition (Moseley et al, 2004). Effective learners will know how to strategically manage their thinking and learning through planning, conscious direction, monitoring and evaluation.

Evidence suggests that learning based on real problems develops awareness of current issues, and the confidence, skills and resilience to take on life problems (Moon, 2003). Learners who have opportunities to self assess and

peer assess, and to use evidence from a wide range of sources not restricted to traditional cognitive areas are more able to develop self regulatory skills and to set task goals, and to plan strategies for achieving these goals efficiently (Moseley et al, 2004; Smith, 2003).

Developing transferable skills

The main purpose of thinking skills taxonomies or frameworks is to support planning, teaching and assessment, and the alignment of these three processes. This will require careful planning and constant adjustments, using formative and summative assessment data to modify teaching approaches to ensure effective learning. Whatever methods of teaching and evaluation are selected, transferability is one of the most crucial yet highly contested concepts in this field of research (Livingstone et al, 2004). Whether thinking skills are developed through discrete, subject-specific or infused methods, it is necessary to demonstrate explicitly how the skills might be transferred from one subject or domain to another (Livingstone et al 2004; Nisbet and Davies, 1990). Transfer is more likely to be achieved when the skills and the contexts in which the skills are embedded are culturally relevant to the learner and take account of multiple intelligences (Wallace and Adams, 1993).

The development of transferable skills in learners may present new levels of challenge for teachers. Being able to discuss these ideas within a community of practice and in relation to theory-based frameworks can facilitate reflective practice in teachers and support and sustain innovative approaches (Higgins et al, 2004). We suggest that the integrated framework can provide teachers and learners with a 'language for thinking about learning' and can be used to deepen understanding and improve the management of the multidimensional aspects of successful learning.

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SUCCESSFUL INCLUSION OF SPECIAL NEEDS STUDENTS IN NORMALIZED EDUCATIONAL ENVIRONMENTS: THE ROLE OF COUNSELING AND CONSULTATION

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Abstract: Definition of inclusion of special needs students in regular educational placements. Identification of the role of counseling and consultation to facilitate the successful integration process. Discussion of six critical issues in determining successful integration, with suggestions of counseling/consultation input: (1) the belief system, (2) the need for preparation and support, (3) resistances to inclusion, (4) understanding the organizational culture, (5) institutional entropy, and (6) political issues.

Keywords: inclusion, counseling, consultation, integration

Inclusion is a noble goal. It is the right thing to do because it benefits the special needs student and ultimately all those who are involved in the educational and integrative process. The parents and family, teachers, educational personnel of the school, classroom peers, the student's siblings, and the community all gain from a successful integration of the student with special needs into the mainstream of life.

The goals of this paper are to identify important dimensions of this integration, point out some of the critical dangers of unthinking and unplanned integration, and develop important supporting aspects of the integration which must be paid close attention to if it is to be successful and ultimately of benefit to the student and the multiple constituencies involved.

Inclusion, or "mainstreaming" as it is called in the United States, has often been used as a "shadow" issue to cover or compensate for other important political and situational considerations. Unfortunately, much less noble (and humanistically oriented) objectives have been achieved in the name of inclusion, with students, teachers, and the school community ultimately suffering. Rationales for the importance and benefit of inclusion have been perverted to meet other less salutary objectives. Budgetary savings, personnel management, philosophical and cultural commitments to the special needs of mem-

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bers of society, and legal/political directives and injunctions have all contributed to the underpotentialization of the benefits of inclusion, and in some cases the serious debilitation of those placed into the mainstream.

To be meaningful and effective, inclusion must assess a multiplicity of issues, and requires a support process sensitive to these issues in order to achieve positive outcomes. This paper will focus on those having to do with the necessary contributions of the counseling and consultation process to successful integration of special needs students into mainstream education.

Counseling includes those interventions working with the student and significant others in the life of the student to create internalized conditions to successfully respond to integration–attitudes, needs, previous learned adaptive behaviors, anticipation and adjustments to change, etc. These are functional issues relating to helping the participants deal with and modify their internalized reactions and develop responses to maximize the potential of the mainstream experience, and thereby support inclusion. More than supporting, the goal is to elaborate the potential for growth in the normalized environment. The counselor must understand the fundamental issues which are embedded in the inclusion process, and work with individuals and groups to address them so as to achieve levels of comfort, acceptance, and resolution (see below).

Consultation includes those aspects of working with the participants in the inclusion process to develop support structures, externalized strategies and procedures to support and extend the effectiveness of the inclusion experience. Although often interacting with the same participants, the focus of consultation goes beyond the immediate needs and reactions of those involved to assist in the building of communication relationships, including a wide range of activities which support the integration and deal with both problem situations and potentials for enhancement. The consultant must be knowledgeable, develop comfortable working relationships with the participants in the system, and have a mutually and strategically accepted agenda which the participants are willing to work within. Essentially, the consultant acts as a neutral, informed, and mutually respected intermediary who can bring together various agendas, resources, and engagement to make the process effective and comfortable.

Defining Successful Inclusion

Obviously, the inclusion of special needs students in mainstream education is successful if the experience meets the needs of the student. Less obvious, perhaps, is the defining of the parameters of success. The student must be in an environment which stimulates social and academic improvement, provides models of peer interaction, and engenders in the learner a sense of him or herself as capable of interacting and contributing to the group. *It does not eliminate the special need.* Rather, it places the student's special learning or adjustment needs in a positive growth context, provides elements of learning and experience which are both demanding and amenable of achievement. It is not enough to provide a safe and comfortable environment. To do that alone is to leave the child in a familiar and homogeneous situation. Successful inclusion presents demands, creates disequilibrium which must be responded to and resolved. It is in this effort toward resolution that the special needs student gains from the experience, and this gain is ultimately reciprocal–affecting peers, teachers, and the school community as a whole. Thus, successful inclusion affects multiple levels of interaction, and the special needs student–successfully integrated–can be seen as a catalyst for a number of important changes affecting all of those participating in the process.

Fundamental Truths of the Inclusion Process

There are some fundamental issues which must be identified, acknowledged and dealt with if inclusion is to be successful. It is in the attention paid to these issues that the role of the counseling/consultation process comes into play, and becomes directed to the process of ensuring success. They are (1) the belief system underlying the inclusion process; (2) the need for preparation and support for the student who is placed in the regular classroom, (3) identifying and working with resistances to inclusion, on the part of the student, the family, and the school environment; (4) the organizational culture of the systems into which inclusion is injected; (5) the phenomenon of institutional entropy; and (6) the politics of education and community social structures. Each of these will be briefly addressed in this paper, to suggest ways in which the counseling and consultation process can make important contributions to ensure successful integration of the special needs student.

(1) The Belief System

Successful integration starts with the need to create conditions to modify functioning. Feuerstein has described the development of his theory of structural cognitive modifiability as the result of "a belief generated by a need." And that need leads to the development of actions which materialize the belief system. The issue here is that not all of the participants in the process may share the same intensity and scope of need and belief in the potential for the inclusion to be successful, or even helpful. This is particularly true in light of the further issues to be enumerated below. But for the child, his/her parents, the teacher, the administration of the school and local authority, the question of belief in potential and possibilities is tempered with many possible doubts, fears, resistances (both those within the participants themselves, and those which are the result of external impositions–see below). The counselor offers support, clarifies confusions and encourages awareness and actions which help resolve perceived conflicts. The consultant identifies areas where resistance, confusion, or opposing beliefs interfere with decision-making, personnel actions, and other institutional constraints. There is the need for the counselor/consultant to clearly identify those aspects of beliefs and needs which require support, reinforcement, and active confrontation to relate to the effects of the integration process.

What is necessary is a clear understanding of the dynamics within the people involved, and the institutions which they have created, which occur as a consequence of the belief system, and the needs which underlay it. It is also necessary to assess the resistances (see below) and work to strengthen the belief/need system to overcome tendencies to accept partial, inadequate solutions to problems which can be well solved if there is a will to overcome, and search for positive alternatives.

The interpersonal process skills of the counselor and consultant can play a positive and supportive role here. However, the need and belief system must be encouraged, shared, and fully understood if it is to contribute to a successful integration.

(2) Need for Preparation and Support

The student being integrated must be prepared and supported for the placement. Preparation means working with the student to build foundational skills and create a readiness to function in the integrated classroom. This

is not a casual issue, and must be systematically and persistently addressed. Too often typical inclusion plans do not pay attention to these needs, and the child comes into the situation unable to respond and profit from the available structure and stimulation. Support often means having a "shadow" with the student to help him/her respond to demands, process the information, and maintain focus. This support can be withdrawn as the student becomes more able to respond. In some situations, the teacher's aide can devote attention to other students in need in the classroom, furthering aspects of integration for the included child. Outside of classroom support, taking the form of additional time to do homework, practice and preparation for lessons, and the like are also part of this needed support.

