DATA-DRIVEN DECISION-MAKING USING IDELA
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ACKNOWLEDGEMENTS

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Cover photo: Children at a village preschool, called an ECDC (early childhood development centre), supported by Save the Children.

Credit: Save the Children

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Babies play with a ball outside a Save the Children supported preschool in Zomba District, Malawi.

Credit: Save the Children
The goal of this guide is to help organizations and individuals using the International Development and Early Learning Assessment (IDELA) establish their own connections between IDELA data and the goal of improving quality and effectiveness of ECCD programs. This guide offers step-by-step guidance through the processes of research design, communication, and stakeholder engagement that together, create lasting impact for children.

Who is this Guide for?

This guide is for everyone who uses IDELA to assess the learning and development of young children. It may also be a guide for anyone in need of clear examples of data-driven decision-making. IDELA users typically use findings generated from their work to advocate for changes and improvements to ECCD programs. This guide will help them effectively utilize findings to influence decision-making and to advocate for change with policy-makers, practitioners, and communities.

Importance of this Guide

There is no shortage of guides, handbooks, and papers on evidence-based decision-making and using data in the process of policy-making. Numerous papers, articles, and reports assert the importance of data-driven decision-making. Many of them examine the cyclical nature of conducting and applying research, the need to involve all essential stakeholders in the process of planning research, the importance of effectively communicating research findings to relevant audiences, developing actionable recommendations, and advocating improvements based on the arguments built on the evidence. However, the process of applying empirical evidence from research to practice is rarely, if ever, so straightforward. There are important technical considerations at every step of the process, and multiple stakeholders to engage throughout. Even promising findings from studies that are methodologically rigorous often remain unused, or distilled into general recommendations at the end of a report. This guide works to bridge the gap between data and evidence-based decision-making with specific, practical guidance.

Objective of this Guide

This guide is written with the conviction that applied research, if appropriately planned, executed, and utilized, can contribute to identifying issues and their causes, solving societal problems, and improving the wellbeing of people and communities. In particular, this guide focuses on the use of data to improve the learning and development of young children, a population that benefits significantly from positive home, caregiver, and classroom investment. While evidence generated from research improves the quality of decision-making in general, this is even more so in the case of early childhood care and development (ECCD). Positive effects of ECCD services and programs on children’s development (ECCD) is even more so in the case of early childhood care and development (ECCD) programs. This guide will help them effectively utilize findings to influence decision-making and to advocate for change with policy-makers, practitioners, and communities.

FIRST, THE GUIDE IS FOR EVIDENCE GENERATED USING IDELA

Common themes and questions have emerged on practical applications of the tool and the best ways to apply evidence. Evidence helps optimize the use of evidence generated by IDELA for improving programs, cost effective programs, teacher training, and access to quality ECCD.

SECOND, THIS GUIDE IS FOR ADVOCATES

Groups or individuals who use data produced by ECD research to advocate for change to improve the conditions of young children. Advocates may or may not be researchers. Either way, advocates can participate in any stage of the process.

THIRD, THE GUIDE FocusES ON THREE DISTINCT TYPES OF AUDIENCES

The targets of advocacy efforts emerging from the studies using IDELA.

About IDELA

IDELA is a holistic direct assessment tool measuring developmental outcomes of children aged 3.5 to 6 years old. IDELA was developed in 2011 to address the need for a rigorous, widely applicable and inexpensive tool to assess developmental and learning outcomes of young children. IDELA went through a rigorous process of research, testing, piloting and validation.

IDELA is a population-based measure with 22 core items measuring four domains of child development: emerging literacy, emerging numeracy, social-emotional development and motor development. In addition, IDELA also measures two additional constructs: executive function and approaches to learning.

The number of global IDELA users continues to grow currently. IDELA is used in 75 countries by governments, research, NGOs, and international organizations.

It has been translated into 57 different languages.

Organizations using IDELA can be grouped in the following categories.

