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Connecting the dots to deepen knowledge and skill.

COGNITIVE connections Newslines

FALL
2009

The true 4th "R" applied

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international Renewal institute, Inc.



What's common to "human Rights," "aRt," "Rigor," "conflict Resolution," "Relationships," "Responsibility," "Resilience," "Reflection," "Readiness," and . . . "Recession"?

Yes, they are all important "R" words. In fact, each has been advocated at different recent times as *The 4th* most important "R" of education, following "Reading, wRiting, and aRithmetic." Most significantly, all of these terms are integral to a more fundamental construct — "Reasoning." Carl Haywood's conclusion (1984) that without designating "Reasoning" as the 4th R of education we can not prepare students to lead productive lives in the new world is indeed well deserving of merit.

In practice, over the last three decades, the educational leadership in this country has heeded to the argument and sought to place reasoning in the focus of academic (and non-academic) school learning. Researchers and curriculum developers have been inspired by the notion that education systems should seek to develop students' reasoning and have pushed different new approaches to educational programming accordingly. An analysis of the national and state Standards, Benchmarks, and Guidelines clearly will attest to this fortunate development. Yet, despite government attempts to enforce the better educational idea, children are still falling behind.

The answers to the No Child Left Behind initiative are certainly as complex as the many different variables that may be at the root of the problem this initiative aims to solve. One of these variables surely is the lack of sufficient real opportunity for students to receive what Feuerstein refers to as mediated learning. Consider, for example, students who fail to record, organize, compare, and classify effectively. The teacher's recognition that these skills are important and the state tests that measure them make no difference to these students. Mathematics teachers often look helplessly at students who fail to perform mathematics tasks because those tasks challenge not only sheer know how, but rather the efficiency of such skills which they do not have. Teachers normally have no choice but to provide an immediate "band aid" solution and move on at the "required" pace to "cover" more content. Thus, "content" takes precedence in the classroom over "process."

PLAN ON IT!

iri is pleased to announce that our annual Critical Thinking Summer Seminars, based on the work of world-renowned cognitive psychologist, Reuven Feuerstein, and which provide educators with intensive professional learning experiences will be held in **Chicago, Illinois from July 6th through August 6th, 2010**. Each two-week Summer Seminar is specifically designed for either early childhood, middle school, high school, or special needs educators dedicated to improving the thinking and reasoning skills of all students in the 21st century.

The "**Learn 2 Enable Learning**" Summer Seminar series was held in Troy, Michigan in 2009. Participants included teachers, administrators, therapists, and parents interested in learning and practicing 'tools' and techniques for improving thinking, problem solving, and reasoning skills in their children. World-renowned cognitive psychologist, Reuven Feuerstein, presented a special keynote webcast during the first week of training. Here is what participants shared about their learning experiences. <http://www.iriinc.us/assets/files/iRi%202009%20Critical%20Thinking%20Summer%20Seminars.%20Reviews.pdf>

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Making the Improbable Possible in Education

Dr. B. Lynn Brown

Principal; Jacob Shapiro Brain Based Instructional Laboratory School, Oshkosh, Wisconsin

Excellence is a nebulous concept until you can cast a dream that you can chase. In July 2005, a team of four teachers and the principal from Shapiro Elementary School attended Eric Jensen's *Teaching with the Brain in Mind* conference. As a result of this experience, we decided to broaden the parameters of what was possible in the realm of excellence at Shapiro. The dream was cast:



- **What if** the brain is malleable and thus the ceiling of student potential can be significantly raised?
- **What if** teachers desire excellence not only in their own classrooms but throughout the school?
- **What if** students become self-motivated and self-directed in their learning and life choices?
- **What if** parents can see the signs of excellence in their child and want to bring that excellence back into the home?

Once these “**what ifs**” were perceived as possible, we could now go beyond the strictures of normative teaching as we knew it. With a new found conviction that “intelligence is not a static structure, but an open, dynamic system that can continue to develop throughout life,” (Feuerstein, 2009) we could now chase the dream.

In order to make the dream a reality we had to create a framework that embraced the principles we learned from neuroscience. We established a charter school with the following framework: 1) Instructional Strategies to increase the brain's capacity to learn more; 2) Enriched Environments by incorporating things like music, ergonomic seating, small class sizes, hosting family nights, partnering with outside organizations like the parents, and community. YMCA and Oshkosh Truck, and accessing behavioral and medical health services; 3) Deficit Correction

(Cognitive Enhancement) tools to systematically and purposefully influence neural pathways; and 4) Ongoing Evaluation to provide continual feedback to the learner, teacher, The implementation of our framework has paid off. Since the charter's inception, state standardized test scores rose in third, fourth and fifth grades between 2005 and 2008 as shown in **Figure 1**.

In addition, surveys indicate that teachers are using principles from neuroscience to inform their teaching, students are taking more ownership of their learning, and parents are gaining an understanding of their role in that process. These are remarkable achievements because a disproportionately large portion of the 285 students (30%) had special education needs, and 42% met the low-income criteria to qualify for the subsidized lunch program. Evidence from research and implementation of specific strategies and tools has changed our culture, our practice, and the way we serve every student.

