



**MEDIATED LEARNING**  
**EXPERIENCE:**  
INTERNATIONAL PRACTICES  
AND ADVANCES

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Mediated Learning Experience:  
International Practices and Advances

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## **Preface**

*Refael S. Feuerstein*

The Feuerstein Institute, Jerusalem, Israel

The theory of mediated learning experience (MLE) as Reuven Feuerstein formulated it in the 1960s had a profound impact on the world of education and therapy. Feuerstein's detailed formulations and his ability to create a precise and coherent language for the learning process enabled many applications, including of course the learning potential diagnosis (LPAD) and the 'Instrumental Enrichment' method (FIE). One of Feuerstein's important lectures in the 1980s focused on emphasizing the 'E' in the title (MLE) of the theory. That is the mediation experience. Mediation is seen as a metacognitive process, and rightly so. But, according to Feuerstein, this process also has 'hands and legs'. The mental structures are developed not only by metacognitive insights but by practical experience, or as he called it 'practical intelligence'. Our journal conforms to this view. The journal's direction is from practice to theory, or more precisely: 'theory - practice - theory'. The movement from practice to theory, therefore, is not just an expression of the 'application' of abstract ideas. Rather, it is a source of learning and productivity. The role of the experiment is not only to express and attack the theory but to 'teach' the theory. The new journal of the international movement of Feuerstein developers and users is dedicated to this move. And I am confident that he will play a real role in fertilizing the thoughts and actions of all of us.

I would like to thank the esteemed editorial board and the dear authors, Feuerstein leaders in their countries, for their contributions to the journal.

## **Introduction**

*Alex Kozulin*

Achva Academic College and the Feuerstein Institute, Jerusalem, Israel

Over the years numerous publications contributed to the development of the Feuerstein's theory of the Mediated Learning Experience (MLE) and its applied systems. Articles and books about MLE have been printed by a variety of publishers. During the last couple of years, online presentations of the MLE specialists became a popular feature of the online forum of the Feuerstein Community. At the same time, we feel that there is a need for an additional outlet for MLE-related material – an annual publication focusing on the practical applications of MLE theory and methodology.

Research articles about MLE will continue to be published in various academic journals, but we think that there is a need for a special outlet for publishing such applied materials as case studies, reports from the field, descriptions of new MLE techniques, examples of “bridging” exercises, and so on. This kind of material might be of invaluable help to MLE practitioners working with different groups of learners. *Mediated Learning Experience: International Practices and Advances* does not replace academic articles but provides an additional avenue for MLE practitioners. It will also serve as a means of enhancing the network of the Feuerstein Community. The published case studies and reports will become the topics of the Community's online presentations and discussions.

*Mediated Learning Experience: International Practices and Advances* appears as an online publication with free access to the members of the Feuerstein Community.

This first issue of the *Mediated Learning Experience: International Practices and Advances* focuses on the question of how to “transform” teachers from being the sources of knowledge to the mediators who impart on their students the ability to select, analyze and draw conclusions from various types of knowledge. The articles included into this issue are written by the Feuerstein practitioners and trainers with several decades of experience in the field of MLE.

## **The Master Teacher**

*Jeanne M. Zehr*

The MindCap Center, Fort Wayne, Indiana, USA

*Note: All quotes provided in this chapter are from professionals trained by the author. Their contributions are deeply appreciated!*

### ***Introduction***

Observing teachers in the classroom is an honor. The passion and the skill required to elicit the rapt attention of a large group of nine-year olds is nothing to take for granted. A tremendous amount of preparation has gone into the 20 to 30 minute lesson a school principal has come to watch. I had that honor for many years as the principal of an elementary school in Midwestern America. My teachers were dedicated to their craft and never ceased to amaze me. I thoroughly enjoyed my annual “duty” of teacher evaluations, which always included classroom observations.

The purpose of this chapter is to define the difference between traditional direct instruction (which I observed while doing classroom observation) and what I later had the honor to watch in some of those same classrooms - the mediated learning experience or just “mediation”.

You will read many interpretations of mediated learning experience, the term created by Prof. Reuven Feuerstein to describe human interactions. When a teacher interposes, or comes between, a stimulus (such as learning how to subtract two-digit numbers) and a group of second grade children, and when that teacher helps the children understand not just the method of regrouping numbers but they also acquire new thinking skills, mediation happens! Reuven would have said: new cognitive structures developed. It requires skilled questioning and employing wait time. If you give children thoughtful questions, give them time to think, and then respect their responses, you are promoting mediated learning!

*Mediation really taught me how to guide a student instead of just giving them the answer. I was able to understand the student's pace of learning and match it. I was able to get the students to understand and communicate their thinking.*

*Cherise Copeland,  
Grade 5 Teacher  
Indiana*

Direct instruction is important and necessary. This chapter will focus on knowing the difference between the two methods and when to wisely employ them. As I watched my own ability to instruct as well as the skill of other teachers who learned the art of mediation dramatically change, I realized this can define a master teacher. When you know which of the two methods to use, and how to use them both well, you have reached a new level of masterful instruction!

### ***What Versus How***

Master teachers recognize their students' need to learn HOW to learn while engaging in WHAT to learn. Accomplishing that often evades the best instructors due to the focus and extreme amount of time dedicated to the WHAT to learn. School systems appear to be putting more and more emphasis on test preparation, which makes teachers spend more intense time on mastering curriculum objectives or standards. The time spent on test prep does not always line up with the school's motto, which often points more to the how and why we learn in school.

Educational systems have used slogans for years to describe their school or district vision for their students. They spend hours finding just the right words. Some examples include:

- ***Dream it. Do it.***
- ***Preparing today's learners for tomorrow's opportunities.***
- ***A community of lifelong learners, responsible global citizens, and champions of our own success.***

All of these slogans insinuate that if children attend *this* school, they will learn how to apply their education to life. However, to do that requires that students learn HOW to learn. Unfortunately, this is very often the missing piece in education. I have had the unique experience of observing and training in classrooms in many different places in the world, as uniquely different as North Carolina, Michigan, Australia, and Cambodia. Everywhere there seems to be a common theme - we know WHAT children should learn, but not necessarily HOW they should learn. Often, it is assumed that children come to school with a secret sauce, already endowed by genetics, and will be good learners or not. Children who do not have "it" are assigned to special education or, unfortunately, they might drop out of the education system as soon as they can. In America, school districts work very hard to keep disengaged kids in school and on a path to graduation. We offer high school equivalency exams to those who fail in traditional schooling, often due to errant behavior resulting from disrupted home life and/or trauma. These students did not receive enough mediated learning experiences to stay engaged

in school. They did not fulfill any of the slogans, which are but empty promises given to them by their school districts. It is tragic when children cannot be “champions of their own success.”

Teachers and schools are not being negligent. They work very hard at finding new programs and methods to improve academic achievement. They simply are not aware of the powerful tool that mediation provides. Helping children to become “champions of their own success” begins with building autonomous learners who are aware of their own thinking strategies - of what works and what does not. Developing these thinking skills is a goal of mediation. Reuven Feuerstein identified 28 such cognitive skills, foundational to learning and life. He brilliantly organized them into three phases - input, elaboration (processing), and output. The reader is encouraged to explore these in other sources, since mediation for child development is extremely meaningful in the classroom. (see appendix A for a complete list with definitions)

As a master teacher, the goal is not just teaching children the curriculum (the WHAT to learn), which can be challenging enough, but to also teach them HOW to learn. It's not as difficult as it may sound and it pays off with tremendous dividends. The more aware children are of their own thinking skills and how to learn, the easier is learning the curriculum. They can then acquire exponentially more knowledge. When students are helped to recognize and label these thinking skills as they use them, they develop awareness, which empowers learning. Mediation is that important instructional method a master teacher can use to build awareness of thinking, or metacognition. They have the HOW to do the WHAT! Now we have the opportunity to help our students be champions of their own success!

### ***My Own Story***

I was a resource teacher at a high poverty urban school, where many children had been traumatized by their sad life experiences. I discovered Reuven Feuerstein on a webinar called “Teaching for Intelligence” (thank you, the National Urban Alliance). On the panel of esteemed American child psychologists, I noticed one man who had a much different perspective on the modifiability of intelligence. Having been taught in college that children's intelligence does not change much after the age of 5, I was taken aback by the audacity of this Israeli psychologist, with a jaunty black beret, whose name I did not recognize. But I was totally smitten with the kernel of hope he implanted in me that day. Internet was young in the 1990's, but I was able to locate more information and even find training in Chicago. Every summer, my friend Cindy Gerard, the school speech pathologist, and I traveled to Chicago to take another level of

Feuerstein training. Learning about the 28 cognitive functions was a huge eye-opener for me. Where had these been all my life? Finally! It was like finding a pot of gold at the end of the rainbow. I now had a language for learning and thinking. Every August, I came back to school with another level of Feuerstein to implement with a group of students. As I developed my mediation skills in the classroom, with the teacher assisting me, I soon discovered that as I mediated the Feuerstein Program pages of cognitive tasks, I could literally witness the lack of specific cognitive functions and, better yet, watch them develop! Then, when I was teaching traditional academic subjects, VOILA! The cognitive functions, or lack thereof, also became immediately transparent! It was like I had been given a magic looking glass. Now I had a way to get under the academic struggles and identify which thinking skills were missing. Without the work first on Organization of Dots or Comparisons (Feuerstein programs), I would not have made that discovery. First mediate learners in a content-free setting where they have less pressure to perform and are more likely to display their thinking skills, then help them transfer those same thinking skills to their daily school subjects. This is powerful! We are providing a safe place and adequate time for learners to acquire the HOW to learn to then apply to the WHAT to learn. We have not done this well in classrooms around the world. The potential is there, waiting for the motivated teacher who will walk this path.

Now let's review what you, the reader, may be quite proficient at already. The ability to teach, using direct instruction, is a marvelous skillset and worthy of our time in this chapter. We need to distinguish between direct and mediated instruction to become a master teacher.

### ***Direct Instruction***

A master teacher is excellent at direct instruction. Whether in a classroom, homeschool, university, or religious education classroom, the world needs quality instruction by teachers who can "stand and deliver"(as I call it). Such a teacher can stand in front of a class and deliver clear and precise concepts confidently, passionately, and succinctly. Students, of all ages, will respond with their senses. They see, hear, touch, and perceive the instruction. Direct instruction is not just lecture style delivery. It encompasses small group lessons, individualized instruction, and even computer-based programs. However, we in the Feuerstein world believe that the highest quality education will always require human-to-human interaction in real time. Since this chapter was written during the COVID pandemic, that reality has proven true. Online programs

are proliferating at a fast rate, but quality is not always attached. My own granddaughter, a university student in her junior year of pre-med psychology, is sorely frustrated with the lack of good instruction happening in her required-due-to-COVID online courses. Education requires good direct instruction from in-person teachers.

The website “Glossary of Education Reform” ([www.edglossary.org](http://www.edglossary.org)) provides an overview of necessary components of quality direct instruction:

1. Establishing learning objectives for lessons, activities, and projects, and then making sure that students have understood the goals.
2. Purposefully organizing and sequencing a series of lessons, projects, and assignments that move students toward stronger understanding and the achievement of specific academic goals.
3. Reviewing instructions for an activity or modeling a process—such as a scientific experiment—so that students know what they are expected to do.
4. Providing students with clear explanations, descriptions, and illustrations of the knowledge and skills being taught.
5. Asking questions to make sure that students have understood what has been taught.

This is not a daunting list for a veteran classroom teacher who does all of the above every school day. The last two points are worth pausing on to consider. Clear explanations are in the eye of the beholder. One child may perfectly understand the skill being presented while another child is a bit lost. Teachers strive to discover new ways to describe and illustrate a concept so all the students grasp it. With the Feuerstein method of mediation, teachers trained in this method will have more tools to discover if the students understand and then how to learn the concept. More on mediation techniques will be covered in the next section.

Direct instruction has not always been seen in a good light, due to its assumed overuse (overkill might be a better description) which of course can happen when teachers and famously college professors drone on and on in lecture style. Thus, I encourage teachers who I have the honor of training in Feuerstein, to understand the value of high-quality direct instruction (or “stand and deliver”) with enthusiasm and skill. This takes forethought and planning, and certainly requires practice. Many teachers comment on how they pity the students they had their first year in the classroom. There is just so much to learn about delivering curriculum so students are not only engaged but also learning. The use of technology, demonstrations, small-

*I think I already used good questioning, but I needed a label for it. I now know that mediation is at the heart of good teaching!*

*Randa Kipfer*  
Principal  
Indiana

group work, and hands-on experiences are just examples of how direct instruction can be lively and effective. But when do we stop and allow students to think? This is when we shift from direct instruction to mediation.

### **How is Mediation Different?**

When a teacher mediates, there is a shift in the atmosphere in the room. A fourth- grade teacher told me that the Feuerstein lesson, two times a week, was her favorite time. She loved the slower pace, the deep and open-ended questions, and the focus on thinking instead of academics. So how is mediation different and why did Donna Brite enjoy it?

Imagine you are a professional tennis coach and you get paid a lot of money to be sure your protégé makes it to the U.S. Open. Chances are good that you will video her backhand and show it back to her in slow motion. While watching it together, you comment to her, “Look, see your wrist! I want you to turn it out a quarter inch. Look at your shoulder. Let’s try pulling it back about one inch.” Trust me, I am making those tips all up! Do not try this on the court. However, if that was good advice and the tennis star made those small changes in her back hand, it would probably work. Because you, the pro tennis coach, know exactly what it takes to have a killer backhand.

Now consider an eight-year-old in third grade. When is she allowed time to think about her thinking? Who will help her analyze and change the very skills she is being asked to use all day, every day? How will she improve her problem solving and strategic thinking skills? Children can and do learn from their mistakes and make adjustments, all on their own. With a master teacher, however, who knows how to shift from direct instruction to mediation, the chances are much better that third-grade girl will acquire new thinking skills sooner instead of later and with fewer painful failures. Let’s explore more what mediation looks and sounds like.

*Mediation allows me to have confidence to face challenges and the unknown, to take risks and to have greater breadth and depth in my relationships. And being able to use principles of mediation for myself, as I face problems, is invaluable.*

Vicki Snyder  
Occupational Therapist  
Indiana

*Mediation empowers the learner to discover processes that will help them tackle a myriad of challenges. It gives them the tools to grow and learn for the rest of their lives. These tools help them access the content being presented. Without mediation, the content will have less impact on the learner.*

Julie Anne Smith  
Elementary Teacher  
Indiana

When a master teacher decides it is time to mediate, she asks questions that probe at how the child got to the point he is at. Some examples of good mediation questions could be the following, depending upon the situation:

1. So, what do you see here?
2. What is the challenge (or problem) that needs solved?
3. What strategy have you tried already?
4. How will you know if you have it right or not?

Let's look at each one of these four questions. Asking a child, "*What do you see?*" is slowing them down to acquire precise and accurate details. It's all about perception. Do they truly perceive the information correctly? If they are not, the mediator does not show or tell them what they are missing (that would be shifting back to direct instruction). Instead, the mediator gently suggests they take another look and they **STAY WITH THE CHILD**. They do not go onto the next student and leave the child in a state of frustration. How many times are students told to go back to their seat and "I know you can figure it out," because the teacher assumes the child is just looking for attention or the teacher hopes the child can figure it out for themselves? A genuine request of "What do you see here?" is developing a child's input thinking skills, especially if followed up by listening to the response and another good question.

*“What is the challenge?”* Has the child identified the problem correctly? He may be way off track by trying to solve the wrong dilemma. Can he articulate what is relevant and what is not? Again, the master teacher who has seen an opportunity to mediate, and not to shift back to direct instruction, will continue asking probing questions.

*“What strategy have you tried already?”* If students hear this question enough, they will acquire the cognitive skill of providing logical evidence to explain or defend their strategies. The teacher’s response is critical. It should not be judgmental or corrective. This is an opportunity to gain access to a child’s thinking. The next question can be as simple as, “Is it working in some way?” or “From the look on your face, I’m guessing it’s not working very well, so what could be another strategy?” By not rescuing or direct instructing, mediation allows the child to be the captain of his ship. There may be a point in the interchange when the teacher needs to throw a lifesaver or a suggestion for another strategy. But it is the last thing offered, not the first.

*“How will you know if you have it right or not?”* This question is a direct reflection on how well the child understood the process or the lesson that was previously taught. In a way, it reflects the quality of the teacher’s direct instruction. It is an open window into the child’s mind and how that child is learning and thinking. What if every child knew, before they complete a page of classwork, how to self-evaluate and get every problem or task correct? Would not that be a heavenly state of education for every teacher, to not have to mark all those incorrect answers? This question, with a little bit of time invested up front, could help save time for a teacher in the long run. This is an example of how and when mediation, though taking more time initially, can save precious time later.

Three more important points need to be made for those new to the idea of mediation as a part of classroom instruction. Mediation of one child or a group of students demands from the teacher: focused wait time, respectful interactions, and timing. Let’s explore each one.

Wait time: When using mediation, an important facet is using wait time. Try this as soon as possible. A good question to begin practicing with is “What do you see?” because it is open-ended with no wrong answer. You can be pleasantly surprised, as I have been repeatedly over the years, at the incredibly precise and thoughtful responses a child may have shyly tucked away in that amazing mind, if given the time. This skill takes effort and practice for fast-firing

*The bursting forth of "aha" moments from students is my big take away from using mediation. Finding just the right level of mediation continues to be my worthy challenge, realizing that "less is more" and giving time for their thinking is imperative.*

Laura Taliaferro  
Retired High School  
Principal, Indiana

highly verbal people and that is almost every teacher who walks on earth. I still have to bite my tongue occasionally as I patiently lean in, show interest in my facial expression, and wait for an answer, any answer. Some tidbit from the child that allows me into their cognitive world. Waiting is hard work and worth the time, perhaps three to five more seconds than usually provided. The students soon learn that you really, really do want their response. One of our team mediators, Anne, asked a question of a young boy who continued to gaze around the room and ignore her. When he caught her intense and friendly eye contact, he was startled and asked, "Oh, you mean me?" Anne responded, "Yep, you're the only other person in the room! I want to know what you think!" He made a dramatic turn around after that! He knew Anne meant for him to respond.

Teachers are famous for asking a question and when no one immediately answers, they ask it again in a new way, assuming the student(s) did not quite understand. In reality, it is possible that the students are still thinking of how to put their words together. They may actually have a very good answer, they just cannot process as fast as a classroom teacher wishes so she can move the lesson along. The children who do have the answer shoot their hands into the air and answer while the rest relax, thinking, "Oh good, Alex answered, like he usually does." So try this technique as soon as possible, ask a question and refrain from the impulse of reassigning or rewording the question. Let it hang patiently in the air.

Respectful interactions: This point will not need extensive explanation for working with typically developing children. It is understood that the best classroom instruction is delivered with care and respect. Teachers who upset or frustrate their young charges do not last long in the classroom anyway. They soon exit education or are invited out the door. Instead, I'd like to address respectful interactions with children who may fall into two different categories, socially undeveloped and those with motivation issues.

Children with underdeveloped social-emotional skills may fall on the autism spectrum, have experienced trauma, or the reasons may be unknown for why they fail at making friends or having socially appropriate behaviors. By using mediation in the classroom, the child is given more teacher eye contact, more respectful questions, and more wait time than they would typically. He or she is simply treated equally with the goal of cognitive growth, which will impact social-emotional development. Too often, education systems have separated academics and cognition from social skills. Yet we make friends with our thinking skills, with our brain, by making good conversation and good choices on the playground. Improved executive functioning

and social skills have more hope for developing. Could the child also profit from traditional social skill group work or counseling?

Absolutely yes! However, the classroom teacher offering mediation allows other children to see that awkward classmate in a new light of respect.

Motivation issues also plague classrooms around the world. I jokingly said once that I wished I had a dollar for every time I have heard a teacher say, "I presented the lesson, it's up to them to care enough to learn!" Or some such phrase that places the blame for not learning on the child. When I train teachers in the Feuerstein method, I love to quote Professor Feuerstein on finger pointing. For the one finger that we point at the child, blaming them for not learning, remember there are three fingers pointing back at yourself!

When a student is acting unmotivated, I tell my trainees to remember those behaviors are smoke screens. The world of school and learning may not be a positive place for them. If they can put up defenses of passivity, non-engagement, lack of follow-through, or facial expressions of boredom and disdain, then there is a very likely chance that teachers will eventually give up and back off attempting to teach them. They will receive a referral to a counselor or school psychologist to possibly receive a diagnosis like Oppositional Defiant Disorder or Conduct Disorder or the new one, Disruptive Mood Dysregulation Disorder (DSM-V). Labeling children is not always helpful! A method to address motivational issues using high quality human interaction is much more productive for the student as well as the teacher. Mediation is a method of interaction that breaks through the smoke screens.

*While learning about mediation from you in FIE training, all of these personal struggles as a child came flooding back. It hit me when you were talking about how mediation is RESPECTFUL - the student feels respected and capable. It's a team thing. I never was given the TIME to THINK. I hated reading and was forced to do reading and papers over and over. When I would get frustrated, I could feel my brain shutting down and then there was no way I could "perform" or have the correct answers while my anxiety was so high! I actually have an example of this exact thing happening as a professional educator - in a moment of pressure and anxiety in front of my principal and totally freezing.*

Heather Dubach  
Elementary Teacher  
Indiana

*As a learner collects more information, one way of understanding learning is to think of pockets of knowledge hanging out in the brain as different clusters. MLE helps to make connections/bridges between these clusters like clusters of leaves on a tree branch. Ironically, this is like our neural networks; as growth occurs there is real power when they become interconnected.*

Dr. Don Appiarus  
College Dean of Students  
New Mexico

## **Making the Shift to Mediation**

Allow me to share the compelling story of a young teacher in Australia, Isabelle Millien, who is a bright and rising star in education. I had the honor of training hundreds of teachers in Australia over a period of five years. Melbourne was my home away from home. Isabelle was a delight to have in Feuerstein training because her level of engagement, energy, and excellent questions were evidence she was going to use Feuerstein and make a difference wherever she went. When I touched base with her again, a few years later, and asked her if there was a conscious change in her classroom teaching after Feuerstein training, she provided this wonderful explanation.