- Academic organizations
- International or national NGOs
- Research institutions, foundations and think tanks
- Multilateral organizations
- National or regional governments

ECCD centers and schools

IDELA Data in Practice:

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The IDELA study worked to bridge the gap between evidence and practice by providing practical guidance and examples of how to use evidence to improve the conditions of young children.
Impact evaluations try to estimate what would have happened had the intervention not been implemented. Typically, such studies use a comparison group to arrive at this estimate. Children are assigned to one of two groups: experimental or comparison, and assessed at the beginning and the end of the intervention period. The difference in baseline scores of the two groups is compared to the difference in average scores. If the difference is not statistically significant, then we can suggest that the difference in the average scores, at the end of the intervention period, this excessive gain is attributed to the intervention. Researchers should exercise caution when stating the gains of an intervention. A number of observable and unobservable factors affect children’s developmental trajectories. So it is important to make sure that experimental and comparison groups are as similar as possible except for the intervention. There can be spillover effects from intervention to comparison groups, or similar interventions implemented by other actors might be taking place in comparison areas. This might sometimes lead researchers to underestimate the impact of a given intervention. This is especially true in the case of quasi-experimental studies assessing child development and learning.

Monitoring

IDEAL is also a tool used to monitor children’s developmental and learning skills at one point in time, or how they change over time. Unlike impact evaluation, monitoring studies do not aim to establish causal links between certain interventions and outcomes. For this purpose, learning and developmental outcomes of children are typically tracked at regular intervals, for example annually or bi-annually. The frequency of data collection is defined based on budget, timeline, and project specifics.

Comparison of children with different backgrounds

Within both impact evaluations and monitoring studies, IDELA data can be used to compare the learning and developmental status of different groups of children. For example, one can compare whether girls and boys perform equally well, or whether various background characteristics, such as family economic status, parental education, or home learning environment are associated with learning and developmental outcomes. Group comparisons can be incorporated into both impact evaluations and monitoring studies.

Identify strengths and weaknesses of a program approach

IDEAL can be used by ECD practitioners and organizations to identify the areas in which the programs implemented are particularly effective and the areas which need strengthening. The fact that IDELA assessments generate a total score and separate scores for the four domains, as well as scores for each of the core items, can be particularly helpful in this respect. Less appropriate use of IDELA

IDEAL is not a tool designed to assess or screen individual children, it is a population-level instrument measuring what it is appropriate for assessing average developmental and learning outcomes of a group of children, distribution of outcomes, or differences within a sample. Since it cannot assess development of individual children, it is also not a diagnostic tool used for placement of children in various programs. IDEAL is also not a formative assessment tool to be used by teachers in a classroom.
### Table 1: Matrix of various uses of IDELA and stages of decision-making cycle

<table>
<thead>
<tr>
<th>Establish effectiveness of an intervention</th>
<th>Identify strengths &amp; weaknesses of a program or approach</th>
<th>Monitoring progress over time</th>
<th>Identify equity issues within target population</th>
</tr>
</thead>
<tbody>
<tr>
<td>With this goal, you answer questions like “Did our teacher training significantly improve children’s literacy skills?”</td>
<td>With this goal, you answer questions like “What are the strengths and weaknesses in children’s school readiness skills as they enter Grade 1?”</td>
<td>With this goal, you answer questions like “How is children’s social-emotional development changing over time in our program areas?”</td>
<td>With this goal, you answer questions like “Are girls and boys benefiting equally from our new ECE approach?”</td>
</tr>
</tbody>
</table>

1. **DEFINE RESEARCH AGENDA**

   - Requires treatment and comparison group.
   - Typically longitudinal studies with randomized or quasi-experimental design.

2. **STUDY DESIGN**

   - Uses intention to treat analysis, difference-in-difference or other appropriate analysis approach to determine whether any difference in outcomes is statistically significant.

3. **ANALYZE AND INTERPRET**

   - May compare outcomes of study group to local benchmarks or standards for preschool-aged children.

4. **COMMUNICATE RESULTS TO STAKEHOLDERS**

   - Typically focuses on audiences with ECD expertise such as implementing groups like NGOs, CSOs, or local government.

5. **INSTITUTIONALIZE**

   - Advocate to scale effective approaches or determine new approaches to test.