We have found it useful to recommend that the included student be placed in a peer group one or two chronological years below his/her current level, or that a grade level be repeated. Both of these maneuvers create conditions whereby the included child will be more likely to be responsive and functionally successful, and to create a solid and confident platform for further academic and social performance. Our experience has also been that many concerns regarding peer level difficulties are completely unfounded–children have great resources for accepting difference once they are positively confronted with the effects of the well prepared and well supported special needs student.

The counselor has the potential to work with the student and family to identify the systematic and structural aspects which must be included in the support system, and work with the parents and supporting persons (the teacher, the "shadow") to ensure that they are present and utilized in response to the demands of the classroom and social environment. Examples of this are helping to understand and organize homework assignments, rehearsal of responses to upcoming assignments, teaching particular skills which are fragile, and the like. The counselor works with the support personnel to materialize these sources of potential assistance.

(3) Resistances to Inclusion

Integration is stressful. By definition, we place the special needs student in a normalized environment in order to provide modeling and encourage higher level responses–a disequilibrium is created. For the student who must respond to demands that may not be immediately within his/her repertoire,

for the parent who is concerned about how demanding and stressful the new placement "might" be, for the teacher who must accept a lower functioning and special needs student into the established group, for the peer group who initially do not know how to respond to the "different" student, for the system which must find ways of supporting the included child, and so on–there is the experience of potential discomfort For each of these there is the potential for resistances of different types and degrees. Each of these resistances must be identified, worked through, and positive affects and alternatives experienced.

The counselor/consultant has a key role to place on this issue. One may bring factors to light, encourage recognition and resolution of difficulties, and create conditions which reduce stress and the "reasons" for resistance. Often, such resistance–once acknowledged and addressed openly, with the identification of options for effective resolution–significantly diminishes, and can be turned toward collaborative and productive interaction.

(4) Understanding and Working with the Organizational Culture

The school has an organizational culture which must be respected. This is particularly true in places where special educational interventions are well developed both structurally and historically. Inclusion may challenge that culture, and be the source of either resistance or underpotentialization of resources. An example of this phenomena is what has been in some places designed and labeled as the "pull-out program." In such instances, the special needs child who is placed in a regular classroom is "pulled out" for specified periods of time to work on specified content or skill areas. This is negotiated with the parents and the teacher (as part of an IEP process–an "individualized educational plan"). Such a process, whatever it may be called, is highly contingent on what the school or district/authority has to offer. As a consultant, I have had the experience at the beginning of an IEP meeting of having a teacher lean over and whisper "I know what this child needs, but I cannot say it in the meeting because the district doesn't have the resources, and cannot provide what he needs!"

In such extreme instances, and in many lesser events, it must be recognized that decisions and actions occur within the accepted culture (expectations and attitudes) and resources of the environment. As with other similar issues, the consultant must understand and identify what is occurring, and

work to negotiate the process to the greatest extent possible to the benefit of the student. In some cases this is possible, in other cases it is not. When not, a whole new set of issues is created which fell within the realm of working with the organizational structure of the school and parent/student advocacy–both of which are beyond the immediate scope of this paper.

(5) Institutional Entropy

Even the best intentioned and well designed programs introduced into systems need ongoing support and renewal to retain their energy and direction. This is particularly true of dynamic situations, where other issues (such as are being addressed here) come into play. The natural consequence of the passage of time, the repetition of once-innovative but now routine activities, and the reduced overt saliency of the needs means that while individuals may be going through the motions, albeit with good faith and honorable intentions, the consequence is a reduction of focus, and a "movement toward the lowest common denominator" of programmatic input.

In such situations, what is often needed–in addition to overt programmatic initiatives such as periodic focused training and institutional awareness activities–is an independent, "outside" observer who identifies these tendencies, and works with the participants to keep the level of energy, focus, interest, and technical input at high levels. The consultant, by virtue of his/her outsider status can act as a prod to keep the level of activity energized, intelligent, and forward moving. The author recalls acting in this way in a Hawaiian school district, and being told by a building administrator that he liked having the consultant visit and work with teachers because he (the consultant) was always "poky-poky!" This was an Hawaiian expression for keeping people alert, making them a little bit uncomfortable with the "same old, same old," and that his teachers were more thoughtful and energetic after the consultant's activities.

If the effects of the integration activities are strong and beneficial, the consultant can act to work against these tendencies to accept the status quo, relax the effort to maintain high expectations, and counteract the tendencies toward what can be called "institutional entropy."

(6) The Political Issues in the School and Community

This may be the most difficult level of intervention to consider, because there are numerous and deeply embedded issues attendant to the inclusion process. Given all of the above, and the best of intentions on the part of the individual participants in the process, the fact remains that for many systems, inclusion is a "shadow issue" for other objectives. If the deeper goals are to save the educational system money, or conversely to preserve existing institutional structures (like categorical special classes), or pacify strident voices in the lay or professional community (who are comfortable with the old ways of doing things), or–even more pervasively–the goals of inclusion are superficial and designed primarily for institutional comfort (minimizing disequalibrium) then what people say or do in response to the practical decisions and interventions related to inclusion may be at significant variance with what is believed, and ultimately will be supported. One sees this in such an issue as placement of the included student–what type of group will be selected, and how will the resources to support the student within the classroom or school be allocated.

Here the counselor/consultant must be both strategic and tactical, identifying aspects of interventions and decision-making reactions to respond to, which will have the potential for modifying or in some cases confronting some of the discrepancies which occur as a function of underlying political conditions. Examples of this kind of perspective might be: (1) choosing a particularly amenable teacher or classroom to work with, (2) demonstrating techniques and piloting a special way of working with difficult or particularly challenging students, or (3) making special efforts to support an innovative administrator to create a program potential which will be visible and stimulate considerations for changes are all possible alternatives.

Summarizing the Contribution of Counseling and Consultation

It is essential to recognize that the inclusion of the special needs student, however ultimately beneficial for the student, and ultimately for the society in which that student and his/her family will function, presents significant is-

sues which must be addressed and resolved if the inclusion is to be successful. Several have been identified in this paper, and suggestions for paying attention to them in a systematic and focused ways have been offered. The emphasis has been placed on the role of counseling and consultation, with various examples presented.

Why is such a role necessary? Because to create the necessary disequilibrium–to encourage individuals to modify their beliefs and expectations, to adopt new behaviors and accept challenges–requires support, skills, and insightful processing. It must be *internal*–looking within and accepting the optimistic alternatives that are available; and *external*–what Feuerstein has called the "shaping of modifying environments." The provision of resources to make these processes possible is both necessary and productive.

Counseling and consultation fulfill these roles. As ongoing and systematic resources they both identify relevant issues to address, and assist in their resolution. It may take the form of helping a parent to seek (and fight for) appropriate resources for their child, supporting a teacher in gaining the needed skills or outside resources to work effectively with the placed student, or helping a system develop a new service delivery structure to deal more effectively with the needs of the included student(s). It can–and should–provide the larger system with direction and support to ensure that the inclusion process is in fact effective and beneficial for the included students.

To do so is to truly materialize a process which is to everyone's benefit–the student, the classroom peer group, the family, and the community–in its broadest sense.

INTEGRATION OF CULTURALLY DIFFERENT STUDENTS IN MAINSTREAM CLASSES

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Abstract: Today culturally different students constitute the largest group in need of special attention to their integration in mainstream classes. The lack of congruence between their previous learning experience and the demands of the new educational system places many immigrant children at risk of school failure. A new CoReL (Concentrated Reinforcement Lessons) model aimed at solving the learning problems of new immigrant children at-risk has been developed at the ICELP. The CoReL is a limited-time intervention model based on integration of the "Instrumental Enrichment" program with intensive language arts and math lessons infused with the principles of mediated learning. An evaluation study conducted with four groups of new immigrant students from Ethiopia demonstrated a statistically significant change in cognitive performance as well as reading comprehension and problem solving in mathematics.

Keywords: immigrants; cognitive functions; Instrumental Enrichment; reading; mathematics.

Introduction

The present study is aimed at showing how a cognitive intervention program based on the principles of mediated learning experience can ensure successful integration of immigrant students in mainstream classes.

Today culturally different students constitute the largest group in need of special attention to their integration in mainstream classes. While a few decades ago ethnically, culturally and linguistically different children were a rather rare feature in the European classroom, today in some capital cities of Europe (such as Amsterdam), they constitute almost half the student population. What in the past appeared to be an exception, today is quickly approaching the status of a norm.

Any transition from one culture to another is wrought with difficulties, but a transition from cultures based on oral tradition and informal apprenticeship to the culture of formal education is particularly traumatic. One may suggest that one of the primary causes of such a difficulty is the incongruence between the notions of intelligence, learning and achievement prevalent in different cultures (Okagaki and Sternberg, 1993). Whilst in Western countries in-

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telligence is often equated with analytic problem solving abilities, more traditional cultures place greater emphasis on "social intelligence" revealed by socially appropriate responses in highly contextual interpersonal interactions.