As a team we continue to redefine what is possible, always pushing the bounds of what we know or assume to know. With new vigor and purpose, we dare to break from the traditional mold and grow as professionals to better serve our students and their families. In doing so, we are making the improbable possible.

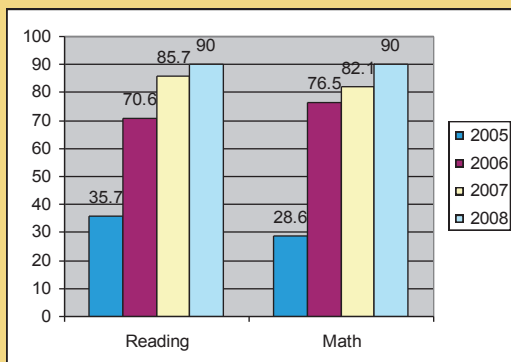
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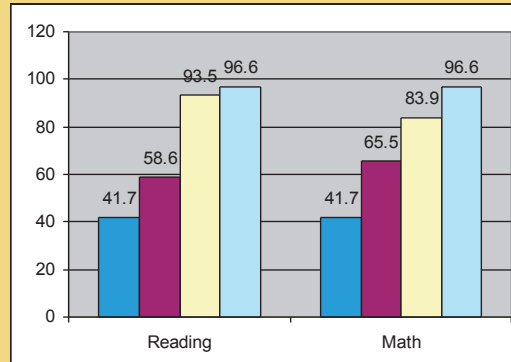
Figure 1

Comparison of Wisconsin Knowledge Concepts Examinations Proficient and Advanced Proficient percentages among Shapiro Brain Based Instruction Laboratory School 3rd, 4th, & 5th grade students from 2005-06 to 2008-09

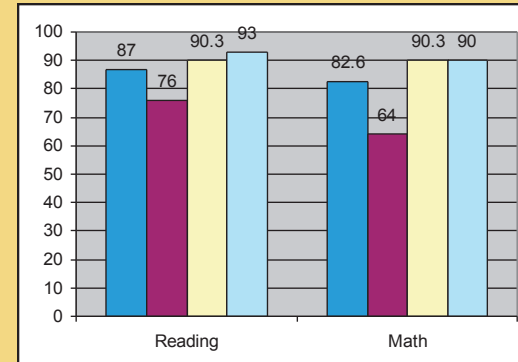
3rd Grade



4th Grade



5th Grade



Using Thinking Skills to Solve Mathematical Problems

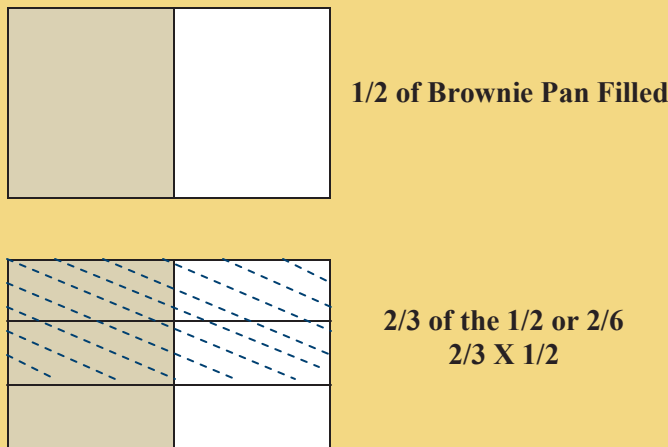
Phyllis Wolfe
Certified Mathematics Teacher



A colleague was relating a story to me about her forty year old son and how he still remembers learning about circumference some twenty-eight years earlier. What was it about this lesson that left this lasting impression? The reason is that he was challenged to think and discover how to find the circumference of a circle rather than being told a formula and then applying the rule meaninglessly to a set of problems. This is effective learning. He was empowered to construct his knowledge, connect it to prior learning, and communicate his findings while justifying his thinking to confirm, refute, or revise his deduction all taking place within the setting of an authentic task.

This article is about my students' journey towards the discovery of the algorithm for multiplying fractions. This class of sixth graders was using the Connected Mathematics 2 (2006) curriculum to investigate fraction multiplication. The children were first introduced to an area model for representing the product of two proper fractions (see figure 1). In this prior investigation, children explored finding a part of a part using a real-world context of a brownie pan. Students were asked to find what part of a brownie pan they would purchase if they bought $\frac{2}{3}$ of a brownie pan that was $\frac{1}{2}$ full. Initially, the brownie pan was half full. The students then break the brownie pan into thirds and find $\frac{2}{3}$ of the $\frac{1}{2}$, or $\frac{2}{6}$ of the full brownie pan. The connection is then made between the word "of" and multiplication.

FIGURE 1



After this exploration, students were challenged to develop models for multiplying with a blend of fractions, mixed numbers, and whole numbers to solve problems. The students were presented with three problems, and for each problem were asked to: (1) estimate the answer, (2) give a written explanation explaining their thinking, (3) create a model or diagram that represented their thinking, and (4) write a number sentence that showed all the calculations they performed to arrive at their solution (see figure 2).