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Zachary and Zaylyn enjoy a book from the reading corner in Colorado, USA. Credit: Save the Children
The need to data-driven decision-making begins with the research agenda. It is indeed the foundation of any advocacy effort. This agenda determines exactly what data will be available to analyze and inform advocacy. See principles are necessary at this stage.

1. Identify end goals
2. Identify relevant stakeholders for each stage of the research

### Identify Goals

A clear idea about the end goals of the evidence produced by research is critical. This is where the research agenda and the research agenda intersect. One of the challenges of working in the ECD field is that stakeholders (IDEA) are often closely linked to ECD goals like improving access to different types of ECD services, increasing access for certain groups of children, or improving quality of such services.

For these types of goals, the research project might be to:

- **Identify established and potential stakeholders**: Identify at least two major stakeholders. These stakeholders can be divided into broad groups (e.g., government, families and communities, researchers and partners).
- **Monitor progress over time**: Instead of evaluating the impact of a specific program, a study may monitor how children outcomes change overtime.
- **Identify equity issues**: A lot of studies are designed to find out whether there are differences in the learning outcomes of children based on gender, location or background. In many cases, this is combined with classroom observations and/or learning assessments.
- **Identify strengths and weaknesses of a program**: Establish effectiveness of an intervention. Consider all the audiences that might be interested in the availability of a program for vulnerable groups. Identify equity issues in learning and development.

### Advocacy goal example

Primary audience: It is indeed the foundation of any advocacy effort. This agenda determines all participating groups. Research objectives:

- **Identify equity issues in learning and development**
- **Identify strengths and weaknesses of a program**
- **Monitor progress over time**
- **Identify relevant stakeholders for each stage of the research**

#### Advocacy goal example

Primary audience: It is indeed the foundation of any advocacy effort. This agenda determines all participating groups. Research objectives:

- **Identify equity issues in learning and development**
- **Identify strengths and weaknesses of a program**
- **Monitor progress over time**
- **Identify relevant stakeholders for each stage of the research**

#### Table 2. Relationship between research objectives and advocacy goals.

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<thead>
<tr>
<th>Research objective</th>
<th>Advocacy goal example</th>
<th>Primary audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish effectiveness of intervention</td>
<td>Scale up intervention, or replicate in another setting</td>
<td>Government</td>
</tr>
<tr>
<td>Identify strengths and weaknesses of a program</td>
<td>Improve program, revise curriculum</td>
<td>ECD practitioners, NGOs</td>
</tr>
<tr>
<td>Monitor progress of children over time</td>
<td>Introduce new programs and initiatives</td>
<td>Schools, communities</td>
</tr>
<tr>
<td>Identify equity issues in learning and development</td>
<td>Design targeted programs for vulnerable groups</td>
<td>Government, ECD practitioners, schools, communities</td>
</tr>
</tbody>
</table>

In many cases, advocacy goals can also tell us who the key target audiences of a study is. For example, this advocacy goal is to scale-up a proven intervention, the target audience will most likely be government representatives at various levels since they have the appropriate power to influence program and funds. Advocacy goals will have more than one target audience. When considering scaling a program up, it is not enough to advocate with the government, but equally important to advocate with families, schools, and communities to maintain and reinforce colonial power dynamics. In order to attract these stakeholders, researchers and partners must engage as peers from the start, they can meaningfully contribute to the research project.

Involving all relevant stakeholders at the beginning of the planning process through presenting findings and recommendations is a certain best practice. However, reality is often different, as researchers and advocates might lack time, resources, or willingness to identify and involve all stakeholders in the process.

The importance of involving stakeholders in the process of research from the very start is consistently emphasized in the literature on evidence-based decision-making. In addition to improving the relevance and impact of your research, meaningfully engaging communities and advocates from the beginning of the research process is a moral imperative. It is too common for researchers from the Global North to lead on the study design process and then ask input from stakeholders in the Global South at a later stage, after key decisions have been made.

Involving all relevant stakeholders at the very start is a key to improving the relevance and impact of your research, meaningfully engaging communities and advocates from the beginning of the research process is a moral imperative. It is too common for researchers from the Global North to lead on the study design process and then ask input from stakeholders in the Global South at a later stage, after key decisions have been made. This is because researchers from the Global North are often excluded from the decision-making process entirely. These dynamics serve to maintain and reinforce colonial power dynamics. In order to attract these stakeholders, researchers and partners must engage as peers from the start, they can meaningfully contribute to the research project.
Demonstrate, cultivate, advocate.