*The answer is definitely yes. I remember thinking “why didn’t they teach me this way of teaching at university?” No longer was it about what I can tell my students but it was what questions can I use to get them to give me the answer. I also started mediating for a sense of belonging, change, and individuation as they are so important. No matter what subject I’m teaching I always mediate for meaning as this is so important. I have seen that once a child understands why they are completing the task it’s no longer just a task. They take it as a life lesson as now they understand they need to know this skill for the future. Linking the skill to home life also allows them to see where else they use the skill and what potential job they will use the skill in. Just the other week, my year 3 students said, “When I become a builder I will need to follow my plan in order for my building to be a success.” The biggest difference for me in direct instruction is that it is telling, whereas mediation is guiding through asking questions. There are times where giving instructions is important and we need to give them, but these days with YouTube and Google most of our students know more than us, so guiding them with the knowledge they already have is becoming more and more important. I am grateful that I had the opportunity to learn how to guide with mediation and to develop my skills in knowing when to use it versus direct instruction.*

## **Using Different Kinds of Mediation**

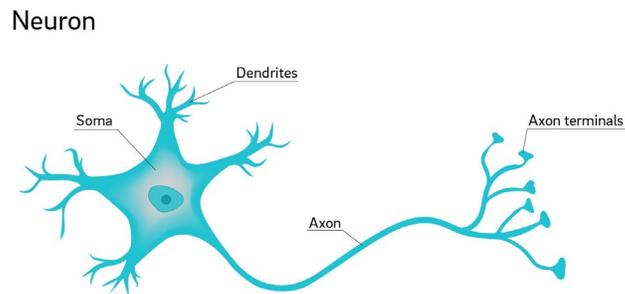
Different children require different approaches. Feuerstein recognized the uniqueness of each individual. One student may require more intentionality for engagement while another child needs mediation for developing a sense of competence. Accepting a challenge, finding meaning, and believing in self-change are also examples of Feuerstein's identified parameters of mediated learning experience. As many of my trainees have recognized, once they become aware of these parameters, they understand how to adapt their approach to students. This is accomplished without a tremendous amount of lesson planning or differentiation of instruction. Instead, with newfound awareness, a teacher is able to interact, ask questions, and respond according to the identified need in the students. (see appendix B for a complete list of MLE parameters with definitions).

Upon completion of Feuerstein training, a classroom teacher has the opportunity to learn how to mediate these parameters using content-free tasks. This is an important step and a golden opportunity to discover how the students learn without the pressure of grades, as the Feuerstein materials are never graded. They instill the pure joy of learning, if readers can wrap their heads around that novel idea! Learning HOW to learn will take on new meaning and depth as teachers and students, from kindergarten to the university, explore how the brain takes on challenges in a pressure-free neutral zone of learning.

## **Learning, Mediation, and the Brain**

Developing executive functions is about children learning how to organize, predict, solve problems, focus, regulate emotions, and complete tasks. Students may seem lazy, disorganized, or impulsive. In reality, these are all cognitive skills, not fixed traits that have little hope for change. The last 30 years of neuroscience helped educators embrace hope for change in executive functioning, yet they needed a quality method to make these skills emerge. Mediation with the Feuerstein program rewires networks of young brains so they can organize, solve problems, focus, and accomplish tasks. This miracle happens on the cellular level of neurons, individual brain cells. Each neuron has 1,000 to 10,000 synaptic connections with other neurons via their dendritic branches. In general, the more dendrites the better because networks are how new learning is captured and integrates with existing networks.

Teaching children how a neuron works is fascinating and I highly recommend it even for the youngest of students. They love molding pipe cleaners into their own model of a neuron. Knowing they can pop new dendrites, every time their brain takes on novelty and challenge, helps make learning new challenges motivating.



### **The Seesaw of Direct Instruction and Mediation**

A master teacher, as I first proposed at the beginning of this chapter, is one who is capable of transitioning back and forth between direct instruction and mediated learning. It would not be appropriate to mediate all day, as that would involve more time than a school day allows. High quality “stand and deliver” direct instruction is necessary in order to cover a multitude of academic standards each day. However, knowing when to shift into mediation is the skillset that I hope this chapter will encourage the reader to embrace. To quote one of my senior trainers from my early days, Dr. Meir Ben-Hur, “You don’t mediate all the time, but you shift to mediation when you want to know if the child has changed.” It will take some time, but it is doable. The more you mediate, the more you learn about the child.

When I began my journey with Feuerstein’s method of mediation, I was a resource teacher in a school with high levels of poverty and children with trauma. As I worked at becoming a better mediator, it changed everything. I began to see children with a very different lens which was much more positive and hopeful. I also became more self-reflective and self-aware of who I was as an educator and a person. Feuerstein did not invent the concept of mediation, but he brought amazing insight to it and defined it like no one else. For that, we should all be very grateful.

I wish to conclude with more words of wisdom from my wonderful trainees, who come from very different perspectives, working with many different ages, that illustrate the power of mediation.

*"I live for Feuerstein and mediation as it changed the way I teach, allowing students to have more of a say when I question them. Before that, I was the active one and the students were passive. Now, the students are the ones who do the thinking and talking. How we ask questions is so important, since we teachers are famous for putting the answer in the question. Asking open-ended questions such as - "What do you see? Where have you seen this before? What do you think you have to do? Where will you start? What is your plan? How do you know you are correct?" - gives the students a voice. Most of the time, you find out they know a lot and then they teach each other. For me, the key is also bridging the concept we are learning with real life, giving the students some meaning, outside the four walls of the classroom. They see there is a purpose for what they are learning and are more keen and ready to learn.*

*Isabelle Millien, Year 3/4 and Head of Primary, Australia*

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*"After 23 years of teaching in public schools, I believe Feuerstein's Instrumental Enrichment, specifically the Mediated Learning Experience, is the best tool you will ever have in the classroom or in a small group setting. First of all, it creates a dynamic of leading students through the discovery and development of cognitive and analytical skills that are essential in education. In addition, the Meditated Learning experience provides a framework and a vocabulary that helps me find where and what a breakdown is when students are struggling with an assignment. Finally, scientific research shows that, in most cases, cognitive functions that evolved through the Feuerstein Instrumental Enrichment Program and the Mediated Learning Experience continue to grow and improve long after the program has been completed."*

*Karyl Haden, Ascent International Learning Center, Colorado*

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*Incorporating Mediation into my high-school classroom provided an intentional learning environment that motivates my students to thoroughly respond to my inquiries. I now have higher expectations for my students and am no longer content with shallow, single-word answers. This motivates my students deeper into our topic, making them reconsider their thinking on a more complex level.*

*Carrie Roberts, English Teacher, Indiana*

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*In a classroom of young children, direct instruction is necessary, of course, but it is a one-way stream of information from teacher to students. Some students will receive it and others will not due to their young age and inexperience. Mediation and asking good questions invite active learning because it is a joint journey of discovery, curiosity, making connections, finding meaning and context. It is a rich, multi-directional flow of thinking and exploring that increases reciprocity, memory and sense of competence in children. Using a mediational style of teaching is enjoyable for both the teacher and the students. As teachers listen to the answers given by their students, they are often surprised by the depth or lack of knowledge present. Asking good questions reveals the thinking process of the student, and that gives the teacher valuable insight.*

*Anne Merritt, Early Childhood Feuerstein Instructor, Indiana*

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The world of education, that of shaping young minds, has always been and forever will be a challenging arena. The method of mediation, gleaned from Feuerstein's Instrumental Enrichment, and almost the opposite of direct instruction, offers educators the valuable counter weight on the seesaw of teaching. As they hone this skill of balancing between the two, they are on the road to becoming a master teacher.

I look forward to hearing from our readers. Reach me at [jeannezehr@gmail.com](mailto:jeannezehr@gmail.com)

## Who Is Like a Teacher and Mediator?

*Eiko Ashizuka*

Feuerstein Training Center, Kobe, Japan

Who is like a Teacher and Mediator?

*Shakyamuni and Jesus Christ ?*

In a big English Japanese Dictionary at hand, an illustrative sentence for a "teacher " reads as follows: "great teachers like Buddha and Confucius ". As for "Mediator ", the passage found is as follows, "Mediator - Jesus Christ ", referring to the first Epistle of Paul to Timothy-2:5 . The given chapter in the American Standard Version of the Holy Bible reads: " For there is one God, one mediator also between God and Men, *himself* man, Christ Jesus. "

At schools and offices in the world we have a tremendous number of teachers and mediators. None of them (including me) is neither Shakyamuni nor Jesus Christ, but it must be nice for us to look up to those far away images.

Here, however, I must narrow the field of consideration to the realm of education, child rearing, medical or social science as developmental psychology, speech therapy or, if possible, brain science and so on.

In short, Mediator is a person who stands between two entities. To the left of the mediator is some Stimulation, which is hard for a person to the right of the mediator to grasp and respond. Here, mediation plays the important role of conveying messages, interpreting meanings from the stimulation.

One can draw two big circles, name the one "A", and the other "B". The circle "A" is a group of teachers and the circle "B" is a group of mediators. Where the two circles intersect we find a common group that has two qualities : teacher *and* mediator. In mathematics , we symbolize the common part as  $A \cap B$ . Similarly, you may put a piece of yellow cellophane over a blue one and see a green cellophane paper in front of you: two qualities produced the new quality.  $A \cap B$ , as you will see, is a teacher and mediator.

There are many teachers around us, but not all teachers have a quality of a mediator. On the blackboard, a math teacher is scribbling lines of numerical formulas while students just copy the formulas or sleep . The teacher does not care whether the students understand. Can this teacher be called a mediator? He has a license to teach, maybe he has enough knowledge for teaching, but he doesn't have a quality of a mediator.

Another case. Suppose there is an old female shop keeper selling vegetables. She knows everything about the vegetables: tastes, nutrients, the way of cooking, and so on. She shares her knowledge and thinks together with her customers, helping them decide what to buy. She is

a mediator. She is not a licensed schoolteacher, but has the quality of a teacher as well, and of course - a good shopkeeper.

As Confucius said, educating the brilliant students should be a big joy, but the joy of teaching and mediating and the joy of learning is open to everyone.

Below, I write about my experiences of working with children, young men, and people in need, mainly in the cognitive aspects, using Feuerstein Program, hoping to share them with people of similar interest.

I have used some technical terms related to Feuerstein methodology as "metacognition", "cognitive function" as they are the tools to open human possibility / I left them as they are.

## **Pre- IE days.**

### **An adventure**

It was in August 2001 when I flew to Winnipeg, Canada. The purpose of this journey was to attend the International Workshop in Instrumental Enrichment, the Instrument originated by Prof. Reuven Feuerstein. The catchphrase of the workshop was "Unlock the Human Potential". It was sponsored by UNEVOC-Canada, a UNESCO designated Center for Technical and Vocational Education and Training (TVET). For me, an elderly Japanese English teacher, challenging the brand-new thing in this unknown land in the center of Northern America, was a real adventure.

Winnipeg was a big modern city with a huge green park and modern buildings, with a slight touch of exoticism that reminded me of old westerns. The "First Nation" people in modern clothes were walking on the streets looking a bit like some of my relatives. In the park, amazing number of mosquitoes were buzzing around.

It was very important for me to do this adventure particularly in Canada.

A year before this journey, in 2000, the Japanese version of a unique book by Prof. Reuven Feuerstein titled "Don't Accept Me As I Am" was published in Japan by Kwansei Gakuin University Press. The English - Japanese translation was done by a Canadian professor, the late Dr. Lloyd B. Graham, my university teacher, who was amazingly fluent in Japanese.

In 1951, Dr. Graham first landed in Japan. The country was full of confusion right after its defeat in the Second World War. Hunger, poverty, orphans, and more were on the streets. He came as a Canadian missionary as a social worker. From 1959 to 1966, he taught as a Professor of Social Work at Kwansei Gakuin University, where I met the Grahams as a student majoring in English literature. The Graham family was living in one of the campus houses prepared for the American and Canadian families of the Methodist Episcopal Church missionaries. The door of the house was always open for the students to come in and talk in

English. Among the talks and discussions was the one on the "students" movement", which was particularly heated. Students" political movement was growing almost as a riot those days (1960).

Dr. & Mrs. Graham were very open. This openness made our relationship more than that of teacher and student.

In 1966, the Grahams went back to Canada. Since that year till 1984, Dr. Graham taught as a professor at Toronto University. Mrs. Evelyn Graham began her study on psychology and worked as a school counselor at a high school in downtown Toronto. There she met Professor Reuven Feuerstein and his program, Instrumental Enrichment. She advanced to the Doctoral Course for further study. In 1981, she completed her Doctoral Dissertation, entitled "Feuerstein Instrumental Enrichment used to change cognitive and verbal behavior in a city-core, multi-ethnic Toronto secondary school."

"IE" sounds [ái], very much like a Japanese word [愛] meaning "Love".

I remember Mrs. Graham often saying, "Draw a Big Heart and put the letter "IE" in the center." She loved Instrumental Enrichment, "IE".

Not many working years were left for Dr. L. B. Graham and Dr. Evelyn Graham. The time for them to retire from the educational field had come.

Dr. Lloyd Graham wished to give some memorial gift to their beloved country, Japan. Dr. Evelyn Graham, his wife, thought of a wonderful idea and suggested, "Why don't you translate "That New Book" into Japanese?" "That New Book" was the first version of "Don't Accept Me As I Am" written by Professors Reuven Feuerstein and Yaakov Rand, which had come into the world in 1988.

Hard work started for Dr. Graham . After many years of intensive work translating all the chapters, Drs. Lloyd B. & Evelyn Graham flew back to Japan. I felt they were like a couple of cranes migrating from Canada to Japan, carrying their accomplishment under their wings.

They invited some of their former students to the condominium they kept in Kobe, Japan, to organize a team to proofread the manuscript. I was one of them. There was also Mr. Teizo Iguchi, who became an IE trainer and served the role for many years.

The translated manuscript printed on the long sheet of fax paper came out looking like endless waterfall.

I started reading Chapter I, sub titled "You Are Human, You Are Modifiable - The Belief in Human Modifiability"

The story of a boy named Joel was told there. I must confess it was very difficult to grasp in the beginning. Feuerstein Words such as "Human Modifiability", "Theory of Structural Cognitive Modifiability" seemed too sophisticated to me. Alternately reading the English original and the Japanese translation, I felt as if my head had turned into a piece of rock from heavy load in the brain. At the same time, I found myself deeply absorbed into the way the boy's story developed.

At the age of 16, Joel was regarded as severely retarded. He was dangerous when he became angry and was labeled "incurable". On her death bed, his mother wrote a letter asking for help. She hoped Joel would be saved from permanent custodial care. The letter went around many professionals and finally reached Professor Feuerstein. Joel began to receive the intervention with Feuerstein Program. After many years of patient intervention, he became a well-adjusted youngster, working in a woodwork plant.

When I put the full stop of proofing the Japanese translation, I found myself entirely knocked down with deep emotion. "Could this really happen? If this had really happened, this must be what I had been looking for. I must do this."

Let me write a bit about my young days, so this feeling of mine might be better understood.

My career life started right after graduating from [Methodist Episcopal Church Mission](#) university as an English teacher. It was fun to read stories like "Wonderful Wizard of Oz" or "Daddy Long Legs" with girls in addition to teach rather than monotonous textbooks authorized by the Education Ministry. I was a lucky teacher.

However, I grew a bit depressed or frustrated. In the early 1960s, Japan's economy was growing rapidly; the world was changing into more and more technology oriented. Pastoral peacefulness was being invaded in the name of development: destruction and construction here and there. This kind of rapid change just had to cause something to the mentality of the people, and the phenomenon which in those days was called "school phobia" was beginning to be seen among young students. I noticed vacant seats in the classrooms.

There was a girl who was doing very well at school subjects, who gradually stopped coming to school. I was not her homeroom teacher but wished to assist her, but I felt powerless against her problem. I was too afraid to touch the complexity of her emotional life. I felt I was not qualified.

There was another girl who had a different type of difficulty. She had lost her hearing during her preschool days, as a side effect of streptomycin dosed to treat her tuberculosis. She spent her primary school days at a regular school with the help of a kind friend. She didn't choose the school for the hearing impaired. She passed the entrance tests to a regular school where I was working. With keen eyes, she was among her classmates.

Those days, for most Japanese junior high school students, English was the first foreign language to study and was important. My boss told me to give her extra English lessons after school. I started to give her afterschool lessons. In the first lesson, I felt I needed to teach her something else besides English. She badly needed to learn how to articulate the words properly. I did not understand a word that she uttered. Neither she nor I knew the sign language. Her speech was an unknown foreign language to me, and there was no translator between us. I badly felt the need to teach her how to make sounds into a word so that I would understand what she wanted to convey. I was not familiar with speech therapy, but I thought I knew how.

As a schoolgirl, I liked to train English pronunciation by myself. To Differentiate between "crow" and "claw" was the first hurdle. In Japanese we do not have an "R" sound, so it is particularly difficult for the Japanese to pronounce "R" properly.

My English missionary teacher was very strict. She just said in her nasal British sound "No" if my "crow" didn't sound "crow" but "claw". She just made me repeat after her without any explanation. I felt hopeless. What I could do was go home and make various kinds of faces in front of the mirror, sticking out my tongue or rolling it in, comparing my sounds with those of the teacher's that I heard. Finally, I grasped it.

Today, with the experience of Feuerstein's Cognitive approach, I know the process of my learning to pronounce properly was made possible through activating the "metacognition", sensing the relationships between the sounds and the movements of the tongue in the oral cavity.

I decided to do the similar sort of training to my student to teach her how to pronounce Japanese words properly. Slowly but steadily, she learned to activate her metacognition. She began to read my lips, imitated the shape of my mouth, and uttered better sounds. I made her feel the vibration in both my and her the nose, cheek, neck, or chest hoping that her and my vibrating parts would synchronize at a particular word, for instance - "na" or "ka".

I made her read some simple passages from a Japanese textbook, while I wrote down the letters as I heard them. Then I made her compare the text with what I wrote down. We also read poems abundant with difficult sound for her such as "d, g, n, k, h, s" and so on. Besides vocal articulation, I noticed her difficulty in writing sentences. Typical difficulty was in the usage of functional words, such as prepositions.

I thought good Japanese book would enhance her writing and speech, both input and output. I took her to the school library and chose "The voyage of Dr. Doolittle" translated by the famous Japanese novelist *Masuji Ibuse*. He was the author of "*Kuroi Ame, Black Rain*," a tragedy of a young woman who got wet in the black rain after A Bomb in Hiroshima. We both enjoyed the book. Her composition also improved. In about three years, she was able to write a very accurate and lovely short story titled "A Lonely Tanenbaum".

I still have an old notebook where she noted our conversations. On one page is my scribble: "Don't rush, don't get too excited, let your another self-look calmly at you, and get accustomed to reflect and see for yourself if you are pronouncing the correct sound."

Let me quickly conclude her story. She graduated from the senior high school after six years. She was very independent and got a permanent job at Welfare Section of the Kobe Municipality. She learned to sign while working, earned a full salary and received a full retirement allowance.

The experiences with the two girls changed the course of my life. It triggered my interest in psychology. Resigning as a fulltime teacher to work part time, I took graduate course in educational psychology. They, however, dealt mainly with experimental psychology, which was helpful but not what I really I wanted. Luckily, I was given the opportunity to practice psychological testing and consultations as a trainee tester,

employing such tools as Hermann Rorschach's Psycho-diagnostic plates or Wechsler Intelligence Scale for Children at a psychiatric department in a big hospital.

Master's thesis was on the "Analysis of Personality in Creative Scientists." I wished to keep studying the theme and applied to a Doctoral Course at Kyoto University. The professor there, *Dr. Taro Sono-hara*, was an eminent developmental psychologist, who then had his TV program on NHK entitled "Three-Year-Old Kids". I read what he wrote on "Creativity" and wished to study under him. He was a very liberal scholar and agreed to keep me studying the theme there. I was very lucky. I resigned my job as a teacher.

Yet, inscrutable are the ways of heaven. Something inevitable happened and I had to discontinue my academic work for some time and help a business in Tokyo. I was not too bad at business. I managed to do it.

Time flew by. It was getting too late to go back to school. About a dozen years later, I decided leave Tokyo. I resumed teaching where I had been teaching. The school warmly welcomed me back home. I no longer wavered about my life as a teacher.

Every cloud has a silver lining. Dr. Graham flew back from Canada with "Don't accept me as I am!" The book was published in 2000, as mentioned earlier.

## **B-1: Encounter with Instrumental Enrichment**

In 2001, I was in Winnipeg to be trained in Instrumental Enrichment, after having enjoyed the reunion with Drs. Graham in their cottage by Lake Ontario for several days,

The big conference opened. The catchphrase of the conference was "Unlock the Human Potential". The window of my mind was unlocked and I had exciting experiences for an English teacher among IE teachers from the USA, South Africa, Brazil, Canada and many more places. Our colleague, Mr. Kiyoko Okami, who was the chief editor of the Japanese version of "Don't accept me as I am!" arrived there, too.

Dr. Rabbi Rafael Feuerstein, the eldest son of Professor Reuven Feuerstein, was on the stage, giving a powerful lecture on LPAD (Learning Propensity Assessment Device), reviewing the case of a girl using one of the LPAD tools, Andre Rey's Complex Figure. I was glad to find myself following the lecture, which was given in an amazing speed. Watching the slides projected on the screen, I was astonished and amused to observe vivid changes in the girl's four series of drawings drawn in less than two hours. The power of mediation was shown to the audience. It was not a magic. Something really happened. As the lecture went on, I came to understand that the core issue for a student to be modified was Quality and Quantity of Mediation, and that LPAD was the tool to open the window for the hopeful future of the children.

