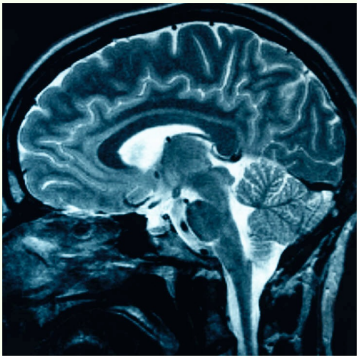# Taking the First Step:

Using Metaphor to Open Space for the Science of Child Development in the Field of International Development

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Table of Contents

Introduction

The research presented here was conducted by the FrameWorks Institute for the Harvard Center for the Developing Child, with support from the Özyeğin Family – AÇEV Global Early Childhood Research Fund, and is part of an ongoing effort to translate the science of early childhood development (ECD) for the field of international aid and development. The ultimate goal of this project is to create a communications strategy that can be used to improve understanding of the science of ECD among those working in international development, and increase funding and support for ECD interventions. This report discusses the role of Explanatory Metaphors in this larger effort.

Explanatory Metaphors are frame elements that provide alternative ways for people to think and talk about issues and concepts. As such, these tools are designed to shift the conceptual frameworks that people employ to process information and make decisions. By clarifying concepts that ECD experts and advocates have struggled to advance among international development specialists, Explanatory Metaphors strengthen understanding of, and support for, the potential contributions of ECD programs and interventions in international development efforts. More specifically, Explanatory Metaphors deepen understanding of the importance of early brain development among advocates and specialists in established fields that work to improve child well-being, such as child safety and survival, child health, and education, among others.

Following the Strategic Frame Analysis™ approach, FrameWorks researchers have studied the "cultural models"[1] — shared, but implicit, assumptions and understandings — that shape the ways in which members of the international development field think about brain development and its role in interventions for children in the developing world. Cultural models can sometimes constrict the ways that people are able to look at an issue, and constrain their ability to incorporate new information. This can make some messages "hard to think," and impede consideration of certain approaches to policy and program design.

FrameWorks' cultural models analysis shows that those who are encouraging deeper integration of ECD programs into existing international children's programs face serious challenges. For example, many members of the field who work on children's issues lack robust understandings of the mechanisms that underlie early brain development, despite expertise in one or more aspects of children's well-being. In this sense, these challenges mirror those observed among the general public more broadly. The Core Story of Early Childhood Development[2] was created to fill in this lack of understanding, and has proven

effective among publics in various national contexts (the United States, Brazil, Canada and Australia, for example). The Core Story holds promise for translating the science of early brain development for many working on international children's issues. However, FrameWorks' research also demonstrates[3] that there is a set of communications obstacles that must to be addressed even before science communicators can use the Core Story. The research demonstrates that, *if these obstacles are not addressed prior to exposure to the Core Story, it will not have a chance to exert its reframing power in this field*.

The first of these basic obstacles is largely institutional. Funding agencies typically direct money towards improving very specific outcomes for children, creating "silos" around issues of nutrition, education, health, protection from violence, and child survival. Rather than a holistic approach, these institutional silos create a field with very little coordination and integration among its sectors. Children's needs are addressed in isolation, and outcome measures are typically specific to a given silo. Beyond lack of coordination, these silos may even be seen as competing for resources. Even those experts and advocates interested in ECD may be constrained by the perception that taking on this issue dilutes attention from their "main argument." As a result of this institutional reality — as well as people's mental representation of it — practitioners are pessimistic about the possibility of integrating new approaches that incorporate ECD into existing programming, and often reject calls to establish ECD as its own sector. Without an understanding of how ECD is integral to all of these silos, the "addition" of ECD to the existing outcome goals appears as a distraction, rather than an improvement.

The other obstacle that thwarts full integration of ECD into the international development field is the cultural models that those working in this field employ to think about the relative importance of various issue sectors. There is an overarching sense in the field that basic needs — such as nutrition, health and survival — need to be met, and fully addressed, *before* programs that focus on other issues (such as early brain development) can even be considered. This is what FrameWorks calls the *Hierarchy Of Needs* model.[4] How practitioners prioritize each sector depends on their specific area of expertise. However, when practitioners employ the *Hierarchy Of Needs* model, early childhood development is relegated to a second-tier issue that cannot be broached until every child's basic needs are met.[5]

Experts in the field of international child development are privy to the stories in media, just as are members of the broader public. Indeed, one might well assume them to be even more media-attentive, given their educational attainment and professional status.[6] FrameWorks' research shows that media coverage of international children's issues does

little to engage people in more productive thinking about ECD issues. Instead, media stories reify and reinforce the very perceptions that impede greater incorporation of ECD into international children's programs and policies.[7]

It is also logical to assume that those working in this field are attentive to other organizations' communications as part of their professional work, and may be constrained by the framing practices of the field in general. FrameWorks' Field Frame Analysis — an examination of framing practices among organizations working on international children's issues — finds that these organizations narrowly frame ECD as "school readiness" and "early literacy." Social and emotional skills, as well as early brain development, receive almost no attention. Exposure to these materials, like exposure to media coverage, further entrenches the *Hierarchy Of Needs* model and deepens the challenges faced by those wishing to get ECD into the international children's field.[8]

It is in this context that FrameWorks and the Center on the Developing Child have been working to develop communications tools and strategies that help bring ECD to the international development table. The descriptive research described above has identified the following priority reframing tasks: (1) bring early childhood development into the discourse about international children's issues and (2) demonstrate how the integration of ECD programming into existing programs can create efficiency and innovation within the field and, ultimately, yield greater outcomes for children. These tasks are best addressed through Explanatory Metaphors that are designed to create the conceptual space necessary to introduce the science of early brain development conveyed by the Core Story. Again, without solving the *Hierarchy Of Needs* challenge and the pushback created by perceptions of the siloed nature of the field, more specific explanations of ECD concepts and processes will not gain traction.

Below, we present the results of FrameWorks' iterative research process that designs and tests Explanatory Metaphors. Following the presentation of research findings, we provide strategic recommendations about how the metaphors can best be used by those attempting to insert ECD into the international development and children's issues field.

Executive Summary

FrameWorks' Explanatory Metaphor research resulted in two effective metaphors for reframing discussions about early childhood development in the field of international development and children's issues: The *Investment Multiplier* and the *Road to Positive Outcomes*.