Students in this class were used to a classroom climate where explaining their approach and justifying why their solutions made sense was expected. Had students just been asked to find the answer, they might have employed a procedure involving memorized rules for changing whole and mixed numbers to fractions, multiplied straight across, and then found the correct answer but would have had no idea if and why that solution made sense. Mathematics needs to be a sense-making process where students are encouraged to think, to construct knowledge

FIGURE 1

Investigation 3.3 Modeling More Multiplication Situations

For each question:

- Estimate the answer.
- Give a written explanation of your thinking
- Create a model or diagram that shows your reasoning to find the exact answer.
- Write a number sentence that shows all the calculations you performed to find your solution.

1. A recipe calls for $\frac{2}{3}$ of a 16-ounce bag of chocolate chips. How many ounces are needed?

2. Mr. Flansburgh buys a $2\frac{1}{2}$ -pound wheel of cheese. His family eats $\frac{1}{3}$ of the wheel. How much have they eaten?

3. Peter and Erin run the corn harvester for Mr. McGreggor. They harvest about $2\frac{1}{3}$ acres each day. They have only $10\frac{1}{2}$ days to harvest the corn. How many acres of corn can they harvest for Mr. McGreggor?

using a meaningful method, and to explore the underpinnings of underlying concepts. Since this approach allows students to construct their own estimates, diagrams, and explanations, it appeals to different students' learning styles. As stated in the Ask Families Take Home Page, "A student is not imitating, but inventing. This higher-level thinking process involves truly "doing mathematics" (Teaching Children Mathematics, September 2007).

Students learn mathematics more effectively when they are actively involved in the construction of their knowledge, making connections to their prior learning, and making sense of an operation by understanding its underlying concepts rather than relying on rules. Furthermore, this insight allows them to use their new found understanding when solving different problems under different circumstances. Students who are provided opportunities to generate their own knowledge are more self-assured and able to persist when confronting demanding problems and excited to find the solutions independently (NCTM, 2000).

Working in teacher constructed groups of three, students first completed their work on the worksheet and then transferred their solutions to a post-it easel paper. These sheets were affixed around the room so that students could see each others' solutions and use these sheets for their group's oral presentation to the class. As I looked at the student work, I could see that the children were developing a deep understanding of the concept of multiplication of fractions and using different approaches to the same problem. The various students' solutions demonstrated the children's variety of successful strategies, debunking the common myth that there is only one correct way to solve a problem. Further, individuals were learning new ways of approaching a problem by viewing and listening to their classmate's solutions.

Students were encouraged to critique each other's solution processes based on a rule that I made that each must either agree with the process or refute it based on mathematical reasoning. In this way, students gain a deeper understanding of the concept, become reflective thinkers, and develop self-reliance because they are judging peer's work based on the students' own understanding, rather than relying on the teacher to indicate that a solution is correct or incorrect.

continued from page 1 - The true 4th “R” applied

Given the heterogeneity of mainstream classrooms, Feuerstein sought to create a special, extracurricular environment that is specifically designated for the enhancement of the important reasoning skills. Five decades ago, he argued that for the instructional aims to be focused on students’ efficient reasoning, and for the instructional sequence and instructional pace to be determined solely by students’ learning and progress, the program must be “content independent.” Since he first conceptualized this idea and developed his FIE program we have learned from research that he is right. His FIE program remains the best example *ever* of an intervention that leaves no child behind.

The table below lists reasoning skills as identified in the Standards, Benchmarks, and Guidelines. It shows that the identification of a general set of reasoning skills is consistent regardless of the subject matter; and it shows that Feuerstein’s Instrumental Enrichment (FIE) aims at the same set of general reasoning skills as identified in the Standards, Benchmarks, and Guidelines.

FIE	Mathematics	Science	Language Arts
Record, organize, compare, classify, represent, analyze	Record, organize, measure, connect, represent, analyze, compare, order	Gather, identify, record, measure, compare, classify, arrange, order, sequence	Inquire, identify, organize, take notes, compare, classify, arrange, analyze
Select relevant information	Select relevant information	Select relevant information	Select relevant information
Register time, space	Register time, space	Register time, space	Register time, space
Infer, plan, formulate and test hypotheses	Conjecture, invent and problem solve	Form and test hypotheses	Identify cause and effect. Trace the development of a plot
Relate cause and effect, reason inductively	Employ logic and reason	Conclude, extrapolate, infer, predict, transfer, generalize	Reason, assess, conclude, anticipate, clarify, explain, summarize.
Communicate clearly and precisely	Communicate clearly and precisely	Relate to real life	

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continued from page 3 - Using Thinking Skills to Solve Mathematical Problems

After the student presentations, as a class, we recorded the algorithms that the students used for multiplying fractions based on the number sentences they wrote for part (3) of their presentation. We hung those on the board for future reference. In this particular instance, most students arrived at the same procedure whereas, after our next investigation of division of fractions, there were two algorithms different from the standard procedure of inverting and multiplying that the students created that worked consistently and related to their understanding of fraction concepts.

Of course, on the surface this type of in-depth instruction takes much longer than presenting a procedure and then having students imitate that procedure on several problems. But in the long run, the procedure doesn’t have to be taught and re-taught repeatedly between grades 5 and 7. In my opinion, the time taken is it well worth the development of such a rich number sense and the mathematical reasoning process experiences gained by the students. If students were consistently taught in this manner there would be less need for review at the beginning of each school year and students could begin to make deeper connections between their past, current, and future mathematics learning.