When my thinking came to this point, I was again carried back to my past. I vividly remembered a boy I met in Tokyo. Let me call him Minoru. It is not his real name, but recalling him always makes me happy.

It was not earlier than 1982, when I was engaged in business. I oversaw a boutique that dealt with imported goods. There was a customer who enjoyed conversing with me. One day she said, "My son has a speech problem. Though he understands what people are talking, he is not able to utter a word."

Upon hearing this, without any reflection, I mentioned the possibility that I might be able to help him. It is obvious that I remembered the girl with the hearing problem. The mother's face brightened. The next morning, she came with a big bunch of papers. They were records of the therapy and a diagnosis given by the hospital the boy was treated in San Francisco, where the family had lived because the father worked there for the branch of a big Japanese company.

At home I read through the papers that included phrases such as "he is cute, he is an angel, he is such and such". It was clear he was loved by his nurses and therapists. As I read on, my eyes caught a single word "Autism". A sudden blow and I was at a loss.

"How can I teach the boy to speak?" The voices echoed in my mind. I knew very little about Autism. Obsessive-compulsive neurosis, all right, but not Autism. Those days, not much was known about Autism in Japan.

Next morning, I was in Kanda, a downtown district in Tokyo, where rows of bookstores stood with abundant stocks of various kinds, new or antique.

Gasping with big expectation, I gazed at a thick indigo hard cover book with the big gold title printed "自閉症", which means Autism. Next, I was at the cashier. It was a newly published Japanese version on autism (April, 1982). The original was written and edited by Sir Michael Rutter, an English psychiatrist. The title of the original English version was: "Autism: A Reappraisal of Concepts and Treatment", edited by Michael Rutter and Eric Schopler (1978). I sat and skimmed through the pages from the beginning. It was not long before I came across a short description of the findings from experimental data.

It said that autistic children are cognitively deficient in their temporal order perception, where I read the words "Cause and Effect". Next moment, I was in the children's book corner and picked up a book, which was a Japanese translation of Rudyard Kipling's "How Did the Elephant Get Its Trunk". It was a cute little book with three other stories, the "Giant Turnip" from Russian tales, "The Town Musicians from Bremen" by the Brothers Grimm and "Jack and the Beanstalk" from English fairy tales.

Now I was ready to set sail on an adventure with Minoru. He came to my place with his mother. He was cute and friendly, smiling. Not a word, but there was a wonderful thing about him. Mother had taught him to read Japanese alphabets. He could read aloud nicely. I opened the first page of Elephant story and asked him to read. He read smoothly and clearly. I was embarrassed, though. It was like watching raindrops rapidly running down a car windshield. I did not get wet from the raindrops of meaning coming into my mind. My girl with hearing difficulty had quite rich meaning in her mind, but her voice could not convey her meaning to others. The boy, however, had a clear sound but no meaning attached to it.

From then on, I sat together with him weekly and read the book aloud. I made him repeat after me: I read in comical or dramatic tone, with exaggerated articulation, precisely accentuating functional words. I asked questions from time to time. He did not reply, so I answered myself and let him repeat. He enjoyed these comical exchanges. When the story came to the point where the crocodile grabbed the little elephant's nose to eat him, I let him grab the left sleeve of my big turtleneck rib nit pullover of alpaca wool, and he pulled it. Tug of war. We pulled each other, crying out "Un-Kora-Sho, Un-Kora-Sho ( Japanese for " Yoo-hoo") until the sleeve looked long enough, like an elephant's trunk. "Look! You pulled my nose and it got long." We repeated this game week after week.

The next story was "Giant Turnip". Here I held a pillar and Minoru would pull my back saying "Un-Kora-Sho, Un-Kora-Sho" together. I asked him: "Who is pulling the Turnip?" and I answered for him, "Grandpa". "Who is pulling grandpa behind him?" "Granma!". This sort of play was repeated each time. Next story was "The Town Musicians from Bremen". By then he was able to answer my spatial questions like "Who is walking behind a donkey? ---a Dog." This meant he could verbally answer my question on his own. Then, a very impressive event followed.

The animals came to the wood and saw a light in a house. The dog climbed on the donkey's back and a cat climbed on the dog's back etc., to see inside the house. I asked Minoru who is on the Donkey, showing the picture. Unexpectedly he was not able to answer this question. Those days I did not know what was happening, but now with my Feuerstein Instrumental Enrichment experience, I know that he was not able to manipulate both horizontal and vertical spatial relationship alternately or, he was able to work horizontally but not vertically.

An amazing thing happened. He murmured repeatedly those words, "*Wakaranai, wakaranai, wakaranai*", meaning, "I do not know, I do not know," and huge tears looking like crystal drops came out of his eyes. I lost my voice and watched his tears falling. What a huge volume of tears he held in his mind. Remembering this scene now, I believe "*Wakaranai*" was his first voluntary word I heard.

Two or three months later, in the spring , the boy's family was moving to Sapporo, the biggest city in Hokkaido, the northern and biggest island in Japan. I was expecting the last lesson with him. He came in smiling and suddenly he spoke out, "*Eike-Oba-Chan-Isshō Sapporo-Iku*", which meant "Aunty Eiko, together go Sapporo."

This really was his first meaningful voluntary sentence. He wanted me to come to Sapporo with him, and expressed his wish in his own words. His mother and I looked at each other in amazement. She told me that she had explained hard to Minoru-chan that the next lesson would be the last one with Aunty Eiko and he would not see her again.

, She had told me on the phone that he started speaking, though not satisfactory. A kind old gardener liked him very much and the boy and the old gardener went out together to work.

Let me go back to my Winnipeg experience.

Rabbi Rafi was on the podium, energetically speaking about Mediated Learning Experience . Hearing his lecture, I remembered my days with Minoru. Rafi said that the main Essential

Qualities of Mediation that can make the change happen in learners are Intentionality-Reciprocity, Meaning and Transcendence. Plus, the quality and quantity of mediation, they are really needed. "

I was remembering and thinking : I had an Intention, that was to let him acquire Temporal Sequencing . How about other qualities? I tried to let him read the story in a way I would feel meaning and emotion through his reading. It must have been my intention as well. As for the quantity, repetition of *Un-Kora-Sho*, *Un-Kora-Sho* must have been satisfactory.

"Quality and Quantity of Mediation" has been the most important key word in my teaching life ever since. Quality could be acquired through study and experience. How about Quantity ? As time went by in my IE teaching and serving as an FIE trainer, I came to understand the vital thing for enough Quantity of Mediation, as Professor Reuven Feuerstein urges, is Belief and Hope . I began to understand that "Belief and Hope" would give teachers, parents, or friends enough energy to keep working.

After the theoretical lecture by Rabi Rafi Feuerstein, training sessions for the Instrumental Enrichment started.

The first Instrument "Organization of Dots" was really something, as many would agree. Like clouds of stars, black dots are scattered on the sheet, and we had to organize the chaos into squares or triangles, or other shapes given as samples on each working sheet. Pages 1,2 and 3 went all right with me. When our group came to the challenge on p. 4, lunch time was nearing. We were allowed to leave the room for lunch when the task was completed. My new friends in the group were enjoying the task, humming. I was struggling, stuck, couldn't finish. My friends were leaving the room one by one, and I was left alone.

That night, I had a nightmare. I was struggling with black dots scattered around on the floor. Suddenly, all the dots took off like flies or mosquitoes and disappeared in space. Maybe they were mosquitoes in the Winnipeg park. Funny and strange dream. Concentration and Release. Perhaps the charm of Instrumental Enrichment lies here. I often tell this experience to my trainees or students adding the following, "Everybody has his weak points. With our difficulty, we will find the way to strengthen our possibility. Your difficulty will tell you your possibility to grow through further exercises, using proper instruments."

Some 20 years have passed since this first SHOT of cognitive challenge. Formerly unfamiliar words such as - symmetry, asymmetry, relativity, relationship, time and space, hypothesis, induction, deduction, representation, virtual relationship, mental field such and such - have become my powerful lens through which to observe the area I should work on with the students.

Let me go back to p.4 of Organization of Dots and analyze the difficulty I faced working with the page. I will challenge myself to describe the page in writing. I would make me glad if you try to form the image in your mind or write the page on a blank sheet of paper. It might enhance your representation (imaging in the brain) or my verbal description.

On the A4 size sheet, a full -size rectangle is outlined, and is further divided into 20 (5x4) smaller frames. First and second frames are put together forming a bigger frame, on which three sample shapes are shown. Two of the sample shapes are symmetric, an isosceles right triangle, which is medium in size, then a rectangle, the smallest shape of the three, looking like a bookmark. The largest is an asymmetric shape with six sides and six corners, hexagon. But it is not like a symmetric beehive cell. The sample looks like a flat rectangle chocolate bar. Its lower right square corner is eaten off. One side of the eaten off square is half of the shorter side of the whole rectangle chocolate bar. This shape looks like English letter P standing up.

A dot is marked on each corner of the three samples, three dots per triangle, four dots for a rectangle, and six dots for a hexagon - totaling thirteen dots. The lines that connect the dots to form the sample shapes are erased . Consequently, only the cloud of dots is seen in each one of the eighteen small frames. As a cloud changes its form in the sky, a cloud of dots varies its form in the frames, coming closer, going away, or changing directions.

What you must do is to choose three groups of dots. Each group forms each of three sample shapes.

An analysis of the sample shapes will help you a lot in finding out the appropriate dots that will form the target shape.

You must have the accurate concept and image of a right angle that would be a vital element for the analysis of the samples. However, you must find eleven right angles in total to form the three sample shapes, which means you must be aware of the length of each side. You must choose the appropriate two dots or more that will form the appropriate shape. As you could easily guess, our sense of length or width is quite vulnerable. If you wear a dress with vertical stripes, you look taller than if you wore horizontal stripes. To overcome this, Professor Feuerstein gave us a wonderful tool, "Labelling", which is to give names to a target object. Good labelling could give you more opportunities to detect the shape because the word helps you form the image out of cloud of dots. I thought of good enough labels. A water gun for a hexagon looking like "p", an *Oinarisan* (a kind of *sushi* forming a triangle) for a triangle, a bookmark for a rectangle. Later I learned that "Labelling" is a wonderful tool to enhance one's linguistic ability, widening mental space or memory, or the energy to retreat the experience, or develop representation. Sometimes there are children who cannot think of any labels for a shape. In such case, we can draw pictures together or talk to decide on a good name for the shape.

## **B-2:**

### **Cognitive Functions**

This strategy "Receptive verbal tools, Labelling" is one of the Cognitive Functions that Professor Feuerstein worked out. If one lacks this function or the function is impaired, he/she will have difficulty to take in the word, or information. I remember one beautiful episode related to this.

In Kobe, there was an old Korean woman who had missed her opportunity to go to school and learn systematic Japanese, write Japanese letters and Chinese Characters (We use Chinese ideograms imported from China in around the 5<sup>th</sup> century. The meanings remain almost the same, but the way we them pronounce is different). One of my friends opened a Japanese language class for those Korean people. The old woman thanked the teacher saying, "I have never felt the evening glow () so beautiful before you taught me to write this word". This old woman acquired her precious input verbal tool at this night class.

There is abundant discussion on Feuerstein's Cognitive Functions, and I must minimize my writing here, but I must write the following: Briefly, Professor Feuerstein analyzed failures as seen in students and grouped them into three steps of information processing: Input, Elaboration, and Output. The "Labelling" function is one of those verbal tools grouped in the Input phase for taking in the world. "Verbal Concepts" are grouped in the Elaboration phase as another tool. This function is needed to elaborate on categories. "Adequate Verbal Tools" are grouped in the Output phase. One may have processed correctly in the Elaboration phase, but he/she doesn't have a proper word and cannot express it verbally.

Now, it is time to consider the difficulty I experienced on page 4. The hopeless block I experienced might have been caused by many black dots squeezed into a small frame.

Imagine the time you are separating your poor dollar notes that got wet in the washing machine. You failed to remember they were in your pocket before you threw the switch. It is quite frustrating. You must be very careful in order not to spoil the dollar notes. You need sharp eyes and delicate fingers to differentiate size, color, or patterns of the overlapped, sticking notes that you have to peel off. An act of careful segregation is needed.

To pick up appropriate dots so as to form each sample figure requires the similar mental action as the case of wet dollar bills. This kind of operation is one of the Mental Actions named "Segregation".

Cognitive functions and Mental Actions are the core of the Feuerstein program that we learn and share with students throughout IE tools.

That day in the Winnipeg IE classroom, I almost sank to the bottom and had to struggle my way up to breathe again.

Symmetric figures may be less loaded, but the asymmetric figure is tricky. You must be careful about orientation or the position. Shapes could look different. A (p) could look like (d), and (b) is a (q) when rotated. If your "spatial orientation" is not functioning well enough, you might have difficulty in forming the shape properly. That should be one of the causes of my trouble. Dots were dazzling my eyes.

Where to start is another key concept to tackle the task advised by Professor Feuerstein? "Labelling" does wonderful work in this.

In the IE classroom in Winnipeg, I chose a small rectangle to search first and I named it "bookmark".

I was working the page happily; I was remembering the soothsayer's subtle voice from Shakespeare's Julius Caesar: "Beware the Ides of March". Just like Caesar heard the subtle soothsayer's voice in the noisy crowd, I detected too two dots of a small bookmark, or rectangle. I was happy till I came to the 16<sup>th</sup> frame. There I was stuck, hopelessly looking for the appropriate two dots.

Now, I can analyze myself. The source of my difficulty was that I was tempted, or trapped. The bookmark I drew, which I felt was perfect, actually was not. The real one bookmark was buried among other dots. I had lost the sense of length, and even the sense of 90 degrees was gone.

But why?

The Oracle of Delphi's call: "Know Thyself" is an important step for self-mediation (to mediate me to my self). I analyzed myself and came to see that the failure I experienced was caused by the impaired input of the cognitive function, "lack of spatial orientation", or "impulsivity" or the "lack of comparative behavior with the model (elaboration phase)", or all of the above.

I was rather more amused than depressed by the difficulty I faced. I must be watch out from those temptations.

Somebody said, "I fell in love with IE."

Rocky Mountains lure the climbers.

Other three instruments I learned in Winnipeg were "Orientation in Space-I, Comparisons, Analytic Perception". ]] I was careful enough not to be trapped by those instruments.

We had an interesting discussion on the "Orientation in Space-I" tool. A discussion on "bridging" (how to apply the learning from IE into subject matters or the daily life), fully inspired me about the relativity of spatial relationship. It clearly told me the reason my students experience difficulties when learning English pronouns.

If you meet Tom, you say, "Hi, Tom, how are you?" When you go back home, you tell your mother, "I met Tom, and he was fine." Tom is Tom to you always, but you cannot always use "he" for Tom. When you are facing Tom, you say "How are you, Tom?" You must be aware of the triangle of spatial relationship.

This Winnipeg experience led me to attend workshops in various cities in Europe almost every year. I wanted to learn more advanced instruments, with the additional prizes of meeting friends and visiting charming cities such as Chicago, Guilford, Paris, Amsterdam, Venice, Cluj-Napoca, Torino, Zwolle, Florence, Milano, and Copenhagen.

In 2005 in Paris, I received the FIE Trainers 2 Diploma with which I became able to give independent workshops. In 2006, I started my first Instrumental Enrichment Training, with a precious opening lecture by Rabi Rafi Feuerstein who was in Japan to lecture on LPAD at the All-Japanese Conference held by The Association of Japanese Clinical Psychology.

I remember one precious encouragement I was given . It was during the workshop in Paris when I got the FIE Trainers 2 Diploma. I was talking with Mr. Shmuel Rosen, the International Liaison. I told him : "I am afraid . Am I really qualified to train teachers in IE ?"

"Everybody has his first time ," was his short reply.

I was encouraged. It has been 15 years since . I learned a lot from my training experience and met many important people.

In October 2003, Under the leadership of Dr. Graham, we established a Not-for-Profit Organization that is presently called, "The Feuerstein Training Center Japan". I now have a powerful colleague, Ms. Midori Nishizawa, who is an excellent trainer.

### **B-3: Coming back home**

Coming back from Winnipeg to work at school , I thought of a place to teach IE. It was in the smaller room of the infirmary . There, some girls were studying on their own. Why? They can come to school, but they cannot join the class. The threshold of the classroom is too high for them to go in. A new type of school refusers.

Aki was in a second grade senior high school student. That day, she was alone in the room. I sat with her , I showed her the cover page of Organization of Dots, and I started the conversation. As its ordinary course, we talked about the Big Dipper, a symbol of the cover page. A good conversation followed. I asked : Do you see the line forming a Big Dipper up in the sky? "No," she laughed. Who drew it, and where? She answered : "Me . In my head." There is another picture on the cover page of a girl biting on a pencil that looks like a stick snack. What is she doing? Eating a thin stick of chocolate? I asked. She laughed again and said : "She is thinking." How do you know that? "Because there is a word on the page . . . Just a Moment, Let me think . . ." Oh, I see. Now you will open the first page. You will see many dots looking like stars in the night sky. You must do some tasks. Do you think you will do well? After a moment, she looked at me, said, "Yes", and smiled.

She had some difficulty in the final frames, but accepted my mediation.

The moment she finished the last frame, the school bell started to ring, "MI Do Re Sol..." She raised her arms and yelled with joy. For the first class in the afternoon that day, she appeared at the music class, after two years of absence. Since then, she regularly attended the class and happily graduated the senior high school. It was unexpected, but it really happened. Perhaps this is the hopeful area that IE shows its power.

## **B-4:**

### **Another symmetry and asymmetry**

My IE experience is accumulated, collecting some interesting phenomena as seen through the instruments. I will describe a typical case.

Those who had difficulty in Orientation in Space-I tend to have difficulty in Family Relations as well. Family Relations is an instrument with which to learn higher order relationships through the hierarchic structure of the family tree. Careful mediation works well, and the students manage to finish earlier pages that deal with two storied relationships - Father-Son, or Mother-Son.

When the pages advance to the three stories on relationships among the three generations, very funny answers can come.

For instance, the family tree tells that Jim is the grandfather of Sara.

I ask my student : "Tell me what is Jim to Sara?"

He answers : "Grandfather. Jim is the grandfather of Sara."

OK. And what is Sara to Jim? I ask.

He answers: "Grandfather."

"What? Is Sara the grandfather of Jim?" "Yes." Full stop.

I am totally puzzled. Then I remember the difference between symmetry and asymmetry. Let us consider the following relations:

The elephant is larger than the ant. If I use the mathematical sign:

elephant > ant The elephant is larger than the ant,

Let me change the word order.

ant < elephant The ant is smaller than the elephant.

The change in the word order requires a change of the criterion word. This is asymmetry. You must change the word. "Sara is the granddaughter of **Jim**" is the correct answer. This is the relationship that students learn further in the transitive relations.

The mistake is often made when the student fails to distinguish the difference between equal relation (symmetric) and unequal relations (asymmetric).

I have come to understand that Professor Reuven Feuerstein carefully constructed 14 IE instruments so the child or the adolescence could take the steps upward, acquiring higher-order logical thinking. The tasks in each instrument are also carefully programmed for this purpose.

It is challenging and rewarding to work with students based on Instrumental Enrichment.

One of my students, with down syndrome, is challenging a national examination to become a certified care worker. The hurdle is very high, but he is enjoying the challenge.

The way he overcomes his difficulty teaches me a lot.

### **C: Professor Feuerstein's Word**

Finally, I want to introduce the important lesson Professor Feuerstein gave me when I was in Jerusalem with a down syndrome boy, who was not able to speak a word, though he understands most of what he hears.

One Sabbath evening, the boy, his mother, and I were invited to dinner. As we went into the house, we saw candles burning beautifully. The 10-year old boy, who was hyperactive, saw the lights and blew them out. I guess he mistook them for birthday cake candles. He did not know, of course, that to blow out the candles is prohibited in Jewish culture. Professor Feuerstein walked toward him and said in a big and deep voice "No", pointing his finger up, and glaring the boy with his eyes widely open. The boy stepped back. Seemingly, he understood something.

After everything settled down, he told me: "Listen, when you have love, children will understand."

The word I heard that night is always with me. To work with children in need is often a big task. The word love stays in me, like a mirror reflecting myself and looking at me.

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# Teaching to Think: the impact of Feuerstein training on curricular lessons

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*“Affectivity, representing the energetic factor, both generates and is generated by cognitive processes (...). We prefer to view the relationship between the two as two sides of a transparent coin, with the shape meaningfully affected by the changes that are undergone on each side of the coin.”*

(Feuerstein et al, 2003, pp 32-33)

## **Redesigning the lesson time: the contribution of Feuerstein’s Method**

Emotion and cognition are two sides of the same coin used in class. In the classroom, teachers and students are expected to engage in a single project whose general aims are dictated by the educational goals that society had formulated. The COVID-19 pandemic forced significant changes upon this traditional model, making the virtual mode of teaching/learning more customary than direct contact. Teachers had to question the prevailing, transmission-based way of teaching, which proved to be inadequate for distance teaching, bringing out considerable problems of attention and involvement of the class. In fact, contextual factors such as the empathic relationship with the teacher and sharing with classmates, which supported learning of especially the most fragile students, have disappeared. The need to improve the organization of the pedagogical intervention and adapt to the new situation has thus become more and more evident.

E-learning, together with the obvious difficulties, certainly had the merit of bringing the need for a more conscious educational model back to the center of the debate. In Italy, the Decree of the Minister of Education (2020), related to distance learning, reminded teachers that if they want to help students develop autonomy and responsibility in this moment of emergency, they need to reshape their teaching plans. They had to identify the essential contents of the disciplines, the interdisciplinary nodes, the contributions of non-formal and informal learning contexts, and aim

at placing students, even from a distance, at the center of the teaching-learning process - underlining aspects that should have been already well present regardless of the situation.