The *Investment Multiplier*

The Explanatory Metaphor of the *Investment Multiplier* productively directed the way members of the field of international development talk and think about early childhood development, the importance of this concept, and the role that it might play in improving sectorial and child outcomes. The metaphor was also easily and effectively used by groups of ECD experts in advocating for the importance and inclusion of ECD on the international development agenda.

> **The *Investment Multiplier*:** Groups working on international children's issues use limited resources to get maximum results, in the hope that investments boost outcomes and result in thriving children. Early childhood development interventions can act as investment multipliers. With interventions that focus on a child's development, results in health, survival, nutrition, education and protection can be multiplied. Even embedding small amounts of child development-focused interventions early in a child's life can multiply returns, and make it more likely that children will grow up to become thriving members of their societies. Adding early childhood development programs to the existing work that organizations are doing multiplies the impact of those resources, and amplifies the return on that investment in the form of positive outcomes.

Strengths of the Metaphor
Investment Multiplier showed the following strengths in productively reorienting people's thinking about ECD in the context of international development:

- ***Feasibility of incorporation.*** The *Multiplier* metaphor was highly effective in helping participants think and talk about the feasibility of incorporating ECD interventions into existing programs that address children's issues globally. Prior to

being exposed to the metaphor, most participants resisted, or were, at the very least, highly skeptical of, diverting resources to ECD programs.

- ***Improved outcomes from relatively small inputs.*** Participants and ECD experts used the metaphor to explain how the addition of ECD interventions into existing programs could improve children's outcomes.

- ***ECD investments amplify outcomes.*** The most dramatic effect of the metaphor was the way in which it created space for people to think about the pragmatic advantages of increased investment in, and focus on, ECD programs. After exposure to the metaphor, participants spoke about ECD programming as "an innovative way" of enhancing a sector's outcomes and improving the field's work.

- ***Framing research and examples.*** The metaphor was also a highly effective way for experts to contextualize the research that illustrates the power of ECD programs and interventions. In this way, the metaphor primed people to be receptive to research-based arguments — a valuable function in efforts to translate the science of early childhood development.

- ***Inoculates against the Hierarchy Of Needs model.*** The metaphor provides ECD communicators with the tools to maneuver around the dominant *Hierarchy Of Needs* model. Because this model is a major impediment to attempts to increase the prominence of ECD in the international development field, the metaphor's ability to circumvent this way of thinking is a major framing accomplishment.

The *Road to Positive Outcomes*

The *Road to Positive Outcomes* Explanatory Metaphor is equally as powerful a tool as the *Multiplier*, but it accomplished a slightly different set of communications tasks. This metaphor was particularly well suited to explaining the relationship of ECD to the sectors that currently comprise the international development field, and to highlight the potential of inter-issue collaboration and coordination.

> The *Road to Positive Outcomes*: Think about different children's issues — such as health, education and protection — as different vehicles, each trying to get to positive outcomes. One way to get better outcomes would be to invest resources in each vehicle, to make each of them faster or more efficient. The other way to get all these issues towards their destination is to

focus on the road that they are all driving on and try to smooth and widen it, so that all the issues can move further and more efficiently towards positive outcomes. Making investments in early childhood development is a way to smooth the road, eliminate roadblocks and patch potholes, so that all children's issues can move toward the common destination of positive child outcomes.

Strengths of the Metaphor

Road to Positive Outcomes helped members of the international development field think more productively about how investments in ECD programs can be beneficial to all sectors. More specific advantages of the metaphor included the following:

- ***Groups working on children's issues share a common destination, and ECD programs can help all sectors reach that destination.*** The metaphor helps members of the international development field appreciate that integrating ECD into existing programs can get children "farther along the road," thereby shifting focus from sector-level to child-level outcomes.

- ***Optimizing outcomes.*** The metaphor illustrates how ECD interventions can optimize the work of other sectors. Ensuring healthy brain development allows all sectors to use their resources to move more efficiently toward positive outcomes.

- ***Finding a balance between prevention and intervention.*** The metaphor opens up space for people to discuss the value of prevention as well as the importance of intervening when development is disrupted.

- ***From second tier to a common foundation.*** One of the biggest shifts in understanding accomplished by the metaphor is the way in which it elevates the role of ECD in creating positive outcomes for children. Before exposure to the metaphor, participants typically positioned ECD as a second-tier issue. The metaphor inoculates against the *Hierarchy Of Needs* model, and moved ECD to a *common* concern for all those working the field.

- ***Recognizing institutional realities while suggesting improvements to the field.*** The *Roads* metaphor allowed experts to acknowledge, and critique, the siloed nature of the field, as well as argue for greater coordination and collaboration across sectors. In this way, the *Road* metaphor simultaneously recognizes the siloed nature of the field *and* helps people see the role of ECD in achieving greater coordination

between the sectors.

- ***Developmental problems impede all outcomes.*** The metaphor sets up discussions about how disruptions to brain development impede other child outcomes. Bumps, cracks and potholes in the road are aspects of the metaphor that can be used to describe disruptions to development that impede the progress of all the issues that "come down the road."

In summary, these two metaphors are effective communication strategies that accomplish different communication tasks. The *Investment Multiplier* helps people see the feasibility and power of incorporating ECD programs into existing work. The *Road to Positive Outcomes* models how attention to early brain development increases the success of both sector-specific issues (e.g., good nutrition) and child outcomes more generally (e.g., positive development). These tasks constitute the critical first steps in priming members of the field of international development to consider the science of early brain development. These metaphors serve as the prerequisites to the Core Story, as they establish a context in which it fits to this particular field. The Core Story comprises of a set of tools, including Values and Explanatory Metaphors, that was developed primarily in the U.S. Its effectiveness has not been tested in the context of international development. This is the next step in the larger research project. The metaphors described here open the door for such efforts.

Why ECD in the International Context Needs an Explanatory Metaphor

Designing an effective Explanatory Metaphor requires first understanding the particular communications challenges and dynamics at play, which of these challenges the metaphor will be tasked with addressing, and how these tasks fit into a larger framing strategy. FrameWorks establishes this understanding through careful descriptive research. On the issue of ECD in the international development field, this research identified and described (1) the cultural models operative in the field of international development, and (2) the frames used in media and advocacy materials in the field. The findings from this descriptive research represent the key tasks that an Explanatory Metaphor must accomplish in order to effectively explain the potential role that ECD programs might play in the international development field, and set the stage for more detailed explanations of the science of ECD:

1. **It's not a hierarchy of needs.** The metaphor should allow people to see that early childhood development programs should be instituted contemporaneously with existing children's programs. In other words, the metaphor has to inoculate against the view that children in developing countries have a strict, and linear, hierarchy of needs, and that ECD can only be addressed *after* the survival of each and every child is ensured.