The incongruence between their previous learning experience and the demands of the new educational system is one of the major factors placing immigrant children at risk of school failure. This incongruence can be conceptualized through the notion of psychological tools and the notion of mediated learning experience suggested by Vygotsky & Luria (1930/1993) and Feuerstein (1991) respectively. Psychological tools (see Kozulin, 1998) are symbolic tools available in a given culture (e.g. oral speech, writing, mathematical notations, tables, graphs, pictures, etc.) that are first appropriated and then internalized by members of a given culture as their internal psychological tools. The gap between immigrant students' native culture and a new culture may be conceptualized as a gap between the native and the new system of psychological tools. This includes tools themselves as well as the ways of their appropriation and internalization. The second relevant notion is that of mediated learning experience (MLE). According to Feuerstein (1991) every culture has its system of providing children with MLE. Children who received rich MLE in their native culture have an enhanced learning potential and thus are better prepared for confrontation with the task of cultural learning. Children who for whatever reason (war, famine, dislocation, social alienation, etc.) were deprived of sufficient MLE in their native culture experience particular difficulty when confronted with a task of cultural learning.

One may suggest that psychological tools and mediation constitute two complementary elements of cultural learning (Kozulin 1998; 2003). The process of appropriation and internalization of psychological tools requires mediation that might be culturally specific. Thus it is not enough to provide the new immigrant child with symbolic tools relevant in the new culture. To be appropriated these tools should be mediated to the child in a way sensitive both to the psychological functions of the child and the nature of tools. Mediated learning situation is a "meeting place" of the child's psychological functions and the cognitive requirements embedded in symbolic tools.

On a practical level the above considerations were realized as an intervention program for those immigrant children from Ethiopia who experienced considerable difficulties in mastering school skills at the same speed as their veteran Israeli peers. The experience of failure caused these students to become passive and the gap between them and the class widened. Even in classrooms where the learning was student-oriented some of the immigrant chil-

dren did not acquire skills necessary for participating in the large group educational activities. The self-esteem of these students was low and they had difficulty coping with challenges of formal education. As a result of this discrepancy some of them were even referred to placement committees and recommended for transfer to special education classes.

In order to integrate these students into the regular educational framework and turn them into independent and efficient learners their performance in basic cognitive skills must improve and their thinking strategies and learning skills must be built up. This can be achieved in the context of specially organized Concentrated Reinforcement Lessons (CoReL). The principles of CoReL include:

1. The provisional nature of the program – a preset maximum period of activity both for the student and the teacher (four months to one year). Once the student reaches the benchmark achievement level he/she leaves the CoReL;
2. Integration of general cognitive and domain-specific learning skills. CoReL includes both Instrumental Enrichment – IE (Feuerstein et al, 1980) and domain-specific literacy and math skills. Both IE program and the domain-specific curriculum are taught using the culturally-sensitive principles of mediated learning ;
3. The intensive nature of the intervention. The suggested format includes 5 hours a week of Instrumental Enrichment, 5 hours of language arts, and 5 hours of math.
4. Small group format. CoReL is organized for a group of 10-15 students.
5. Intensive supervision. The application of the CoReL model is closely supervised by senior ICELP staff members, specialists in IE and content subjects.

Students

The study was conducted in four primary schools in the north and south of Israel. The absolute majority of participants were 9-10 year old immigrant children from Ethiopia and Israeli-born children of Ethiopian origin. In addition, a small number of immigrants from other regions (Transcaucasia, Central Asia) and native Israeli children from low socio-economic status families also participated in the CoReL program.

Program

The CoReL model calls for 15 hours of intervention per week divided equally between IE, language and math. In reality there were slight differences between schools in the allocation of the hours, e.g . 4 hours of math, instead of 5, or 3 hours instead of 5 of intensive Hebrew. The program started in September-October and ended in May-June of the next year. In each school IE lessons were given to the same teacher who was also responsible for either intensive Hebrew or math classes. All teachers received special training in IE and mediated learning experience. Their work was supervised by a senior IE consultant and two curriculum consultants, one a specialist in teaching Hebrew as a second language and the second one a specialist in teaching math to new immigrant students. In addition to 15 hours of CoReL the participant students received the standard curriculum in their regular classes.

Results

There were two major areas of program evaluation, general cognitive skills and basic school skills (reading comprehension and math). At the beginning of the program students were pre-tested using Raven Colored Matrices, the LPAD battery (Feuerstein et al, 1979), a reading comprehension test and two math tests. The assessment was conducted in a small group format (10-15 children per group).

Table 1 shows students' cognitive performance at the beginning and the end of the CoReL program measured by Raven Colored Matrices. The paired t-test confirmed that the pre- to post-difference is significant. The effect size of the intervention was evaluated by dividing the gain score by the pooled standard deviation. According to Cohen (1988) an effect size of 0.5 may be considered "moderate" and 0.8 – "large".

	Raven Score	**Norm**	**Effect size**
PRE-TEST	22.4 (6.5)	27.3(SD=5.7)	
POST-TEST	29.3 (5.3) *		1.2

Table 1. Raven Colored Matrices pre- and post-test results of the 4th grade CoReL students (SD in parenthesis). N=51. * p< 0.01.

The dynamics of reading comprehension and math skills development was evaluated by comparing the beginning of the school year data with the end of the year data. Reading comprehension was evaluated with the help of a multiple-choice test that included material for grades 1 to 6. Since our students were in the 4th grade this test evaluated reading skills appropriate for their grade as well as those required for a higher grade level. Math skills were evaluated with the help of a math exam with the tasks corresponding to the 4th grade level. Though the pre- to post-test change was significant for both reading and math, the effect size of the intervention in math is considerably larger.

	Reading	**Math**
PRE-TEST	13.4 (5.9)	13.0 (8.4)
POST-TEST	16.1 (5.9)*	22.4 (10.4)**
Max score	29	48
Effect size	0.46	1.0

Table 2. Reading comprehension and math scores at the beginning and the end of CoReL program (SD in parenthesis). Reading, N=40; * $p < 0.05$; Math, N=29, $p < 0.01$.

Discussion

Pre-tests conducted before the start of the CoReL program indicated that problems experienced by immigrant students were not limited to reading and mathematics, but also involved more general cognitive skills. The average Raven Colored Matrices score of the immigrants was about one standard deviation below the Israeli norm for this age. If one takes into account that the solution of Raven Colored Matrices requires analytic perception, systematic comparison, classification and analogical reasoning, one cannot fail to agree that before the start of the CoReL program immigrant students were lacking many symbolic tools and problem solving strategies expected in the formal educational framework. Thus, though the students were selected for the CoReL because of their poor performance in curricular areas the cognitive pretest indicated that the underlying problem may well be of a cognitive nature.

Comparison of pre- to post-program results confirmed that CoReL was effective in significantly improving the immigrant students' cognitive performance and curricular skills. The greatest improvement (effect size = 1.2) was

observed in the cognitive area. This confirms the claim of Feuerstein et al (1979; 1980) that "fluid" cognitive processes are more amenable to change in underachieving students than "crystallized" skills required in curricular areas. One may also hypothesize that a greater change in math performance in comparison to reading is related to the fact that math problem solving involves more "fluid" functions than reading that depends heavily on such "crystallized" skills as vocabulary.

The effectiveness of the CoReL intervention model allows us to give a tentative answer to the question of "how much" mediated learning intervention is effective in producing significant changes in at-risk students. The classical IE implementation model (Feuerstein et al, 1980; see also Kozulin, 2000) called for at least two years of intervention for a total of about 250 hours. At the same time, in their study of black South African children at risk Skuy et al (1995) showed that significant changes in cognitive processes and reading skills can be achieved by a much shorter IE program which, however, is complemented by a systematic "bridging" of IE principles to curriculum areas. It seems, therefore, that an intensive one-year IE-based intervention program can be quite effective if the principles of mediated learning succeed in permeating the instruction in curricular areas.

Conclusion

The CoReL program demonstrated its effectiveness in establishing the cognitive basis for immigrant students' integration into regular classroom framework and prevention of their placement in special education. The majority of students who participated in the CoReL groups improved their mathematical skills and reading comprehension and became fully reintegrated into regular classes. More attention should be paid to the development of techniques "bridging" general learning skills to specific reading comprehension skills. Future research will show whether the CoReL model is effective for changing the cognitive and school performance skills of other groups of at risk students, such as those labeled as "learning disabled" or "developmentally delayed".

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THE NATIONAL CURRICULUM – A CLOSING OR OPENING KEY TO INCLUSION

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Abstract: The main idea behind this title is to present the situation in Norway. In our National Curriculum (from 1997) inclusion is formulated as a basic idea for school, for teaching and for learning. I want to present the experiences we have had with this ideal, mostly based on research done to evaluate this Natuional Curriculum, published 2003 and 2004. One main result is that inclusion has strong verbal support in Norwegian education. In practice however, there is a noticeable variation between schools and classes in how this is done.