It thus emerged how indispensable it is for teachers to reflect on their role and have consistent guidelines that are adaptable, matching various situations.

In recent decades, training in the Feuerstein Method and its Instrumental Enrichment (IE), structured in a graded set of Instruments consisting of paper and pencil exercises and aimed at enhancing the propensity to learn, has certainly contributed to completing the professionalism of teachers.

If we focus more specifically on the didactics of the Method, we see how it in itself represents an effective "tool" in disciplinary intervention by providing guidelines for:

- *The teacher mediator.* Feuerstein R et al (2006) define the role of the mediator: "This mediating agent, guided by intention, culture, and emotional investment selects, enhances, focuses, and otherwise organizes the world of stimuli for learners" (p.68).
- *The curricular lesson as an MLE.* Through the Feuerstein approach, intervention in the classroom is prepared and carried out in order to enhance thinking skills and the learning process. This way, it responds to the various needs of the group and the individual student, supporting the motivation and the development of autonomy.

## **The Teacher Mediator**

Starting from Vygotsky (1934/1986), who believed that each individual is modifiable through social interaction, Feuerstein's theory of Structural Cognitive Modifiability (SCM) affirms the centrality of the mediator and the *vis à vis* relationship in the development of the propensity to learn, and underlines how "It is now possible to actively view the effects of SCM and the provision of MLE on the development and modification of neuro-physiological process" (Feuerstein et al, 2010, p.134).

Feuerstein clarifies how mediation is characterized by various parameters. Three of these, which we will observe more closely, cross history and cultures and are considered fundamental. It is their presence the teacher's acts convert the curricular lesson into an MLE.

### *1. Intentionality and Reciprocity*

The possibility to understand each other is the foundation of relationships between human beings. Looks we exchange with our interlocutors open us to empathy and, as Edith Stein underlined (1917-1964), to dialogues and the responsibility of taking charge of others. Exploring the roots of empathy, neuroscientists highlighted mirror neuron systems that are activated both when an action is performed and when it is observed (Rizzolatti & Sinigaglia, 2006).

In cognitive sciences, Csibra and Gergely (2011) also affirm that “Infants are prepared to identify and interpret others’ actions as communicative acts that are specifically addressed to them” (p.1150) and this activates a “pedagogical posture” specifically directed to learning.

Intentionality, Feuerstein stressed, makes the mediator modify the three poles of interaction - task, student, and him/herself - in order to find the best possible way to activate the other’s response and build a relationship of reciprocity.

### *2. The Mediation of Transcendence*

This way, the mediator’s activity does not end in the “here and now” related to a specific context, as it happens in animal learning (Feuerstein et al. 2006; Hoppit et al. 2008). Starting from the disciplines, the mediator helps the student to work out interdisciplinary ~~transversal~~ and constitutive general principles of knowledge by bringing out the similarities that constitute the link between past and future (Hofstadter & Sander, 2013) and, as Morin says, “expect the unexpected” (1999, p.11).

Psycho-biologist Alberto Oliverio (2015) talks about the link between learning and neuroscience, and says that when we study, memory is not turned to the past but towards the future. We memorize to remember in other contexts and times.

The use of IE with low specific content "trains" the student to face the new since it focuses on cognitive processes. Feuerstein et al. (2006) states: “It is when cognitive processes become detached from specific tasks that cognitive distance is achieved and cognitive structures are established, generalized, transferred, and become possible” (p.85).

### *3. The Mediation of Meaning*

Bruner (1990) reminds us that considering the world as an indifferent flow of information that individuals process each in his/her own way means losing sight of what individuals are and how they act. The interaction between emotional and cognitive aspects, as Feuerstein (2003) pointed out in the image of the transparent coin, is expressed in the request for mediation of meaning, particularly by students from different situations and contexts. As Schur (2015, p.44) stated: “Experiencing change processes is not easy for the students. It involves emotional confusion and sometimes resistance to the teaching offered”. So, as the author suggests, we need to build, through mediation, “Thinking Journeys” towards new kinds of knowledge.

In the classroom, the mediator who emphasises what is important to him/her must take into account the difference between his/her own experiences and the student’s, and translate it into showing perspectives, broadening the need for knowledge, giving rise to the desire to explore territories still unknown.

### **The curricular lesson as Mediated Learning Experience (MLE)**

Together with the theoretical support, the Feuerstein training is characterized by offering didactic action guidelines for the preparation and presentation of the disciplinary lesson in the classroom.

### **Preparation for the lesson**

Most teachers in the training courses affirm that they review the lesson to be taught to refocus on the subject rather than to plan their own intervention. The textbook is generally considered adequate for both the explanation and students' learning. Feuerstein, however, believes that preparation is a fundamental expression of the intention to help students in their learning path.

To best use of the IE page, the mediator is given a basic form to complete before entering the classroom. It consists of the following items:

1. Goal/s
2. Analysis of the task

3. Anticipation of possible difficulties and ways to overcome them
4. Mediation
5. Generalization
6. Vocabulary
7. Notes

After the class, the teacher writes down in the notes what worked and what remained pending in order to mark a red thread between interventions.

Trained in IE, participants confirm how, even during a disciplinary lesson, this habit has given them better control of their work and increased their feeling of self-efficacy.

## **1. Goal/s**

The textbook might make the teacher forget how the specific goals of the single curricular lesson are placed within a much broader framework.

It is important to consider that in Italy, the Ministry of Education's (2020) guidelines for evaluation in primary school underline how the disciplinary contents that constitute the goal and are subject to evaluation need to be articulated on several levels:

- Factual: terminology, facts, information, data
- Conceptual: classifications, principles
- Procedural: algorithms, sequences of actions
- Metacognitive: reflections on the process

Moreover, the different typologies must be represented in a balanced way in a descriptive evaluation of the formative type.

Following on these assumptions, intervention in the classroom is increasingly based on MLE indications. The teacher must define specific goals for each lesson in operational terms, outline ways to go according to feedback received from the class, and support the students so that they could see themselves as active agents in building and monitoring their own paths. This happens

when the teacher's disciplinary requests are realistic, challenging but possible. Lack of motivation on the part of the students could, in fact, be due to a challenge that is too hard or not very involving, and represents an implicit request for mediation.

Goal achievement also depends on the forecast and the conscious organization of the time available. Teachers have to avoid, as often happens to many of them, unfinished lessons or students' submitting incomplete exams, which generates a sense of frustration for everyone.

## **2. Task Analysis**

Each task has specific characteristics that must be taken into account in relation to learning.

Piaget's studies (1964) of children's cognitive development and the maturation of cognitive processes formed the basis for planning demands at school. In recent decades, psychology has also particularly studied the topic of mental workload. "A composite brain state that reflects the interaction between the environmental and task demands imposed on an individual and his or her capability to meet those demands." (Parasuraman & Caggiano, 2002, p.17).

A twenty-year-long study on cognitive load confirmed that learning can only be consolidated if didactic planning takes into account the amount of information that the working memory can hold (Sweller et al., 1998; 2019).

Feuerstein asks the mediator to be the "builder" of the task, the one who evaluates how much of the information given must be processed for students to give an answer, and how much effort this entails. The more outgoing data differ from incoming data, the higher the level of the demand. For instance, reactions to the instruction: "Listen to a story, repeat it, or summarize it" are placed along a continuum. The summary, in fact, requires complex mental processes that involve gathering and selecting the relevant data, placing them in temporal and spatial sequence, and forming logical connections.

Feuerstein calls these prerequisites for cognitive processes "cognitive functions", which are organized, for educational purposes, according to the input-elaboration-output scheme, depending on whether they concern taking charge of input data, processing them, or the formulating the response.

Teachers can modify tasks through their own mediation by correcting the students' deficient cognitive functions, structuring the same request on quantitatively- and qualitatively-different

levels, and changing the modality, complexity, and abstraction of the presentation in order to adapt their requests to class' needs, the students' expertise, and the amount of effort required.

In any case, mediation in the classroom does not only aim at helping students best learn the curricular subject, but aims at a broader "education in understanding", as Howard Gardner stated in an interview, where he also stressed the consequences of reducing discipline to notional knowledge, as in the following sample questions: "Which king followed which queen? What was the year that something happened? What's the atomic weight of lead? How many planets are there in the Solar System?" He added: "That has nothing to do with disciplinary thinking. Disciplinary thinking are the deeply different ways in which scientists, historians, or artists approach their daily work" (Gardner, 2006, p. 6).

Introducing fundamental ways of thinking and addressing the world, various disciplines as suggested by the educating community reflect aspects chosen for their cognitive value, relevance in organizing thought, and the development of a critical mind.

Gardner (2006) dealt with this subject in his book, *Five Minds for the Future*. The initial idea came from a study in which most of the high school or university students were unable to offer elaborate explanations of phenomena they'd already studied, and gave the same naive answers as did those who had not received specific education. This result, which is due to a still widespread approach, makes teachers and students think that a good preparation coincides with the memorization of figures, formulas, and data. This brings to the foreground a "quantitative" concept that favours an accumulative and replicative method. In class exams we see small but significant examples of the consequences of this approach.

For instance, one of the best students of a class that had been studying the Romans for some time was asked by an external visitor: "Did Egyptians and Romans ever meet?" To the visitor's and the teacher's bewilderment, he replied: "No. The Egyptians are at least 20 pages earlier". This mistake by one of the best students clearly highlighted the need for a more incisive mediation of an overall picture and a more conscious use of time by the teacher. The disciplinary point of view reflects "qualitative" aspects that affect learning at various levels: from understanding to motivation and memory, to the possibility of transferring learning to other contexts. Teachers who master their discipline know that every piece of information takes on a certain meaning when placed within a specific context. This awareness instructs them to mediate new data acquisitions so that they integrate with previous ones and not remain fragmented and inert.

Since the 1990s, the pedagogical debate has expanded beyond these themes, reflecting the need to obtain different kinds of knowledge in order to be able to cope with the complexity of relationships (Bruner, 1971,1986; Morin, 1999). Classroom life, however, sometimes seems to still have to accept the suggestions of Michel de Montaigne, who in his *Essays* reminds the tutor not to repeat what was he had heard as if he were pouring into a funnel, and not to ask students to repeat the words of the lesson, but to relate their meaning and substance: “It is a sign of rudeness and indigestion for a man to yield up his meat even as he swallowed the same” (Montaigne, 1892, p.156).

Complementing the disciplinary study, Feuerstein’s IE takes up this challenge: based on strengthening thought processes, it is structured to make students reflect and bring out both the specific "deep" aspects of the various areas and their connections. For example, the IE suggestions regarding Spatial Orientation help to highlight and relate the fundamental aspects to structure the subjective and intersubjective space, avoiding very common errors that both children and adults make. Not infrequently the answer to the question: "Where is east?" is "East is on the right, West on the left, North above, South below". This answer reflects a lack of mediation of the conventional representation of north at the top of the sheet, as it happens in most maps.

The mediation implemented with these IE tools relies on the analysis of the spatial context to develop transversal cognitive processes such as establishing relationships, identifying and mastering the characteristics of a stable reference system, making inferences, encoding and decoding symbolic representations, and so on.

### **3. Anticipation of difficulties and how to overcome them**

By analysing the task requirements and the knowledge that the class, each student, and the teacher can make an initial prediction of both general and specific problems. The most common ones may depend on:

- *Impulsive behaviour*

Feuerstein claims that students often have difficulties with Input or Output, rather than with Elaborating on the problem. In these two phases, mediation can work by either slowing students down or, in some cases, prompting them to act.

To prevent quick but inadequate interventions, which might reflect the teacher's anxiety, mediators help students learn to examine the task in general so that they become aware of what is requested of them, and subsequently direct them to an analytical breakdown and data-gathering so that exercises are not carried out before they understand the instructions, for example.

It is also important to reflect on *sequencing*, so that students identify the difference between a forced sequence and other more advantageous choices, for example in answering scoring tests where it is more functional to answer first what you know and leave the rest for last. Telling a story also opens up different possibilities, depending on the narrative purpose.

In IE exercises, the teacher makes students recognize the diversity of options and put them in sequence in different ways, encouraging flexibility.

- *The task is too complex*

When the task is highly demanding because of its novelty or the quality and quantity of the data, some strategies help students reduce their efforts.

In his studies on working memory capacity, Miller (1956) shows how *chunking*, the process - individual pieces of an information set are broken down and then grouped together in a meaningful whole - positively changes the amount of information you can remember.

Current textbooks follow this path: chapters are divided into paragraphs where keywords are in bold and concept-words appear next to the paragraph to summarize the meaning. Images and diagrams also offer visual support to the topic. However, without mediation, the student is not always able to independently understand that the title of the chapter and the paragraphs are organizers that anticipate and summarize the content, that words in boldface highlight relevant aspects, and that the images lead back to the text.

Through the IE pages, teachers acquire (and make students acquire) the habit of breaking down the task from the very beginning so that they can do the same with the given school subjects.

- *Critical aspects*

Middendorf and Kalish (1996) show how one explanation for lapses in students' attention can depend on the "information transfer" model of the traditional lecture, and how important it is to respect the attention span by employing dialogue and other well-organized activities. Teachers can facilitate learning with examples, analogies, and explanations formulated in different ways and prepared in advance.

Some difficulties may also arise, as the theory of cognitive load pointed out, from the presence of irrelevant information that might be misleading (Calvani, 2014).

In IE training, these elements are reduced but not eliminated completely. They constitute the target of reflection to progressively help students identify the "distractors" that point at perceptive solution or inadequate logical connections.

On the other hand, we consider that most problems in extracurricular life are poorly formulated and that one of the tasks of education is precisely to increase critical ability (Sternberg & Spear-Swerling, 1996) and to help identify the data useful for decision-making processes.

#### **4. Mediation**

During the distance learning days, students and teachers expressed their desire to return to the relationship in the classroom.

Here is the testimony of a teacher: "When I look my students in the eye, I understand if it is time to interact and how, I help the shy ones to come forward, I restrain the bold ones. Speaking in front of a PC, however, breaks down all differences between the students: they are all there, uniformed, no longer having their personalities to enhance. And they are unmotivated."

These words show how the adult's feedback is central in helping students to structure themselves, build a positive self-image, and involve themselves in the challenges they face (Minuto, 1997).

However, some features of mediated interaction characterize the action of the teacher regardless of the medium used:

- *Questioning competence*

Present evidence and studies point out that the prevailing interaction in the classroom is - the teacher talks and the students listen (Velasco & de González, 2008; Albergaria-Almeida, 2010). Moreover, when the teacher poses a question, for instance “When did the French Revolution break out?”, he/she frequently already knows the answer, which is univocal, has only the T/F alternative, and can only be right or wrong.

Sternberg and Spear-Swerling (1996) highlight how this practice is inadequate and, if it prevails, tends to classify students rather than support learning.

The effective teacher must consciously choose demands that serve the structure and direction he/she wants to give to the lesson (Minuto & Ravizza, 2014).

Here are some examples of questions to start a dialogue:

“Into how many parts can we break up this problem?”

“What is more useful to do first?”

“Can we decide on a different order?”

“What consequences can we foresee?”

“Has anybody found a different strategy?”

“What are the main aspects of this topic?”

“How do we get to this result?”

“Can we find analogies between this topic and another one?”

“Which aspects of this problem can be used elsewhere?”

These questions are followed by an invitation to elaborate on the reasons for the answers, bringing out logical links, unusual and creative approaches, and spontaneous self-corrections on the part of the students.

Sternberg and Spear-Swerling (1996) examine the different teacher responses to student questions that range from rejecting to helping the student learn to think and how behave when facing his/her own thoughts.

Student interventions are particularly important because they highlight the gap between what has been communicated and what has been received. This difference underlines the cognitive functions activated by students, by bringing out both unexpected and creative answers as well as errors, which should be viewed as implicit questions, requesting new mediation from the teacher.

- *Wait time*

The slogan of IE is "Just a minute..., Let me think!" Feuerstein sees the mediator as "the teacher who encourages a short delay in question and answer processes, giving the student time to consider his/her answer, and then reflect on the process that led to this answer" (Feuerstein et al., 2006, p. 77).

The teacher's interrogative competence is revealed by the use he/she makes of the pause after receiving the answer, during which the teacher should think of the next question to ask, based on the answer received.

Rowe (1987) points out how short the wait time is, and Cotton (1988) underlines that it is even shorter when the teacher believes that the student will give a wrong answer.

In addition to the need to offer more time, Walsh and Sattes (2005) invite the teacher to provide students with suggestions and strategies on how to use these pauses.

Many authors highlight how a longer wait time improves the effectiveness of thought and the quality of the answer of the students (Palincsar, 1986; Dillon, 2004; Walsh & Sattes, 2011).

The main positive effects can be:

- Improvement in the achievement of goals
- More complete and correct answers and justification of answers
- Better retention even when exams are held after some time
- More flexible and creative solutions and increased hypotheses formulation

The wait time also positively affects the students' motivation, involvement, and confidence in their responses.

## 5. Generalization

We have seen that presently, the goal in the disciplinary field is the "deep" knowledge of the content aimed at developing transversal skills and preparing to "learn to think".

IE has the same purposes: "Mastery of the tasks in Instrumental Enrichment is never a matter of rote learning or the mere reproduction of a learned skill. Accomplishment always involves the learning of rules, principles, or strategies underlying the task, rather than the task itself" (Feuerstein et al., 2006, p. 417).

Teachers often think that students spontaneously activate that process of transfer, that takes place when learning in one context enhances a related performance both in immediate contexts and in contexts that become more and more diversified (Perkins & Salomon, 1992).

Yet, as Camp (2012) points out, teachers have to offer deliberate and explicit modelling during the lesson. In the classroom, the cognitive functions and the strategies used, the processes, the errors, and the communicative aspects constitute the starting point for the formulation of a general principle that forms a link between the learning experience in the classroom and conceptual knowledge. Later, examples are given of how to apply this principle in different situations, thus building a bridge for everyday life. This way, flexibility and creative thinking develop too (Vignati, 2009).

To help students develop this meta-skill, the teacher-mediator prepares some generalizations in advance, but he/she will discard those in favour of what students may suggest.

Here is an example from the teacher's guide to Organisation of Dots in IE:

(Feuerstein & Hoffmann, 1995, p.36):

Principle: *In everything we do, we must follow certain rules.*

Mini Bridging: *What are the rules we follow when we cross the street?*

*When we drive a car?*

*When we attend this school?*

*Are there rules for basketball?*

*For grammar?*

*For working with power tools?*

The moment that activates inductive, deductive, and analogical thinking has several important impacts on the students' self-confidence (Camp, 2012) and flexibility, and is extremely motivating for students who feel involved in a "game" where each example is valid, as long as they are able to justify the path that had led them to it.

## **6. Vocabulary**

Feuerstein recommends that the mediator identify the words to be mediated so as to offer instruments for thought. This follows Vygotsky's lesson: On the one hand, language and speech are "a psychological tool that helps to form other mental functions; on the other hand, they are part of these functions, which means that they also undergo cultural development" (Kozulin, 1986, p. XXX ).

The concept words are to be introduced or consolidated both on a general level and specifically for the discipline. For example, the word "cause" has different implications whether it is used in historical sciences or in physics.

Ludwig Wittgenstein's proposition 5.6 (1922) states: "The limits of my language mean the limits of my world." This finely summarizes the importance of mediating a deep knowledge of the word.

## **7. Notes**

This is the part of the form to be filled out after the lesson, in the classroom. This hindsight reflection helps the teacher to record even small changes attained by students and see his/her effort as a work in progress. It is also the time to check the various items and compare the predictions made with what actually happened, and evaluate what needs to be modified or integrated.

## **Lesson Presentation**

How can our guidelines for curricular teaching apply to the classroom?

The focus on learning modifies the linear structure explanation-question-evaluation.

In the use of IE, as during lesson planning, the teacher involves the students from the start in defining objectives to reach, clearly pointing out the steps to be taken during the lessons. These steps switch between operational and metacognitive aspects. During this exchange between teacher, student and class, they discuss the difficulties encountered, the eventual mistakes made, and the strategies employed.

Dehaene (2018) also emphasizes how students learn best when they are very clear about the purpose of learning and can realize that every suggestion converges towards the goal.

Furthermore, taking up Hattie's (2008, 2012), meta-analysis Dehaene points out that in the disciplinary field, frequent opportunities for ongoing formative evaluation, and timely feedback are among the most powerful learning factors. In fact, they reduce the students' anxiety and prepare them more adequately for a summative evaluation.

Here is a suggestion inspired by the IE model to articulate lesson time in class:

1. Warmup
2. Introduction
3. Presentation of new information
4. Practice
5. Generalization and transfer
6. Summary

Half the time is devoted to steps 3 and 4, while the other steps last about five to seven minutes each. These timeframes are not binding and must be adapted to the situation. In any case, it is important that the rhythm bring out the itinerary and increase listening and attention.

A more in-depth view of the various parts reveals their main characteristics:

## 1. Warmup

A student's reflection, a key-word, a tale, a game that matches the situation, and the topic can be activating and inclusive ways to recall prior knowledge to be used for the new goal/s.

It is very important to start favouring the participation of all the students, mainly the most fragile ones, who will feel more at ease to intervene when the context is non-evaluative.

The few warm-up minutes are important because they allow teacher and students to:

- *Help thoughts engage in the new situation* here and now, and break away from previous activities and thoughts. Students, and often teachers as well, need to remove what occupied their minds and engage in the new context.
- *Recall prior knowledge* to summarize the basic information of what has been done so far, which can be useful for the new objective. Making a habit of recapping the key points of the course can provide the class with a model of how to proceed in the new subject and inform the teacher of what the class had already learned.
- *Motivate new learning*. As in a puzzle, reference to an overview and to prior knowledge helps students understand the specificity of the new suggestion, and motivates them to formulate new hypotheses and verify them.
- *Get used to a collaborative mode*. Actively listening, the teacher gives an example of how to be together, helps students become accustomed to respecting the rules of intervention, and to build a flexible way of thinking, decentralize, and accept other points of view.