2. **ECD can be incorporated into existing programming.** The metaphor should help people see that ECD interventions don't require their own silo but can, instead, be incorporated within existing sector programs.

3. **Incorporating ECD creates efficiency and improves outcomes.** The metaphor has to establish the understanding that incorporating ECD components into programs that address issues like nutrition, health and education is an efficient and effective strategy for improving outcomes in those same domains.

4. **The siloed structure of the field, while real, is also problematic.** The metaphor must work within the existing structure of funding for children's issues — a structure in which various sectors often function as distinct entities with distinct goals. However, the metaphor should also communicate the power of greater cooperation, coordination and integration among sectors.

5. **Science translation holds promise for advancing a wide array of policy and**

practice thinking that the field wants to promote. The metaphor should serve as a first step in explaining concepts from the science of ECD. That is, it should orient those in the field to the importance and feasibility of ECD programs, thereby creating space for people to think productively about the implications of the Core Story for policy and practice.

Below, we briefly discuss how FrameWorks' researchers developed and tested the two metaphors. We then present the findings from this research, and conclude with specific recommendations for how best to deploy these communications tools.

Why We Test Explanatory Metaphors

Most people can easily identify, and even generate, metaphors in order to explain, teach or argue points and ideas. Yet, metaphors shape our thinking at levels that evade conscious detection and reflection. Each metaphor proposes a re-categorization of a concept in mind and, because concepts already exist in an internalized web of other meanings, these re-categorizations activate other concepts, categorizations and relationships. In short, metaphors have far-reaching and hard-to-detect cognitive consequences. Frequently, these consequences may endanger the very communications goals that the metaphor is intended to serve.

Because of this potential for unintended, negative effects in relation to communications goals, FrameWorks tests a set of Explanatory Metaphors in order to observe and measure the *actual* directions they take in social interaction and discourse, and their effects in shaping thinking and reasoning processes. These tests allow us to observe what happens to metaphors as they live and breathe in complex cultural, political and linguistic ecologies. Testing metaphors also inoculates against arguments about a metaphor's effectiveness based on from-the-hip assessments of "what most people think" or "what most people know" and, in so doing, avoids unproductive, even potentially dangerous, armchair predictions and recommendations.

A final reason for testing is that many of the most persistent metaphors that we use in our daily language have evolved over long periods to fit their cultural circumstances. We use such metaphors because they are present in our language and our culture, and they are present in our language and culture because they have outlasted, or proven themselves to be more cognitively fit than, other related attempts. Because communicators do not have the luxury of taking long periods of time to see what might emerge naturally, we compress this evolutionary schedule to produce metaphors with immediate cognitive and social fit.

How Explanatory Metaphors are Identified and Tested

Phase 1: Mapping the Gaps

FrameWorks' research team began the project by conducting Cultural Models Interviews and Expert Interviews. Cultural Models Interviews were conducted with international development workers, and were designed to gather data that reveal the underlying patterns of assumptions — or cultural models — that members of these organizations apply in thinking about children's issues and early childhood development. Expert Interviews were then conducted with researchers, advocates and practitioners who work on ECD issues in the field of international development. These interviews were designed to elicit the expert understanding of early childhood development from an international development perspective. Comparing the data gathered from these two types of interviews revealed a set of gaps that represent key challenges in communicating about ECD in the international development domain.

Phase 2: Designing Explanatory Metaphors

FrameWorks' research team analyzed transcripts of both types of interviews conducted in Phase 1, and used approaches to metaphor from cognitive linguistics and psycholinguistics to generate a list of metaphors that capture salient elements of the expert understanding. The initial Explanatory Metaphors generated from this phase are listed in the Appendix.

Phase 3: Testing Explanatory Metaphors

FrameWorks tested this set of candidate metaphors in multiple iterative research formats — winnowing unsuccessful candidates, refining promising metaphors and generating new concepts at each stage of the process. Written and oral consent was obtained from all participants in this process.

> *Step 1: Exploratory Interviews*
> FrameWorks' researchers conducted 50 Exploratory Interviews in Washington, D.C., and New York City. Participants in these interviews were selected based on membership in international development organizations. Individuals with specific experience, or a portfolio of work, that involved ECD were screened out of the interviews. The interviews tested the ability of seven candidate metaphors to enable more productive discussion about the place of early childhood development in the international children's issue agenda.

Step 2: Persistence Trials

FrameWorks held six Persistence Trials in Washington, D.C., with a total of 36 participants, using the same inclusion criteria as in Step One. Persistence Trials give participants a way to use the Explanatory Metaphor in social discourse, and produce rich data about its properties and effects. In a Persistence Trial, an initial pair of participants is presented the Explanatory Metaphor by a FrameWorks researcher. The participants then discuss the metaphor with the researcher before teaching it to a subsequent pair of participants. Following the transfer, the second pair explains the metaphor to a third pair. Finally, the first pair returns to hear the transmitted metaphor from the third pair. This process allows researchers to assess whether the metaphor has persisted over the session and to enlist participants in explaining any changes that may have occurred to the metaphor.

Step 3: On-the-Street Interviews

Given the communications challenges, the specialized target audience for the metaphor, and the need for these metaphors to be effective among a multicultural, multilingual audience, FrameWorks researchers conducted a set of On-the-Street Interviews in New York City during the 2013 United Nations General Assembly meetings. Interviews were conducted with non-American informants working in international development. These interviews gauged how well the remaining candidate metaphors worked with people from different cultural and linguistic backgrounds.

Step 4: Usability Tests

Finally, FrameWorks researchers conducted six Usability Tests, in which groups of ECD experts[9] — recruited to represent the end-users of the metaphors — were asked to explore the metaphors' utility as communications tools. Each of these Usability Tests consisted of a two-hour session, in which a moderator first presented two ECD experts with a metaphor. Two members of the international development field who did not specialize in ECD were then brought in as an audience for the experts, who were tasked with using the metaphor to advocate for the importance of ECD in the international domain. This was followed by a conversation in which the non-ECD experts asked questions of the ECD experts about the metaphor. The sessions concluded with a debrief, in which the moderator asked the ECD experts about their experiences in using the metaphor. The goal throughout these tests was to gather data on *whether* and *how* the experts used the metaphor. These data were subsequently used to modify the metaphor in order to optimize its effectiveness and usability.

The Emergence of Two Effective Explanatory Metaphors

In the sections that follow, we describe how two Explanatory Metaphors emerged from the four-step research process described above. We conclude with a set of strategic recommendations for how to employ these metaphors.