CASE STUDY: PHARO FOUNDATION

The Pharo Foundation’s Early Childhood Education (ECE) program in Hargeisa, Somaliland a working to increase access to quality ECE for children from poor and marginalized families by integrating ECE into the public education system. When the Foundation started programming, Somaliland had neither a national ECE policy nor ECE curriculum. Private preschools in the capital Hargeisa use different curricula, in different languages. Pharo Foundations’ quasi-experimental study using IDELA aimed to measure impact and effectiveness of programming results that would hopefully be able to demonstrate effectiveness to government stakeholders as well.

Laying the groundwork for a new program in a country that didn’t provide wide access to ECE meant a huge campaign for community and parental support. The Pharo Foundation organized local community sensitization campaigns, garnered support from religious leaders and formed mothers’ committees at each ECE center. They admit that these early efforts were difficult and without much progress in the second year of programming they were able to present results to the parents, bringing them to the schools to demonstrate, in person, through visuals and conversation how the children were progressing.

The Pharo Foundation found that even with the right government relationships, a few key pieces still needed support as far as the Ministry of Education to accept and respond to the research findings. First, their efforts required an ECE champion within the government. Second, the Pharo Foundation had to demonstrate that the measure of tool, IDELA, was not a written exam, but rather a play-based, in-person assessment appropriate for young children. Third, Pharo Foundation stepped in to build facilities and provide in-kind resources to take the start-up cost burden off the government. Finally, the results needed to be aligned by gender as all audiences were eager to understand how girls and boys performed.

The results of this programming and research, however, are encouraging. An independent consultant, contracted by the Ministry, took Pharo’s IDELA results and the ECE curriculum and used them to produce an ECE policy paper that was widely accepted by the government.

As Yohannes Keulder stated, “you can see the Pharo Foundation footprint everywhere in that policy.”

Once advocacy goals and research objectives are identified, they must inform all key aspects of the research: design, sample, instruments, and analysis techniques. For example, if the goal of the study is to establish effectiveness of an intervention, it is recommended to select an experimental or quasi-experimental design to make sure that, by the end of the study advocates have a plausible answer to the question what would children’s developmental status have been if the intervention had not been implemented? For example, a study conducted in Brazil showed that reaching all children with an intervention package like Executive Functioning Skills Program in São Paulo... But how can we determine that the program is feasible, effective and cost-effective to improve self-regulation and executive skills?”

The main question for scalability and impact is whether the package can be delivered effectively at public daycare centers; whether this delivery translates into improvements in children’s outcomes. To answer this question, we propose to conduct a randomized controlled trial in 60 public crèches in São Paulo, Brazil. Professor Alexandra Bretani

In 2018, Professor Alexandra Bretani and her colleagues at the Universidad de São Paulo started an ambitious study to determine if Brain Games, an effective tool for building children’s self-regulation and executive function in the United States, would be equally effective in São Paulo creches. Given the Early Interventions Status which supports the development of self-regulation and executive function, “reaching all Brazilian children with an intervention package like Executive Functioning Skills Program in São Paulo... but how can we determine that the program is feasible, effective and cost-effective to improve self-regulation and executive skills?”

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To answer these questions the team used a variety of measurement tools: IDELA, DOG, KACEF, and a psychological assessment. Since Brazilian schools teach numeracy and literacy a bit later than American schools, the researcher worried IDELA might not detect the changes in child development over time. The research team also took steps to accommodate learning disabilities, a full-range of social emotional conditions, and school readiness. Conducting a study in Brazil also means that researchers would get a lot of data they wanted to answer their unique questions.

Communication with the government focused on scalability and impact. Because the project was closely tied with larger health, well-being and education work, there was more trust from the local communities. “The strong link between the Universidade Hospital social service, the families and the local public daycare centers, and the Hospital’s local sensitization meetings will be organized to reduce the risk of refusals and attrition.” It also may contribute to easier scaling of the program in the future.