In addition to the content benefits, the students will benefit affectively as well, by feeling confident in approaching all types of problems, being willing to persevere when problems are difficult, and feeling better about themselves as math learners. This type of instruction is in accordance

with the National Council of Teachers of Mathematics Guiding Principles for Mathematics and Assessment because the mathematics is taught in “a setting that ensures that problem solving, reasoning, connections, communication, and conceptual understanding are all developed simultaneously along with procedural fluency (NCTM 2000).



Just like my colleague’s child remembered his circumference instruction, it is my hope that my students will remember the excitement of being actively involved in the acquisition of knowledge, the power of reasoning, communicating mathematically, and the deep understandings they gained through their use of representations and connections to their prior experiences.

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Reuven Feuerstein Receives Doctor Honoris Causa

On October 15, 2009 Professor Reuven Feuerstein (Jerusalem, Israel) was awarded the degree of Doctor Honoris Causa by Babes-Bolyai University, Cluj-Napoca, Romania for his progressive and outstanding contributions to the fields of psychology and education. According to the Babes-Bolyai University Charter (2000), this degree is the highest academic title awarded to personalities with top results in the fields of science, literature, art, philosophy, and theology, among the collaborators of the university. Babes-Bolyai University faculty took part in the ceremony held at Bar Ilan, University which included Prof. Andrei Marga, Rector; Prof. Stefan Szamosközi, Vice Rector; Prof. Rudolf Gräf, Vice Rector; and Prof. Popei Cocean, Vice Rector.



University of Geneva under Jean Piaget, Andre Rey, Barbel Inhelder, and Marguerite Loosli Uster. His work is compared with that of Russian psychologist, Lev Vygotsky. In 1992, he was awarded the Israel Prize for social sciences.

Feuerstein is the originator of the theories of Structural Cognitive Modifiability (SCM) and Mediated Learning Experience (MLE), the first dynamic assessments battery, the Learning Propensity Assessment Device (LPAD), and cognitive enrichment/intervention programs (Feuerstein's Instrumental Enrichment - FIE) which produce cognitive change in a learner's capabilities to think critically and enable him or her to be a better problem solver.

Professor Reuven Feuerstein, a professor emeritus of educational psychology at Bar-Ilan University (Tel Aviv, Israel), and founder and director of the International Center for Learning Potential (ICELP) (Jerusalem, Israel), was born in Romania, in 1921. Due to the Nazi invasion, Feuerstein had to flee his home country in 1944 to Israel (Palestine) in order to save his life.

It was during this time that Feuerstein began the foundation of his work with children survivors of the Holocaust. Feuerstein studied at the

University of Geneva under Jean Piaget, Andre Rey, Barbel Inhelder, and Marguerite Loosli Uster. His work is compared with that of Russian psychologist, Lev Vygotsky. In 1992, he was awarded the Israel Prize for social sciences. Feuerstein is the originator of the theories of Structural Cognitive Modifiability (SCM) and Mediated Learning Experience (MLE), the first dynamic assessments battery, the Learning Propensity Assessment Device (LPAD), and cognitive enrichment/intervention programs (Feuerstein's Instrumental Enrichment - FIE) which produce cognitive change in a learner's capabilities to think critically and enable him or her to be a better problem solver. It is the work of Reuven Feuerstein that has captivated the ideas and belief that *"Intelligence is not fixed but modifiable and that the physical structures of the brain can be changed."* For more than 50 years, Feuerstein's work has been recognized across the globe in more than 80 countries, in clinical and school settings.

For more information on Reuven Feuerstein please visit: <http://iriinc.us/about-feuerstein-the-man.html>

21st Century Skills in Illinois: Illinois Consortium for 21st

In June 2009, Illinois became one of fifteen states in the United States to join the **Partnership for 21st Century Skills (P-21)**, an advocacy organization that focuses on infusing 21st century skills into education. Embracing the Partnership's vision that a 21st century education ensures that every child succeeds as a citizen and worker in the 21st century, CEO and educational author, James Bellanca, Vice President of School/Clinic/Parent Relations, Kathleen Bellanca, and Director of Cohort Development/School Partnerships, Robert Wiedmann, all of the international Renewal institute (iRi), were certified as P-21 Professional Affiliates.

As part of this endeavor, Jim Bellanca met with Ken Kay, President of P-21, to focus on the viability of infusing the P-21 vision throughout the Illinois educational system. Bellanca and his staff began to formulate the concept of a consortium in Illinois whose main focus will be the infusion of 21st century learning skills. *"Our vision is to bring 21st century skills to Illinois schools with innovative and collaborative projects that use the best practice research in ways not possible by any single organization. We will be working closely with the Partnership for 21st Century Skills,"* Jim commented.

Over the last several months, Jim and his staff have worked on forming this consortium. They identified key stakeholders across Illinois. Today, the not-for-profit **Illinois Consortium for 21st Century Learning Skills (IC-21)** has a 22 member Board of Directors with Jim Bellanca serving as acting Director. IC-21 Board members include: educational leaders "Max" McGee, President of the Illinois Math and Science Academy, Julie Simpson, Executive Director of Urban Gateways, and Dom Belmonte, Executive Director of the Golden Apple Foundation;



business executives Bruce Taylor (Cole Taylor Bank), Robert Creviston (Waste Management), and Ed Harney (Fortune Foods), Kathy Mikels (United Airlines); school administrators from Wheaton-Warrenville, Chicago, and Des Plaines, as well as regional office of education directors from Peoria, West 40 and North Cook.