Exploratory Interviews

In this initial research stage, researchers tested seven candidate Explanatory Metaphors: *Amplifier*, *Catalyst*, *Core*, *Unlocking*, *Web*, *Map* and *Wheel*. Each metaphor demonstrated some promise, but they also presented challenges that were addressed in subsequent phases of research.

These initial metaphors were generally successful in communicating the **synergy between ECD and sector-based programs** (nutrition, health, education, protection). The metaphors helped participants understand that the integration of ECD programs can advance the outcome goals of each individual sector. For example, following exposure to the *Amplifier* metaphor, which was particularly effective in this respect, participants talked about how ECD can "ramp up the impacts" of other kinds of programs.

The metaphors were also effective in opening up space for people to talk about the ability of investments in ECD to **improve outcomes *across* sectors**. *Wheel*, *Map* and *Amplifier* were most effective in this capacity; they pushed people's attention towards the idea that even *small* amounts of attention to ECD have the potential to lift outcomes across sectors.

The metaphors (again, particularly *Amplifier*, *Wheel* and *Map*) were also effective in getting participants to consider ECD programming as an innovative means of **creating collaboration between sectors**. In this sense, the metaphors led to a productive critique of the way that siloed institutional structures constrain outcomes, and make innovative approaches to improving children's well-being more difficult to implement.

In addition to the conceptual work described above, many of the metaphors tested proved **sticky** — that is, participants used the language of the metaphors throughout the interview, without prompting, to make points and forward arguments.

Despite these promising findings, all the metaphors tested in the Exploratory Interviews required refinement and reconstruction. First, some metaphors seemed to go too far in

proposing changes to the current structure of the field. For example, the *Web* metaphor modeled a *highly* integrated, interdependent and coordinated field — imagery that reflects an institutional set-up far removed from the current system. This metaphor was met with pushback from some participants, who described it as "overly ambitious and idealistic." Participants commented that this lack of realism made the metaphor "hard to swallow," and suggested that practitioners would find its premise difficult to accept.

Similarly, participants were highly suspicious of the metaphors that proposed an indispensable and singular role for ECD in this domain. In these cases, the metaphors seemed to challenge the value of participants' own work. The *Unlocking*, *Wheel* and *Core* metaphors were particularly problematic in this respect. Informants exposed to these metaphors pushed back against the idea that positive outcomes could not be achieved without attention to ECD. In short, these metaphors "oversold" the importance of ECD, and the relationship between ECD and other issue sectors.

Lastly, the metaphors tested at this stage did not adequately map the desired relationship between ECD and other children's issues. Participants were therefore unclear if the metaphors were proposing that ECD become another silo, or that it be incorporated into existing sectors' programs.

Drawing on these strengths, and responding to these challenges, FrameWorks' researchers generated two new metaphors.

(1) Researchers drew on the largely promising results of the *Amplifier* metaphor to generate a metaphor called the *Investment Multiplier*. The *Multiplier* metaphor was designed to leverage the existing discourse in the field around investments and outcomes. We used the word "multiplier" instead of "amplifier" because participants in the Exploratory Interviews argued that "amplifying" might create a noisy field, and increase the sense of competition between sectors.

(2) Researchers also made substantial changes to the *Map* and *Wheel* metaphors, merging them into a metaphor called the *ECD Road*. In the metaphor, the various issue sectors are represented as different vehicles on the same road. It was designed to acknowledge the institutional reality in which international developmental professionals work, thereby incurring less pushback. However, the metaphor was also intended to provide opportunities for users to discuss how better coordination among sectors might improve children's outcomes. FrameWorks' researchers were also careful to specify the relationship between ECD programming and other sectors, so as to avoid implying that

positive outcomes were *impossible* without a focus on ECD. The metaphor instead positioned ECD as a *facilitator* of various sectors' outcomes, rather than as an indispensable prerequisite for achieving those outcomes.

FrameWorks' researchers tested the efficacy of the *Investment Multiplier* and the *ECD Road* (which, as a result of research, was subsequently retitled the *Road to Positive Outcomes*) using Persistence Trials and On-the-Street Interviews. As with earlier phases, both of these methods were conducted with people who work on international development issues but are not ECD specialists. Data gathered from this research were analyzed to see if, and how, participants could *apply* the Explanatory Metaphor; whether, and how, the metaphor *inoculates* against unproductive cultural models; and the degree to which the metaphor is *communicable*. This research was followed by a set of Usability Tests. Below, we present the results of testing the *Investment Multiplier* and the *Road to Positive Outcomes* metaphors, and provide guidance on how to use these framing tools.

The *Investment Multiplier*

Central components of the metaphor as tested in Persistence Trials and On-the-Street Interviews included:

- Organizations invest limited resources in ECD interventions in order to generate maximum results.
- ECD interventions can multiply those investments and amplify outcomes in multiple sectors.
- Even when small, adding ECD programs to an organization's existing work multiplies the impact of resources and maximizes the return on that investment.

Application. Persistence Trials and On-the-Street Interviews showed that the metaphor had the following effects in channeling people's thinking:

- *Integrating ECD into existing programs is feasible.* The *Multiplier* gave participants language to discuss the feasibility of embedding ECD programming into other international children's programs. Prior to exposure to the metaphor, participants talked about the difficulty of focusing on ECD because each sector has its own set of outcome goals, and because of the impracticality of building a new sector devoted only to issues related to ECD. The *Multiplier* metaphor allowed participants to recognize that ECD could be "easily incorporated into the work that the sectors are already doing." Participants also described how adding a small ECD component to existing programs could have significant impacts. In sum, the metaphor was highly

effective in circumventing participants' reservations about increasing the field's attention to ECD.

- *Adding "a little" ECD is a dose of prevention.* An unintended effect of the metaphor is the way in which it led participants to discussions about the importance of prevention in improving children's outcomes. When participants thought about how adding even a small focus on *early* childhood development could improve outcomes in other domains, they also became attentive to the value of using resources to promote preventative actions.

- *Attention to ECD improves desired outcomes.* The most dramatic effect of the metaphor was the way in which it created space for people to think about the advantages of increasing attention to, and investment in, ECD programs. After exposure to the metaphor, participants spoke about ECD programming as "an innovative way" or an "ingredient" to enhance a sector's outcomes. In this way, the metaphor was highly effective in shifting people away from the idea that ECD can only be addressed after the "more important" issues.