Keyword: inclusion, inclusive education, Norwegian education, compulsory school

The concept of inclusion

Norway has a long and strong tradition concerning national curriculum. The National Curriculum consists of both general directions for teaching and learning as well as relatively detailed subject syllabus. School in Norway has been and still is very strongly state-controlled and directed by the state and one important tool for this has up now till been the national curriculum. You should also know that the Norwegian school system during a 40 years period has changed from being relatively strongly differentiated into becoming a common and integrated unity for all students. This was formally decided in 1975. These developments have been accompanied by a parallel movement from traditional teacher oriented towards student centred teaching. The main reason for these developments has been a political wish that school shall be a common unity. School shall give all students the same opportunities, content and challenges, irrespective of their abilities, interests, where they live, and who their parents are in terms of wealth and positions. This is what often is referred to as the school for all.

The introduction of inclusive education in the National Curriculum from 1997 to replace integrated education that was the formulated ideal up till then could be the next step in the development towards the school for all. To teach all children together under the concept of inclusive school is a most basic as-

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pect in the National Curriculum from 1997. This is supposed to characterise schools and teaching all over the country. What is the ideal is clear to us. How have we succeeded is the question I will discuss in this presentation.

Much of the recent drive towards inclusion in Norwegian school can be traced back to the Salamanca statement about special education (UNESCO, 1994). It is noteworthy though to realize, that this declaration goes beyond special education, and sees inclusion as a characteristic and consequence for the benefit for all, with a special concern for the heterogeneity between pupils. The main idea is to change school to make all pupils comfortable. The OECD acknowledge that it requires: *changes to the school system itself, involving perceptions of children's being, some rethinking of the purposes of education and a reforming of the system generally, …* (OECD, 1999), p 22). This corresponds to formulations in the Norwegian National Curriculum where also inclusive education is a much broader issue than special education, and concerns the organisation, content and working methods for the whole school and for all pupils. According to the OECD, no one has yet constructed a fully inclusive public education system, but some countries have approached inclusion more active than others (OECD, 1999).

The practical challenges in inclusion have existed as long as we have had education, at least when we as often is the case, understand inclusive education as involving two processes. One is to increase all pupils' participation within the culture and curricula of school, and the other is to decrease their exclusion from school culture and curricula (Booth, 1996).

I have isolated four different tasks to be developed by schools and teachers in order to develop inclusion in practise within the Norwegian context (Haug, 2003, 2004a):

- Fellowship: All children should be a member of an ordinary school class and should be a natural part of the social, cultural and professional life at school together with everybody else.
- Participation: Genuine participation, as distinct from being an onlooker involves two processes: to be allowed to contribute to the best of the fellowship according to qualifications and to be given opportunities to benefit from the same fellowship.
- Democratisation: All voices shall be heard. All students shall have the opportunity to comment upon and to influence matters concerning their own education.

- Benefit: All students should be given an education to their advantage both socially and substantially.

The main idea is to develop each of these criteria, as well as to balance them against each other for every student in every class and every school. The question I now will go into is how well we have succeeded under the National Curriculum from 1997.

Results

There is extensive research about Norwegian compulsory school shedding light upon how school functions. There have been done several national evaluations and research projects, most of them have had other purposes than to shed light upon inclusive education. The presentation of the results is divided into two main parts. The first concerns formulations about inclusion, the second deals with the realisation in practise.

Formulations about inclusion

The National Curriculum mentions inclusion, but does not clarify the meaning of the concept (Fylling, 2004). In a recent study of inclusion a majority of Norwegian parents, students and teachers seem to support inclusion on a general level as a main principle for compulsory school (Nes, Strømstad, & Skogen, 2004). What is strange though is that the concept of inclusion is little used in school, and when used it primary refers to special education and is in many instances only a synonym for special education. There seems to be no distinct common definition or understanding of the term. When asked about single elements of inclusion, such as participation and democratisation etc., disagreement increases between respondents. This is even valid for other central concepts associated with inclusion, such as home-school relations, adapted teaching, student centred teaching, activity-oriented teaching etc. (Skaalvik & Fossen, 1995). The analyses of the use and understanding of the concept of inclusion conclude that it does not give a common basis for the daily work in school (Nes *et al.*, 2004).

Corresponding results can be found in research from other countries. The understanding of inclusion seems to be relatively diffuse, and little attention is often given to defining terms (Booth & Ainscow, 1998). Many issues are spoken of as inclusion, especially in classroom studies, often without empha-

sizing what is meant. From this follows that inclusion can be about many issues. When the meaning becomes dependent upon the single individuals' opinion about what is the case, the concept is in danger of being privatized. If inclusion should be strengthened, it is of outmost importance to reach a more common understanding and use of the meaning of the concept.

Realisation of inclusion

The most striking result from research in Norwegian school is variation. There are great differences in what is expected of school, in the teaching, in the way school is experienced and in the results achieved in school in many fields. These differences exist both between counties, municipalities, schools, classes, teachers, pupils and parents. Some of these differences are systematic, I will return to that later.

| Fellowship

National statistics tell that about 98% of all students are to be found in ordinary schools in Norway, and almost without exception, these students attend their neighbourhood school (Vislie, 2003). In that respect the presupposition in the definition of fellowship is fulfilled. However, researchers register many examples of a kind of hidden segregation, especially for two groups of students. That is students receiving special education (Solli, 2005) and immigrant students (Øzerk, 2003). They can be taught outside class at least part time, they can be forced to attend another school than the neighbourhood school, and they can be placed in groups according to ability, which is against the law. We have no information about the number of students involved, it is not many, perhaps between 3-6 % of the student population, and there are indications that the number is increasing.

| Participation

Hidden segregation as well as segregated special education excludes participation for a small group of students. Another indication of degree of participation has come forward in research about student motivation and activity. In some research up till 50 % of the students tell that they are not motivated to study, or that they experience so low expectations that they find school

a kind of boring. A smaller group experience school as too demanding (Dale, Wærness, & Lindvig, 2005).

There is a broad and varied level of activity at the school, but often with no clear purpose, a lack of system, vague academic requirements and weak strategies for learning. There is a great deal of superficial activity, and many unexploited opportunities for more detailed studies, reflection and concentration. The systematic teaching of basic skills comprises a relatively small part of the total activity. The teaching and learning activities in class are often described as relaxed and unsystematic by the researchers, making participation even more problematic (Dale & Wærness, 2003; Klette, 2003).

| Democratisation

On one level the parents almost unanimously describe their relation with school as good and well functioning (Imsen, 2003). When going into more detailed questioning, the parents can be divided into two subgroups. One of them has positive experiences with school and their relation with school is good. The other group has not these experiences. They tell that teachers do not listen to what they have to say about their children's experiences from school, and they are not comfortable with their role as parents in relation to school. About one tenth of the parents tell they are afraid that what they communicate to the teachers would make their child suffer (Nordahl, 2003). Both students and teachers report little student participation both in the planning and accomplishment of teaching .

| Benefit

Sense of well-being in compulsory school seems to be relatively high in all groups of students, independent of subject achievements, social background etc. This also goes for the relationship between teachers and students, and for the relationship between students (Imsen, 2003; Kjærnsli, Lie, Olsen, Roe, & Turmo, 2004). At the same time we can register that there are variations on these variables. One of the more systematic differences is between girls and boys, the former reporting higher sense of well-being than the latter .

Also result-quality in academic achievements varies between classes in school, where some groups of students systematically achieve less than others. As a group, boys are graded lower than girls in almost all subjects, except

physical activity where the boys are best and mathematics where there is no difference. Two times as many boys as girls receive special education, and the benefit of special education have been questioned. We have very little information about the results achieved from special education. Students with parents with low cultural capital (little formal education) achieve systematically less than students with parents with a high level of education. The differences in the extremes are big. Students with another mother tongue than Norwegian systematically achieve less than students with Norwegian background. There are variations, but many of the immigrant students will not reach a sufficient level of competence so that they can be able to accomplish further education or function as a citizen in society (Haug, 2004b).

Discussion

The National Curriculum from 1997 describes both social learning and subject learning as essential for inclusion and for teaching and learning in school. In spite of this, school seems to be most successful when it comes to well-being and social relations, and less successful dealing with teaching and subject learning. I will argue that the social parts of inclusion (fellowship, participation and democratisation) have received stronger attention in the school practises in Norway, than what concerns subject achievements and learning results. For a long time school achievements have been given less attention. This has now changed, partly because of the National Curriculum from 1997, partly because of the conservative governmental leadership ending 2005, and partly because of heavy international trends Norway cannot ignore, and partly because of an increasing awareness of the too low subject achievements in school as they are documented, for instance in PISA (Grønmo, Bergem, Kjærnsli, Lie, & Turmo, 2004) and TIMSS (Grønmo *et al.*, 2004).