In the next month, IC-21 intends to complete the Board and schedule its first meeting. *"In addition to organizing the effort and approving by-laws, the Board will do creative problem solving to create the action plan. All of our Board members were selected primarily for their experience and commitment to the vision,"* said Bellanca.

To learn more about IC-21, please visit: www.myILC21.com



RELUCTANCE: A CULTURAL CHANGE

Teaching Children with Learning Disabilities

Dan Burrit

Special Education Teacher

The Children in Conflict (CIC) Classroom For Severely Emotionally Disturbed (SED) Children

This teacher first discovered Mediated Learning Experience (MLE) and Feuerstein's Instrumental Enrichment (FIE) when employed in 1979 to serve Severely Emotionally Disturbed (SED) middle school and high school aged children. One can imagine the surprise of discovering that (1) no SED program currently existed, (2) the last several SED teachers had a history of abruptly quitting, and (3) no one in the District had a clue as to what the SED program ought to resemble nor was there even a classroom. The county had no programs for comparison. Through the good offices and kindness of several SED teachers in the San Francisco Bay area and Mendocino County, and research into state and national SED programs, the CIC – Children in Conflict – program was created.

The first CIC site was a shared classroom. The district did not have a budget, space, or money for the new SED classroom. What did exist was a classroom with a Kindergarten teacher. The CIC classroom was free from intrusion. Since the district Special Education director, site principal, and school psychologists had no clue how to teach SED children, there was freedom for innovation. This freedom allowed true teaching to flourish and best practices to be established in the new program. The freedom to research and investigate led to the discovery of Professor Reuven Feuerstein. His textbook, *Instrumental Enrichment, An Intervention Program for Cognitive Modifiability*, was discovered and read many times.

Professor Feuerstein's theory of Mediated Learning Experience and his description of Deficient Cognitive Functions and the Instrumental Enrichment Program shaped the focus of the CIC classroom in the second year. During that year, the CIC program became more effective and structured. Many stakeholders - parents, administrators, teachers, and even the children - were pleased as the CIC children made progress. However, a key element was missing. While the program stabilized a child's emotional and behavioral state of mind, provided emotional security, returned self-control to the child, and instilled academic focus, independent learning was not taking place to a degree that enabled the children to return to their original schools. Returning a student to their original school as a successful learner was the ultimate goal.

The question was asked – What was missing? What was the true intentionality of the program? What was the focus of teaching?

The focus of teaching is an open communication between teacher and learner. Open communication is reached when a teacher and learner engage in reciprocity, as in MLE. A learner, free from the bonds of emotionality and self-doubt, is engaged in learning to learn. To learn is to achieve the freedom:

- From ignorance
- To explore new horizons and cast off the bonds of emotionality for rational thinking
- From adults doubting that children with learning disabilities can achieve success in school
- To learn how to learn.

In fact, with learning to learn - a true state of learning to learn - one can aspire to and achieve dreams not yet dreamt. Learning to learn can open not just the doors to these freedoms but can open minds closed by emotional and behavioral disturbance.

The CIC classroom tried to open those doors to freedom and to free the minds of the learners imprisoned by severe emotional disturbance. The

program provided mediation that resulted in most of the children gaining some emotional stability but not enough for them to return to their schools. The children reached a plateau of emotional stability and academic progress but not independence. The children accepted limits set by the adults (which was a significant achievement). Emotional outbursts became less chaotic and volatile, academic lessons were completed a majority of the time, and a classroom routine was accepted as normal. The academic therapy of the CIC program provided stability and academic success. But the program was missing an element for true learning. The program was missing the open communication of reciprocity.

The first FIE training became available for this teacher. Mediated Learning Experience and the Instrumental Enrichment Standard program became part of the CIC classroom. MLE and FIE moved the students beyond that initial learning plateau. It opened a path to higher ordered thinking, greater academic success, and true reciprocity between teacher and learner. Reciprocity opened a dialogue between teacher and learner that had been missing. Instrumental Enrichment Standard became central in the CIC program intervention plan. FIE Standard lessons were taught to each student on a one to one basis until the student demonstrated sufficient behavioral and emotional control to learn in a small group.

The Deficient Cognitive Functions list became a critical part of the FIE lessons and academic lessons. Students learned about blurred and sweeping perceptions, how impulsive and unsystematic behaviors undermined their learning and caused their frustrations and anxieties. Students were mediated to identify blocking, impulsive and acting-out behaviors that impeded success in the communication of their thinking. Narrowness of mental field, failure to perceive a problem, lack of interiorization, inability to select relevant cues and episodic grasp of reality were causes of the inability to construct relationships among the data the learner collected. Many hours were spent establishing strategies to identify and control a student's frustrations and anxieties. Learners internalized the idea that deficient cognitive functions were a cause of their negative emotional responses and impulsivity. Learners assumed responsibility for their individual actions and learning.

