

Early Childhood Summit 2013: Innovation and Opportunity Summary of Plenary Sessions

Michael Yogman

Dr. Michael Yogman, MD, Chair of the Board, *Boston Children's Museum*, and Executive Board, *Massachusetts Chapter of the Academy of Pediatrics*, welcomed everyone and thanked them for coming. He acknowledged the sponsors of the event Boston Children's Museum, the American Academy of Pediatrics, the Center on Developing Child at Harvard University, Strategies for Children, Massachusetts Department of Early Education and Care, and the United Way of Massachusetts Bay and Merrimack Valley. Dr. Yogman read a letter from Elizabeth Warren that stated, "there can be no doubt that state and federal governments must make investments to give all children access to high quality early childhood education. Partnerships like this will help make those investments more successful by ensuring that early education programs are informed by the best research available." Dr. Yogman informed every one of the Family Fest at Boston Children's Museum held on April 6th.

Eric Rosengren

Eric Rosengren, *President and CEO of the Federal Reserve Bank of Boston*, presented on the correlation between early childhood education and the impact on workers during the recession, specifically low educational attainment workers. He explained that children in high poverty areas face many obstacles and that educational opportunities can improve economic outcomes throughout their lives. He stressed that the work of this conference is important if all children are to have an opportunity to succeed and flourish. He stated that there has been some progress on highlighting the importance of early childhood education but there is much more work to come.

Governor Deval Patrick

Governor Deval Patrick discussed his budget proposal about improving the future using strategies that work. His budget focused on growing jobs and meeting our generational responsibility. Governor Patrick based his proposed budget on data based studies, personal and work experiences for him and colleagues and work done in the classrooms. His budget would fully fund education and education reform in the Commonwealth of Massachusetts. He made it a high priority to invest in children at an early age. He explained that business leaders, teachers, and academic leaders want to see this change and those 85 members of the house voted yes for new funding for early education.

He explained that we have increased our numbers in student achievement, energy efficiency, health care coverage, economic competitiveness and entrepreneurial services. We have gained back all of the jobs we lost during the recession. He stated that 6,000 positions have been eliminated from state government and we have closed \$22 billion budget gap. Governor Patrick encouraged everyone to speak up in order to make changes, including funding

transportation infrastructure. He finished by stating that we need to get serious about investing in a better, stronger Commonwealth for the generations to come.

Jack Shonkoff

Dr. Jack P. Shonkoff, *Director of the Center on the Developing Child at Harvard University*, described the importance of a successful and sustainable society starting in early childhood. He stressed that there are no “other people’s children” and that what happens to other children affects the whole of society. Dr. Shonkoff explained that the barriers to educational achievement and differences in development emerge at a very young age. An example he gave of differences in vocabulary growth between children in low socio-economic households and high socio-economic households begin to appear as early as 18 months. Dr. Shonkoff noted that children ages birth to 36 months who have been maltreated are at substantial risk of experiencing subsequent developmental problems. He also drew a correlation linking maltreatment in childhood to greater risk of adult heart disease.

Dr. Shonkoff stressed that we need to create a new paradigm for early childhood policy and practice. He stated that early experiences affect lifelong health and learning; and that healthy development requires protection and enrichment. He also said we are focused on generating explicit strategies focused on specific causal mechanism to produce relevant breakthrough outcomes. He wants to move from enrichment/information sharing to integration of biological protection. Dr. Shonkoff generated a hypothesis to guide new intervention strategies into three parts. First, protection and enrichment for young children require capacity-building for adults. Second, improvement in parenting skills can also enhance employability and economic stability. Third, that a strong neighborhood can reduce the burdens of adversity.

Dr. Shonkoff said that the challenge for early childhood professionals is that the ability to change brain development and behavior decreases over time. The maturing brain becomes specialized to assume more complex functions and as time passes it is less capable of reorganizing and adapting. He noted that the circuits for the executive function skills are located in brain regions that exhibit an extended period of plasticity. Two periods of especially rapid growth in proficiency on executive function skills are between the ages of 3 and 5 and between 15 and 25. The latter confirms what we know about teenagers’ ability to use good judgment and predict the consequences of their actions. It also shows the critical importance of helping kids get the right foundational experiences in preschool years.

Dr. Shonkoff closed with a discussion on driving knowledge-based innovation with compelling theory of change and short-cycle feedback. He stated that the key point is that there is a broader innovation agenda, but this meeting is focusing on one piece, which is a barrier to learning. In closing he stated that the time has come to create a new era in early childhood policy and

practice that need to include community leaders, policymakers, civic leaders and our science and creative partners.