In addition, school seems to function best for those students who belong to those groups that have tradition for being successful in school. During the years school has constructed standards for what is needed to profit from being there, and is best suited for those who fit into that pattern. School is most insensible for those who are different. School does not master heterogeneity, diversity, deviation, the colourful, those who are otherwise and strange. Students that cannot meet school on schools established premises are in danger of coming into trouble one way or another. This is close to invisible education or hidden curricula, and will leave much more of the initiatives to the stu-

dents. In itself this could explain much of the differences between students. They who experience best fellowship, participation and democracy are also they who are most successful in school achievement, and the other way around.

When large groups of students achieve less than other groups, and this seems to be systematic, it is not what is intended. On the other hand, we cannot expect that all groups of students should experience and achieve the same. Both research and experience from education contradicts that alternative. Education cannot erase variations and differences between individuals, but education most probably can reduce them.

In spite of a strong and detailed National Curriculum, it seems to be difficult to reach the aims concerning inclusion. With reference to Larry Cuban I argue that this must mean that the established tradition of work in school has an enormous power of survival and of dominating what is happening there (Cuban, 1993, 2001). This appear to be the case almost regardless of what type of reform intentions we are talking about, and even if they are formulated in the National Curriculum.

The Norwegian research shows that the concept of inclusion has not had the breakthrough in Norwegian schools as intended. This must be understood with reference to the fact that all of the school's systems, arenas, modes of expression and ways of thinking have been constructed on the basis of this tradition and that they thereby are the bearers of the same tradition.

It is relatively obvious that the results presented could be explained by terms like social reproduction. This demonstrates that school reproduces itself, or is reproduced according to hegemonic interests, always having had a strong influence in school. What we also get demonstrated is two different approaches towards schooling.

One of these has normality and unity as a point of reference. A large group of students are perceived as "ideal" students. They all have common qualities and characteristics are the reference group for the teachers. In earlier writings we could find the term "the normal student" [normaleleven] about this construction. They who live up to this construction will "achieve", they who do not are in risk of being in some sort of problem. As we have seen, this "normal student" is defined not only according to intelligence or learning capacity, but also according to gender, social background, ethnic group and from other research we know even degree of rural residence. The result is that many students become members of groups that from this perspective define problems for school because they deviate from what is reckoned as normal in behaviour

etc. That we do not master the heterogeneity between students is the main problem and the main challenge, irrespective of weather the students are in need of special education or not.

With inclusion another approach and basic understanding of knowledge and education is brought forward. Students are only "normal" in the sense that they are characterised by variation, uniqueness, individuality, subjectivity and difference, which is also the construction formulated in the national curriculum.

From this I conclude that the National Curriculum could be an opening key to inclusion, in the sense that decisions concerning inclusion are formulated as an integrated part of the curriculum and thereby legitimate the struggle towards the school for all. On the other hand, only to formulate intentions of inclusion in a national curriculum would not be sufficient to be able to realise inclusion in practise. Inclusion presupposes a certain competence both at a system level and individually in school. As I have illustrated during this lecture, to develop these competencies and to implement them is hard work and takes time.

I should have gone into the political and educational consequences drawn from the results I have presented. Because of the change of government from conservative to labour after elections in September 2005, I cannot do that. We still do not know the new government's aims and strategies.

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THE ITALIAN MODEL FOR THE INCLUSION AND INTEGRATION OF STUDENTS WITH SPECIAL NEEDS: SOME ISSUES

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Abstract: In the metacognitive instruction the teacher's attention is focused on improving the student's awareness of his/her actions, how thinking occurs, how strategies are used, and the effectiveness of one's cognitive processes. This approach has produced very relevant changes – and results – in teaching-learning processes.

In this conceptual framework, a model of cooperative learning, problem-based teaching and role play has been developed, according to the principles of Edgar Morin's thought. This model, based on a series of concrete teaching strategies, has demonstrated a big success for improving the inclusion of children with special needs and learning disabilities and, in general, for the development of metacognitive principles in all students.

The teaching formula is definitely original: a role playing game with four actors (the explorer, the strategist, the critic and the wise man), develops along two lines – cognitive and metacognitive – that constantly interact.

The cognitive line includes two different approaches to problem solving: holistic and intuitive for the explorer, and analytic and systematic for the strategist.

The metacognitive line presents two fundamental aspects of human thinking: the intellectual one, manifested by the critic, and the emotional one, manifested by the wise man.

Because of the difference between these two lines of development, different materials are used for each approach: maps and cards for the cognitive levels, and the "Charts of Morin's principles" for the metacognitive level.

The latter promote the systemic and cybernetic approach to problem solving that is typical of Morin.

The unfolding of the set of activities stimulates the development of the four types of intelligence: cognitive, social, emotional and practical.

This article examines and discusses several major issues concerning the current situation of integration and inclusion of students with disabilities and special educational needs (SEN) in Italy.

After more than three decades of school and health policies aiming at the full inclusion, we have built up a rich corpus of experiences and observations, though not yet complete of a sufficient corpus of empirical studies – and this is a problem we are growing aware of. However, these experiences were and are lived with a deep positive involvement by the thousands of teachers, parents and health professionals who have built the history of inclusion in the past thirty years.

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Two major issues emerge out of general observations and consensus in Italy: the first concerns the knowledge and assessment of the students with disabilities/SEN and the second refers to school inclusion strategies that work better.

Assessment of students with disabilities

As to the first issue of assessment of students with disability, there is an increasing attention on two needs:

1. making an accurate assessment of the disabled student's strengths and weaknesses and, on this basis, building an educational plan that really meets his/her actual characteristics and needs;
2. recognizing and supporting all children who, though not having a proper disability, present different special education needs.

The first one is what our state regulations, including both school and health systems, refer to as '*functional diagnosis'*, as opposed to clinical, nosographic and aetiological diagnoses. Health service is primarily responsible of this diagnosis, which should identify and describe in detail the subject's cognitive, educational and psychological functioning. In the law-maker's purposes, this diagnosis was meant to involve and engage all the school's educational and psychological components, including teachers in their everyday inclusion practice. However, many problems have emerged and have been discussed to this regard, especially after 1994, when the law assigning the task of making the functional diagnosis to public healthcare was issued. More specifically, the problems that emerged, and still do, related to the different cultural and professional perspectives of health professionals on the one hand and school professionals on the other. The strict medical model has often collided with the educational model, too much has been devolved on public healthcare, with the school expecting diagnoses which would miraculously enlighten teachers in their daily practice. Many teachers have used this expectation as a pretext to avoid engaging and spending effort, and many health professionals are not capable of making an adequate assessment. Additional difficulties relate to staff shortages and the families not being involved in the evaluation process. Furthermore, still today functional diagnosis is confused with the diagnostic certificate identifying the child as belonging to the group of pupils with disabilities who are entitled to having a special education teacher. But I'll talk about this later on.

So, *functional diagnosis* – as a specific evaluation of the child aiming at his/her full school inclusion – is faced with some difficulties in Italy. However, things are currently changing for the better, and this positive change is mainly due to the introduction of World Health Organization's ICF, the International Classification of Functioning, Disability and Health, occured in 2002. This system, specifically designed to comprehend, interpret, describe and share the person's functioning, was welcomed by the school professionals and those health professionals more sensitive to a comprehensive bio-psycho-social conceptualization of health and functioning. ICF has given stimulus to evolve and improve functional diagnosis, building it on the basis of the ICF anthropological model and on its codes and qualifiers, making it actually more functional and directly relevant to school inclusion processes. Having to consider and examine relationships among bodily, structural and functional dimensions, personal activity areas, environmental and personal (psychological, motivational, emotional, etc.) factors, in order to enhance social participation in both school and community roles, health professionals cannot avoid involving and engaging teachers and families in the functional diagnosis process. We give a warm welcome to ICF in Italy!

Increasingly spreading as a shared ground between public healthcare and school systems, this model provides a good basis to other significant improvements of inclusion in Italy. I am referring to the development of the individualized educational plan into a life project, in a life-long learning perspective looking to professional and social inclusion. The definition of learning and development goals related to adult life, in order to provide all the skills needed in adulthood, is increasingly common in Italy.

According to this trend, Italian school designs its inclusion and individualized education programs considering three main focuses of attention:

1. the child's basic need to develop competence in the areas that ICF labels as 'personal activities' (learning, communication, interactions, self-help), as well as in the areas of cognition and metacognition, as far as possibile;
2. the need to design individualized objectives, considering the child's social participation in terms of his/her being a pupil who, together with peers, takes part to shared activities in an active and significant manner. This second focus of attention aims at identifying curricular goals which are appropriate with respect to the child's abilities and deficits and to the specific regular instruction courses. As we'll see further on, this is a

major component of full and good-quality school inclusion;

3. the need of a wide and far-sighted perspective on the pupil's life project, defining significant objectives in the areas of adult competence (economic roles, pre-working skills, emotional and sexual life, etc.) that are deeply interwoven with objectives related to the development of adult identity, including motivation, goals, self-efficacy, self-esteem, etc. To this respect, as we will see, another critical component is the involvement of peers in the inclusion process.