- *Multiplication is both horizontal and vertical.* The *Multiplier* metaphor shaped discussions about the ability of ECD interventions to increase positive outcomes in two notable ways. First, participants discussed the ability of ECD investments to "boost" and "amplify" outcomes in a single given sector. Participants also used the metaphor to describe how an ECD investment made in one sector can improve outcomes across *a wide range of other sectors*. For example, one informant explained how incorporating ECD components into nutrition programming could also improve outcomes across health, education and child protection sectors. The different interpretations of "multiplying" is a highly productive component of the metaphor.

Inoculation. The metaphor was highly effective in inoculating against the *Hierarchy Of Needs* model, which represents perhaps the most pernicious impediment to translating the science of ECD into the international development field. As discussed above, the metaphor gave participants a different way of seeing the relationship between ECD and the current issues in the field. Rather than sequential and competing, participants were able to imagine potential synergies between ECD and the other established sectors. This is a primary strength of the *Investment Multiplier* metaphor.

Communicability. Communicability refers to the faithfulness of the transmission of the Explanatory Metaphor between participants. Analyzing video data, FrameWorks

researchers look for the repetition and stability of language and key ideas over the course of individual On-the-Street Interviews, as well as the "stickiness" of the metaphor as it is passed between individuals during Persistence Trials. Communicability is a key criterion of an effective Explanatory Metaphor.

During the On-the-Street Interviews, participants immediately picked up the language of the *Multiplier* metaphor and used it throughout the remainder of their interviews. In Persistence Trials, the metaphor was passed between participants with ease and a high degree of fidelity. At the end of a Persistence Trial, the metaphor very closely approximated its original form taught at the outset of the session.

In addition, during On-the-Street Interviews, participants translated the *Multiplier* metaphor into their native language. They also thought that the metaphor would be effective in their countries of origin as a way for people to think about the feasibility and value of an increased focus on ECD.

One potential explanation for the metaphor's high degree of communicability is the fact that the idea of "return on investment" is already a part of the field's discourse. Combined with the metaphor's ease of use and conceptual power, this fit is a major strength, and suggests that it will be a highly effective framing tool.

Challenges. Although the *Multiplier* metaphor performed well in both Persistence Trials and On-the-Street Interviews, there was one area of concern that emerged during analysis. Several participants discussed some discomfort with framing of children's issues in monetary and financial terms. Participants recognized that funders and members of the field talk and think in these financial and investment terms — a fact evidenced by earlier FrameWorks research[10] — but, nevertheless, felt some discomfort with the narrowness of this language. This concern suggests the need for communicators using the metaphor to be able to switch from the idea of an "investment" multiplier to an "outcomes" multiplier in cases where financial language around "investments" might be inappropriate. This recommendation is discussed in further detail below.

The metaphor is *part of the story, but not the whole story.* While the *Multiplier* metaphor allowed participants to see the value of integrating ECD into existing programs, it still requires subsequent explanation of ECD concepts through the Core Story. These concepts include how the brain develops, the outcomes of early brain development, and effective interventions. One of the primary recommendations that emerges from this research is that communicators should introduce the Core Story after they have used the *Multiplier*

metaphor to create more productive perspectives on ECD. However, we caution that the Core Story still needs to be tested for its communicative and perceptual effects in the international field. This testing is recommended as the next phase of reframing research.

Usability Advantages. Having established the *Multiplier* metaphor's effectiveness among non-ECD experts, FrameWorks' researchers examined the *use* of the metaphor by ECD experts themselves. Usability Tests revealed a number of productive applications and strengths, as well as several challenges that were subsequently addressed through modifications to the metaphor and recommendations regarding its use. ECD experts used the metaphor in the following productive ways:

- *Incorporating ECD interventions into existing programs is feasible and efficient.* Experts used the language of "multiplication" to argue that integrating ECD into the work being done in other issue areas is relatively easy, and represents an efficient use of limited funds and resources. These explanations, in turn, opened space to position ECD investments not as radical changes, but as modest, yet highly effective, approaches to improving children's outcomes.

- *ECD interventions enhance outcomes associated with other sectors.* Experts easily used the metaphor to explain how ECD programming enhances outcomes associated with other sectors, effectively diffusing zero-sum assumptions that more focus on ECD means less focus on other "more important" issues.

- *ECD programming improves both short-term and long-term goals.* All experts filled out the metaphor with empirical examples of the short-, medium- and long-term benefits of ECD programs. In this way, the metaphor was a highly effective tool with which to organize and explain data on the effectiveness of ECD interventions.

The metaphor proved *useful in expert conversations*. The *Multiplier* scaffolded conversations between expert participants about their own research, and about potential new directions for investigation. Past FrameWorks research has shown that effective Explanatory Metaphors are not just powerful in influencing non-expert understanding, but can facilitate expert conversations within, and across, disciplines.[11]

The metaphor fit fluidly *into existing discourse*. The *Multiplier* was perhaps the most user-friendly metaphor ever tested in Usability Tests. Because of the consonance between the metaphor and components of the existing discourse around "return on investment," it

requires very little teaching and is likely to be quickly adopted as a way to talk about ECD programming and interventions.

The metaphor is sticky, and contains a high degree of conceptual integrity. Language around "multiplier," "multiply," "boost," "exponential increase," "synergy," "cascading," "amplifying," "adding to multiply," "infuse" and "key ingredient" were viral during Usability Tests. The metaphor also displayed a high degree of conceptual integrity, in that it never morphed or moved away from its intended meaning or function.

The metaphor was used non-linguistically. Experts evoked the metaphor and made use of its explanatory power both linguistically and through the use of gesture. The degree to which the metaphor was "embodied" — that is, deeply incorporated and employed — is another measure of its high degree of usability.

Usability Challenges. In line with the challenge that emerged from Persistence Trials and On-the-Street Interviews, experts noted that embedding rights- or moral-based arguments in the metaphor would make it more effective with audiences less focused on economic considerations and "returns on investment." While this task is routinely assigned to Values in a full communication, this critique, nevertheless, was the basis of several key modifications to the final metaphor and recommendations for its use.

The *Road to Positive Outcomes*

Central components of this metaphor, as tested in Persistence Trials and On-the-Street Interviews, included:

- Groups working on international children's issues are trying to move their issue down the road to positive outcomes.
- One way to do this is to put resources into each issue "vehicle" — whether that vehicle is children's health, nutrition, education or protection.
- Another way to make sure that an issue moves towards positive outcomes is to work on the road.
- Early childhood development is the road that these issues travel on. Focusing on early childhood development is a way of building a better road — smoothing it out, widening it, paving it and fixing holes, so that all issues can get further and ensure that children reach their potential.