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improved children’s IDELA scores; it is essential to have a comparison group. Strongly consider the use of a comparison group if your advocacy goal is to convince a target audience that an intervention is working by scaling up or replicating or to present evidence of effectiveness to a donor.

Stakeholder involvement in design can help draw on the local sample of children and families for intervention or comparison groups. If the objective of a study is to identify differences in developmental status by certain equity factors, it is important to make sure that representative samples of those groups are selected for example, a stratified sample would be used to efficiently compare performance of the children across six districts. Therefore, the sample of children was stratified by district. Without such a stratification of sample, certain groups of interest to researchers might be underrepresented. This can happen for example, when the population of one district is considerably smaller than others. In such a case, researchers need to make sure that enough children from this district and in the up to the sample draw to reliable conclusions.

Tool Selection

IDEA is a strong measurement tool for early childhood development. However, like any tool, it is essential to examine the relationship between classroom quality and children’s learning and development. It is possible to pair IDEA with tools that measure other types of outcomes for children such as their emotional wellbeing, nutritional status, or exposure to health and safety risks.

Tool Adaptation

Any tool used in a new context should be appropriately adapted. This step is not only to translation in the national or regional language, but more rigorous adaptation around multi-lingual settings, cultural practices and norms, and available resources. Involve stakeholders with an in-depth knowledge of the particular community is essential. In doing so, the research team stays on track to collect quality data that can effectively inform decision-making.

Over years of IDEA administration and testing around the world, we have developed detailed guidance about how to adapt each item in the tool. This includes information about the goal or purpose of each item to help guide adaptation. We recommend that translations be in children’s mother tongue to promote comprehension and motivation from children. If children in your study speak a variety of mother tongues, we recommend you translate the tool into multiple languages. In doing so, we ask that any modifications made to the tool be appropriately adapted. This applies not only to the tool’s format. Therefore, any substantial changes to the tool for this own study. In such a case, researchers need to make sure that enough children from this district and in the up to the sample draw to reliable conclusions.

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IDEA Home Environment Tool (IDEA) is a strong measurement tool for early childhood development. However, like any tool, it is essential to examine the relationship between classroom quality and children’s learning and development. It is possible to pair IDEA with tools that measure other types of outcomes for children such as their emotional wellbeing, nutritional status, or exposure to health and safety risks.

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Interpretation of findings is one of the key stages in conducting monitoring, evaluation, or research. Impactful research asks not only what does the data tell you but also how can this new information influence or inform key stakeholders? For example, if the goal of a study is to evaluate the impact of a pilot intervention with the prospect to scale up, or replicate, the researcher must understand the gaps that occurred and their size. This information might then be used in conjunction with other evidence like the financial costs of the program, and evidence regarding the effectiveness of other similar interventions.

Together, this information will help policy-makers or organizations make decisions about the future of the program, and evidence regarding the effectiveness of other similar interventions.

**ANALYZING AND INTERPRETING EVIDENCE**

In impact evaluations, looking at the distribution to see what drives the variability. In some cases, looking beyond average scores in different groups of children may reveal more information in the data. A distribution that may not be normal and instead strongly skewed. Typically, if IDELA is used with age-appropriate scores in different groups of children, a classification can be particularly helpful when the interpretation of findings is one of the key stages of analysis and interpretation of IDELA. Typically, effect sizes of up to .25 standard deviations are considered small, .25 to .50 are medium and anything over half a standard deviation is large.

Take the sample below for example. Figure 4, depicting results from an evaluation of a home-based preschool program (i.e., C4CD Plus) in Bhutan. Even without knowing anything about IDELA as a tool, the illustration shows that this intervention was highly effective compared to average ECCD centers. Even without knowing anything about IDELA as a tool, the illustration shows that this intervention was highly effective compared to average ECCD centers.

**Effect Sizes**

One standard way of presenting results, which helps researchers and audience gauge the magnitude of the impact, is **effect size** (Cohen’s d) in an universally accepted measure, which is calculated by dividing coefficient by standard deviation. Depending on the question the answer is: ‘how many more percent points on IDELA did the children from intervention group gain compared to the control group?’