So we are witnessing a very important evolution of the individualized educational plan, that otherwise was exposed to the risk of being limited to an individualized only-academic plan. Conversely, it widens significantly its scope both in sincronic and diacronic terms. As already mentioned, a major contribution to this important step forward was given by ICF and its emphasis on the person's social participation in a range of roles.

Diagnostic practices as to acknowledging special needs

Diagnostic practices are also changing with respect to acknowledging children with special education needs. This change is slowly been recognized by law-making and rule-making, both at the State Department for Education level and the local government level. In Italy, there is growing awareness about the presence, along with a percentage of children with disabilities of about the 2-3% of school population, of another 15-20% of children with different learning challenges and disorders. By means of a diagnosis and a medical certification, children with disabilities are granted the right to have a special education teacher. Conversely, the pupils with special education needs – who do not get officially recognized by the school system as having learning difficulties – are not entitled to the same rights of inclusion and individualized supports. Just to make an example referring to another country, the English school system recognizes children with special education needs and implements several inclusion arrangements – as the so-called school action and school action plus – regardless of the official certification, the statutory assessment.

Several screening and assessment methods for SEN, based on the ICF model and content, are currently being tested in Italy. Thereby teachers, supported by health professionals, may better evaluate and get a more precise

profile of all the children who show some sort of challenge. The concept bringing together all the different difficulties is the concept of 'learning and educational functioning', irrespective of the various aetiologies or the challenge being temporary or permanent.

Inclusive strategies

The significant changes that the practices of recognition of the needs to a full right to full inclusive arragements are currently undergoing make increasingly urgent and lively the debate on the resources to use in order to provide good inclusive practices. Obviously, this debate takes different forms depending on the different contexts where it occurs – the reduced assets allocated to school in the national budget laws, the decisions made by local educational authorities on the number of special education teachers, the debate on the instructional and methological strategies for inclusion, the families' perspective, and so on.

As to resources for inclusion, the special education teacher is still regarded as the most important one in Italy. The number of these teachers is constantly increasing (they are currently about eighty thousand), but the number of students with disabilities is growing faster. Too much is still asked of the sole special education teacher, whose action — if performed in isolation — is often ineffective, as many of them lack a specific training and are managed inadequately by school and local authorities. I will try to run through the major issues of the debate on resources, examining it in an educational perspective.

In Italy there is currently general agreement in identifying five large areas where effective inclusion strategies may work better, and they are the following:

1. the link between individualized programming and the class curriculum;
2. classmates and schoolmates involvement;
3. integrating behavioural strategies into the regular learning activities and educational relationships;
4. metacognitive teaching and learning;
5. information communication technology.

Before examining these five areas, a common denominator must be emphasized. In and through all these areas, we are trying to enrich and improve

'normality' in the school by means of technical interventions that have proved to be effective. The goal is building a 'special normality' encompassing the advantages of both specific strategies and comfortable normality. Thereby, we are trying to get over the dichotomy that opposes what is normal to what is special. We believe that this is the main road to reach an actual good-quality school inclusion.

Levels of curriculum adaptation

As to the first area, we are increasingly positive that a major component of a good-quality inclusion lies in a close link between the individualized learning plan and the general curriculum of the whole classroom. There is growing awareness about the need to define objectives, in the different subjects and fields of competence, that are appropriate to the disabled child, that are within his/her zone of proximal development and that, in this way, make significant his/her being and participating with peers to classroom activities. On the basis of our experience of the past decades, we have designed a flow-chart that may help teachers and students in adapting curriculum objectives to the needs of a specific child. It includes five levels of adaptation, starting from the surface and going increasingly in depth. The model is used by many teachers working together with the students, and this constitutes an important part of process in a cooperative and constructivistic sense.

| First level of adaptation: changing the input/output codes

Access to tasks and contents is made easier by changing the codes (e.g. listening to a tape recorded text instead of reading; typewriting instead of handwriting; using Italian sign language/Braille materials, and so on)

| Second level of adaptation: changing the teaching/learning contexts

Access to tasks and contents is made easier by adapting/enriching the teaching/learning activities and contexts (e.g. teaching/learning spelling by means of a motivating instructional software instead of traditional pencil-and-paper; teaching/learning arithmetical facts by role-playing shopkeeper-

customer interactions), time (giving more time to teach and learn, complete tasks), space (providing a quiet place, an adequate light) and supports (extra stimulus cues, prompts and so on)

| Third level of adaptation:
changing the content simplification

Access to tasks and contents is made easier by their simplification (e.g. providing short and explicit texts to read; allowing the use of calculator in mathematical problem solving)

| Fourth level of adaptation:
changing the content – identifying basics

Access to tasks and contents is made easier by identifying and presenting their basics (e.g. in history class, the child may learn that events depend on interrelated causes by exploring his/her own personal life)

| Fifth level of adaptation:
participating to the task culture

Opportunities are sought in order to involve the child in the classroom activities, was it even only – so to speak – as an observer

| Peer involvement

The second area where we believe that precious resources may be found is peer involvement, both classmates and schoolmates. We feel strongly that the importance of educating all children to accepting and valuing individual differences cannot be overemphasized. There is no other way to develop a supporting community, that very community where children, with and without disabilities, will grow up and live. As I mentioned, we must keep a far-sighted perspective on the disabled child's adult life, and if we want – and we do – to build a supporting social network of adult people, we need to start with children. Anyone of us met at least some of his/her present friends attending school, so we need to provide that same opportunity to children with disabilities. Many strategies are available to this purpose.

Cooperative learning methods have been welcomed in Italy, though they pose many operative challenges. Their success may be partly due to a ground made ready and fertile by active pedagogics, and Freinet especially. Different cooperative learning methods are being applied in our country, and their implementation is enhanced by a methodological awareness. Before introducing cooperative learning activities, we try to build, both in the classroom and outside of it, a climate and some networks of sharing, mutual help, mutual support, closeness and prosociality. In some respects, we need to weave the relationships texture that will hold the delicate and complex embroidery of cooperative groups. To this purpose, different strategies are implemented, borrowed from group animation, social psychology and community psychology. By applying these strategies, we build a basis of shared prosocial acceptance and solidarity. Several forms of cooperative learning groups are experimented, with a special attention to role definition and positive interdependence, in order to engage even children with severe disabilities. In this context, we have experimented for three years a cooperative group model derived from Edgar Morin's idea of human and intellectual understanding, where four roles are used – the explorer, the strategist, the critic, and the sage. Each of these roles performs cognitive and metacognitive tasks, as well as tasks requiring emotional and interpersonal intelligence. All the tasks can be graduated in difficulty so they may be adapted to different kinds of difficulties.

| Explorer

Tasks: gathers ideas provided by the group through a brainstorming; defines problems; encourages new directions of research, and so on

| Strategist

Tasks: analyzes characters; finds information; explains facts; plans solutions and anticipates consequences

| Critic

Tasks: reviews critically the explorer's and the strategist's hypotheses; distinguishes facts from opinions; challenges the degree of certainty of information; evaluates suggestions, anticipations, and products

| Sage

Tasks: helps the group in respecting roles; examines possible causes of the group's failure and provides suggestions; encourages self-reflection and mediates conflicts creatively

Cognitive axis

Metacognitive axis

Another form of peer engagement widely used in our country is tutoring, both within the classroom and outside of it. In the secondary school especially, many students – and former students too – support peers or younger students with disabilities in learning academic and social skills and help them in their integration process. This is most important for their psychological development.

Metacognitive teaching strategies and applied behaviour analysis

The third very important area where school inclusion is developing and improving is the increasing use of applied behavior analysis and metacognitive teaching strategies in the regular classroom activities. For many years Italian pedagogical and psychological culture has actively resisted the introduction of these approaches, coming mainly from USA, regarding them as too strict and deterministic. Things have dramatically changed in the past decade and this change is partly due to the decline of psychoanalytic approach and to the evolution of the cognitive-behavioural approach, which has grown more sensitive to relational dynamics, to systemic theories, to humanistic psychology and to emotional aspects. On this basis, many schools are bringing several components of TEACCH approach into che classrooms, including psychoeducational techniques as for example the strong structuring of working times and spaces, which benefits all pupils – and not only those with autistic spectrum disorders – in developing self-regulation skills. The same happens with the different behaviour modification strategies, which have been updated and made more person-sensitive; thus, they have become suitable to be implemented in the inclusive classrooms, to the purpose of managing severe behaviour problems (aggression, self-injury, stereotypies) or enhancing motivation by means of positive reinforcement. In this case, the strategies are addressed to the whole classroom and not only to the pupil with disabilities.