Elisabeth Babcock

Dr. Elisabeth Babcock, *MCRP, PhD*, President and CEO, *Crittenton Women's Union*, described using executive functioning frameworks to improve family economic mobility at Crittenton Women's Union (CWU). Crittenton Women's Union is an innovative Boston-based action tank delivering programs, applied research and public policy designed to help very low-income women and families reach economic independence. There are 1,400 individuals served each year at CWU, 400 homeless families at one time. Dr. Babcock described the clients as 78% high school graduates or less, the average family earnings start at \$592/month, 96% of the families are headed by a single parent and the race ethnicity breakdown was 48% black, 32% Latina, and 20% Caucasian.

Dr. Babcock discussed how to apply executive functioning to the CWU families. She explained that inhibition, working memory and thought shifting are the three major skillsets that the families need to work on. Many of the client families within CWU need to work on impulse control and self-regulation, social-emotional skills, future orientation in decision-making, and contextualizing in decision-making process. The staff at CWU uses their Mobility Mentoring framework to combat these challenges. This includes their Bridge to Self-Sufficiency scaffolding which creates the support necessary to reach economic independence, clear goal-setting and outcomes measurement, tangible rewards, EF skill-building coaching and peer support and leveraging social networks.

The CWU's bridge to self-sufficiency measures family stability, well-being, education and training, financial management, and employment and career management. The adults are assessed on their executive functioning skills both in future-oriented decision making and contextualized decision making. They are then asked to create clear goal-setting and their outcomes are measured. There are a few options for families to take within CWU. They can choose Career Family Opportunity that focuses on applying for financial aid and taking entrance exams for higher education, and then they will go on to attend college and finish their program with a job earning \$50,000/year and will have saved \$10,000.

The goal of CWU is to teach families many different skills. They are teaching families the implications of self-control. They are telling parents to reflect on how to best resolve the parent and child needs. They help families to discover that they have choices and options are available to them. They try to coach resilience and the ability to recalibrate and rebuild. Finally, they are using science of social networking to develop peer groups of families that are all trying to reach the same goals.

Dr. Babcock concluded that outcomes measurement is crucial to attaining the goals of CWU. She believes that meaningful change requires meaningful co-investment. Working in silos works against low-income families,

it fights against economic mobility in families. Finally, improving executive function skills improves all five pillars of the Bridge which includes family, stability, wellbeing, education, and finance and career management.

John Barros

John Barros, Former Executive Director, *Dudley Street Neighborhood Initiative*, spoke about how DSNI fights the war against poverty. DSNI begins at the framework of bridging people and place to promote social, economic and physical development. The neighborhood as a unit of change is the foundation of DSNI's work.

He discussed the importance of creating systems to support individuals, families and their children, systems that can strengthen the community as a whole which can continue to help families. DSNI focuses on a system of intervention through an education lens. He stated that education on all levels can support better housing, healthcare, job creation and training. One organization alone cannot work on this goal. Collaborations and partnerships with similar goals can work together toward common goals. Resident leadership and engagement, in alignment with structural and physical changes to neighborhood systems strengthens and integrates people towards common outcomes.

DSNI follows the outcomes of children as the dependent part of the ecology of the neighborhood. It has taken 4 years (2009 through 2013) to create the beginnings of the new partnerships in the neighborhood. The first step is to focus on the work with children, and then to families, spreading out to organizations and businesses, branching out to big institutions and finally changing the systems in place; this is how DSNI will document the work.

Mr. Barros asked, what does it mean to create a neighborhood with a 21st century neighborhood? The themes are housing, health, and jobs. He stated that this approach is from cradle to career path. DSNI will track the success of Dudley Children Thrive, which is a citywide initiative that focuses on children ages 0-5. Currently within Dudley Children Thrive there are 436 families, 669 children under the age of 5, and 722 adult members (majority mothers but also a good number of fathers). People within the organization believe that job training can help support the most growth. They believe this will help the adults to support their children. DSNI focuses on parent empowerment, family support and community partnerships.

John Barros finished with the goal of DSNI to answer the question within 25 years: Did we have population level change in our neighborhood and are our children ready for schools? He believes that the tipping point will be a substantial number of lower income families rising up to the "middle class." They will focus on 500 families implementing systemic change, not through entitlements, so that families will engage in their own development and sustainability.