Application. The *Road to Positive Outcomes* metaphor had the following effects:

- *Working on ECD can help <u>all</u> issues improve their specific outcomes.* The metaphor helped participants think about how integrating ECD into existing programs can get children "farther down the road." Much of this positive effect derives from the spatial components of the metaphor. All issue vehicles use the ECD road, and, therefore, improving it results in better outcomes for all issue areas.

- *Making improvements to the road can optimize outcomes and create efficiency, but is not essential.* The metaphor channeled people's attention toward the idea that working on ECD is an effective way of *optimizing* the work that other sectors are doing. However, it did this without positioning ECD as *essential* to achieving successful outcomes in other issue areas. As a result, the metaphor avoided the pushback experienced during the first round of Exploratory Interviews. Participants in Persistence-Trials and On-the-Street Interviews used the metaphor to reason that issues could still "get where they are going" without a smooth road, but that a well-maintained road makes travel more efficient. In this way, the metaphor aligns well with the value of *Pragmatism*, as it suggests concrete and "doable" improvements to existing programs.

- *Prevention and remedial interventions are important.* The metaphor has productive entailments about factors that can impede or disrupt travel, and, therefore, opened up space for people to discuss the importance of prevention in new ways. Participants talked about the importance of removing "barriers" and "roadblocks" *before* children encounter them, so as not to impede progress. This focus on prevention did not, however, preclude discussion of the importance of *intervening* in cases where development has already been disrupted. Participants talked about directing resources towards filling in potholes and cracks in the road. The metaphor therefore gave participants the ability to reason about prevention and intervention on issues related to ECD.

- *A foundational and common concern.* One of the biggest shifts observed was the way in which the metaphor helped participants to understand the importance of ECD. Before exposure to the metaphor, ECD was understood through the *Hierarchy Of Needs* model, and therefore almost always figured as a second-tier issue. After exposure, participants focused on ECD as a *primary* issue and a *common* concern across sectors. Again, this important effect derives from the spatial understanding that roads are traversed by all issue "vehicles" that travel along them.

- *Improving child outcomes requires addressing outcomes across issues.* The metaphor builds on, and leverages, a "journey" metaphor that is salient in many cultural contexts. Applied to thinking about children's issues, the metaphor shifted participants' sense of the ultimate outcome goals. Before being exposed to the metaphor, participants focused on outcomes in *specific sectors*, such as health, education or protection. After exposure to the metaphor, and its emphasis on "many vehicles with one destination," participant discussion shifted to an integrated view of *child* outcomes — one which focused on how all sectors are working to create healthy and productive children.[12] In short, exposure to the metaphor moved participants away from thinking about outcomes in terms of institutional silos, and towards improving children's outcomes at a population level.

Inoculation. *The metaphor worked against siloed sectors.* As discussed above, the metaphor helped participants recognize the benefits of multi-sector approaches to improving child outcomes. Most participants exposed to the metaphor expressed the view that programs should address the needs of the "whole child," and saw development as an integral part of this approach.

The metaphor worked to sideline the Hierarchy Of Needs model. In discussing how vehicles depend on a well-maintained road, participants positioned ECD as foundational, rather than peripheral, to other sectors. Furthermore, rather than thinking about a hierarchical organization of the sectors, participants talked about how all vehicles are trying to reach the same destination, and how all issues need to be coordinated and advanced simultaneously rather than sequentially.

Communicability. The road metaphor was familiar and cognitively accessible. Participants drew on a wide range of road-related terms and devices in using and passing the metaphor. Sticky language included "smoothing the road," "moving down a road," "paving a road," "destination," "roadblocks," "potholes" and "bumps."

Challenges. *Some difficulty in mapping the metaphor was observed.* Despite a highly communicable and foundational source domain (road, vehicles and journeys), there were times when participants struggled to map this domain onto ECD and international development. For example, some discussions lost the understanding of "ECD as road" and "issues as vehicles" and focused, instead, on the need to support children on their journey to positive outcomes. While this was not an altogether negative shift, it still represents a communicability challenge.

The metaphor needs *subsequent explanation of ECD concepts*. Similar to the *Multiplier*, the *Roads* metaphor opens up space for better grasp of, and reception to, the Core Story. We recommend that communicators use the metaphor prior to employing the Core Story, after its confirmation with members of this field.

Some participants felt the metaphor *reinforces the siloed nature of the field*. They commented that the metaphor reinforced the structural divisions between issues in the field by positioning each issue in its own vehicle. One participant, for example, asserted that issue-based sectors need to give up their cars and get on one big bus. While certainly a valid critique, the comparison of different issues to different vehicles was designed in response to critiques of idealism, in the Exploratory Interview, with metaphors that presented a highly integrated vision of the field. Nevertheless, this critique is addressed in the recommendations for use presented in the final section.

Usability Advantages. ECD experts used the metaphor in the following productive ways:

- *ECD programs improve outcomes for multiple issues.* Experts used the metaphor to show how ECD can facilitate better outcomes among a wide range of issue areas — "smoothing the road so that all issues can move toward their destination," as one expert said.

- *ECD is foundational.* Experts also used the metaphor as a way to argue for the importance of ECD, and substantiated the metaphor with research showing the effect that child development interventions can have on health and education outcomes. As with *Multiplier*, this metaphor creates space for audiences to more productively consider research on ECD interventions.

- *ECD can create efficiency.* The metaphor's entailment of efficiency was frequently taken up and used by experts during Usability Tests. The idea of "smoothing the road so that issues can move more easily" was viral, and quickly and easily passed from experts to audience members.

The metaphor *acknowledges and moves past the structural realities of the field*. The *Road* metaphor allowed experts to acknowledge the siloed nature of the field, while simultaneously helping people to see the need for greater coordination and collaboration among sectors. In so doing, experts generated creative ways in which individual vehicles can coordinate with others on the road. For example, some participants talked about the need for guardrails, "rules of the road," highway lanes and stoplights to create order and

coordination.

Usability Challenges. Using the metaphor effectively *requires practice and planning*. The metaphor was not as immediately usable during Usability Tests as was *Multiplier*. The *Road* metaphor is conceptually rich; as such, it requires taking the time to set the basic elements of the metaphor and its analogic components — rather than simply dropping particular words into existing explanations or assertions. However, this richness also makes the metaphor a highly effective organizing principle to communicate complex points and concepts.