As lessons progressed with Organization of Dots, Orientation in Space, Comparison and Analytic Perception, more and more cognitive functions became clear to the learners. Cognitive functions became the vocabulary that shaped the communication between teacher, staff, and student. Cognitive functions replaced the emotional outbursts and behavioral meltdowns that once were the usual verbal communication form. Self-control was achieved and positive behaviors replaced negative behaviors. Students developed consistent habits of success while learning in the CIC classroom. The next goal was viable.

The next goal in our intervention plan was reentry by our SED students to their referring schools. Before that goal could be met, a student had to first mainstream into the Special Day Class (SDC) programs at the local high school and adjacent middle school. A gradual integration into the less secure learning environment of a local high school or middle school was necessary before the final return to the student's original school. The CIC student's final level before discharge provided an opportunity for the learner to engage in this transition placement where he or she could be supported by staff. The student would attend for one or two days a week for an initial period, increasing the number of days and classes as progress was made in behavior, emotions, and academics. Since the student was engaged in FIE at the CIC program, FIE became an opportunity to facilitate mainstreaming.

During the early 1980's, there was an attempt by the district to mainstream students but each special education teacher worked on their own to convince regular education teachers and site administrators of the benefits of

continued from page 6 - **Reluctance: A Cultural Change**

having a special education student in a regular education classroom. Convincing the special education teachers was less of a burden but questions and concerns still existed. Teachers were reluctant to accept mainstreamed students with severe emotional and behavioral disabilities, let alone ones with learning disabilities. MLE and the FIE program became the plan for mainstreaming.

The plan was to offer to the SDC teacher FIE instruction for their students with inclusion of some of the SED students who were ready for the next step of "mainstreaming". Two to three days a week, FIE instruction was provided to the SDC classroom at the Middle School with SED students as equal participants. The SDC teacher had no responsibility other than to be present and observe the lesson. Level I Standard Instruments of Organizations of Dots, Orientation in Space, Analytic Perception and Comparisons were taught. A routine was established and relationships developed between the mainstreamed students from the CIC classroom and students of the middle school SDC. The teacher found the behaviors of the mainstreamed students were acceptable and even better than her own students. The teacher recognized focus on a lesson could be established and sustained to achieve a satisfactory conclusion. The benefits of Instrument Enrichment were discovered to benefit her students beyond just the initial lesson. Bridges to other subjects became a regular event, not just novelty.

Success during the first year of mainstreaming was sufficient so that in the second and third years, SED students were mainstreamed for greater periods of time. Students from CIC attended one or more class periods each day as independent learners without the presence of CIC staff. Gradually the CIC students were transitioned to their original receiving schools. MLE and FIE had created a culture that welcomed SED children and eased the teaching burden for the receiving SDC teacher. The culture of the classroom convinced the SDC teacher that children with SED could be part of the learning experience. The reluctance to accept them was overcome by MLE.

Elementary Special Day Class (SDC) Children Mainstreamed into Regular Education

The district desired mainstreaming to be part of each school site but provided little leadership. Each SDC teacher was left alone at each site to advocate and convince regular education teachers to take SDC students (children with disabilities that required that academic content be delivered more than 50% of the instructional day). The SDC teacher was responsible for the IEP goals in the academic areas of Reading, Language Arts, Mathematics, etc. The regular education teacher already had at least 30 students in his or her class, so it was the exceptional person who took on an extra student or two. The special education student was a scary proposition as most regular education teachers had little experience with SDC students. The initial breakthroughs into this classroom culture came on the strength of teacher friendships and the selling point of having a special education instructional aide for student management.

Two to three times a week, the SDC teacher and the aide would go to the regular education 4th grade classroom for a FIE lesson. The Regular Education classroom would see the lesson for the first time. The SDC students would experience the lesson a second time. Their role was to work the lesson and act as peer assistants to the 4th grade classmates that required mediation. It was part of the IE lesson for the SDC students to learn how to act as mediators.

One incident demonstrated acceptance of the SDC peer assistants as equals. One Organization of Dots lesson was particularly difficult and troublesome for the 4th grade class. The lesson was the tenth lesson in the series. It was problematic for the majority of the 4th graders. The frustration level was significant. Two learners seated next to Ramon, a SDC peer assistant, had witnessed Ramon's previous work and mediation skills. Therefore, they were comfortable with his abilities to mediate. So anxious for individual mediation were these two 4th graders that each grabbed a hold of one of

Ramon's arms and would not release him. Ramon had been in the process of responding to a third learner. He had risen partly out of his seat. Now, he was suspended midair. This scene brought the class to a standstill. At that moment, it was realized that a shift of culture and mindset occurred. Ramon was accepted not only as a source of valid help but also as an equal in this classroom. That moment was also a powerful moment for Ramon. He experienced the acceptance and respect as an equal and as a teacher.

The event illustrated how the FIE lesson and mediation are powerful equalizers. Whether a 4th grader regular education learner or a SDC learner, each student was measured not by his or her label but by his or her ability to learn. Concerns over the appropriateness of SDC learners with moderate to mild learning disabilities became moot for the teacher.

Gradually, selected SDC students mainstreamed into the classroom and at year's end, we had two SDC learners attending daily lessons in the 4th grade classroom. MLE and Instrumental Enrichment mediated a change of classroom culture.