Michael Yogman and Carole Charnow

Dr. Yogman discussed the importance of play, explaining four major points that build on the importance of developing executive function, part of our fluid intelligence. These points are: 1) Play is brain building, 2) Play facilitates the normal developmental progression from dependence to independence and parental regulation to self-regulation, 3) Pre-school curricula must emphasize informal, play-based learning, meaning social/emotional learning, (he referenced the curricula of *Tools of the Mind* as an important resource), and 4) Adult success and future economic competitiveness is enhanced by play in childhood.

Dr. Yogman explained that play is enjoyable, there are no extrinsic goals, it is voluntary and it involves active engagement by the child. He described the importance of play as fundamental to our health, part of our evolutionary heritage, and that it gives us skills to live in a complex world. He further explained that play is brain building and is the serious business of childhood. Dr. Yogman defined Executive Function as part of our fluid intelligence and gives us the skills to help balance and modulate impulsivity and emotionality. Dr. Yogman explained that early experiences impact the balance of connections in the brain and are linked to the development or lack of development of toxic stress. He explained that our recent enhanced understanding of brain development in young children makes it very clear why it is easier, more efficient and less costly to support healthy development from birth. We now understand that these executive function skills are foundational for school readiness and academic success. He believes that we should support the cultivation of executive function skills, no matter the socio-economic background, for all children.

Carole Charnow, President and CEO, *Boston Children's Museum*, gave a brief overview of the IBM CEO survey that was conducted in 2010. This study surveyed CEOs regarding the challenges they face, and the CEOs noted that complexity is their most significant challenge. CEOs described the world as increasingly "volatile, uncertain, and complex." And the report states that "most CEOs seriously doubted their own ability to cope with this rapidly increasing complexity." In 2012, the study was repeated for 1,700 CEOs around the world. This time, the CEOs cited creativity, innovation and collaboration as key skills. These leaders are now seeking to create more open and collaborative cultures where employees can innovate, collaborate and respond to rapid change.

Ms. Charnow believes that everyone has innate curiosity, imagination and creativity. She believes that these traits are exemplified in performers and artists who have mastered the technical aspect of their craft and excel because they are open-minded and inventive, comfortable with ambiguity and experimentation, radical in their conception and execution, and they thrive in collaborative partnerships. She posed the question as to whether or not we are developing and educating students and young professionals to become the "disruptive innovators" of the future.

Ms. Charnow gave a brief history of Boston Children's Museum which is now celebrating its 100th year. Both Ms. Charnow and Dr. Yogman discussed the importance of play for the healthy development of children as they grow to become the future leaders of tomorrow and posed that children's museums are an important facilitator of not only for fun but building basic executive functions.

Business Panel

JD Chesloff

JD Chesloff, Executive Director, *Massachusetts Business Roundtable*, explained that the goal of the business panel was to examine how the business community can and does promote and invest in early education as a strategy to build an educated workforce and support human capital development. Future employers come to the conversation to find where their next talented workforce is going to come from and where can they invest so that they are growing the talented workforce that they need. Investing in a talented workforce pipeline means creating high quality early childhood education. A high quality early childhood education system decreases the amount of children held back in schools, decreases juvenile arrests, increases high school attendance, increases college attendance, and increases the employment rate.

John Fish

John Fish, Chairman and CEO, *Suffolk Construction*, discussed work-life balance and how it is sometimes is more important than the work itself. He noted that it is important to bring people and communities together. He discussed the ability to be competitive in the world economy. Mr. Fish stated that we need to develop and nurture a knowledge based economy that competes with a global economy. The Massachusetts economy is stronger than the national economy. Health care, life sciences, technology and big data are what are going to be focused on next. He stated that Massachusetts GDP growth is 4.5% up from US average, unemployment is 6.6% lower than average, and the bond rate is double A plus. He believes that there is a skills gap within America. Technology innovation is half of our US economic growth and 30 of the fastest growing occupations need STEM backgrounds. He believes that students are not prepared to compete globally for future jobs. Massachusetts STEM skills are in great demand. More than 85% of jobs will require math and science backgrounds in the future. There are more STEM jobs available than there are people able to fill them in Massachusetts. He believes that education is not aligned to meet the demand for the jobs of the future.

Mr. Fish then described how technology and STEM work relate to the construction industry. Construction work is in a transformative stage right

now, moving from blue collar jobs to white collar jobs. He believes we need to leverage intellectual property in order to continue their work. He explained how the construction industry is utilizing technology by doing all of their work virtually to build the final product. iPads are being utilized on every job site as well as TV monitoring screens and mobile applications to help with efficiency. Science and engineering are driving the innovation process in every industry in America and this will help us stay more competitive.