A problem occurred in communicating about *separate vehicles*. As discussed above, experts expressed some concern that the metaphor conceptualizes the field's issue areas as separate vehicles, and may therefore reinforce its siloed nature. In conversation, however, experts actually used this aspect of the metaphor to introduce, and frame, discussions about the *problems* of an overly siloed field, and to argue for greater collaboration and coordination between vehicles. They also emphasized investment in a common road as a potential way to encourage collaboration and synergy between the sectors. For these reasons, we believe that this aspect of the metaphor provides ECD experts with a valuable opportunity to present a productive critique of the current structure of the field, and to offer ECD — the "road we all drive on" — as the means by which greater collaboration can be achieved.

Using the *Investment Multiplier* and *Road to Positive Outcomes* Explanatory Metaphors

For the reasons described above, FrameWorks confidently offers the *Investment Multiplier* and *Road to Positive Outcomes* Explanatory Metaphors as new strategic communications tools to aid in reframing the conversation about the importance of early childhood development programming in the field of international development and children's issues.

The following are research-based suggestions about when to use these metaphors.

Use *Investment Multiplier* if you are communicating about:

- the benefits of using existing resources for ECD interventions;
- decisions about allocating limited resources to maximize outcomes;
- the feasibility of embedding ECD interventions into existing programs;
- ECD issues in contexts where communications real estate is very limited, and there is not enough space to develop the more extended *Roads* metaphor.

Use *Road to Positive Outcomes* if you are communicating about:

- the role of ECD within existing relationships among the field's sectors;
- the foundational importance of ECD to the success of outcomes across sectors;
- the efficiency that results from investing in ECD;
- how collaboration and coordination among sectors improves outcomes across all sectors;
- ECD issues in a context that allows the communicator to introduce a more developed organizing metaphor.

Below, we present the final iteration of the metaphors, as well as a set of recommendations for their use that emerged from the research described above.

The *Investment Multiplier:*

Here is an example of an effective iteration of the metaphor:

> *Groups working on international children's issues use limited resources to get maximum results, in the hope that investments boost outcomes and result in thriving children. Early childhood development interventions can act as investment multipliers. With interventions that focus on children's development, results in health, survival, nutrition, education and protection can be multiplied. Even embedding small amounts of child development-focused interventions early in a child's life can multiply returns, and make it more likely that children will grow up to become thriving members of their societies. Adding early childhood development programs to the existing work that organizations are doing multiplies the impact of those resources, and amplifies the return on that investment in the form of positive outcomes.*

- *Use the metaphor to set up concrete examples of ECD research.* It is important to remember that the metaphor is not the message, but, rather, a part of a larger strategy that *frames* a set of messages. An effective Explanatory Metaphor *channels* thinking in a particular direction, thereby opening up space for people to engage with subsequent information in a new way. This is particularly important to keep in mind with the *Multiplier* metaphor, as the concept lacks specific content about what effective ECD interventions look like, how such interventions can be incorporated into existing programs, and how interventions multiply outcomes. Put another way, the metaphor sets up deeper discussion of information about ECD interventions, but it cannot stand alone. Communicators should have research examples in hand to fill in the metaphor.

- *Emphasize that the Multiplier effect works at different temporal windows.* Experts should select content to follow the metaphor that allows people to see the ability of ECD programs to improve outcomes in the short, medium and long term.

- *Use the metaphor to talk about how ECD investments generate value-added improvements to existing programs in specific sectors.* Experts should use the metaphor to make strong arguments that investments in ECD "boost" the impacts and effectiveness of existing programs.

- *Emphasize how investment in ECD improves outcomes across sectors.* Experts should use the metaphor to make the point that embedding ECD can improve outcomes in a

single sector as well as across various *other* issues domains.

- *Be flexible in what is being multiplied.* For audiences less inclined to financial arguments and more aligned with moral or rights-based frameworks, users of the *Multiplier* metaphor should be flexible in their application, and discuss ECD programs as an "*Outcome" Multiplier*. The following is an example of how to modify the metaphor to make this subtle, but important, shift in framing:

> *Groups working on international children's issues think about how to use limited resources to make maximum improvements in child outcomes and create thriving individuals. Early childhood development interventions can act as an outcome multiplier. With interventions that focus on children's development, positive outcomes can be multiplied in areas such as health, survival, nutrition, education and protection. Even embedding small amounts of early childhood development-focused can multiply impacts, and make it more likely that children will grow up to become productive members of their societies. Adding early childhood development programs to the existing work that organizations are doing multiplies the impact of those resources and amplifies the chances that children will experience positive outcomes.*

- *Use the Value of Prevention in concert with this metaphor.* While the *Multiplier* metaphor already entails prevention-focused thinking, this aspect of the metaphor can be enhanced by adding a more explicit component of "pay now or pay more later" to the content that follows the metaphor. (Note that this component could be articulated in financial terms, but does not have to be.)

- *Use sticky language.* Finally, experts should use terms like "multiplier," "multiply," "boost," "synergy," "cascading," "amplify," "adding to multiply," "infuse," "embed" and "key ingredient" to help ensure that the metaphor sticks in discourse.

- *Explain that ECD is about brain development.* The *Multiplier* does not do the explanatory work of the Core Story, but it is important that communicators signal that they are talking about the developing brain at very early stages in a child's life. This will help avoid the common conflation of early childhood development with early learning.

- *Follow with the Core Story.* The *Investment* metaphor is highly effective in reframing ECD in the domain of international development, but it should not be seen as the

whole story. Instead, the metaphor creates space for ECD experts to develop more detailed explanations of key aspects and concepts of development. In short, the metaphor should be used as an introduction to a larger and more detailed story about why child development matters, how it works, and the ways in which it can be improved.

The *Road to Positive Outcomes:*
Here is an example of an effective iteration of the metaphor:

> *Think about different children's issues — such as health, education and protection — as different vehicles, each trying to get to positive outcomes. One way to get better outcomes would be to invest resources in each vehicle, to make each of them faster or more efficient. The other way to get all these issues towards their destination is to focus on the road that they are all driving on, and try to smooth and widen it so that all the issues can move further and more efficiently towards positive outcomes. Making investments in early childhood development is a way to smooth the road, eliminate roadblocks and patch potholes, so that all children's issues can move toward the common destination of positive child outcomes.*

- *Emphasize the common destination.* It is important that users of the metaphor emphasize that all vehicles are working towards the same goal and common destination: improved outcomes for children. This point was a key refinement to the final iteration of the metaphor. The metaphor was renamed *Road to Positive Outcomes*, and the vehicles' common destination is emphasized in the concluding sentence. Communicators using this metaphor should reinforce the common destination throughout their presentation.