Resource Students with Mild Learning Disabilities at Jefferson Elementary

The Resource Program for K-6 elementary students was a pullout program with students spending a majority of their instructional time with their regular education teacher and 30 to 60 minutes "pulled out" for Resource instruction. These students had mild learning disabilities.

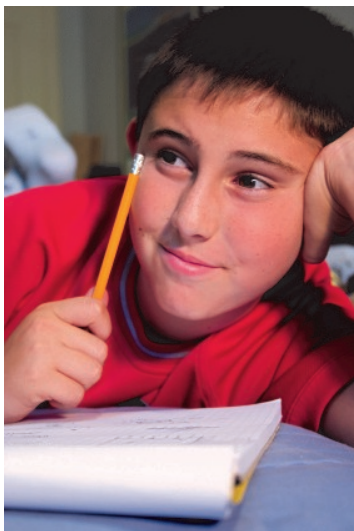
The Resource Teacher implements a student's Individual Education Plan (IEP) outside the regular education classroom. In order to facilitate the IEP, collaboration takes place between the Resource teacher and the student's primary regular education teacher. It was during one of the collaboration periods that the idea of learning to learn and special needs children led to a discussion of Professor Feuerstein, MLE, and the goals of FIE. FIE lessons were suggested so she could witness FIE presented in her classroom. Two to three times a

week, a FIE lesson was taught so the teacher could observe the lesson.

In our collaboration time, there was a discussion of the reactions of the Special Education learners and the levels of their cognitive progressing. Instead of learning disabilities and negative behaviors consuming the collaboration period, the focus was on FIE and mediation of deficient cognitive functions. Instead of teacher frustration guiding the collaboration, dialogues centered around children learning to learn and how to best mediate the learning experience. Discussions involved the plans for the next FIE lesson, the vocabulary, goals, principles, cognitive functions, and bridges to her other curriculum areas. The regular education teacher became proactive in her planning instead of reactive to failings of the Learning Disabled students. The teacher could identify individual strengths and weaknesses in order to develop successful strategies. Teacher success replaced anxiety. Teacher confidence replaced her doubt that the learning disabled could learn.

The intentionality of collaboration was to introduce MLE and FIE to the classroom teacher, demonstrate the power of the instruments, establish a dialogue and collegiality with the teacher, demonstrate MLE teaching, meet the goals of the IEPs and create a learner orientated learning environment versus a standards only based environment in her classroom. Through MLE and Instrumental Enrichment, the strengths and weaknesses of the learners, Learning Disabled and regular education, became clear to the teacher. Failure of children to thrive could be discussed in a problem-solving atmosphere by removing teacher emotionality. Her best intention was to teach and have the children succeed.

But the diversity and misplaced district mandates created unachievable expectations. Gradually, she was able to see the progress the Learning Disabled students made and the negative behaviors transcend into successful learning. In this context, the teacher expanded her assessment of her children as learners. Children learning to learn became central in her lesson planning and overall philosophy. The culture of teaching to the standardized test and implementing the standards based curriculum shifted into a culture of mediation. The culture of mediation replaced the culture of reluctance with the use of MLE and FIE.

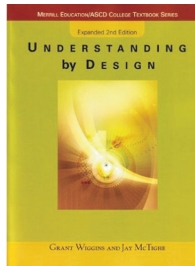
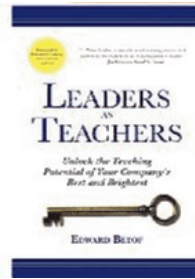


Nation Educational Authors Speak on Teaching & Leading in the 21st Century “The Contexts of Change”

The international Renewal institute (iRi) and the School of Education, Saint Xavier University (SXU), are collaboratively presenting two of the leading educational authors, Edward Betof, *Teachers as Leaders* (ASTD) and Jay McTighe, *Understanding By Design* (ASCD) at a special event available to SXU alumni of the Master of Arts in Teaching and Leading (MATL) Degree Program in order to qualify for the Illinois State Teacher Leadership Endorsement, effective 2007.

Specially designed by iRi’s CEO and prominent author, James Bellanca, along with Dean Beverly Gulley and Associate Provost Richard Venneri of the SXU School of Education, this two-day course is scheduled for November 7 and 21, 2009. “*This program extends St. Xavier’s commitment to make the MATL the most practical and powerful degree program for teachers in Illinois. By using 21st century technology and collaborating with the regional offices that are co-sponsors, we can provide a unique service to the education community,*” stated Dean Gully. Venneri seconded the Dean, “*SXU and iRi were pioneers with a Master of Arts field based program that was designed to help teachers become more skilled in their classrooms. That was 18 years ago. With this program we continue our innovative tradition exceeded only by our desire to bring the highest quality instruction to the teachers of Illinois.*”

Prominent authors, Edward Betof and Jay McTighe, are the lead instructors. In this SXU video course for Illinois teachers and administrators, the two authors will appear via webcast using Voice over Internet Protocol (VoIP) while taking advantage of a new Internet video conferencing technology called NEFSIS. The multi-site VoIP Internet broadcast allows participants from four areas across Illinois (Bellwood, Chicago, Grayslake, and Peoria) to interact face to face with these two prominent author-educators.