Moving forward, he believes that today there is the opportunity to plant the seeds for a new culture of innovation. For the first time there are four generations in the workplace, each generation thinking and acting differently. Millennials no longer think about big houses and big cars; they strive for job satisfaction, community and work life balance. He believes we need to leverage the experience of baby boomers with the technological knowledge of Millennials for reverse mentoring. They need to launch campaigns that integrate a sense of urgency for STEM education. He stated we need to train teachers to be curious of technological innovations and to get out of their comfort zones. We need to use analytics that will allow us a much more fluid way to track the success of teachers and students. Business and educators need to open the discussion about the skills gap he believes we need to get both sectors together to talk about the future not just the present.

Mr. Fish currently heads the *Boston Scholar Athletic Program* which has an annual \$4 million budget, involves 4,000 kids, and is partnered with organizations all around Boston. They leverage athletic currency and academic currency and believe we need to be much more collaborative in their efforts for education.

Marcy Reed

Marcy Reed, President, *National Grid*, stated that National Grid invests in education because they have a workforce problem in that they do not have enough workers. She stated that everything is digital; they need a new type of worker and that there is a declining number of technical field workers. *Engineering Our Future* is a program created to invest children grades pre-k through college. She explained that *National Grid* also sponsors *Boston Children's Museum's* STEM programs. The STEM kits are distributed to many early childhood education organizations and schools and that STEM kits are geared towards pre-K students. National Grid goes into schools at all levels so they help sponsor the education that will later help hire those that study STEM related fields. They spend a percentage of \$3 billion a year in their *Engineering Our Future* program. She also explained that National Grid employees like to go into classrooms to talk about STEM. She believes that education is the great equalizer.

She stated that businesses have a role to play in fostering early childhood education. Soft skills are important to big businesses because of how they can affect the business environment. She believes that teaching children to work in a team is very important especially in the work

environment. She finished by saying that big businesses have a role to play in storytelling, the more that we can let the children experience what happens at work, the more they can show children the interesting things that can be a part of work.

Tom Leighton

Tom Leighton, CEO, *Akamai Technologies*, explained that it is vital for his company to hire high quality mathematicians and computer scientists. They run a foundation called *Akamai Foundation* which supports mathematics programs grades K-12. The *Math Circle Program* which started in Eastern Europe for 5 year olds gives teachers the chance to engage students in math games. Students challenge one another with their mathematics function, which shows how fun math can be.

He stated that it is important to have programs that target girls and that his company funds math competitions for girls. Akamai is a big believer in getting the kids interested early and excited about mathematics and that it is especially important for girls to become involved.

Mr. Leighton was asked how his company focuses on early education in regards to their own hiring practices. He answered that they start at an early age by giving tours of their facilities and funding competitions, specifically in the math related fields. Students can also apply to internships in his company. He discussed the amount of money that they spend sponsoring math competitions is lower than \$1 million and that very few companies are interested in sponsorship for these types of programs. He believes that age five is the youngest age that they should start to focus on studying this type of math.

He believes that math and science education suffers in the classroom because if teachers are not interested or motivated then students will not be either. He believes that they can use innovation to encourage students to be interested in STEM fields starting in early childhood education. He believes that they need to be exposed to it at an early age and that it needs to be fun.

Charles Rizzo

Charles Rizzo, Principal Financial Officer and Chief Financial Officer, *John Hancock Funds*, gave a brief overview of his work with the *Bessie Tarrt Wilson Initiative for Children*. He works to add to their financial innovations and believes that getting children off to a good start is very important. There are valid economic reasons to stress the importance of early childhood education. The social economic costs are very high and it is a very high risk to ignore education. He stated that critical thinking skills, computing skills, and data analysis skills are very important stay competitively internationally. He does work with the Seed Fund through both the *Bessie Tarrt Wilson Initiative for Children* and the *United Way Massachusetts Bay* to invest in a vehicle that raises money that helps communities create programs that have shared services geared towards working environment and communities that help

families work with their children to teach important skills and values. He believes that their work should start with one or two communities and then branch out. He believes strongly in investing in early childhood education. He wants to improve literacy which gives children the skills to be ready for grade school, and *Seed Fund* wants to be able to measure their progress so they can raise more money.

He finished by saying that as business leaders they need to make sure the employees have the opportunity to get into the community and give back. He wants his employees to help with reading and other educational opportunities, and wants his managers to see what can be done and how they can help.