## 2. Introduction

Before starting, it is important to state the goals and relate them to the assessment of students' achievement, disclose what will be presented, and summarize the new topic through instruments such as a bulleted lists or maps, using a variety of communication channels.

Students are encouraged to anticipate difficulties and applicable strategies to address them.

This pause can also arouse curiosity and mediate "the challenge" of the task so as to activate motivation.

### 3. Presentation of new information

To set up this step, the teacher should consider the connections between the information already acquired by the students, the degree of novelty of what is presented, and the hypotheses and strategies that will be used to attain the goal.

Instead of an "average" frontal exposure addressing the class at large, the teacher-mediator leaves room for students' questions and use them to reformulate his/her suggestion according to needs that emerged.

Starting to use each IE page, which may constitute a reference model, the mediator presents the topics primarily through the following three questions:

a. "What do we see?"

Students frequently make mistakes because they analyse information too quickly. Feuerstein reminds us that not many students really have cognitive difficulties, which often result from a hasty approach or an impulsive answer.

The above question allows students to slow down and helps them to:

- *Take charge of the data*

Feuerstein gives a list of cognitive functions that help identify the origin of the difficulties. For instance, when student perception is not focused because some objective is not clear enough, or because they are not familiar with the terms used.

- *Improve the students' knowledge*

Students' answers are the restart point because they bring out all the aspects that impressed them most (words, images, etc.) and from time to time provide the teacher with valuable information regarding what needs to be completed or emphasized.

This moment also allows each student to integrate his/her own information with information obtained from their peers, and enrich individual perspectives with other points of view, thus reducing the teacher's need of to use direct intervention. It is interesting to note how, at times, class observations present teachers with novel characters, as their open-mindedness actually favours the participation of all the students, encouraging their contributions.

b. "What do we know already?"

This question establishes a link with prior knowledge/competence and is where we start to build a mental image, formulate a hypothesis, plan, and decide.

This approach allows to:

- *Increase self-efficacy*

Since it helps students understand that they have already acquired some knowledge and skills, thus improving their view of themselves and their means. This activation is useful not only for the more fragile ones but also for the whole class.

Bandura (1993) underlines that "Personal accomplishments require not only skills but self-beliefs of efficacy to use them well. Hence a person with the same knowledge and skills may perform poorly, adequately, or extraordinarily depending on fluctuations in self-efficacy thinking" (p. 119).

- *Enhance memory*

Barbarin & Wasik (2009) stress how important it is for the teacher to explicitly refer students to what they know already and how better results are obtained when students are invited to reflect not only on how to encode and retrieve information but also which strategies they employ on a meta-cognitive level.

Tutoring the disciplinary lesson of IE courses, many teachers feel that the "link with previous lessons" increased student involvement and learning consolidation.

c. "What's new?"

Some students answer this question with "It's the same as before" or "It's all new," or they reply with another question: "What's the use of this?" thus expressing their need for the mediation of meaning so as to persuade them to become involved.

This highlights the "necessity" of comparison so that students realize that comparison helps them can formulate hypotheses, establish cause-effect links, and make decisions.

To involve the students, the mediator takes care of:

- *Proposing an adequate challenge*

Alternating challenging exercises with moments of consolidation and analysis of possible difficulties makes the curricular lesson neither too distant nor repetitive, as compared with the students' skills.

Recent studies on the success of video games have shown that some intrinsic characteristics such as challenge level, self-assessment, etc. can also make disciplinary teaching more motivating and effective (Dehaene, 2018; Rivoltella, 2012).

Mediating the steps:

- Define what is new
- Correlate and select the information given in relation to the identified goal
- Foresee possible developments
- Determine whether already-known processes and strategies are suitable for the new context
- Determine if and which new approaches are required

#### **4. Practice**

In some disciplinary lessons, teachers do not always provide the application part, but should keep in mind that this is a powerful tool for understanding and memorization. Even current textbooks direct towards practical activities that are sometimes neglected but useful for fixing the learning content and “translating” concepts into levels of abstraction. For example, there are historic suggestions in geography about formulating timelines and rearranging events to compare data and to read and create maps. Furthermore, the suggestions affect different types of memory, beyond the auditive and verbal one.

The division into two parts of this step, each subdivided into two phases, also enables to verify learning, re-mediate aspects that are not clear enough, and go back to autonomous work so as to eventually assess the work done.

## **Part one**

### **Phase 1: Independent work**

This phase reconnects with new information; the “what do we see? what’s old? what’s new?” questions; and to the hypotheses formulated.

This is when the student is individually confronted with the task, verifies the gap between what he/she has already learned and the new suggestion, and elaborates on hypotheses and strategies.

In most cases, this happens without great difficulties, but in this first request for action, blocking attitudes may be seen. All teachers have seen students, even if they are well prepared, who suddenly become speechless, frantically search for the answer, and even become sick before exams.

A negative prevision, perhaps caused by past experiences, can send an automatic alarm signal such as pain in the pit of the stomach, a “somatic marker” that dissuades from facing a new failure (Damasio, 1994).

Feuerstein et al. (2006) pointed out that “This function often appears following impulsive behaviours at the input and/or elaboration stage, or in the output phase in operations of trial and error” (p.180).

This is why the help offered by mediation in the previous phases and a positive attitude of the class become central. Yet, Feuerstein warns against giving in to the temptation to replace students in carrying out their tasks, which encourages them to be passive and make no mistakes.

Studies by Rescorla and Wagner (1972) quoted by Dehaene (2018) emphasize that the brain learns only when it detects a gap between what it predicts and what it observes and that no learning is possible without it first signalling- error.

The role of the teacher-mediator is thus to offer prompt feedback and, when necessary, clearly repeat a model of action so as to let the student succeed autonomously.

## **Phase 2: shared reflection**

In this phase, the peer group reflects together while, acting as a mediator, the teacher opens a "safe" space for discussion of problems, strategies and errors. The focus is on the activated processes, the validated hypotheses, and strategies that either proved adequate or did not lead to success.

More generally, the reflection on what is not working makes us understand where we all need to intervene; suggest ways to correct errors; and consequently show the procedure and the architecture that will make the system, the apparatus, the mechanism, and the theory function (Giorello & Donghi, 2019).

Shared reflection is therefore a central moment as it allows students to equip themselves with further tools to face the next phase.

## **Part two**

### **-phase 1: independent work**

The fallout of the previous phase is the creation of action guidelines. "This general metacognitive level helps students avoid persevering in unproductive approaches, to remember to check... and so on" (Perkins & Salomon, 1989, p.20). The dialogue, initially external for various interlocutors, is internalized. This allows students to direct their acts more consciously and ask themselves questions that characterize the lesson in the classroom. At the same time the dialogue proves to be productive and functional, improving both curricular and daily learning situations.

### **-phase 2: conclusion**

This is the time for the final reflection, when students and teacher retrace the path taken, evaluate changes that occurred, compare them with the goals they needed to achieve, and define the way still left to go.

Verbally sharing with the peer group and the teacher encourages students to find the right words to express the processes they had carried out, and explain to themselves and to the others why their solutions were right or wrong. This itinerary in successive steps can also lead

to a summative evaluation, as required in the disciplinary field, for instance, but offers students a different vision of themselves within the learning path and makes them consider teacher and classmates as resources and not as antagonists.

## **5. Generalization and transfer**

For the mediator, strengthening this meta-ability is very important because it favours "learning to learn" across different areas. All the operational work carried out up to now is oriented around this moment.

As expressed by Dennet (2017), it is reflection, which is not present in the animal kingdom, that permits knowledge through experience, to be transformed into deep understanding. This leads to "the ability to treat whatever topic is under consideration as itself a thing to be examined, analysed, inventoried, thanks to our capacity to represent it explicitly via words, diagrams, and other tools of self-stimulation" (Dennett, p.300, 2017). This is the basis for projected skills and the objective of Feuerstein's Method.

Feuerstein suggests taking a path that initially helps to decontextualize the experience and develop a general principle, and later re-contextualizes this principle in everyday life so that what emerged can direct operations in more or less similar situations.

Starting class reflection, the mediator, asks some questions:

"What is the most meaningful aspect of this experience?"

"What was difficult or misleading? Why?"

"How could you/we overcome this difficulty?"

"Do you think that this strategy is useful only in this case?"

and the last question

"What did we learn today about how we think?"

that leads to the generalization of the experience made.

At this point, it is important to write the principle in positive terms on the blackboard, to form a point of reference for the discussion for the whole class.

Now begins the third phase. Its goal is to show that this principle is useful in new situations by creating bridging, i.e. examples in different areas, and justify them logically.

It is important to point out that elaborating on a principle and bridging depend on the context and the age of the students. The language and the level of abstraction and complexity will vary according to the situation. At first, the mediator teaches how to find a principle and examples through simple analogies and near transfers so that the process is well understood; later, he/she gradually diminishes the most evident similarities and thus arrives at further transfers.

This moment answers the legitimate question of the students: "What is the use of learning what I am learning?" while helping educators overcome a sense of frustration when their students pass school exams, but cannot apply the strategies they learned to other disciplines and even less so to real life situations.

## **6. Summary**

The use of Feuerstein's instruments always opens and closes with a summary, and the curricular lesson should follow this same scheme.

The teacher knows that he/she must not use the last minutes of the lesson to hastily give new information that will be poorly understood and rarely remembered.

The mediator should use this time to recall the focal points of the experience with simple questions:

"What have we learned?"

"What are the key-words?"

"Which strategies did we employ?"

This moment is very important because it gives value to what has been done, allows students to better memorize what they learned in view of the resumption in the next lesson and, at the same time, they become aware of what they learned, and gain in motivation and self-confidence.

## **Conclusions**

The use of IE program exercises helps and supports learning at school and attains important results in overcoming school difficulties (O'Hanlon, 2015).

The concept of mediated learning, together with the notion of mathematically specific psychological tools, is the foundation of the Rigorous Mathematical Thinking model developed by Kinard and Kozulin (2008).

The idea of didactics centred on mediation has led to "positive contamination" in the extracurricular field, for instance in bringing children closer to art in museums (Feuerstein & Lewin-Benham, 2012) or in theatre training (Carini, 2011).

As we have shown in this work, Feuerstein's didactic approach, created in the second half of the 20<sup>th</sup> century, was way ahead of its time as it supported the construction of a "*forma mentis*" that helped transforming teachers and students into active protagonists and in doing so, helps to transforming the curricular lesson into a chance for MLE.

The curricular teacher, who applies the didactics of the Method to the discipline, regards him/herself as an agent of change, learns from his/her students, and implements those good practices, highlighted from evidence-based resources in the guide of the Education Endowment Foundation (2019), an important English foundation for school research that deals with "planning how to undertake a task, working on it while monitoring the strategy to check progress, then evaluating the overall success." (p.9).

An important aspect highlighted in particular by Tebar Belmonte (2003) is the habit of evaluating not only changes in students but also self-evaluating one's own work. In fact, the teacher-mediator's aim is to find ways to help students become teachers of themselves.

## **The Expert Student**

The student who experiences school as a place where he/she is accepted, supported, and challenged becomes an "expert student" capable of using that self-questioning that increases his/her ability to deal with study and allows him/her to be autonomous in facing the problems of everyday life.

Receiving the mediation through dialogue exercises offered by IE, students have a pattern of questions they can apply in any problematic situation in order to deal with it self-sufficiently, even if the context is different (Minuto & Ravizza, 2008; Mentis, Dunn-Berstein & Mentis, 2009):

“What do I know already?”

“Can I foresee difficulties? Which ones? Why?”

“What is new?”

“What is my aim?”

“How can I check my working hypothesis?”

“How can I detect a mistake and how can I correct it?”

“Which other strategies are possible?”

“Is there any other context where I can use this strategy, process?”

Through their actions, mediators put into effect requests mentioned by Fischer (1998), which are necessary when teaching to think, that go above (metacognitive thinking) and beyond (cognitive extension) the experience.

Thus, lesson time becomes privileged time in which to exercise that fundamental characteristic of the human species, as underlined by Dennet (2017): the act of asking others to explain themselves, to justify their choices and actions and then judge, approve or reject their answers, in an endless repetition of the "why?" game.

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# **The Desire to Grow and Improve and the Tools to Achieve It**

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## **Preface**

I was born and raised in the world of education and I have always loved working with children and teenagers. My life has always been closely connected to schools, especially Jewish school, even when my choices gave a twist to my career. In fact, I first heard of Feuerstein's Theory when I worked as a school teacher.

Feuerstein's Theory is deeply rooted in the most prominent trait of the Jewish culture: the transmission of culture to the following generations. School is the formal environment where this objective can be attained, and is the right place for sharing experiences, socializing, building relationships, and enhancing individual talents.

Many years have passed since the very first time I heard the concept of "Mediated Learning Experience." Now, I find my method-related competence and skills enriched thanks to many different points of view and perspectives: I was a teacher in Primary School (my first job); I worked as an Educational Psychologist (dealing with learning difficulties, educational continuity in kindergarten/primary/secondary schools; integration of students with behavioral problems, social disadvantages or special needs; and I was a Principle of the Jewish School in Trieste, in the North-East of Italy.

After leaving school as an in-house professional, I had the opportunity to start working as an external consultant: a freelance psychologist in an institute for sight-impaired students, a teachers' trainer, and organizer of Feuerstein-based courses and activities.

Most recently, I had the opportunity to provide psychological support to first and secondary school professionals and families during the remote teaching/learning experience from 2019 to 2021. Starting from March 2020, I joined a group of experienced colleagues from the CRESCIinsieme Association. We have facts that address problems related to the remote

teaching/learning experience. Subsequently, we published a brief document entitled "Physically distant but socially close. A handbook for creating the best practices in Distant Mediation."<sup>1</sup>

It is from this wide range of experiences that I want to draw to write this contribution.

## **MEDIATED LEARNING AT SCHOOL**

If we consider "learning" as a broad, multi-faceted process, school is the right context "to learn in." School is the place to experience, learn how to create solid and effective social relationships, and build the skills necessary to become aware adults and good citizens.

Society expects schools to be able to provide effective answers to present challenges. People are required to be extremely determined and flexible to respond to the ongoing scientific and technological development, the deep changes in the traditional family structure, and the variety of cultures that characterizes the new Western world.

As far as educational policies are concerned, the European Union urged each Member State to create the basic conditions to help students acquire autonomous learning skills and the ability to form a relationship with the surrounding environment. The Recommendation of the European Council defines these skills as "Key Competences for Lifelong Learning," calling them "Citizenship competencies." To respond to this urgent call, we need a new perspective to look at the schools.

Let us consider the concept of "teaching" - one of the basic elements of teachers' role.

Traditionally, teaching means to lead someone to mastering a topic. Mirroring this concept in the school context, students show their competence when they master the topic covered; for example, solving problems using appropriate tools and strategies.

Teaching here basically takes for granted that intelligence is already developed and the main objective to reach is mastering topics.

According to Feuerstein, mediating means to make people aware of their own learning process.

From this perspective, students show their competences when they are aware of the way in which they organize their own reasoning, use the resources acquired, structure and analyze

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<sup>1</sup> © Distanti fisicamente ma socialmente vicini; Vademecum per costruire buone prassi nella Mediazione a Distanza. n Jael Kopciowski, Stefanella Michielin with the collaboration of Arianna Marchi.

information, and develop self-regulation strategies when they need to face challenges. The focal point of mediation is to enhance intelligence. If we can reach this objective, teaching goals become easier to attain, closer to reach, and more satisfactory because they allow for greater autonomy.

Teaching is about the product, Mediation is about the process. When teaching occurs through Mediation, mastering a topic means to master the underlying processes, positively affecting the development of a solid and engaged personality. That is, school can accomplish its main purpose: promoting the development of active, creative, meaningful learning to allow students to discover, select, connect to, and generalize on new pieces of knowledge.

Life at school is really demanding and rich in terms of cultural and social exchanges, rules, and habits, which create a silent background, an "implicit curriculum" that is not formally included in any official document, but whose influence shapes a student's self-image and social behaviors.

It is this complex network of school rules and habits that allows human beings to create their own individual criteria for reading the external world, and the ability to make choices while respecting their own as well as others' individual space and time.

For the general well-being of everyone involved (parents, students, and teachers), it is extremely important that the implicit curriculum and the explicit curriculum (as per the official school documents) are coherent. Using these terms, it would be very useful to integrate the Feuerstein Method at school using the concept of Mediated Learning Experience.

What are the main principles proposed by the Israeli educational psychologist, who died in April 2014?

A general yet partial answer to this question could be:

*"A method to enhance mental abilities, based on the basic principle that intelligence is not a pre-determined and steady factor, but can evolve. Feuerstein clearly describes the right conditions in which mental enhancement is possible, indicating the right environment and the educational approach, as well as suggesting the practical activities useful to overcome cognitive deficiencies, if present."*

Nevertheless, this definition is not thorough enough to capture the pure essence of Feuerstein's Theory, because the Method is something more. It is a way of living, a strong stimulus to act and create according to a number of dynamic, factual, optimistic, practical life criteria. Cognitive

modifiability in human beings is possible only if the human organism is regarded as an open system, characterized by peculiar plasticity depending on personal experience. As a result, adults play a vital role in the cognitive field.

Feuerstein's strong belief that "**the human being is modifiable**" contrasts the historic, traditional basis of Psychology, which mainly aims at understanding, analyzing, and classifying atypical and pathological behaviors in order to "cure" psychological distress, following the model of classical medicine. The Method also steps away from traditional Pedagogy, where any deviation from the standard norm was pragmatically considered a mistake with negative connotations.

When referring to intelligence, Feuerstein used to assert: "It is time to stop measuring what is not measurable. It is the time to empower what can be empowered," openly contrasting Human Science theories of the 1950s, 60s and 70s and, on more recent occasions, facing the misunderstanding and derision from some areas of the education environment. Many considered his hypotheses to be wrong and unbelievable, asserting Feuerstein himself to be hugely mistaken.

Current findings of neuropsychological research support his intuition: Structural change is possible, regardless of age, type of problem, and internal and external individual limits. It is therefore necessary to look for instruments and methods to attain cognitive modifiability even when it appears to be impossible.

Teachers who attend a Feuerstein training course can enjoy a first-hand experience of the basic aspects of Mediated Learning, first activating change in their own way of thinking and then applying what they have experienced themselves to the school environment.

## THE TEACHER'S ROLE - THE CONCEPT OF MODIFIABILITY

*Fiorella Castelnovo (Rome)*, Middle School Teacher (of 11-14 year olds.), Feuerstein Trainer

Why should teachers be interested in knowing Feuerstein's Theory? What is the teacher's role? What makes a good teacher? Can we assume that students will become proficient in some kind of topic if their teacher is an expert in that field? Is the relationship between teachers and students important? If a student doesn't learn, whose responsibility is it? What do parents have to do with their children's learning skills? Is what children learn in school really important for their future life?

Anyone who thinks my questions are a provocation is definitely right. After spending many years teaching and struggling to find answers, I would not go as far as saying that I solved every single problem teachers have to face, but I definitely learned a lot.

Sometimes, teachers who sit at their desks, trusting their profound knowledge, try to pass information to their class only to find out that a very small number of their students (if any) have really understood what they are talking about. Such teachers feel free from any kind of responsibility because they have earnestly and accurately done their job, then they come to the conclusion that the reason why students did not learn is because: they don't pay attention/ they don't understand/ they don't think/ don't study/they are not able to learn.

Feuerstein's theory leads us in a different direction. It leads us to understanding that the main goal is learning how to learn and learning how to teach, because it is true that a teacher's role is to transmit knowledge, but our student's minds are not empty containers to fill up, they are thoughts to build up.

Our Teachers taught us that *people had to become "God's partners in the process of creation," that "people have to become builders if they want to develop from childhood to adulthood."*

*Starting from these premises Feuerstein walks us through theoretical postulates and good practices to achieve the goal of **having our students act as co-workers in building their own knowledge.***

In the teaching-learning process, the construction of aware and responsible knowledge comes from the interaction between cognitive, emotional, and meta-cognitive aspects. ***Thanks to activities that consolidate and give meaning to knowledge, students can interpret the surrounding reality.***

Our students are aware that they have people by their side who can lead them with their skills and empathy, but at the same time they feel proud of the work they do. Awareness of their own potential pushes them towards new challenges that they can sometimes win. Faced with failure, they will never feel frustrated and will never give up. With the help and trust of their teachers, they will be able to revise, check each failure, identify and correct the cause, and overcome the obstacles that prevented them from reaching the best result in the first place.

*Maria Sasso* (San Vito al Tagliamento - Pordenone). Teacher in Secondary School, First Grade. PAS STANDARD and BASIC

I discovered Feuerstein's Theory by chance and I found it really fascinating and magnetic from the very beginning. It happened in the early 2000s: I was in Rimini, taking part in an Erickson congress. During a workshop, I heard something about Feuerstein and the new thought. It sounded revolutionary. Professor Esther Lombardini was the speaker and her lecture was crystal clear. The things she talked about sounded so higher-level than everything I had ever heard that I was amazed and captured. [...]

My principal at the time was not very easy to approach, but I was determined, so I went to talk to her [...].

We planned a training course for all the teachers in our school (and there were many of them). We were all aware that if we wanted to change schooling, we had to change the mentality and the teaching approach of the entire school staff, but we felt it was worth working to achieve a different school, a different world, a different way of thinking. [...]

**Feuerstein's Theory set a milestone in my profession. It changed my life: I cannot say I even feel I am a teacher anymore, I felt and still feel a Mediator.**

Every single piece of knowledge I read, see, or learn gets into a side pocket of my brain, into the Language Area where it undergoes a change. There, as a proper ingredient, it is sent to different "chefs" in the Creativity Area, the Logical Thinking Process Area, the Kinetic Area, the Imagination Area and so on. When I feel the "food" is ready, I pass it on to my students.