Presenting results as effect sizes is particularly useful for advocacy purposes if the goal is to argue for the advantage of a given intervention in comparison with other interventions. For a non-technical audience, it might be helpful to situate the effect size in a more familiar context. For example, a study might look at four and five year old children, same is a control group and some is an intervention group. At baseline, all five year olds will score higher than the four year olds, simply due to natural development. The difference in scores of 20 points, for example, is then a proxy for 1 year of development progress. At the second point of data collection, researchers can examine how the comparison and intervention groups scored if the intervention group of 4-year-olds gained 30 points over the year, researchers and advocates can frame this as an effect size which is worth half a year’s developmental rate without intervention.

The intervention children not only gained the normal developmental amount of 20 points, but also gained on additional 10 points.

Save the Children and the American Institutes for Research were able to draw these kinds of conclusions for their work with the Early Years Preschool Program in Bangladesh. The study’s effect size measures was moderate. They tailored their description of impact to an audience familiar with early childhood development and education. The research team described the gains seen from the intervention as **equivalent to bridging the gap between children whose mothers did versus did not complete a primary education.**
In 2009, the government of Bangladesh committed to implementing two years of preschool nationally, a significant commitment already backed by evidence. In practice however, only one year of preschool was offered. Save the Children implements the Early Years Preschool Program (EYPP) which offers an additional year of preschool to children aged 4, before they begin a one-year government pre-primary class at age 5. In addition to the EYPP curriculum, EYPP also includes teacher training, teacher support for parents, and the development of learning materials.

Feeling from the World Bank, the American Institutes for Research (AIR) collaboratively with Save the Children Bangladesh to test whether adding this second year of preschool (as delivered through the EYPP) was a worthwhile investment. Save the Children had long-standing ECD groundwork before undertaking this research. They had worked in the target communities and had established relationships with the community, families, and government. Parents and teachers saw the benefits of preschool in the form of lower textbook and learning materials.

Globally, many preschool programs give children a short-term boost in school readiness, but eventually these benefits fade away. When designing their program, AIR made the decision to check the EYPP’s short-term effects on school readiness, and to determine whether these differences persisted after all children had worked in the target communities and had established readiness, and to determine whether these differences persisted after all children had worked in the target communities and had established educational foundations a gap remained; the government of Bangladesh wanted to know if a second year of preschool was truly beneficial and worth the investment. With funding from the World Bank, the American Institutes for Research (AIR) together with Save the Children developed the communication strategy where the project outcomes and the study were built on this foundation. The National Education Administration and the Ministry of Education were all the way through the national Ministry of Education. At the same time, the project had a very effective press strategy where the findings were conveyed to the highest-ranking officials of the Ministry of Education. Several factors contributed to the successful use of project outcomes for effective decision-making:

1. Potential advocacy goals for the study were defined from the beginning. Bangladesh had already introduced one year of pre-primary education for all children and the commitment to expand it to two years was already expressed in the National Education Policy of 2010. The program and the study were built on this foundation. The National and local educational authorities had a clear vision of the future of preschool education in Bangladesh.

2. Continuous involvement of all relevant stakeholders. Stakeholders from all levels, starting from parents, including school committees, local education administrations all the way through the national Ministry of Education were involved in the process of program and research planning.

3. Effective communication of study findings. AIR together with Save the Children developed the communication strategy where the findings were conveyed to the highest-ranking officials of the Ministry of Education. At the same time, the project had a very effective press communication strategy.

Estimating ‘Good Performance’

Some researchers are estimating not impact, or differences between groups, but the performance of one group of children. This can be compared to one or more of the following factors:

• National and/or regional preschool curriculum or standards
• Children’s ages
• Previous studies in the same context

To set a benchmark one could monitor the proportion of children achieving “mastery” (75% correct or better), the proportion struggling (less than 25% correct), or potentially both. Note that the proportion of children achieving one of the benchmarks may differ slightly year to year just by chance. This will be especially true if you have a small sample. For example, if 10 out of 20 children score 75% correct or better in Year 1 and 11 out of 20 achieve the same score in Year 2, the proportion of children achieving the benchmark will increase from 50 to 55%, but that is a meaningful difference in the number of children achieving the desired score? In order to better understand changes in the proportion of children achieving a benchmark over time, take care to select an appropriately sized sample.

