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My work with puppets and teachers has proceeded under a key assumption: Find a way to systematically inject play energy into the flow of communication in classrooms, and you will have harnessed important raw chemicals from the brain—needed for thinking and communication—energy by which to warm and propel the field of education. Make playful communication second nature on a systematic scale, and a strategic means to transform the learning culture is suddenly available. Playful communication has the power to surprise and destabilize the rigid character of conventional communication practiced by adults in the world's classrooms. Playful communication has the potential to exert broad impact and overnight transformation on the learning culture. This may sound like a tall order for such an amusingly innocuous tool as hand puppetry, but puppet play is a highly contagious and emotionally charged visual language. "We need languages that fit the present time—that can deal with the collective as well as the individual and that transcend traditional boundaries of tribe, nation, and culture," wrote Peter Senge. Puppet Play, practically applied, qualifies as one such language. The hand puppet is a force of nature—a symbolic bloom of organic art on the hand—at once a tool, a media, a language, and a technology capable of integrating, transmitting, and transferring information and opening the mind.

Puppets are widely known for their magical capacity to bring down psychological walls or perhaps pass through them. Somehow the little buggers always get a response. They always make it past the censors and the gatekeepers—Resistance, Fear, Control and Rigidity. In a world where classrooms are increasingly consumed with a strictly academic mission, play in the classroom stands out. The simple act of puppet play engaged in by child and adult in which a lifelike form or behaving entity is made to move and talk produces a catalytic, predictable impact on classroom group dynamics. My work, which involves teachers making their own puppets and putting them to work, has generated an extensive base of teacher anecdotes and video documentation attesting to the changes which classrooms undergo after introducing and working with the puppet medium. "I can hardly believe that a paper puppet can be so magical." "The children were mesmerized." "This has been one of the most enjoyable first few weeks of school I can remember," wrote one teacher.

When autistic children begin speaking in the presence of a puppet, the medium typically works to unlock internal, psychobiological structures and pathways. Puppets send a signal to disarm and that 'it's safe to come out'. Without puppets it is often very difficult to broach sensitive subjects, but because puppets can symbolize and articulate and project a given issue embodied in a 'third party', they make reaching children much easier and less threatening. This has implications for neutralizing the conditions of stress and fear that lead to alienation, violence, suicide, obesity, and substance abuse—and for preventing adult-induced variations of these widespread conditions related to child development and education. Play may send a strong enough message to derail the current train of testing and accountability.

Using puppets, a teacher can personally transform common learning barriers—oppositional behavior, negative moods, defensive attitudes—into a windfall of learning benefits and surprises. Children become more responsive and motivated. Perhaps most important, adults find themselves suddenly having fun. Teachers who tend to keep themselves and their emotions at arm's distance in the classroom become fully involved with the puppets and the children's response to them. The element of play induced by puppets calls up in teachers and children something vital to a learning process struggling to rise above itself. What many teachers describe as "magical" in puppets, I submit, could be the brain's deep need and response to aural, physical, kinetic, visual, emotive stimulation produced by a powerful species-specific, play- and art-based behavior.

In 2002, using near-infrared Optical Topography® (Hitachi, Inc), I worked with Dr. Tom Bass of Children's Hospital of the Kings Daughters, Norfolk, Virginia, who assisted me in designing a protocol to "image the brain at play." The project showed a significant increase in cortical blood volume during puppet play as compared to the performance of similar activity in a familiar routine manner. The study has since been recognized by Pediatric Academic Societies and is pending publication by the Journal of Child Neurology. Dr. Tom Zeffiro, Director of The Center for Functional and Molecular Imaging at Georgetown University Medical Center, has agreed to collaborate with me to further define and study physiologic changes in the central nervous system associated with play.

Beyond puppets and imaging, the larger issue of play behavior in classrooms offers an incredibly rich arena for research. More research in this area would serve to legitimize play in the eyes of school policy-makers, beyond its recognized importance in early childhood education, and help to establish play as a 'natural learning resource' capable of ameliorating many systemic issues challenging education. Imaging may give us a clear snapshot, but it is more important to establish working models in classrooms and schools around the world where play's impact on communication and the overall learning can be documented.

Interest and respect for play can be fostered in both real and virtual communities. Building play into commercial products would also foster and promote play. Puppetools represents a working model of that potential, and I would like to propose that it be considered for adoption by the OECD Project on Brain Research and Learning Science in its evolving plans for web-based teacher training and participation.

The capacity for childlike thought and symbolic use of the imagination is precisely the soil that Einstein, Edison, and DaVinci tapped into and became the playground in which they conducted their work. That soil is the birthright and the internal springboard for learning—residing within each human being—but especially within each child. This capacity—and the principles of human evolution that underlie it—represents the foundation upon which our relationship with the young should be guided.