- *Explain that ECD programs are a source of efficiency.* Experts should use the metaphor to make the point that positive outcomes are possible without a smooth road, but that even small improvements can make progress more efficient for all sectors.

- *Highlight how ECD programs work to facilitate coordination among sectors.* Experts using the *Road* metaphor should emphasize how the road facilitates coordination and progress among the issue vehicles. Using features of the road that entail coordination — such as having clear lanes and a set of rules — can help advocates

gain traction in communicating about ECD as a potential point of collaboration in the field of international development.

- *Make ECD foundational, but not essential.* Communicators should describe the road as having the ability to improve outcomes of various sectors. However, communicators need to strike a delicate balance between claiming the importance of ECD without recreating the hierarchy with ECD in a more elevated position.

- *Be explicit with the mapping — do not leave entailments and analogues unassigned.* One of the potential weaknesses of the metaphor is its conceptual richness, and the multiple mappings that exist between roads/vehicles and ECD/children's issues. Users should carefully specify the analogy, such that members of the audience clearly understand what is what in the metaphor. Most importantly, communicators should clearly map what is the "road" and what are the "vehicles" in the realm of international development.

- *Employ effective language.* People used a number of powerful expressions in thinking about, and teaching, the metaphor. These included "smoothing the road," "common destination," "roadblock," "pothole," "common ground" and "shared foundation." We recommend that users employ these terms in their application of the metaphor.

- *Use the metaphor to discuss how developmental problems can impede progress on other issues.* A particularly effective dimension of the metaphor was the idea that problems in the road can impede the ability of all issues to get to their destination. Experts should position ECD interventions and programs as ways to "smooth out," either preventatively or remedially, these impediments — and, in so doing, help other sectors reach their goals.

- *Use the separate vehicle aspect of the metaphor as a learning moment.* Experts should invoke the comparison of "separate issues in the field" to "separate vehicles on a road." However, they should use this comparison as an opportunity to discuss how ECD programming can reduce issue compartmentalization through greater collaboration and coordination. To do so, experts should talk about the role of roads in getting all issue vehicles to their destination.

- *Practice, practice, practice.* Because of its conceptual richness, and the importance of carefully establishing the parts of the analogy, experts will need to practice using this metaphor in order to develop fluency with its dimensions.

- *Explain that ECD is about brain development.* As with the *Multiplier* metaphor, communicators need to signal that they are talking about the developing brain at very early stages in a child's life. This will help avoid the common conflation of early childhood development with early learning.

- *Follow with the Core Story.* As with the *Multiplier*, the *Road* metaphor should not be seen as the whole story. Communicators should follow the metaphor with the Core Story.

Conclusion

Experts working on ECD have documented the benefits, and long-lasting impacts, of programming that attends to childhood development issues. ECD programs are most effective and efficient when they are fully integrated into existing programs, instead of "add-ons" after basic needs are met. Experts also understand that even modest ECD interventions can have significant impacts. However, these understandings are not currently a part of larger discourse among practitioners, funders, program managers or policymakers in the field of international development.

The first task in achieving greater inclusion is to help members of this field envision a productive role for ECD programming in their existing work. This requires explaining the potential impacts of ECD interventions, and providing a model for how ECD relates to the sectors that currently comprise this field. Without an understanding of where ECD fits and how it affects the work that is currently being done, further explanation of specific concepts of childhood development will not be possible. The metaphors outlined here have the potential to create this space and help ECD experts move to more detailed explanations of the science of early childhood development and the programmatic implications of this science.

In this way, the *Investment Multiplier* and *Road to Positive Outcomes* metaphors provide the introduction and bridge to the larger story of early childhood development in the international domain. These tools prime the field to be receptive to, and fully appreciate, the elements of the Core Story and how they fit into the field's practice.

Appendix: List of Initial Candidate Metaphors:

1. The *Outcomes Web*

- To get thriving children, we need to focus on many important issues — child survival, nutrition, health and education.
- These issues are like nodes of an outcomes "web." And early childhood development is the strands that connect all these issues.
- By integrating early childhood development into all these issues, we can strengthen the whole web and help more children survive and thrive.
- And the earlier we work on the strands, the stronger the whole web will be.

2. The *Outcomes Hub*

- To get thriving children, we need to focus on many important issues — child survival, nutrition, health and education.
- These issues are like spokes of an outcomes "wheel." And the hub of the wheel that connects all these issues is a child's development.
- By integrating early childhood development into all these issues, we can strengthen the wheel and keep it rolling, thus helping more children survive and thrive.
- And the earlier we work on the hub, the better the whole wheel will turn.

3. The *Outcomes Map*

- To get thriving children, we need to focus on many important issues — child survival, nutrition, health and education.
- These issues are like cities on a map. And early childhood development is like the system of roads that connect all these issues.
- By integrating early childhood development into all these issues, we can strengthen all the cities and thus help more children survive and thrive.
- And the earlier these connections are built, the better the outcomes for the whole child.

4. *At the Core of Children's Issues*

- To get thriving children, we need to focus on many important issues — child survival, nutrition, health and education.
- At the core of each of these areas is how children develop and what they need at each stage of life.

- By building the development core, programs can strengthen outcomes in other areas and thus help more children survive and thrive.
- And the earlier this core is built, the better the outcomes for the whole child.

5. *Unlocking Outcomes*

- To get thriving children, we need to focus on many important issues — child survival, nutrition, health and education.
- These issues are like doors. And the key that unlocks all these doors is early childhood development.
- Early childhood development unlocks all these issues, and is critical to opening up outcomes on each of these issues.
- By integrating early childhood development into all these issues, we can unlock a child's potential and help more children survive and thrive.
- And the earlier we start using this master key, the easier it is to unlock each specific issue.

6. *Catalyzing Outcomes*

- To get thriving children, we need to focus on many important issues — child survival, nutrition, health and education.
- These issues are like elements of a chemical reaction. They are important, but they need a catalyst to make them all come together.
- The catalyst in this reaction is early childhood development.
- By adding early childhood development to this chemical reaction, we can help more children survive and thrive.
- And the earlier we introduce the catalyst, the more good can be done on each of the issues.

7. *Amplifying Outcomes*

- Early childhood development is a loudspeaker that amplifies health and education outcomes for children.
- The best time to turn up the developmental volume is early in a child's life, so that all children can be heard.
- By using the amplifier, programs can turn up outcomes across all children's issues.

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