When the right time comes, I show them the "ingredients" for a proper learning process, the strategies and instruments to prepare a beautiful learning activity all together.

I have been teaching foreign languages for a long time. I started teaching German in a Secondary School and, at the time, my teaching style was shaped against the standard model I used to know. One day I felt I needed to change: I could make the best of my Diploma as a Support Teacher, as I knew it was the best way to teach with happiness. I was right because I knew perfectly well the background of a 15- or 16-years old student coming to school, right after hitting puberty.

Those were the Golden Years, the years when I discovered Feuerstein's Theory. I met Reuven Feuerstein in person in Venice: Such a precious opportunity, such an extraordinary moment of luck! In those Golden Years **I learnt how to avoid the most common mistakes in classification and evaluation**, which the Italian school system forces teachers to make.

Supporting students with special needs, I also supported myself as a teacher. After three decades, I went back to teaching English in the same school and classes: it was fantastic!

**Each piece of learning was (and still feels like) a chessboard I can fragment into dots and squares to be read horizontally or vertically. It helps identify emotions, creating a story through imagination. My students and I have been very happy to learn together how to learn,** and the results were brilliant. Many of my students have since grown up. They are now adults who live, work, and speak languages around the world.

Meanwhile, the Italian school system changed again and has somehow reduced its contents, so I am happily back as a supporting teacher for students with special needs. I am currently the only Feuerstein-trained teacher left in my school. I know perfectly well I am very helpful when my fellow teachers and I have to make decisions about student evaluations, discuss the value of Civics , plan activities, choose strategies; and when we need to set up adequate programs for students with learning difficulties who are not formally certified; and even when we have to deal with immigrants. After all, I know I am different: I am not a teacher. I am a Mediator!

*Simona Cascetti* (Bologna), Special Educational Needs Teacher, middle school (ages 11-14)

My experience with the Feuerstein method started in February 2012 when, together with a small group of colleagues, I started attending the Instrumental Enrichment Standard Course Level I.

At the time, I had already been a teacher for nine years. During the previous year, I was employed as a Special Educational Needs Teacher in a school located in San Lazzaro di Savena, Bologna (Italy). There, a number of colleagues who were already proficient in the Feuerstein Method, used to visit groups from different school grades to offer a 20-hour "Organization of Dots" activity. I had the opportunity to talk to an incredibly skilled teacher who made me realize the far-reaching potential of the Feuerstein approach. I then asked the organizers to sign me up for the first possible training. Luckily enough, there was one about to start in the nearby city of Modena.

I have always loved teaching and always believed that between the teacher's stimulus and the student's response, the former needs to function as a mediator in order to build up real and long-lasting learning experiences. Nevertheless, I did not believe in cognitive modifiability. Having constant interactions with special needs students, every time I saw them struggle to understand some content or concept, I would stop, even if I knew that the task I had set for them was within their reach. How did I know? Because all the documents said so. In our relationship, I was distant and that made them anxious.

I still remember that on the first day of the IE 1 on, February 18, 2012, our trainer showed us a slide. It had a massive impact on me, so much so that I printed it out and I hung it on the wall beside my desk. Up to this day, that image still works as a guiding light for me: oftentimes change can be brought about by a sudden event that comes with an emotion. The slide reads: "Mediators are the creators of treasures and hope. They think the human being is modifiable, they think they are modifiable themselves, they think society is modifiable. Mediators lead people they interact with to reach a kind of autonomy that suits them and best develops their abilities; they have the energy to transform potential into operation, creating new learning possibilities for people. They reassure people of the possibility to evolve positively."

My change started right there, that morning, with that slide.

It has been a long, continuous, 10-year training journey that was provided thanks to Jael Kopciowski and her team of experts from CRESCI Centro Educativo.

My studies and the supervised practice sessions allowed me to adjust my personal qualities, while learning the concept of mediation. As a consequence, I started building better relationships with colleagues and students without renouncing the possibility of telling the truth. My attention level, confrontation, and decision-making skills have also been enhanced. I was guided to embrace the concept of positive teaching, **highlighting what students are able to do rather than their weaknesses, because if they succeed, they become engaged.** I firmly believe in that, because it has been proved right by data gathered over time about different learning objectives.

I realized that **students make progress and reach positive results when they have teachers who believe in their abilities** and confirm their belief every day, creating a virtuous circle where we can improve together, where we can reach our maximum potential.

If one child can reach a goal, it is our duty, as adults, to walk alongside him and take him there.

My hope is to always have the energy to continue on a top-level, life-long learning journey such as the one I have walked so far.

When teachers become familiar with it, the Feuerstein approach provides them with a tool for professional enrichment, equipping them with a number of psychological, methodological, and cognitive skills that can be employed in every learning situation, across different disciplines and subjects.

Furthermore, it enriches students that experience the approach as they are in a stimulating environment that facilitates the acquisition and consolidation of cognitive and relational skills.

The cognitive aspect represents the content and the emotional aspect is the channel through which cognitive elements can flow. Building upon and expanding on one of Piaget's ideas, Feuerstein states that the cognitive and the emotional aspects are two sides of the same see-through coin.

The MLE (Mediated Learning Experience) occurs thanks to systematic interventions carried out by the teacher/mediator, based on the idea that a "lack" is a place of potential improvement. I like to say that whenever I discover a lack of any kind, I have found "the treasure" because they help me find the starting point I need to build upon, if I want to take somebody along his or her growth journey. In this itinerary, Instrumental Enrichment (IE) represents an effective tool for enriching our way of thinking, since it provides us with deeply analyzed, extremely well-constructed operating cases, which are flexible enough and can be adjusted to many different situations. The activities proposed aim at facilitating the enhancement of cognitive functions, with special attention to the more problematic ones. They favor insight, strengthen reality representation skills and facilitate the approach to abstract thinking. Such activities, integrated in an active and "modifying" environment, can foster impressive educational successes.

Mediation also plays a reassuring role, countering the feeling of inadequacy that may have been caused by previous unsuccessful experiences, or against the feelings of non-belonging due to a context that is not easily understood and where it is difficult to explain oneself.

Starting from observing the present we advance to planning future activities for a continuous and careful process of interaction with the group/class, the educational approach affects the effectiveness of learning curricular topics and wider strategic thoughts and social abilities, which cannot be separated from the former.

The effectiveness of learning and the possibility to socialize have an impact on people's growth journey. From a much wider perspective, we can say they influence our whole life, from the very first to the very last day of our existence, from the first time we set foot inside a classroom to the last lesson of a very long teaching career.

The active (or, better said, inter-active) approach, integrated with psycho-pedagogical mediation, allows both students and teachers to reflect on the structure of knowledge and the process that brings it about, helping them acquire an effective study method.

Mediated Learning Experiences serve as an important resource, helping people find the intrinsic motivation to learn because they make us "like" learning and identifying the emotion we feel when we reach important and demanding goals. Furthermore, these experiences allow us to visualize the nature of concepts, highlight their hierarchical relationships, make the idea behind a text come to light, and ideally represent knowledge. They also play a socializing function and

help the collaborative construction of knowledge, encouraging comparisons between different concepts and between the validity of their relationships.

Moreover, Mediated Learning Experiences are very useful for teachers because they allow them to assess students' conceptualization capabilities, make students' cognitive structures come to light and clearly and efficiently show the elements that support students in the fulfillment of their potential.

Following, are some of the most significant implicit goals of the Instrumental Enrichment:

- promote learning in an engaging and stimulating way;
- strengthen insufficient cognitive functions (we all have them!);
- increase self-esteem and self-motivation to complete tasks;
- encourage people to talk about their feelings by creating suitable occasions;
- allow people to experience that their answers are not necessarily "right" or "wrong," but that sometimes alternative solutions are possible, based on the criterion we adopt, the objective we want to reach, the point we start from, etc. Often, we observe individual strategies that can be compared to the strategies adopted by someone else: such a comparison can result in mutual enrichment;
- develop self-reflection strategies to lead people into seeing themselves as active promoters of their own experiences rather than being passive agents;
- know oneself to know where to go in the world, look for connections between concrete elements and symbolical aspects: where am I, where did I come from, where do I want to go;
- provide tools and resources to engage everyone without forcing them, and show doors that open on possible paths everybody can follow according to their increasing, constantly changing ways, thanks to the Mediator's support.

Teachers who embody the concept of Mediation integrate some of the Method focal points with their teaching strategies, paving the way to implicit objectives:

- they ask questions aimed at letting people find autonomous solutions for complex tasks rather than provide answers or pre-established paths;
- they focus their attention on the process rather than on final performance;
- they provide all the necessary support so that, when the time is right, such support is not necessary anymore;
- they experience that "doing" can be easier than "saying" (sometimes it is easier to reach a place than to explain how to get there). At times, however, "saying" something now makes it easier to "do" something in the future. In cognitive processes, the verbalization of the mental paths used, which is extremely difficult at first, leads to a deeper awareness and the consequent ability to reuse, in more complex situations, the paths already followed in easier contexts;

- they ask to explain answers even when they are correct (and not only if they are wrong), to initiate meta-cognitive reflection;
- they consider a mistake as a "window that opens to the mind," that is an opportunity rather than a limitation;
- they encourage connections between tasks, such as a "paper-and-pencil" exercise (i.e., an IE page or a math task), and everyday life through verbalization and sharing of rules and principles that are applicable to different environments and contexts, in order to encourage internalization and generalization. This helps transfer the content of Mediation into daily life tasks.

These elements encourage:

- a. self-fulfillment, necessary for learning how to learn and plan;
- b. the ability to build relationships with other people, in which is essential to communicate, understand, represent, cooperate, and participate;
- c. a balanced interpretation of reality, whose absence jeopardizes problem-solving skills, the identification of connections and relationships, and the acquisition and interpretation of information.

Now I shall introduce some practical observations that illustrate how the Feuerstein theory affects teaching practices. I will specifically focus on the perception of "mistakes" and the conceptual approach they are dealt with:

- making comparison, dialogue, sharing, discussion, importance of interactive questions relevant;
- trust in human beings and their never-ending resources.

\* \* \* \* \*

## **THE ROLE PLAYED BY MISTAKES in the learning process**

"Try, it's easy. You can't go wrong"

"Don't be afraid. No way you can make a mistake. Just go for it."

"The test I have prepared is very easy. I believe that you will all do it right"

"There is nothing to be afraid of. Anyone can solve this problem. You can too!"

"Oh dear, he tries but he just can't get it. We have set too high of an objective for him. We need to adjust it to the situation. It's not fair to humiliate him"

"He is a kid with special needs, so we don't expect him to..., he is exempted from..., we can't ask him to..., sure enough, he'll make mistakes..."

"We don't ask anything special from him. He has a teaching plan tailored just for him, and still he just seems so uninterested in anything we do. He is often quite oppositional, even though the teaching plan is simple, so that he should always be able to answer correctly."

"I paved the way for him. He is not going to find any obstacles on his way, so his self-esteem will be encouraged."

Too often we hear such comments that are intended to reassure someone who is hesitant, facilitate their tasks, create the prerequisites for those who lack confidence and resources to feel capable enough to get out there and deal with a task.

Are they even correct?

How does the human mind work? How do we build the self-check structures that help us trust our resources and create a solid and effective self-representation, favoring social integration, active participation, and an efficient inclusion in the school environment? In our culture, especially during school years, mistakes mean that we are lacking something: an ability, knowledge, skills, capabilities, and so on. When people make a mistake, they are judged as unfit for the task - explicitly set or implicitly. Mistakes are ascribed to many different causes: poor attention levels, lack of willingness, limits, distractions, lack of study or practice, superficiality, etc.

Making mistakes is a source of discomfort, it generates a feeling of disappointment due to the gap between personal or environment-related expectations and the result obtained. If this happens frequently and/or if significant emotional relevance is attached to this event, it might cause such deep discomfort that the person concerned withdraws, rejects commitments, and isolates himself in a way that curbs any form of initiative.

If making mistakes hurts, we'd better avoid trying, so that we don't get hurt.

This may be true, but reality is neither so simple nor so categorical.

How do people learn? How do young children learn?

Have you ever heard of a baby who has learned how to walk without falling again and again? Who learns to speak without "customizing" words to such an extent that they are sometimes unintelligible (wrong?).

Still, children learn how to speak and walk, and they usually do so without being extremely distressed because they have made "mistakes."

Let us briefly analyze the mechanisms we put into place on those occasions. Let us imagine a wobbly toddler: he shifts his weight from one foot to the other, makes a small movement towards the goal he wants to reach, maybe a smiling friendly person who is waiting for him with open arms. He loses balance, then falls. A smile, some encouragement, a lovely word and the toddler lifts himself up and tries again. Or he does not even need external encouragement to persevere: It is his "simple" yet deep desire to reach his goal - both an interesting external aim and an even more interesting learning process - that does the trick.

The desire to grow and develop new abilities and knowledge characterizes human nature. It motivates our well-being, development, and progress.

Let us breathe in this atmosphere and hold it inside ourselves. It is this awareness that makes Feuerstein's thought vital, so that Teachers can become good Mediators, bringing the essential elements into their teaching practices to enhance both cognitive and affective aspects.

The positive approach of Feuerstein's theory is fundamental when facing life's challenges. Indeed, it helped Feuerstein himself resist all the negative comments about his unshakable trust in the possibility of success. He never stopped believing in his own convictions.

The current extensive knowledge of the human mind proved him right. His expression "*human being is modifiable*" now feels like philosophical intuition based on a subtle clinical eye, an anticipation of the currently popular term, brain plasticity. .

Furthermore, the intervention strategies Feuerstein used to apply, such as his way of considering mistakes, are regarded as extremely valuable and even essential today. Making mistakes is an integral part of all growth and learning paths. Avoiding mistakes is actually impossible, and even if we managed to do so for a certain amount of time, it would be very ineffective for our long-term objectives. Being able to accept, face, use, and assimilate mistakes while learning from them is what allows the human mind to customize learning, take advantage of innovation and changes, reflect on existing data and available resources, strengthen the ability to choose, and boost one's self-esteem.

In his book "The Craftsman" Sennett (2008) reflects on a specific aspect of what is considered "not right," stating that the imperfect helps imagination and flexibility:

*"[...]. The use of imperfect or incomplete tools draws on the imagination in developing the skills to repair and to improvise.*

*"[...] resistance and ambiguity can be instructive experiences; to work well, every craftsman has to learn from these experiences rather than fighting them."*

Nevertheless, the ability to manage personal mistakes is neither implicit nor automatic, neither innate nor biological. It is the result of the interaction between the individual and the environment. Therefore, it is an extraordinary power of the social world and, from a wider perspective, social educators. They have the opportunity to nurture. The intersection between the cognitive aspect and the affective-emotional element, as well as the incidence on learning abilities of non-intellectual factors, are what Mediated Learning teaches those who work in the education environment.

***"I made a mistake 😞. I'm so dumb!" Mistakes as a self-image.***

We live with ourselves 24 hours a day, every day of our lives.

Feeling good with oneself is vital for everyone, whatever the situation, at any age.

During the very long, extremely important period between the beginning of kindergarten and final graduation, we are defined as "students." During that period, a significant part of our social life is tightly linked to the school environment: to feel good in school means to feel good with ourselves and other people around us.

Emotions provide color and taste to our lives. They act like a camera lens, each one of them showing us a special shade of the world, becoming a filter that separates us from the surrounding environment and builds up our life experience.

One of the most important aspects of the emotional dimension concerns the image of ourselves that we construct, and the ways we reflect about our actions and deal with success and failure. Affective skills are not innate. In fact, their acquisition needs to be supported by the surrounding environment. There is a "best experience range," consisting of both positive and negative experiences, that allows people to learn the strategies they need to regulate and master affective states with autonomy and awareness.

If their autonomy is respected, children succeed in developing their awareness of a stable and autonomous "self," so that they can distinguish it from the "non-self." Respect shown towards children will help them respect other people's personalities and needs, acknowledging and differentiating them from their own.

In a positive environment characterized by active acceptance and trust in the future, occurrences of negative emotions (sadness, worry, rage) become the ground for growth. This is the way to learn how to deal with the affective dimension and become resilient to frustration which, in turn, teaches us how to face difficulties and makes us feel capable of conquering more challenging summits, even if we face a potential risk of failure.

What people can learn through personal experience allows them to incredibly deepen their awareness of their ability to take action and the range of tools they need to deal with their emotions.

Allowing other people to gain confidence is one of the most important tasks in the education field, a vital goal for school systems and teachers of any subject.

## **HELPING STUDENTS GAIN CONFIDENCE: WHERE COGNITION MEETS AFFECTION**

*Paola Bertoli* (Pordenone, Italy), Kindergarten Teacher

How Feuerstein's thought impacted my work practice?

I have been working as a kindergarten teacher for many years. I have come to know Feuerstein's thought and method through someone I deeply admire, who knew my professional dissatisfaction and willingness to do more.

Before applying for the courses that would make me become a Feuerstein Mediator, I wanted to experience the method first-hand. I wanted to understand what it was about and how it worked on people. I therefore involved two of my sisters. We liked the experience so much that we kept doing it for several years. Knowing the method first-hand then, allowed me to participate in the training experience with a different attitude. Since I was already slightly familiar with the instruments, I could focus my attention on the way they worked, the cognitive functions they were supposed to stimulate, and the mediator's conduct.

I started noticing some improvements in my job soon after I started my personal, first-hand experience: small, slow, but constant changes. First of all, *increased self-confidence in my professional abilities; then, **increased assertiveness and determination when I had to express my opinion to my colleagues, even in case of disagreement, because I was able to express my point of view in a clearer way.***

In my relationship with children, ***I started applying a more attentive and targeted observation of their behaviors and non-verbal language; my teaching schedule changed; I became more focused on their needs, the tasks I'd set and the ways of proposing them changed; the way I spent time with my students changed: I became calmer, more focused on students rather than on teaching schedules.*** The teaching schedule is still a reference, of course, but now I develop it in a more natural, linear way because it is structured and based on questions like: *what does this child need, how can I help him, which tasks best suit his or her needs, which kind of steps, at what pace?*

The mediation between children and the reality they face (that is, a new concept to learn, a task to accomplish, a communication problem, interpersonal issues or anything else) characterizes my job at school.<sup>2</sup>

***Mediation is all about acknowledging children - their feelings, the external and internal issues they need to face, their abilities and potential, as well as the surrounding reality - in order to help them without taking their place, to be a bridge that connects them to the world, to help them build the tools they need to read and interpret the world inside and out.***

MEDIATION AND...CREATIVITY

<sup>2</sup> Paola describes a beautiful 1-school-year experience with a 3-year-old child from Pakistan who was diagnosed with severe selective mutism.

*Sara Moracchiato* (Schio VI, Italy), Special Educational Needs Teacher, Primary School<sup>3</sup>

During this journey, I have developed the idea that creativity is the key in many occasions: It helps turning a difficult moment into an opportunity; it helps feeling fulfilled; it changes our perceptions and thoughts and helps us develop better and useful ideas. ***The ability to challenge oneself, deal with differences, ask new and stimulating questions, widen one's perspectives, connect different elements, re-organize patterns, find new strategies to improve the quality of life.***

We need to find new answers to new questions, as well as flexibility, imagination, and interpersonal skills, because they are vital. Creativity is not only a matter of tasks set. It permeates every corner of one's thoughts and behaviors.

***Creativity blossoms in a free environment, where we are not afraid of expressing our own thoughts*** because we know we will be appreciated even if we are not functioning completely in a specific moment. ***The way I, as a teacher, manage this aspect with my gestures and words impacts on the development of interpersonal relationships,*** both inside and outside the class group.

<sup>3</sup> Sara describes her journey with a child diagnosed with severe low-functioning autism. Her experience is extremely significant for the constant dedication it requires.

*Ever since I started this journey, a question has been going around in my mind: which type of "glasses" am I wearing in my job as a teacher? It may sound trivial, but I really think we need to wear special glasses, and we need to take a good umbrella with us. I need to wear a pair of big, beautiful glasses to focus on certain elements that would not be clear otherwise, I need to wear them to look at the children I meet and the colleagues I work with. Sometimes we tend to be a bit rushed in our judgment because our sight is blurred, and this misleads us into taking unfavorable paths that prevent us and other people from growing.*

*I also need to take a good umbrella with me to protect myself from the pouring thoughts concerning my skills and my ability to be a "good teacher," which sometimes block the sun out of my sight even when it is shining. Also, an umbrella gives me the chance to offer some protected space to a "tired" colleague, who can walk with me for a short while.*

***As far as I can see, despite all the difficulties faced so far, this journey has given me the opportunity to change my lenses.***

Negative self-image can lead to a wide number of issues: a high level of insecurity, which might lead us to perceive other people's superiority in a way that makes us refuse to challenge ourselves or persevere in a certain task; lack of motivation, which leads us to avoiding tasks; anxiety, which makes us work in a hasty way or get stuck in stillness, freezing every action; and executing tasks with no guidelines or organization.

Self-confidence and the feeling of being competent can be easily undermined in school. Competition-based and product-oriented education systems often attach more importance to mistakes than to the steps taken towards success. This might make students evaluate themselves according to their weaknesses rather than strengths. This negative perception leads to developing a self-image that never meets expectations, regardless of the progress made. Expertise, on the other hand, must not be regarded in absolute terms or as an ultimate presence or absence (that is, of innate abilities), but as a process: it increases as we gain experience.

A good Mediator, a teacher who embraces the concepts of the Feuerstein's way of thinking, helps individuals become aware of what they already know and of the path they have already walked to attain a certain level of knowledge. This awareness allows us to best employ the skills we already possess and proves that we are "powerful" - that we have the power to do something. Indeed, when we face difficulties, we are not powerless and we are not almighty.

Both feelings restrain our willingness to take action, but for opposing reasons. The former makes every effort, even the slightest, seem useless because it would lead nowhere. The latter makes every effort seem redundant, because we are so good that we never need to exert ourselves.