Participants attending these two days will learn the latest instructional and leadership strategies for the 21st century as well as qualify for the Teacher Leader endorsement. iRi’s CEO, James Bellanca, will open both sessions by interviewing each author from his home office. Site facilitators have been selected from the faculty of St. Xavier’s MATL program to lead the on-line question and answer sessions as well as provide the balance of interactive study for which the MATL program is highly recognized. Ed Betof, the author of the Association of Training and Development publication, *Leaders as Teachers*, will appear at the first session (November 7). He will focus on how teacher leaders can take advantage of his three levels of influence approach to help teachers change their practice for the better. McTighe, co-author of ASCD’s popular *Understanding by Design*, will appear at the second session (November 21). McTighe will explain how teacher leaders can use his “backwards design” methods in professional learning experiences with their peers.

Along with Chicago’s SXU School of Education and iRi, this multi-site course in Teaching and Leadership is sponsored by the Illinois Consortium of 21st Century Learning Skills, the Quad-Cities Graduate Study Center, the Two Rivers Professional Development Center, the University Center of Lake County, and the West 40 Collaborative Learning Center.

For more information on this event, please visit: <http://iriinc.us/training-other-21st-century-education-events.html>

RESULTS ARE THE BEST RECOGNITION!

Along I-79, bordering on the Monongahela National Forest, sits Washington District Elementary School of Buckhannon, West Virginia. Led by Principal Peggy Hall, the pre-K through 5th grade teachers take pride in the annual AYP improvements of their 70% free and reduced lunch student population – improvements that have earned the school national recognition. Hall and the teachers take West Virginia’s commitment to 21st Century Skills very seriously. “*Our vision is to be the best project based learning school in this state, if not in the nation,*” says Hall. “*With this professional learning experience, we are just getting started.*”



One Saturday each month in the autumn, Hall and the teachers join iRi’s CEO and author of the forthcoming Solution Tree Press book, *Enriched Learning Projects*, to investigate the what, why, and how of project based learning in their classrooms. After the first session in which they learned the essential ingredients of a project “*by doing*”, the teachers presented their students with language arts projects designed to align with the West Virginia Standards. In the second session, the teachers assessed the results of the classroom projects. This was followed by two additional investigations: (1) Web 2.0 and other Internet tools as ways to enrich students’ learning from the project, and (2) the infusion of Marzano’s high yield instructional strategies. The second session concluded with teacher teams refining their project designs using blogs, Think Quest, and e-pal templates for a second round of mini-projects for their students.

“*This is a remarkable team of teachers. They are deeply interested in how they can bring the advantages of the enriched project model to their students,*” said Bellanca. “*This experience is structured as a mini project so they can learn from doing, just as their students will. They already have the skeleton of the model in place. In future sessions, we need only dress the skeleton so that the students’ learning is richer and deeper. With enthusiastic leadership from the principal, they are well on the way to their goal.*”

What if your students grew their brain power to blow the roof of your school?



Join iRi in Developing All Students' Critical Thinking Skills for the 21st Century

Think better. Learn more. Achieve higher



The COGNITIVE CONNECTION NEWSLINE: A call for articles

The Cognitive Connection NewsLINE urges anyone with a unique perspective to write a piece for submission. We want to celebrate and explore as we move ahead in the complex swirl of education. We can do that best by hearing from many corners of the education world, those who chose it as a profession, those who make policy for it, those who spend their pride and joy to live it day after day, and those who are our best hope for the future.

Submission Submit an electronic file containing the article in a Word document for review. In a separate file indicate author's name, title, institutional affiliation, address, phone number, e-mail address, and an abstract that clearly represents the focus of the article and ties it to the theme.

Articles should be well written and between 2-4 pages, typed, double spaced, (pages numbered) and formatted to follow the Fifth Edition of the Publication Manual of the American Psychological Association. E-mail to Kathleen J. Bellanca at kjb@iriinc.us. Deadline for of articles is **January 29, 2010**. She will notify authors by **February 2, 2010**. The issue will be published in **February, 2009**.

OUR MISSION: Change student's minds!

To keep you up-to-date on new ideas emerging from research and applications that impact teaching and students' learning in the 21st Century. We describe professional development opportunities for educators to deepen their knowledge and enrich their skills.

By sharing this information, we hope to enable educators, parents, and other helping professionals to "**change student's minds**" by expanding the structures of their intellect and enriching their learning capabilities as they prepare to live and work in a high-tech world.



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next issue:

Early Childhood

Special Education

21st Century Thinking Skills

And More



Join Us for the 21st Century Critical Thinking Series

The 21st century requires new thinking, new skills, new content, new strategies, new media, and more.

Are your students ready?

Educators more than ever before are charged with enabling students to build critical thinking and problem solving skills to set the foundation for a lifetime of success in the classroom and the workplace.

Are you prepared?

iRi's Learn To Enable Learning Summer Seminars are 2 different weeks of intensive professional learning experiences for early childhood, middle school, high school, and special needs educators dedicated to improving the thinking and reasoning skills of all students in the 21st century.

Our children must learn to think higher, deeper, and faster. The 21st century demands it.

For more information please visit us at www.iriinc.us or call us toll free 877. 474. 4900