

# **Science Does Not Speak for Itself: Translating Child Development Research for the Public and Its Policymakers**

**Shonkoff & Bales (2011)**

## **Overview**

Science plays an important role in advising policymakers on how to effectively respond to social problems pertaining to the development of children. This research aims to stimulate more systematic, empirical approaches to the task of knowledge transfer and to emphasize the need to view the translation of science into policy and practice as an important academic endeavor. The National Scientific Council on the Developing Child and the FrameWorks Institute lead a 7-year effort of research to help interpret complex scientific concepts for policymakers and the citizens who elect them.

## **The Evolution of Promising Cross-Disciplinary Collaborations**

A working group came together to consider what impact leading scientists could have in advancing the call for a new public discussion on the findings of the NRC/IOM report and its policy implications. Three complimentary interests include: (1) neuroscientists who were invested in accurate public understanding of the rapidly emerging science of brain development, (2) members of the IOM/NRC Committee who were invested in maximizing the impact of their report, and (3) experts in the study and practice of communications who were invested in enhanced public understanding of what scientists have learned about the process of early childhood development. This vision was transformed in 2003 into the establishment of the National Scientific Council on the Developing Child.

## **Development of an Innovative Approach to Science Communications**

The FrameWorks Institute defines “framing” as referring to “the way a story is told-its selective use of particular symbols, metaphors, and messengers, for example- and to the way these cues, in turn, trigger the shared and durable cultural models that people use to make sense of their world”. In communication, framing serves as a powerful directive in the processing and interpreting of information. Four functions of framing were identified: (1) problem definition, (2) causal analysis, (3) moral judgment, and (4) remedy promotion. This process of framing in the practice of communication aims to help translate the science of child development to policymakers and citizens.

## **Specific Challenges in Translating Child Development Research**

There are three challenges in translating the science of early childhood development: (1) determining what needs to be translated, (2) identifying obstacles to public understanding, and (3) developing and verifying the impact of specific frame elements that improve public thinking.

### ***Determining What Needs to Be Translated***

There are eight concepts that ground the core research of development, first one stating that child development is a foundation for community development and economic development. The second concept states that brain architecture is constructed through an ongoing process that begins before birth and continues into adulthood. The third concept explains that brains are built in a hierarchical fashion,

from the bottom up, in other words, increasingly complex circuits and skills build on simpler circuits and skills over time. The fourth concept says that the interaction of genes and experience shapes the circuitry of the developing brain. The fifth concept states that cognitive, emotional, and social capacities are inextricably intertwined and learning, behavior, and both physical and mental health are highly interrelated over the life course. The sixth concept explains that although manageable levels of stress are normative and growth promoting, toxic stress in the early years can damage developing brain architecture and lead to problems in learning and behavior. The seventh concept states that brain plasticity and the ability to change behavior decreases over time, placing importance on early childhood education. Finally, the eighth concept explains how the effectiveness factors make the difference between early childhood intervention programs that work and those that do not work to support children's healthy development.

### ***Identifying Obstacles to Public Understanding***

This core story of development is grounded in a great deal of research; however, there have been a number of findings that were addressed in the composition of the core story. The first one being, policymakers and the public struggled to see child development as a public issue. Also, most people have a loosely organized model of human development and a limited understanding of childhood development, creating a "developmental black box". Another obstacle recognizes that the most popular default frames and current models downplay the full range of young children's competencies and important interactions, concentrating attention solely on the domain of the family and on observable development.

### ***Developing and Verifying the Impact of Specific Frame Elements***

In order to respond effectively to the problems presented, three areas are consistent with the core story: (1) the need to describe what develops in concrete terms, (2) the need to make visible the process of how development happens, and (3) the need to demonstrate why development is derailed in the face of adversity. The Framework investigators then assigned these three challenges to the simplifying models process including: (1) what develops- the circuitry and architecture of the brain, (2) how development happens: from mirroring to serve and return, and (3) why development is derailed: the physiological consequences of toxic stress.

### **Assessing the Influence of the Core Story on Public Discourse and Policy Decisions**

The Center on the Developing Child and Frameworks Institute has begun to assess the impact of this work in two ways; by looking for evidence that the simplifying models have been understood, and by conducting key informant interviews to ascertain whether and to what extent the written materials and oral presentations are perceived by selected public and private sector leaders to have influenced the content of proposed policies or the enactment of specific legislation.

### **Raising Healthy Children: Implications for Policy and Practice**

A model for translating developmental science for state-level policymakers has generated a great deal of promising results. Two important lessons have been recognized through the initial analyses of each success. The first lesson states that child development researchers can influence the thinking and actions of a politically diverse policymaking audience if they focus more on teaching about science and less on preaching about which specific policies and programs should be supported. Second, the greatest

impacts have been achieved when scientists have been able to use their communication skills to explain the science of early childhood development directly to people who have the capacity to make things happen. Overall, this research hopes to share what has been learned with the academic child development community and offer experiences and thoughts as a starting point for the compelling, unfinished business that remains to be done.

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