What provides us with the energy needed to do the work is the feeling of having the "power" to reach a certain goal. This is both a cognitive and a relationship-related power. It gives us the energy we need to "get out there" and put ourselves in the game; it highlights the tools we already possess to deal with difficulties; it shows us which issues can be solved with relative effort - which requires a long and demanding journey, and which requires the support of people who can lead us, provide knowledge, and facilitate our journey.

Having balanced self-assessment skills means to be aware of our own abilities and correctly value them (or part of them); yet; it also means to be able to assess our limits; to understand that not every goal can be easily reached; that many things are to be conquered with personal effort and active participation; that it is always possible to enhance our skills if we commit to the cause; and that asking for help when (and only when) necessary is right and positive. A good image of ourselves offers us a positive perspective on failures. We know mistakes do not indicate some sort of inability and they do not intend to promote frustration. They are "a window that opens on the mind" and help us identify the weaknesses that need to be addressed and develop targeted intervention strategies. In fact, they reveal the exact stage where the process has come to a halt.

Self-assessment is related to the experiences we live through and the responses we receive from the environment.

People who have to cope with discrediting messages and repeated failures will develop a negative self-image that will lead to dismissive attitudes, lack of initiative, low willingness to take responsibility, a tendency to escape (explicitly or implicitly), or self-destructing and/or aggressive behaviors.

There is no such thing as a risk-free learning journey. The possibility of mistakes or small inaccuracies must be taken into account in any new topic. The best option offered to us is to know this in advance and inform students and learners: *"The topic we are going to study today is very interesting and complex, you will need to pay attention and it will be challenging, but we have all the tools we need to conquer it! I am interested in your opinion and I would like to compare the strategies you will put into play to carry it out."*

Efforts, doubts, questions, inaccuracies, and mistakes are predictable and accepted. When students make mistakes, they do not feel stupid, or that they have not accomplished a certain task, but they feel challenged to find the cause and identify ways for improvement. If they feel encouraged and engaged, they may think: *"If we are wrong, it doesn't mean we are unable, it only means that our teachers trusted our skills so much that they set us a difficult task."*

**"... but may boats have wheels?"**

*From the concept of mistake to open-mindedness: curiosity, listening, dialogue.*

A fundamental aspect of mediation is the value attached to anyone's contribution to the development of collective thought. The IE sixth sub-target especially highlights this aspect. Also, the dynamics that bring this development about are actively used every time we talk about how to deal with tasks, particularly when we look for strategies, principles, rules, and bridging opportunities.

Individuality and sharing may seem like two opposing concepts, but in fact, they are not. To effectively join a group, give and receive, share our resources with others, and draw from other people's contributions we need to be aware of our strengths and weaknesses and believe in ourselves enough to join the game.

Who struggles to expose themselves? Who finds it difficult to experience harmony with others?

Those who feel so insecure that they fear that they would be made fun of and that they might "dissolve" in the group and lose their individuality. Those who show their claws to defend themselves from dangers which, sometimes, may appear much bigger than they really are.

In order to share, you need to be strong.

### **A balanced self-assessment – the value of limits**

*Adriana Bertoli, Ceramist. Pottery Teacher working in a school and in a daycare for people affected by psychological and social distress*

I started in the Daycare pottery workshop approximately 3 years ago.  
I had already been a school pottery teacher for children of different grades, from kindergarten to secondary school, and I had already taught adults, but I was somehow worried about this project.

I was afraid I would not be able to handle relationships with "special" people, who were far more fragile than my china. I called them "special" because they carried a very rich life experience: I did not know them personally, still I thought their lives were richer and more articulate than mine was. I was afraid of their judgment.

If we talk about "richness" today, I have to say they surprise me, but as far as judgment is concerned, I have to say I don't even know what this word means anymore.

I started asking for a one-month trial period and to have the opportunity to take a first exploratory lesson that was supposed to help us know each other. An opportunity for mutual exploration and analysis of the environment.

***For the past three years, the Feuerstein method guided me, and every time I realized "I was Feuerstein" (as I'm used to telling my sisters, who have shared this journey with me) I felt... great? Happy? Centered.***

[....]

When problems arise, and they quite often do, and they are very different from the previous, I really like feeling centered. I take my time to observe, to analyze the problems and to assess the resources I have. I don't feel the need to provide an immediate solution anymore. Some things are just not urgent. I try to remember the priorities and the initial goal [what is that?], I try to evaluate if that goal is still relevant and, above all, if it is my responsibility. I feel like time, method, and boundaries are important milestones to achieve.

***Time to observe, to choose calmly, with no hurry. Time to allow facts, stories, questions to unravel. Time where there is no performance anxiety, where I do not need to hurry up to find an answer or a solution that I think I must provide in the shortest time possible. Must. Sometimes I feel I "must" do something, but I notice it and I feel very, very good about being aware of it.***

*The sentences below are quite meaningless (the first is just a list) - please revise or erase. BGED*

My method is: analysis of the request, assessment of the resources available, search or drafting of a model, breaking everything up into small pieces, progressions, rules, comparisons against the original model, assessments of all required changes. I especially like to evaluate the changes needed: I leave nothing to chance. If fortuity occurs, I analyze it and I can make a choice. "No chance, no chaos."

This approach has dramatically enriched my job as an artisan. I consider myself a professional now. "Naive "perhaps, but yet professional.

Boundaries. I feared them. I have always let situations overwhelm me. I used to believe that "Gut feelings keep us alive, everything has to fit in" Boundaries are great. They are the epitome of freedom. They allow for space, time and resources. In all this space I can live, grow, give myself time to get to know other people, and let them know me. Also, I can be very creative in this space. Boundaries were vital for the new relationships I established at the Daycare Center with users, colleagues, and supervisors. I like the way I can now protect my freedom of thought. I can protect myself from being influenced by complex or compromised relationships. I am proud of the freedom I have been able to achieve in any relationship, and of the breath of fresh air, lightness, and positivity that I can offer to the people I work with.

*If I had to create my own motto, as Maria Grazia asks us to do at the end of every session, to summarize the way in which the Feuerstein method improved my teaching skills, I would say: **"THERE IS ALWAYS ANOTHER WAY"***

Expressing our thoughts in front of other people implies being strong enough to face the risk that other people would comment on our mistakes. Nevertheless, the perspective from which mistakes are seen in IE activities (and in "bridging" activities during mediation) is stimulating and enriching.

Let us wonder: When/why do we make mistakes?

Please take some time to find an answer.

Focusing on mistakes with an attentive, critical, yet non-anxious eye, driven by the curiosity of a researcher rather than a sense of guilt and frustration with the failure, can provide us with important data on the mental process that made us perform a task in a certain way. If we approach mistakes with interest and open-minds, we could have endless possibilities to proceed.

Mistakes may be caused by lines of reasoning that include a variety of interesting elements that need to be valued and directed. Sometimes, a sort of logic and correctness can be found in incorrect processes. Such processes could be considered partly, if not entirely correct, if only we observed them from a different perspective. The mental process used to reach an answer is worth our attention and protection.

Let us return to our initial question:

Why do we make mistakes? Here are some possible answers:

We make mistakes because:

- we lack some knowledge
- we are in a hurry, or we don't analyze problems in depth
- our anxiety and fear block our thoughts
- we are excessively self-confident, so we underestimate the task
- we misunderstand the task or we have different perspectives

We could come up with several more options along these lines.

Mistakes can be caused by several factors that require different types of interventions.

This reminds me of a story about a friend named Elena, a retired secondary school teacher.

In 1<sup>st</sup> grade, Elena was very shy. She would hardly answer any question because she was too afraid of making mistakes in front of her teachers and the other children in her class. Once, Elena's teacher asked a question that seemed to have been asked specifically for her and her alone. The question was about a topic Elena was extremely familiar with. It was: "Can you tell me which means of transportation have wheels?"

She was so happy she could finally participate that she raised her hand with confidence and a big smile on her face. Her teacher, very glad to see her hand up in the air, asked her to answer. Smiling beautifully and with a slightly trembling voice she answered: *-a boat-*.

You can easily imagine the huge laughter in the class and the consternation on the teacher's face while she said: "Elena, what are you saying?"

Also, you can well imagine the frustration that haunted Elena's heart for the rest of her school years.

How can her answer, so bewildering, have a connection with reality? Do boats have wheels?

Over the years, I thought about many circumstances in which my friend's answer could make sense. Elena could have come across a small boat carried on a trailer, or a rubber dinghy whose wheels were waiting to be set free in the sea.

And then I found out Elena's idea was very significant.

There was a giant painting hung on the entrance wall in her house; the painting showed a

beautiful steamboat on the Mississippi river. A giant wheel could be seen right in the middle, so that the subject of the painting was actually a "BOAT" with wheels.

If we wanted to be excessively precise, we would say that the correct term to describe her idea was "steamboat<sup>2</sup>" not "boat." The term "boat" was quite wrong indeed.

If Elena's answer had been received differently, it could have been an interesting starting point for an activity on the development of vocabulary. For instance, the teacher could have said something like:

*Your answer is very interesting. You know, Elena, I would have never thought about saying boat. Actually, I don't think I have ever seen a boat with wheels. Can you tell me when or where you saw one? Or is this something someone else told you?*

Considering mistakes as a resource for growth helps us strengthen our personality. After all, many discoveries come from mistakes made by somebody who had a completely different idea than the final result!

The active (or interactive) approach that characterizes the psycho-pedagogy of Mediation allows students to think about the structure of knowledge and the underlying process, welcoming divergent thoughts as holders of new perspectives, helping students acquire an efficient learning method.

***This is interesting, I'll try that. I'm not sure I can succeed but I'll do my best!***

*From the concept of mistake to the concept of an active journey that can be improved: trusting the possibility of success*

To address situations where an effort is needed to reach a certain goal that cannot be taken for granted, it is necessary to create an atmosphere of trust because trust is the foundation of any positive interpersonal relationship. This is even more important when we want to help somebody who has experienced a frustrating sequence of failures.

Trust is what is normally conveyed in Mediated Learning:

You can do it: trust in other people's resources helps convey strength and confidence.

*Trust the teacher, who thinks that the student:*

*"Can reach attainable goals based on the context. If faced with difficulties or inadequacies, he will be able to employ personal resources to overcome them..."*

*Trust the student, who thinks that the teacher:*

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<sup>2</sup> The Italian term used for steamboat is "battello," which is completely different from the Italian term used for boat, that is "barca."

"Loves this subject, and shares his passion with us. He makes us understand he is very glad when we are able to follow his lessons. He is concerned when we don't get it and tries to understand why..."

*Mutual trust inside and outside the Organization: they (professionals, families, students) think:*  
The active interpersonal network is robust, harmonious, and skilled. I can rely on the assistance of other people.

This kind of trust is not enough, unless it comes with

*Trust in one's own possibility to "make it": I am able:* encouraging the feeling of competence and reinforcing personality;

- *in students*

who deal with school tasks and interpersonal relationships with objectivity and determination;

- in teachers

who manage complex teaching activities while being aware of having the tools they need to deal with them so they don't feel like the weakest link of a group of people where students' impetuous flow of energy is difficult to control;

- in parents

who don't feel alone and can identify and use their own resources and parental skills.

This helps develop a positive circular pattern involving all the people involved: we are able: the strength of sharing leads to a strong feeling of belonging.

From: J. Kopciowski "Il metodo Feuerstein" Ed. La scuola, Brescia, 2015

## TRUSTING OTHER PEOPLE AND ONE'S OWN RESOURCES

*Caterina Romeo (Catanzaro), Primary School Teacher* <sup>4</sup>

The continuous search for tools that could support and integrate with the life journey of my daughter (affected by Fragile X Syndrome) made me accidentally make contact with the Feuerstein way of thinking a few years ago. As a parent, my approach to mediation, more than to other instruments, allowed me to *build a constructive relationship not only inside my family but also with the surrounding environment, which I no longer saw as the "enemy" to pretend all the answers from but as somebody to interact with and to create opportunities.*

Then, the dream of a lifetime came true: I started working as a teacher.

It was a challenge, a revolution in the middle of my own life journey.

*From the very first time I entered a classroom as a teacher, I had a very clear idea of the kind of relationships I wanted to create.*

*Beyond rules, behaviors, or learning strategies, I was aware that I had to become a point of reference, someone who took upon herself to seed all the ingredients I needed in the soil that was the relationship with my students, enabling me to reach out to them.*

*During the first five years of teaching, I was lucky enough to observe the effectiveness of structured mediation consisting of observation, reciprocity, challenges, and awareness. In particular, there was a student who was diagnosed with severe ADHD and showed violent behaviors. **Thanks to the intentionality and reciprocity of our relationship, he had the opportunity to consider the school environment from a different perspective, improving his relationship with peers and adults.***

This past year, a time of incredible changes due to the Covid-19 pandemic, *mediation has proven vital to create activities that could give a sense of relationship continuity, thanks to the constant adjustment and calibration of remote teaching strategies and digital resources.*

***I am firmly convinced that it is necessary to build an active relationship, which goes beyond mere communication of content, in order to help students and teachers exchange emotions, find trust, and make constant adjustments. This challenge is worth undertaking.***

<sup>4</sup> Caterina shares the experience with a student who displayed behavioral problems that were managed thanks to Mediation

The "reference" person in education steps out of the role of "supervisor" or external "judge." He or she even moves away from the restrictive meaning of the Latin word *dōcēre* (to let know, to teach), and assumes the role of Mediator.

Help in the Mediator-Mediated relationship needs to remain asymmetrical in order to allow the person in the developmental age to feel solidly supported and well aware that both success and failure are part of a joint training path<sup>3</sup>. Success comes from both the Mediator and the Mediated. Difficulties, crises, the need to revise the process and go back to something that needs to be clarified, the necessity to recalibrate the objectives along the way - all are part of a shared journey where, as the result of a collective commitment, the acquired skills can be attributed to the topics learned, but also to the acquisition of learning abilities and the underlying mental mechanisms.

Building upon one of the main concepts expressed in this document, we may state that *Competence is a path rather than a possession or a lack.*

Feelings of competence, confidence, optimism, and a sense of sharing all have a great influence on self-image and general well-being.

If we want to enhance our feeling of competence, we need to stimulate mental organization skills, the awareness of personal abilities, the motivation to try, and the determination to persevere.

Once again, the relationship between the emotional and cognitive aspects is evident: The more a person perceives of his or her growing competence, observing evident changes and progress as they happen, the better his or her self-image will be. Moreover, the better the self-image, the harder the effort made when executing activities, followed by the reinforcement of cognitive abilities. This creates a virtuous circle that leads people to perceiving competence as a process of achievement and well-being, more focused on personal journeys rather than on external evaluation and ultimate success.

The Mediator can implement some useful behaviors to make the environment structured and *create favorable conditions that help people experience success, making success strategies explicit.*

Setting achievable and credible goals is the first step. The second step is to make even the tiniest success visible. Sometimes, some tiny success might be underestimated, or the process implemented to attain it might be left unperceived. Clarifying the explicit steps towards a successful result is key for future success, because it helps appreciating and reusing it in future situations.

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### *Selecting attainable targets.*

Everybody acts their best inside a range of difficulty based on the concept of the “Zone of Proximal Development” (ZPD) (Vygotsky, 1934/2012: new skills can be acquired faster if there is some external support helping us the first time we try, after which they can be achieved repeatedly and without support.

People who feel highly competent usually have wider ZPD and feel able to face new and complex activities, considering failure as an acceptable risk if growth is the goal. People with lower self-esteem consider themselves able to face only well-known tasks, but will feel inadequate when faced with new ones. ZPD varies from person to person, from situation to situation. One of the Mediator’s goals is to strengthen people in order to widen their ZPD, that distance. This is attained by:

### *Rewarding answers*

Sometimes people with low self-esteem choose isolation and avoid participating in activities. If we wish to guarantee the possibility of future interventions, their very presence deserves a reward, even if the result is a wrong answer.

### *Explicitly focusing on the successful execution of part of a task*

This is particularly true when the entire task has not been completed successfully. It is very useful to extrapolate the steps that were executed correctly so as to protect their value and strengthen the already developed skills. This prevents people from considering what is in fact right as wrong, and helps reinforce self-confidence, because they know they are "on the right path."

### *Never underestimate difficulties*

Sometimes there is a tendency to introduce tasks as very easy for students to accomplish, especially when they are hesitant about participating. We argue that the tasks are simple and within their reach, intending to encourage them, but the result might be very negative. If somebody overcomes fear, completes a task, and succeeds, what will they think? In most cases, they will probably feel that they completed the task because it was very easy, which keeps their self-esteem low. Furthermore, if somebody makes consistent efforts to participate and experiences failure, what will they think of themselves? They might feel depressed and probably think: "The task was really easy, but still I was unable to do it. I am good for nothing."

The fear of incompetence hinders participation.

Our society frequently labels "fear" as pusillanimity, cowardice, childishness, and even effeminacy. That also includes the fear of being wrong. Fear needs to be hidden because when we show it, we risk losing our role in society.

Saying "Calm down, there is nothing to worry about" does not help and might actually make the situation even worse because we do not overcome fear and if we are uncertain about undertaking a task, we will definitely avoid trying.

Knowing that we have the right to be afraid to deal with anything is an emotionally useful tool towards playing the game.

Therefore, it is much better to take difficulties into account right from the beginning, highlighting possible risks, and stress that we will be able to complete the task despite the effort and the possibility to fail and after a long, difficult, yet gratifying journey. This way, our mind prepares for possible negative outcomes, does not regard them as signs of failure, and accepts them as an integral part of the process. The person concerned may think: "If I am asked to accomplish a difficult task, they must trust me" and "This is difficult. They said I might go wrong... but, it doesn't matter. I can try again!"

#### *Listening to reasoning*

Being ready to listen encourages other people to express their thoughts, which in turn, helps organizing and mastering reasoning . If you have to find ways to express your thoughts, you first need to make up your mind, find the most appropriate terms and syntax to give your words structure. Language is more than a mere means of communication with the world outside. It is an important thinking tool.

***"Learning is discovering": If you give students time to explore and find the solutions they are looking for, rather than providing a prepackaged solution, the results will be permanent<sup>4</sup>."***

Looking for an answer together instead of providing a ready-made one can create situations that show what incredible richness hides inside the minds of our students.

#### *Interpreting success and failure*

This process highlights the cause/effect relationship between the work done and the results obtained.

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<sup>4</sup> Moshe Feldenkrais Il caso di Nora. Un'avventura nella giungla del cervello. Astrolabio, Ubaldini Editore, Roma 1996 (personal translation)

## LEARNING IS DISCOVERING: TRAIN STUDENTS' MINDS THROUGH SCHOOL SUBJECTS

Valentina Bertoli (Pordenone) Secondary School Teacher (students' ages 14-19).

[.....] **over time, I noticed I was bringing Feuerstein with me to my class**

[.....] When I started teaching, my idea of the teacher's role was essentially based on personal experiences: on the one hand, I missed some of my old, knowledgeable, compassionate teachers; on the other hand, I hated those who were superficial, rough, disillusioned, and had no personal training. Still, we can't just copy what we like and disregard the rest. *Everybody has to find their own way of being and acting in an environment such as the current school system, that is often not very helpful: plenty of paperwork, overcrowded classes, limited teaching hours, with a tendency to focus on "the achievement" and marks, where teaching jobs are underestimated, and general teaching guidelines only consider the transmission of concepts, as students and teachers are very well aware of.*

When I started, I wanted students to like me, I wanted students to like my subject, I wanted to convey high-quality knowledge.

**Now I want to convey my attitude: clarity, helpfulness, openness to discussion, respect, curiosity, trust in learning possibilities, competence. [...]**

What am I to do, then? I have to teach with competence and passion, know my students, use creativity to teach *them* - the students I have before me, in my classroom, rather than hypothetical students, because real students might lose interest, face some sort of difficulty. They are willing to be engaged and to have fun, without fearing that the subject I teach may lose value or importance.

No more teaching schedule anxiety. I assume responsibility for being selective in order to give us time to understand and even enjoy the subject instead of rushing through it.

I set *clear tasks* and *clear rules* (terms of delivery, transparency of marks, motivations, *classroom rules: to respect people, places, and things*).

I am *willing to listen* (to needs, complaints, excuses, personal motivations), *engage in a conversation, which provides everybody with valuable opportunities, and see things from a different perspective, even if we stay within a clear set of rules.*

**Encourage and insist on helping students to use their resources to the fullest, because they possess them.**

Everything starts from observing, for which I seize every precious moment I can find. Over time, *philosophy, history, and methodology have been integrated into fundamental approaches such as **observing, analyzing, asking questions, formulating hypotheses, understanding possible interpretations, evaluating inconsistencies with given data, avoiding judgment and give time, guiding without providing the right answer, helping students find solutions, encouraging reasoning through bridging activities between school topics and real life, and highlighting strategies and processes that were helpful in understanding.***

I have learned that *school schedules are opportunities to reach cognitive and emotional goals, they are not the ultimate goal*. This helps me when it comes to choosing strategies, tools, and attitudes because I can be creative. As a matter of fact, ***I have happily experienced there are many possible strategies and many possible paths to reach a goal.***

One of the most renowned experiments carried out over the past few decades in Social Psychology features in Rosenthal and Jacobson (1968). They administered an intelligence test to primary school students. Then they informed the teaching staff that some of their students were extremely intelligent and they would certainly achieve important results in the following school year. In fact, the indicated students had been randomly chosen from among those who had obtained average results in the test. During the following school year, school activities were constantly monitored without interfering with teaching schedules and practices. At the end of the school year, an intelligence test was administered again. The test results were extremely interesting: all students that had been marked as promising actually obtained above-average results, having acquired significant new skills.

Were Rosenthal and Jacobson clairvoyants?