The introduction of psychoeducational techniques in the regular classroom relationships and activities is demanded by an increasing number of teachers and professionals (who are also increasingly more informed and trained: begininning from the Nineties, all teacher, including those of kindergartens and nursery schools, get to work after a four-years university course,

that will soon increase to five years), scholars and professionals who are gradually discarding prejudice against behavioral approaches (SINPIA, for example, the Italian Society of Neuropsychiatry for Childhood and Adolescence), family associations of people with different disabilities who defend their children's right to receive – in school, too – an educational and instructional treatment shown to be effective by years of empirical research in special education. This is a request for special normality that more and more often is posed to school and that school, in its different components, tries to respond to.

Metacognitive instruction

The fourth area of support to inclusion processes is metacognitive instruction, mostly implemented for children with special education needs or specific learning challenges. During the past fifteen years, a group of academics, researchers and teachers, led by professor Cesare Cornoldi of Padua University, have designed and developed about twenty different teaching curricula that schools can directly administer for the intervention on critical aspects of special instruction and support to cognitive, metacognitive and academic skills. These curricula include programs on study skills, memory skills, attention, attribution styles, reading skills, metaphonological skills, history and geography, spatial orientation and visuo-spatial skills, mathematics. The group of Padua provides a most precious and unique case, in our country, of fertile cooperation between academics and school teachers, the latter working on the field and most in need of operative and scientifically-based tools and materials.

The last resource area, strongly supported by our government and by business interests in the hardware field, relates to information communication technology, where instructional software specifically designed for learners with special education needs and disabilities are developed. In this case the traditional Italian creativity is beginning to give its best, building, for example, a new specific software for the psychoeducational intervention on the theory of mind deficits typical of the autistic spectrum disorders, a field that so far has received little attention by information communication technology.

Conclusion

Concluding, I think I can say that after thirtyfive years of full school inclusion experience – that in many respects has been challenging, hesitating at times, full of lights and shadows – the balance is definitely and most largely positive. The huge effort that teachers put into inclusion shows how much it is considered a critical enhancement of the school for all children. For the future, we have many challenges and opportunities – building a strong basis of empirical data on the positive effects of full school inclusion, implementing the ICF model on a large scale, and making increasingly special our schools' normality that accomodates for all Italian children.

A SYSTEMS APPROACH TO CARE OF CHILDREN WITH SPECIFIC NEEDS

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Abstract: The aim of this article is to describe and stress the importance of the systems approach in therapeutic guidance of children with specific needs and its consequences for any form of intervention.

The approach that we are describing is not a systemic approach in the sense used by radical constructivism, but is concerned with the relationships between systems, as discussed in the work of Niklas Luhmann. We shall therefore use the term systems approach rather than systemic approach. It is on relationships between systems that we shall base ourselves at the end of the article when demonstrating the practical results of systems thinking. First of all we need to define the terms system and relationships between systems, and analyse the origin of systems and their functionality. A central issue will be the position of therapists in the system that they enter into through their intervention and which they become an integral part of. We shall also look at the consequences of this connection. Finally we shall consider the relationship between causal thinking and systems thinking in terms of therapeutic standpoints.

Keywords: System, systems approach, causal approach, responsibility of the therapist, responsibility of the teacher

Defining the concept "system"

In contemporary specialist literature we may come across the term system in various connotations, so first of all it is necessary to define what is meant by this concept. Defining it means highlighting the qualities of the concept system that we shall use further on in our exposition.

1. System in its classical sociological conception and in the natural sciences

The oldest and most widespread use of the concept of system was its classical conception in sociology. Here it was seen as a social structure. Thus we speak about the family system, the nuclear family or extended family system, and the school system, and also the transport system and the administrative system. The natural sciences also work with systems when they speak of the

circulatory system or the motor system in anatomy, and so on. In physics we come across cyclical systems in nature, in natural history we find the food chain system. And so we could go on. In each case we are dealing with some form of reality or phenomenon that can be delimited, that belongs inseparably to itself, that we can describe, and that is organised in some way. It is something that recurs, something that we all come across, and therefore something that we can all imagine. These systems are governed by natural or social laws.

2. System in the systemic conception

In the Czech culture the conception of system became established in psychology in the 1980s. The Czech term *systemický* was taken from the English *systemic* and the German *systemisch*. This period also saw the establishment of the Institute for Systemic Family Therapy, which defined its approach as "the developmental line in family therapy, which has neither a theoretical basis nor clear-cut practical approaches and methods." It was described by the Institute workers as "… the postmodern, contemporary stream of the constantly developing paradigm of ecosystemic epistemology." (Langmeier, Balcar, Špitz, 2000, p. 229).

The second current of the conception of system bases its thinking on radical constructivism (Ludewig 1994, Czech source Úlehla 1999). This approach works with cognitive constructions and inventions, emphasising their individual interpretation in dealing with the social and natural environment. Each act of perception, each observation, contains within itself an interpretation of reality. Each act of perception and each observation is at the same time selective. The selection and interpretation are dependent on the construction of ideas, which is something strictly individual, because it is connected with the development of the individual and his or her intellectual and perceptive possibilities, experiences, cultural and social background, and so on. In this case, too, the term "systemic approach" is used in Czech.

Constructivism provides valuable evidence of the unique character of each human personality and convinces us that there are different ways of looking at the world. It is capable of analysing misunderstanding in communication and reveals the incorrect structuring of our own thought processes.

However, radical constructivism has its limitations. To begin with it is extremely individualistic, and therefore underestimates the significance of cul-

tural, religious, and other traditions. It does not raise questions about truth or ethical norms. According to radical constructivism we live in a world of language, which includes the element of truth, but ignores the reference function of language, the fact that when we use language we speak "about something", and that by using language we can bear witness to a certain specific historical event (Ricoeur 2000, 122). It is against this background that the value content of statements and texts is formed, which calls us to take decisions and adopt positions.

3. A systems approach based on the theoretical principles of Niklas Luhmann

In this article I shall therefore use the term systems approach, in order to distinguish it from the two previous approaches. In reflecting on the significance of a systems approach in relationship to individuals with special needs I drew inspiration from the work of the German sociologist Niklas Luhmann (1994).

Theoretical starting-points

Before drawing conclusions, it is necessary to describe Luhmann's concept at least briefly. First of all we need to characterise the fundamental concept of the systems approach, and to ask:

What is a system? A system is a thought construction that is related to a certain phenomenon. Its essential feature is the relationships that are created between the components of the system.

As an example we can take an interview with a mother who came to us for advice on whether to start sending her daughter to school, or whether to request a postponement so that her child could start attending school later. Although it was the mother herself who asked for the examination, in the concluding interview she rejected the postponement that we had recommended to her.

Gradually it became apparent that she did not know how she would be able to explain this to her own mother, who would see such a solution as underrating the ability of the child. In addition, she was afraid that the grandmother's social prestige would suffer, because the information had started to spread among her acquaintances that her granddaughter would start attend-

ing school that year. The system that we had first reckoned with in this case had been the relationship of the mother to her daughter, and her responsibility for the child's positive educational development. We had not realised that the system was more complex, involving a second system, that of the relationship of the mother to her own mother (the grandmother of the child) and her attempt to avoid conflicts with her. Yet a further system that made its appearance was the relationship of the grandmother to her acquaintances and her social prestige. Finally we see that the prestige attached to education in the family we are considering is also an important system. It is a system that manifests itself in the expectations parents have of their child. Some parents are only satisfied if their child does well at school. But not all parents have such ambitions. Thus we can see that a single relatively unimportant decision (whether to recommend that a child postpones starting school) or a single intervention by a counselling psychologist may influence several systems that are mutually connected. If we did not respect the existence of these systems and based our intervention simply on a causal model, then we would only take into account the degree to which the child was prepared for school, her educational maturity, when deciding on a possible solution. In this case we would dispense with our responsibility for our decision. Our intervention would simply be based on the measurement of the child's achievements, behind which we could hide.

Another example might be the situation of a boy who suffered social hardship at school because he was not capable of establishing a close relationship with any other child. He did not have any friends. When one finally appeared, the boy's results at school got much worse. He himself was very intelligent, but he thought that he ought not to have better marks than the friend that he had had so much difficulty acquiring, and whose results were well below average. Here again another system of relationships makes its appearance, which we could expand further to include the attitudes of the teachers, parents, and possibly siblings. A whole series of similar examples from psychological counselling could be given.