In a sample, if 80 percent correct (out of 100) on an item domain, or total IDELA score. Therefore, simply scoring on the overall assessment, “struggling” with the tasks as scoring under 25 percent, and “emerging” as scoring between 25 and 74 percent correct. Nevertheless, there are some concerns are emerging around the performance of one group of children. Although this scoring 75% correct or better, is a meaningful difference in the number of children achieving the desired score? In order to better understand changes in the proportion of children achieving a benchmark over time. Still, these groupings are not formal groupings, and users can and should choose to define their own levels of achievement based on their particular population. This is a significant undertaking, and requires stakeholder and expert input on the right relationships with people with budget power. It is critical that decision-makers are involved from the outset.

IDELA has a few strengths that make interpretation of results easy:

• There is a strictly defined score range – from 0 to 100 percent correct, for each item, each domain and total IDELA score. Therefore, simply scoring (or benchmarking) the performance of one group of children. Although the performance of one group of children is not excellent. On the other hand, if the average score is 70%, on the assessment as scoring 75% correct or better on the overall assessment, “struggling” with the tasks as scoring under 25 percent, and “emerging” as scoring between 25 and 74 percent correct.

Establish Performance Benchmarks

IDELA was designed to measure the skills that help children transition into primary school, based on existing curricula and standards from around the world. Despite this, there is no universal IDELA score to indicate the school readiness of children. With this limitation in mind, there is still a strong push to group or benchmark IDELA scores. It is natural to want to know if a particular score is “good” or if children are “ready.” Any researcher determining their own benchmarks is advised to contextualize and adapt their benchmark for their particular population. This is a significant undertaking, and requires stakeholder and expert input on the right relationships with people with budget power.

For effective decision-making:

• Potential advocacy goals for the study were defined from the beginning.
• Continuous involvement of all relevant stakeholders.
• Effective communication of study findings.

Bangladesh had already introduced one year of preschool nationally, a significant commitment already backed by evidence. In practice however, only one year of preschool was offered. Save the Children Implement the Early Years Preschool Program (EYPP) which offers an additional year of preschool to children aged 4, before they begin a one-year government pre-primary class at age 5. In addition to the EYPP curriculum, EYPP also includes teacher training, teacher support for parents, and the development of learning materials.

 CASE STUDY: BANGLADESH EARLY YEARS PRESCHOOL PROGRAM (EYPP)

A common goal of the early years is to ensure children are school-ready. IDELA was designed to help with this mission. A common goal of the early years is to ensure children are school-ready. IDELA was designed to help with this mission.
One mark point to take into consideration when designing a study with such a longitudinal approach, is to be appropriate of IDEA and should be designed for different contexts and different children of different ages, we can use this information to estimate the proportion of children that have increased age-adjusted IDEA and IDELA scores at the end. The approach should not be used where all children at baseline are the same age. While child development change in scores associated with age is not likely to be an unbiased estimate of the effect of one year on a child’s learning and development, it provides a “good enough” estimate.

A similar approach is used for estimating improvement in IDEA and IDEA scores when longitudinal data is not available. As a example is taken at the beginning and end of a school year (or project cycle) and the population that the sample is representative for both the baseline and endline, but different children at each point in time. One can then calculate the “expected improvement” using the baseline data in the same way as with longitudinal data where the method differs is in the final step. Because we cannot compare the baseline and endline scores of individuals children, we instead compare the best score at baseline with the second best score at baseline, the second best score at baseline with the baseline score at endline, etc. First, sort baseline scores from highest to lowest, and then sort endline scores from highest to lowest as well side-by-side. Then calculate the pairwise difference between the equivalent rank of baseline and endline. We can compare this pairwise difference with the “expected improvement”. If the difference is greater than the expected improvement, we consider the child to have an “improved” IDEA score.

