THE TALKING TYPEWRITER

46 years ago I was granted a Research Fellowship at Drexel University to study ***how children learn, grow and are nourished by their conversational environment***. No one was doing this research – there was no precedent for how to study this subject back then. What we wanted to do had no obvious or clear protocol for research.

Through the incredible marriage of two institutions: Drexel University's Dr. Doreen Steg, Head of the University's Department of Human Behavior and Development, and her husband, Dr. Leo Steg, Innovator at GE, and that incredible marriage of thinking, **The GE Edison Responsive Environment** (**ERE**) was created. This phenomenal tool enabled profound research to take wings and launched a new way of thinking about how children learn, how our brain works, and how to activate neurocognitive and linguistic abilities in children that could change the trajectory of their lives.

Precedent Setting Research

From the outside, the ERE, named ***The Talking Typewriter*** by the children, looked like a closet – with a door and window. Inside a big computerized typewriter, and a big screen to see the words being typed, along with a visual screen for pictures was what a child could experience. The 20-30 children attending the Drexel Early Childhood Nursery School Program, ages 2.5 to 6.5, were not forced to use or visit The Talking Typewriter. The door was left open, and through a process of exploration, the early adopters found The Talking Typewriter, and with the door ajar they went inside and started to explore. Children invited other children to explore – curiosity and discovery levels were elevated, fear was removed, and by the end of three months, all of the children spent 31 half hour sessions with the ERE – learning to type, read and most of all learning to think, validate their view of the world and elevate their tested IQ's by up to 15 points – something that was never thought of as possible.

GE's Innovation Laboratory worked with the Drexel Team – and they co-designed the ERE with 5 levels of learning, starting with the typewriter having no programming and just acting like a typewriter. The next 4 levels elevated from typing a letter to producing the sound of the letter, to the typewriter being locked on all letters except the ones that were in the story, to the typewriter speaking the typed words, to the child's drawing and

116 Central Park South 9-D New York, NY 10019 212 307 4386 212 307 0699 (fax)
5 Shorehaven Road Norwalk, CT 06855 203 838 6982 203 838 7166 (fax)
jeglaser@creatingwe.com www.creatingwe.com www.conversationalintelligence.com

story being integrated into a process where the child could experience their story come to life.

Making the Invisible Visible: Technology, People and Neurochemistry
What made this incredible learning environment so profoundly impactful was a combination of the people, the environment, and the technology. What this combination produced was a most important discovery about the neurochemical shifts that were taking place in the children's minds as they were learning and would have a life-long and fundamental impact on the children's future trajectory in life.

This research was groundbreaking, and now that we can interpret it through the lens of neuroscience, its value is heightened and its unique contribution to how children learn is more profound than it was 46 years ago.

Preparing Hearts and Minds
Before being allowed to work with these children to draw out stories and pictures from them about their view of the world my colleagues and I spent 6-months of learning the skills for 'how to interact with children in a non-judgmental and non-threatening way.'

We were also trained in learning how to 'ask children what was on their minds' rather than 'telling' the children what to think. We were encouraging self-expression both visually as well as cognitively. The power of The Talking Typewriter was incredible – as it enabled children to learn to read using their own stories and pictures. Little did we know back then that enabling the children to learn to read using their own stories and pictures about the world would open up a part of their brains – the prefrontal cortex and heart connection – that would enable them to tap into their higher level skills for cognitive development, along with empathy, strategic thinking, self-valuing and awareness, foresight – skills that at that time were only thought to be activated when a person became older.

By creating a non-judgmental environment for learning, and for learning to see the world through one's own view of the world, each child's sense of self and self-awareness was being activated and validated, and the early activation of their cognitive ability paid off when they started public school. The children were more able to engage with one another with less fear, less judgment, and more compassion. The children exhibited a sense of security to take risks to engage more easily and learn with others, ***and*** to be extremely articulate and conversational in ways that surpassed their peers.

The biggest fear for humans is engaging and connecting with one another; The Talking Typewriter changed or dampened this fear, enabling healthy and generative patterns of engagement with others.