Of course they were not. They simply identified the underlying learning mechanisms. They analyzed the interactions between students and teachers and observed a number of significant elements ascribable to relationships that conveyed trust in the students' learning skills. They identified four main traits in the teachers' attitudes:

- a. *They created a better learning environment, paying more attention and individual positive encouragement;*
- b. *They gave feedback more frequently and consistently;*
- c. *They created more occasions for students to participate and more time to give answers;*
- d. *They set more challenging and complex tasks.*

It is very interesting to compare these basic psycho-pedagogical principles to IE targets and sub-targets implied in any Mediated-Learning-based activity.

If we compare the results of the Rosenthal-Jacobson study with the operational strategies of mediated learning, we can easily identify some common elements.

Correcting lacking functions, teaching basic concepts, vocabulary improvement, insight, and success experiences, and promotion of positive self-image are strategies used by teachers in their relationship with "promising" students.

In the experiment, teachers actually devoted more time to "promising students," giving them more accurate and extensive feedback on the tasks accomplished, thus encouraging their thinking abilities and vocabulary. They assigned students with more complex tasks, accompanied by positive messages of trust, allowing them to test different strategies, develop inferences, act with awareness, and acquire a positive self-image as a "*person who consciously builds his/her own creation and knows how to extrapolate information.*"

In practice, the gap between the results of the intelligence test before and after the monitored school year tells us that teachers were able to enhance positive modifiability in "promising" students.

Today, an experiment enhancing the abilities of a few members of a bigger group would be considered unethical. The principles of Mediated Learning aim at enhancing modifiability in order to obtain a structural change in everyone's mental activity, regardless of their starting point.

To reach this objective, three main elements that characterize the structure of the human mind come into play:

- a. *Creating cohesion between the parts and the whole*, which allows us to use the experiences acquired during a specific situation in a wider, more general way;
- b. *Transformation ability* - the signature element of structural modifiability: we need to always be able to adjust and enhance our mental activity;
- c. *Self-perpetuation* - that is the dynamic element in any modifiability process. Once in place, it keeps drawing energy from the activities conducted, from the reflections of our mind, and from our internal dialogue, which becomes more positive and effective. Self-perpetuation depends on the initial ability to modify oneself through autonomous acts of will, which is a specific trait of human beings and evidence of the peculiarity of our cognitive and affective structure.

When we walk side by side with our students along their learning process, it is most important that we dynamically balance the reinforcement of their cognitive functions - which lead us to

planning a successful journey - applying mediation processes, which create the foundation for effectively activating their cognitive skills. Instrumental Enrichment provides well-structured and extremely flexible activities that can easily be adjusted to meet the "needs" of various classes, groups of students with common features, or individual students.

IE was developed for group work that supports the comparison between different ways of working and thinking. Under the guidance of a good Mediator, discussion time motivates communication and socialization skills; strengthens basic structures for a solid and autonomous personality; and widens problem-solving strategies. During that activity, individual knowledge/competence becomes a group asset.

The IE Method can also be effectively employed in one-on-one relationships, focusing on meta-cognition elements, while in more collective situations, the Mediator plays the role of reference point for group discussion.

We can observe some analogies between the setting of an IE meeting and a study session in a *Yeshiva*<sup>5</sup>, once again highlighting the Jewish origin of Feuerstein's theory.

In a *Yeshiva*, one part of the study session is devoted to cooperation between students because one cannot really assimilate knowledge alone. There is no dialogue, no confrontation, no exchange of ideas, no need to make up one's own mind so as to explain one's thoughts to someone else, and no need to identify with somebody else to understand their perspective. In other words, when we are alone, it is impossible to dig deep into a concept to really master it, or to be able to add some personal element to the cultural heritage we study. True learning is never passive, and personal reinterpretation always leads to reorganizing one's mental structures. Since in *Yeshivot* and in IE sessions this type of work happens at a group level and not the individual level, it creates an asset for the whole of society and enters collective memory. Represented by the study of already existing matters, the past connects with the future, which follows from the personal contribution that is created during discussions.

Every IE meeting starts with an introduction that is meant to create an interest in the task to be carried out and to define the topics to be covered. The meeting then proceeds to a short period of individual work, followed by a discussion designed to highlight potential strategies to be used

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<sup>5</sup> Rabbinic school

for solving the said task , and comparing them. Finally, every student completes the task individually.

While students work alone, the Mediator checks on all of them to see if they need support and to encourage those who need encouragement. The Mediator also stresses that it is not necessary to complete the task, but that the important thing is to understand how the activity needs to be carried out and obtain some competence from performing it.

Discussion is one of the main elements of IE sessions. When the majority of the students have completed (or nearly completed) the task, discussion begins. The key is to stress the main elements of the given task, possible difficulties experienced, and the strategies employed to overcome them.

Then the Mediator chooses one of the elements identified during the discussion to help formulate a principle applicable to the task at hand in order to create a "generalization," that is - to identify some features that can also be applied to different situations. From generalization, the group moves to *bridging*, that is - the creation of a bridge that concretely connects everything said about the task to some aspects of our daily life.

Thanks to the comparison between various strategies, cognitive functions implied in the solution process, and difficulties and mistakes that occurred, students' discussion strengthens personality and communication skills, and makes the effort really meaningful.

Every session ends with a brief recap that highlights the steps taken to reach the objective. In sharing, psychological differentiation and awareness of modifiability are mediated.

This is what Feuerstein defines as the "balance between being and becoming," the need to perpetuate oneself to ensure continuity through changes that make us feel alive, open to the future.

*"The search for cultural continuity through transmission/reception can be established according to two opposing yet fundamental needs that define each living being, especially the human being: On one hand, the need to exist, and therefore the need to be today what we were yesterday, and to be tomorrow what we are today, keeping our identity throughout the changes that happen inwardly and externally, but which do not affect the essential continuity. On the other hand, the need to live, which draws from the roots of a constant process of change."*

(FEUERSTEIN, 1994, personal translation of J.K.).

Another characteristic common to both traditional Jewish education and an IE session is the way in which questions are considered. As the rabbis (masters) in the *Yeshivot*<sup>6</sup> base their teaching on questions, so does Feuerstein, who always prompts Mediators to encourage students' questions so that they could learn how to acquire an interrogative, constructive, personal perspective when faced with life events. Questions indicate that our mind is working and trying to coherently and significantly introduce some new knowledge to a mental construct we already possess. These questions are also evidence of the underlying mental process. Moreover, the process underlying the question requires the person who asks it to organize data, search for the most appropriate terms, and activate a number of fundamental logical mechanisms.

*Yeshivot* features yet another element: The initial interview, in which the rabbi tries to become familiar with prospective students, and which provides the rabbi with significant information he will use to assign students to the most suitable level and type of study. The key element here is not the answer, but the questions asked of the teachers!

### **Cognitive functions: from IE to daily life, passing through school subjects**

All IE instruments were designed to strengthen some specific element of thought, even if they all are stimulated, anyhow. One feature that is always present in any single activity is the enhancement of language and speech. This is done both through conversation (verbalization of hypotheses, strategies, thoughts, and ideas), and through an explicit search for some new vocabulary or assigning new meaning to known terms, giving them some unknown shade or a different way to use them. Students are also invited to compare thoughts, if the vocabulary used inspired different ideas. Referring to Vygotsky and Bruner, Feuerstein stresses the importance of language not only as a means of communication, but also as a tool that guides observation and reasoning, clarifies elaborate sentences, and creates an opportunity to express clear, thorough, and shareable utterances.

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<sup>6</sup> Plural for Yeshiva.

## INSTRUMENTAL ENRICHMENT AND SCHOOL LIFE

Divergent thought: paying attention and listening

*Marta Calgaro* (Schio VI), Special Educational Needs Teacher, Primary School

[.....]

- ***Divergent thinking made me lower my need to provide answers, favor divergent thoughts, and open the road to free interpretation.***
- I added time for observation, which is the starting point for a better understanding.
- I started paying more attention to the language me and my students use.
- It increased my *awareness of cognitive functions such as input, elaboration, and output*. The list of functions becomes longer, and gives me an opportunity to better differentiate between various stages, **gaining me a deeper awareness and better specificity of what is happening and of the elements I have to focus on** (it feels like I am looking through a microscope that shows everything in great detail, helping me intervene when needed or when I want to).
- Greater awareness of the importance of connecting abstraction and life experience. In this case, Bridging helps tremendously because it encourages a profound reflection and transposition of what we observe, live, and understand at various and intertwining levels, including emotions
- It increased my awareness of planning activities, exercises, and tasks, and motivated me to pay more attention to layouts, help, distractions, gradualness, and motivations
- ***I became more aware of my responsibility as a Mediator: What I do and the way I do it can make a difference.*** Do I help too much? Do I help too little? Do I help in the right way? Am I able to recede little by little? What a huge responsibility!
- I learned how to start from distress or mistakes to reach success and create growth *while working on the emotional level. I started offering children opportunities to overcome their fear of making mistakes and gain a growing awareness of their weaknesses in order to face and overcome them.*

### **IE and work strategies**

*Federica Babich*, (Monfalcone, Gorizia) Special Educational Needs Teacher, Secondary School (children ages 14-19 ), Violinist

First, I would like to say that, **in my opinion, the Feuerstein "method" is not really a method. It is rather *forma mentis*, a mind structure:** Some of its basic principles - such as mediation criteria, abstraction, and generalization through *bridging* - have become essential tools in my way of working.

Analyzing Instrumental Enrichment in greater detail, there are some specific tools that broadly impact on my way of working. As far as "strategic" and problem-solving elements are concerned, the "**Organization of dots**" *taught me how to observe from a different perspective (not necessarily mine) to be able to "see" the solution. As far as the emotional dimension is concerned, in my relationships (with both students and colleagues) I often turn to several attitudes I have learned, using an instrument called "From Empathy to Action". I often ask myself which four scenarios could follow the situation I am experiencing. My favorite instrument is "Compare and Discover the Absurd". Whatever the choice, I always try to build my indicators' "mental grid" against which my actions can be better weighed (I also invite my students to do the same).*

As I already mentioned, I do not think Feuerstein's teaching is only a "method" because it constantly teaches me that *there is more than one way to reach a target, and that a "tool" is just a tool if there is no mediation involved. Being able to provide a proper "dose" of mediation is probably the most beautiful aspect of all, because it leads students towards autonomy, self-confidence, and self-affirmation.*

Our own IE journey  
Tools to learn: how to be supportive

Grazia Verrua (Milano), Primary School Teacher<sup>1</sup>

*It is not easy to say how **Feuerstein's way of thinking can change your life and your way of being a teacher.** This kind of change is so deep and continuous that it is extremely difficult to step back and be objective enough to analyze the changes you have experienced.*

I have been working as a teacher since 1978, and I chose to teach in Primary School. Along my journey I have met some extraordinary people who helped me grow in my profession. Some years ago, I heard about the method and I have always been very curious about it, so I hoped I could get trained in it one day.

I have always had a passion for understanding how to help children in need. Therefore, I have always adjusted my methods and used my creativity to invent new strategies in order to satisfy them and make them feel HAPPY.

Honestly, I have always had some difficulties in my relationships with more "traditional" teachers and I had always felt incomplete, until.... fate, as people say, made me meet Jael K., who fulfilled my wish to organize a training course in my school. I started and then carried on.

This is quite difficult to explain: **encounters can change your life. They can make you feel able to help other people because you now possess the tools to do so, not just your intuition or your willingness to try.**

I do not want to appear arrogant or obsessed, but I feel like a small child who, guided by her parents, feels supported in what she does, adds more and more knowledge, meets people who help her grow up because they think along the same lines and share the same interests even if they have different points of view.

*I don't feel alone anymore. I can clearly see the road in front of me. I know how to walk it. I know how to overcome obstacles and, if I have doubts (and I always do), **I go back and read who a mediator is supposed to be, who I am supposed to be.***

It is not for a sort of mannerism that I have taken this role upon myself. It is a task that I have undertaken a long time ago thanks to the profound values I share, the education I have received, and my personal ideals, which I am passionate about conveying.

We are modifiable beings, no one can deny that. Even those who say they are not and do not want to be are, in fact, modifiable. *Feuerstein's way of thinking makes us aware of the fact that we constantly change. It is extraordinarily deep and modern. It creates practical connections to any experience and emotion we may have. It can be applied to people of different ages. It lingers in your mind until you are able to make every possible connection.*

***I find BRIDGING incredible. This process is very difficult to explain, but it is most enjoyable for children! Its applicability to teaching and human relationships is incredible. It helps us regain some educational values that might be lost because, to be honest, reflecting together on what we do makes us invest a lot of energy, but today's society and school system always ask us to be quick.***

Instruments frequently used in school are those belonging to the First Standard and Basic levels. Both feature three instruments, which are slightly adjusted according to the level:

Organization of Dots, Orientation in Space, and Comparisons.<sup>7</sup>

Organization of Dots is usually the first IE instrument introduced, at least in the Standard level. Its exercises offer many opportunities to reach the IE sub-targets and solidly build the foundation of the work that will be performed.

To carry out the tasks set in Organization of Dots activities, our mind needs to address perceptual deficiencies through cognitive strategies. To be able to do so, it is necessary to plan the intervention so as to identify the only ones that exactly reproduce the right model out of all the possible ways of connecting the dots.

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<sup>7</sup> *Organization of Dots* Basic is preparatory and very similar to the Standard level. *Orientation in Space* Basic has a different structure than the Standard level, it is more "playful" and richer in images and colors. The Basic level instrument for *Comparison* is called "Compare and Discover the Absurd." It stimulates the cognitive aspects linked to comparison through images featuring absurd elements.

From a cognitive perspective, this strengthens observation and description skills, requires the projection of virtual relationships and accuracy, stimulates hypothetical thinking, and contains impulsivity, all of which are necessary for executing most school assignments and everyday life tasks. Furthermore, even though the Organization of Dots is very practical, it encourages abstraction because it works through the projection of virtual relationships, internalization, and the construction and verification of hypotheses.

It also favors the development of a positive self-image, because it allows the Mediator to concentrate on the learning processes that the mediated party frequently applies when faced with new activities, highlighting possible causes of difficulties and allowing specific work on potential shortages. At the same time, it reveals all of the strengths that are already present in the Mediated mind, making them aware of their potential. A good Mediator makes the Mediated see their progressive acquisition of abilities, proving in a specific, unmistakable manner that competence is a journey, not a possession that either is already there or is impossible to obtain.

Orientation in Space is an extremely useful instrument, enhancing flexibility. As its name indicates, it provides opportunities for reflection and exercises that aim at enhancing the skills necessary to *"identify one's own position in the world and move with awareness."* I intentionally use slightly vague language here because the tool allows us to start from most practical, material, almost "bodily" aspects to define tangible space, and uses these aspects as a starting point to work on abstract elements: relativity of positions, points of view, effectiveness and weaknesses of "long" paths and "shortcuts," reflections on the possibility to use different ways to reach the same target, but also to follow the same itinerary to reach different destinations.

Asking ourselves "Where do I come from?" helps us understand where we are, who we are, why we are here, where we want to go and why, leading us towards the future with greater awareness.

The "Comparisons" instrument is also introduced at the initial stages of IE because it provides the prerequisites for an efficient use of comparative thought. It then guides thought toward identifying the criteria against which to make comparisons, activating correct data analysis, and provides the right way to "label" all the elements relevant to an actual necessity.

This instrument strengthens the ability to correlate objects, facts, and events, and teaches generalization and differentiation. "Comparisons" exercises prepare for categorization and seriation, and for syllogistic, analogical, and transitive thinking.

### *Emotional instruments*

A separate paragraph must be dedicated to the emotional instruments introduced by IE Basic that allow us to use sensitivity and consideration to deal with sensitive topics. These three emotional instruments are called: Identify Emotions, From Empathy to Action, Think and Learn to Prevent Violence.

Even though they are included in the Basic level, they can be easily used with people from different age groups adjusting expectations, language, ways of introducing the activity, and targets to the specific situation.

I often have witnessed incredible programs constructed around the combination of Organization of Dots and Identify Emotions, including in extremely challenging classes of various grades. Several teachers shared that the use of the Identify Emotion pages helped them look at their students from a different perspective which, in turn, had an impact on the management of school subjects.

### **Using Haptic Perception**

There is a unique instrument called TCAL<sup>8</sup>, an outcome of the tactical adaptation of the instruments taught in the IE Standard level, that uses the haptic approach (active touch with motor awareness).

Personally, I appreciate TCAL in a very special way: I had the opportunity to work on the tactical adaptation of IE instruments and I have much experience in sensory integration, both for specific disabilities (sight and hearing) and for a variety of issues.

This is not the most appropriate context to analyze the matter in great detail. I will only take this opportunity to stress that using touch and movement activates different areas in our brain, and this is an extraordinary discovery for students but also for teachers, who realize they possess personal resources they had never imagined.

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<sup>8</sup> Tri-Channel Attentional Learning (tactile/visual/graphic).

I would like to share words written by Maria Grazia Silvestrin with my readers. Maria Grazia is not a teacher, but her contribution can enrich our thoughts on how positive the Feuerstein approach is for teachers who familiarize themselves with its concepts.

For many years, Maria Grazia trained a small group of three sisters: Paola, who was already a teacher before starting the IE; Valentina, who was still completing her training when she left her former job to become a Secondary School Teacher; and Adriana, who decided to continue her work as a ceramist and become a teacher at the same time, to share her artistic passion and use it as a means of Mediation. Adriana is now a pottery teacher and also teaches in a daycare center for children and teenagers with disabilities and various types of distress.

Paola's and Valentina's contributions have been already mentioned before in this article. Maria Grazia's and Adriana's words will follow.

*Maria Grazia Silvestrin*, BA Philosophy, Feuerstein Mediator for 10+ years. She is currently attending an Evaluative Listening training course based on A. Tomatis' theories.

The Feuerstein method is still mainly associated with school difficulties, students with special needs, or therapeutic interventions. It still struggles to establish itself as an implementation of Feuerstein's way of thinking on the development of the human potential as it is, aiming at nurturing and encouraging an inner movement towards engaging in life projects in a more aware, deeper, and satisfying way.

This is exactly one of my primary ways of working. *Having been a philosophy student, I have always treasured the possibility to examine in depth the human dimension of any cultural offer, learning or metacognition, because I am aware that human beings mainly need to proceed in their daily tasks according to their project of life and values, developing their talents and skills **with appropriate and up-to-date knowledge and sufficient understanding of their own inner life so as to be able to express themselves in the best possible way.** During my university training, already involving the analysis of the relationship between philosophy and biology (that is, between body and mind), I **learned Professor Feuerstein's perspective and method. It was naturally enriched with instruments that allowed me to develop the cognitive and emotional potential we all carry.** [...]*<sup>1</sup>

***The planning ability required by IE activities encourages every member of a group to focus on obstacles and resources, and to apply the notions learned to outside situations. This led to using different perspectives and strategies when planning school and personal activities or adjusting work and life environments to be more suitable for a newly acquired awareness, and to widen their ability to welcome weaknesses because they now know they possess the right skills to deal with them.***

They will not always be able to overcome their weaknesses perhaps, but they will always be able to observe them and identify the elements they can work on thanks to their knowledge and skills, being aware that all human beings share certain traits. This commonality, coupled with individual differences, and its analysis, has encouraged in group members a growing sense of belonging, both family- and society-related, and the development of deeper, more authentic exchanges

<sup>1</sup> Maria Grazia relates in a very thorough, passionate way the significant experience she developed thanks to

in relationships with loved ones, colleagues, and students. Feuerstein's way of thinking has become an integral part of school schedules and topics, paying special attention to effective communication and students' activation strategies, in kindergartens, primary schools, secondary schools, or with adults who are involved in practical activities.

"Experiencing" mediation helped the group activate hidden talents, so that school work and practical activities could benefit from painting and artistic skills to create drawing; literary skills, to stimulate historical and philosophical thinking in students that are not usually comfortable with sharing their own ideas, but who develop deep, original lines of reasoning; as well as pottery or manual skills to give shape to unconventional views of the world.

We can easily say that for this group of women, teachers, professionals, mothers, aunts, daughters, and sisters, the Feuerstein process has turned into the possibility to know themselves at a deeper level (*"I am now. I have found my dots, I know what I want for myself. I try to walk, choose, act along this road I have identified... I am aware of how heavy my life baggage should be"*).

***Discovering a more aware self means to discover a more active self that is able to plan and execute personal, professional, or social projects that allow the development of learning skills according to Feuerstein's perspective, thus transferring what is technically defined as "Enhancement of Learning Potential" to everyday life. This is the reason why some of these women decided to attend a training course at the CRESCI training center in Trieste: to have the opportunity to enrich their daily teaching duties with the human value that characterizes Feuerstein's thinking, which calls for a specific vision of the human being as an active protagonist, author of his own life journey ("I am responsible of my way of living and my awareness improves the usage of my resources")***

Finally, to end this brief analysis of the incredible learning and educational potential of IE, I would like to refer to an element that guided me during my first years of work in the training center (at that time called ICELP).



All the material of the Feuerstein training course bore the symbol . The meaning it carries is so important that I kept it in my heart and mind. The symbol is formed by the letter **מ** (*mem*, the Hebrew grapheme of the phoneme "M") and completed with a long, thin branch that may seem lifeless, but if we look closer, we can clearly see three small, tender, budding leaves.

"Mem" is the first letter of the Hebrew word *Melamed* (teacher), whose root contains the same letters as the word *lomed* (learner).

This beautiful symbol means that even when it seems impossible to generate learning (the apparently dead branch), we must not lose hope: leaves will grow! The reason why the branch is located on the letter "Mem" is because a true "*Melamed*" is the person who commits himself so that those who are entrusted to him/her could learn. True *Melameds* do not convey notions, nor fill students' passive brains with information. They create the conditions that the mind needs to activate and maximize personal resources, making them available to someone else too.

As a matter of fact, Einstein also agreed with this concept when he said: "I never teach my pupils, I only attempt to provide the conditions in which they can learn."

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