We can therefore conclude that every phenomenon that influences us becomes part of a certain system. But every system is influenced by other systems with which it comes into contact. We can say that a system is a set of relationships, which in terms of ideas can be separated from the rest of reality. Systems may be organised in a hierarchical way or may overlap on the same level. In the examples we have given, the question of whether the child was ready to deal with school and the question of deterioration of results were

problems that it was possible to resolve with reference to a higher system that the problematic relationships were a part of. In making a final decision we must take into account other systems that the basic or primary system is connected with. That is why we must say that a system is a set of relationships which we separate from the rest of reality and on which we concentrate our attention, but we must not forget that this set of relationships is connected with reality.

The basic characteristics of a system

1. A system becomes established through a choice. As we have seen in the preceding examples, a system can be anything that differs from its environment and has at least two elements, because a relationship is always involved. This means that a system can be established by any phenomenon that is significant at a certain time, i.e. that is worth analysing because it helps us resolve a problem.

2. Systems overlap with one another. We have already demonstrated this earlier, in the case of the analyses of whether a child was ready to go to school and of lack of success at school. If we were to consider whether to integrate a handicapped child into an ordinary class, we would need to look at the system of the relationship of the child to his/her peers, at the system of the attitude of the teacher, the system of the relationships in the family of the child and his/her upbringing, the system of relationships between the teacher and the head teacher, the atmosphere in the school, the system of financial provision and so on.

3. A system always has a raison d'être, but this does not tell us anything about its ethical value. The meaning of a system is derived from the purpose for which it developed. We need to ask about its orientation and the direction it is aimed at. There are some systems that have a disruptive effect from a human viewpoint. For example a system of tribal cohesiveness and blood feuds, or a system for enforcing power and superiority. However, it is an essential characteristic of human beings that they try to live a meaningful life, which most people understand in a positive sense. Each individual needs to fulfil themself and confirm their worth, which they usually associate with the desire to be useful to others, to achieve something positive. We all long for relationships of trust and openness. This can be seen very clearly when we want to

improve a relationship and we assume and declare in advance that all those involved are expecting a positive improvement and are prepared to commit themselves to solving the problems. People want to try to show themselves to others in the best possible light.

4. A system is seen in terms of its functioning (openness of a system). Although we cannot speak of the ethical value of a system, we can speak of whether it functions. A functioning system is one that takes account of the personal and psychological claims or needs of every individual who is part of that system. For example, a system that always submits to its environment (such as a family in which all decisions are based on what other people say) is at risk, just as is a system that is closed in on itself and does not respect its environment. A system that is functioning is one that has clearly defined boundaries with its environment, but is still open to other influences, to which it reacts by changing, and itself consciously influences its environment. These types of model are developed by Skyner for the family. He speaks of semi-permeable boundaries for family systems. A functioning family respects its environment and reflects its changes and needs, but protects its own intimacy, and does not let in certain information or accept some influences from the environment. This type of family is a functioning system, because it is not closed, but at the same time protects the individuality of its members and the specific nature of its internal milieu. In this way it is authentic. So long as it protects the intimacy within the system, it is possible for its members to acknowledge their failures and lack of ability to cope with certain situations. We can speak in similar terms of systems in other contexts.

How to work with a system

From what we have already said we can now outline the strategy of a systems approach. Once we have specified the system that is the object of our professional interest, we must determine its elements. We must ask which elements are important for the system, what influences the phenomenon we are analysing, which relationships enter into the system, and which characteristics of the elements are the crucial ones.

The next task is to classify the elements of the system. We need to ascertain their hierarchy, their mutual connections and dependencies, and to be aware of the influences of other system structures. This means classifying the relationships between systems and their interconnections.

We need to consider separately the objection frequently raised by opponents of the systems approach that in the normal practice of a teacher, psychologist or therapist there is not enough time for such a demanding analysis. We would like to emphasise that it is not a question of time, but of an attitude that is created. A systems approach does not have to make greater demands on your time than causal thinking, which is oriented towards symptoms, difficulties, and manifestations of behaviour. However, a systems approach is mentally more demanding, because it considers many circumstances and is not concerned with the symptom, but with the system of relationships. For example, during an interview it is necessary to gain as much information as possible, even about things that apparently have no connection with the primary system; to concentrate not only on what is said but also on its emotional subtext; to follow the connections between statements; and to follow the unique nature of each case not only in its symptomatology and social or other differences, but also in the commitment, specific involvement and value system of each participant. Allow me to present another example from my practice.

I look back with great thankfulness on my work with a boy and his mother. After the therapy, which lasted several years, was over, I continued to receive postcards and letters from him that he had written himself. One psychologist had told his parents, on the basis of the findings of a neurological test, that he would never learn to read and write. He came to this conclusion on the basis of a completely non-systems-based evaluation of the medical report, because he did not take into account the social context of the handicapped child. He did not allow for the mother's need to show that her son was capable of further development and her anxiety arising out of uncertainty about the boy's future. Nor did he allow for the personal qualities of the child, who was very outgoing and wanted to keep pace with the other children. He did not allow for the expectations of the father, who took on himself the responsibility for providing for the family financially so that the mother could be fully available for the child. Nor did he take into account the influence of the wider family, which also played a part in the therapy.

The systems approach and the causal approach

In order to have a fuller understanding of the significance of the systems approach, we need to take a further step and compare it to the causal approach, which is generally well established both among professionals and in ordinary thinking.

The systems approach is a cyclical one. It assumes that cause and effect are so closely interconnected that they can influence each other in both directions. There are very many connections between the people who are involved as elements in a system, and these connections go in both directions. The causal approach presupposes a linear effect, in one direction only.

As a result of this linear effect the causal approach may lead to the teacher, parent or therapist being interested primarily in how the handicap limits the child, what are the dangers, and what factors must be respected during the therapy. This reduces the involvement of all those taking part, because they are concentrating on deficiencies and not on the potential for development. The causal approach can also lead to refusing to take responsibility. Often teachers see problems as being insoluble simply because the parents do not cooperate enough with the school.

The systems approach, which draws everybody involved into the system, including the therapist, teacher or psychologist, leads to a personal responsibility for the system. It therefore leads to commitment, is challenging, and at the same time leads to greater humility on the part of the therapist.

Causal approach	Systems approach
Cause precedes effect	Two-way relationship
Limited commitment by the teacher, psychologist or therapist	Personal responsibility for every intervention

Consequences of systems thinking

And here we come to the central point of this paper, where we can move on to the consequences of a systems approach to children with specific needs and the possibility of integrating such children into ordinary schools.

1. A systems approach to the problem teaches us to think in terms of connections. We need to be constantly aware that our intervention does not just

have an impact here and now, an impact on the current solution of the problem, but it will also influence other systems. It is therefore important to be aware not only what this primary system is and what are its most important elements, but also what other systems it is connected with and what is the hierarchy of these connections.

2. A systems approach to the problem teaches us that intervention is worthwhile at any level. We cannot simply make the excuse that if the parents will not cooperate then nothing can be done. We can influence subsystems. We can establish a different primary system – for example the relationship between therapist and child, or teacher and child, or teacher, fellow-pupil and child. There are many possibilities. In counselling practice it has proved successful to create a trusting and open teacher-psychologist-child relationship, in which competences (elements of the system) are clearly defined and are respected.

3. A systems approach to the problem teaches us to take responsibility for each intervention. We need to expand on what we said above, that if we influence the primary system, then we also influence other systems that are connected with it. We can trace this influence directly in internal systems (subsystems, mezzosystems), but we can also gradually influence the "social-ecological system" (decisions by local education authorities, views of the parents of children at the school, etc.) and the macrosystem (decisions by the Ministry of Education, publicising certain problems in society as a whole, etc.).

4. A systems approach to the problem, in connection with responsibility, teaches us to have a more open attitude. We need to be aware that intervention creates a new reality. Precisely because we intervene in a systems-based way, our intervention can cause unexpected changes. Directive guidance does not allow for unexpected changes. An open attitude assumes an ongoing revision of the method of guidance.

5. A systems approach to the problem teaches us to allow for separate compensation. Independently of our intervention, changes may occur in the primary system itself or in the subsystems that are able to compensate for the problem or at least to put it into perspective. In such cases, the credit for resolving or partly coping with the problem does not lie with our intervention. A professional attitude allows for the possibility of separate compensation.

6. A systems approach to the problem teaches us to think interculturally. Because it consciously thinks in terms of a macrosocio-cultural system, it also considers the influence of this system. It assumes that other social and cultural conditions are linked with the expectation of other forms of behaviour and experience.

7. A systems approach to the problem leads to self-knowledge and self-criticism. Every intervention by a teacher, psychologist or therapist – verbal or non-verbal, intentional or subconscious – is an element in the system and influences the system. Because it is part of the system, it functions in both directions. It therefore causes changes in the attitude of the teacher, psychologist and therapist themself. This is obvious when we realise that with every new meeting with a child with special needs our professional and intellectual horizon is broadened and enhanced.

It should therefore be the wish of each one of us that our interventions have an impact that is a genuinely positive one and anti-entropic in terms of systems, in other words that in their final phase they will also enhance the socio-cultural macrosystem.

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