We now know that activating fear networks produces the hormone cortisol, which closes down the brain's capacity to learn, grow, and integrate concepts during engagement with others. Our work at **The Creating WE Institute**, where we are studying 'interaction dynamics' and conversational intelligence, has also demonstrated that healthy 'interaction dynamics' fosters trust building and opens up the more advanced connecting and thinking capabilities residing in the prefrontal cortex and heart connection through the release of the hormone, oxytocin – enabling hire levels of healthy engagement and higher levels of trust in ones self as well as in engagement with others. [A link to one of our HBR blogs on the Neurochemistry of Positive Conversations: **http://blogs.hbr.org/2014/06/the-neurochemistry-of-positive-conversations/**]

How did these patterns emerge out of the Talking Typewriter experience?
In addition to creating a non-judgmental safe environment for ***expressing and sharing*** their stories with one another during the 'story collection phase', The Talking Typewriter offered another layer of engagement that could be characterized as ***non-judgmental discovery***. The Talking Typewriter was an interactive learning technology platform that enabled learning in a highly innovative and interactive way – without any 'judgmental feedback' that human beings often show when people are making mistakes during learning.

10-Year Longitudinal Study – Turns into a Half a Century of Research
For 10 years, we followed the children who had been part of the GE-Drexel Talking Typewriter Early Childhood Program, tracking their academic progress in school as well as their social adjustment, creativity and general well being. Every child went on to college even those who had started out with 87 IQ's and from low socio-economic backgrounds. We discovered upon re-testing that most children's IQ's jumped 15 points – a phenomenon never seen before.

Teachers' anecdotal comments about the children when they moved to public schools demonstrated that these children were perceived as well adjusted, with off-the-charts social skills. Even children who seemed to be dull at the outset of the research were later described as curious, well adjusted, and performing well beyond their age and grade levels – descriptors for their age group which had not been recorded in any research project before.

What happened to those children during the 31 half hour sessions, and how to replicate this, has become the basis of my life-long work, my career and my business. This research was the catalyst for the birth of **Conversational Intelligence** – a new framework for understanding the neuroscience of conversations and how to create the space for what I now call co-creating conversations. The quality of the environment and the conversations matters more than we often know – and the impact of these early interactions can imprint children for life.

With Deep Gratitude

The ripple effect of the GE research has been profound. It's led to the creating of The Creating WE Institute. It's led to research being carried out by students and professors on Conversational Intelligence at universities around the world. It's led to companies such as Boehringer Ingelheim who, 28 years ago, permitted me to experiment with them in translating this work into layout a roadmap for how to consult and partner with their customers. That was in the beginning. Now, numerous executives in companies operating worldwide are being enlightened by knowing about how the quality of conversations can profoundly impact the trajectory of a company - and also impact the lives of every individual with whom they interact.

My new book, **Conversational Intelligence, How Great Leaders Build Trust and Get Extraordinary Results**, now into its 3rd printing in less than a year, is the culmination of 46 years of research to explain the 'how and why' behind how human beings influence each other through conversations. I hope the book provides insights into new ways to validate what you are already doing so well in your lives, and will open up new ideas for working with your people in your life to enhance the quality of conversations to sustain healthy more productive relationships in a world of change.

This book is the last of the trilogy that includes my earlier books, **Creating We: Change I-Thinking to WE-Thinking & Build a Healthy, Thriving Organization** and **The DNA of Leadership, Leverage Your Instincts to: Communicate--Differentiate—Innovate.**

"To get to the next level of greatness depends on the quality of the culture, which depends on the quality of relationships, which depends on the quality of conversations. Everything happens through conversations."

Judith E. Glaser
Founder, The Creating WE Institute
CEO of Benchmark Communications, Inc.

116 Central Park South 9-D New York, NY 10019 212 307 4386 212 307 0699 (fax)
5 Shorehaven Road Norwalk, CT 06855 203 838 6982 203 838 7166 (fax)
jeglaser@creatingwe.com www.creatingwe.com www.conversationalintelligence.com