CASE STUDY: NADIA SIDDIQUI

Does attending school make a difference in children’s cognitive and social-emotional skills in India and Pakistan? Dr. Nadia Siddiqui at Durham University in the United Kingdom seeks to answer this question in her IDEA research. The project is a longitudinal design in which children will be re-assessed after a year. The unique aspect of this project is that it includes children who attend schools and as well as those who do not attend school and drop out after enrolment.

The onset of COVID-19 made a second round of data collection difficult, following the March 2020 baseline. This is an opportunity for the research team, however, to capture learning loss over one year. The research has changed to examine the learning status of children who have been to school and stopped, versus children who never attended school and have remained out of school.

Dr. Siddiqui recommends other researchers, “make it local and powerful” when it comes to working with the government. Policy or any intervention has to be embedded in local context. It has to be local to convince any audiences that its implementation. “Evidence published in academic journals does not reach relevant audience in an effective way. However, we agree with evidence is possible through tailored presentations, translated summaries, videos, and animations. Similarly, local voices telling about evidence can be helpful”. She also recommends showing shared cost strategies where a donor might be willing to fund “y” if the government pays for “x”. “Making evidence based decisions financially easier may help more a conversation towards implementation.”

For a more technical audience, Dr. Siddiqui has had success with social media channels, like Twitter. She says, Twitter is a “popular with government and journalists in India and especially Pakistan. It attracts a wide audience, which is "popular with government and journalists in India and especially Pakistan. It attracts a wide audience, which is typically an academic conversation it allows a more open and casual dialogue. A successful social media campaign by Pakistani teachers has influences policy changes in teacher recruitment and transfer policies. Teachers should be encouraged to make groups and communities on social media for wider knowledge sharing, influencing policy, discussion of practice, and use of research evidence.

In the past, NADIA SIDDIQUI has used social media channels, like Twitter. She says, Twitter is “popular with government and journalists in India and especially Pakistan. It attracts a wide audience, which is typically an academic conversation it allows a more open and casual dialogue. A successful social media campaign by Pakistani teachers has influences policy changes in teacher recruitment and transfer policies. Teachers should be encouraged to make groups and communities on social media for wider knowledge sharing, influencing policy, discussion of practice, and use of research evidence.

Equity Analysis

Most studies using IDEA review performance of children who are and also analyze differences in performance based on various background characteristics. There are many different characteristics for IDEA score comparison, a frequent one being equity analysis by gender. All IDEA datasets include information about children’s gender and many studies seek equitable outcomes for girls and boys. A study comparing developmental and learning outcomes between boys and girls at a given time can compare the average IDEA scores of the two groups. Analysis by gender and other characteristics is particularly important if any follow-up action, like funding, scalability, or public support might depend or be informed by these differences.

Apart from gender, IDEA scores can differ by other characteristics, such as place of residence, native language, ethnic background, parents’ education, socio-economic status of the family, or learning environment at home. This is where the choice of tools and adaptations made during design is critical; with the right tools collecting the right kinds of data, a rich variety of comparison is possible. The IDEA Data Explorer provides many examples of how the child assessment tool can be linked with a caregiver questionnaire to generate insights into which groups of children are thriving or struggling the most in a given context.
COMMUNICATING EVIDENCE TO STAKEHOLDERS

Communicating findings from quantitative data analysis is notoriously difficult for several reasons. First, researchers often tend to focus on characteristics of the analysis and thorough findings might be difficult to understand for less technical audiences. Second, and conversely, oversimplification of results can lead important nuances and might mislead audiences. Finally, researchers may be tempted to focus only on findings that confirm preliminary hypotheses, and likewise advocates can be tempted to focus on findings that support their advocacy agenda.

The following key principles are useful to avoid these biases: Report Completely. Researchers and advocacy might be often tempted to focus on the findings that support hypotheses, and likewise advocates can be tempted to focus on findings that support their advocacy agenda. However, the study result might lead to the conclusion that it is very important to provide access to the children in rural areas, even if it is not possible to provide effective follow-up. In other words, the main audience for the intervention group did not improve scores in any IDELA domains more than the contrast group. The study report and article outline potential explanations for such findings, like the need for in-service training programs.12

Find the connections that matter. Studies using IDELA generate a lot of data analysis is notoriously difficult for several reasons. First, researchers often tend to focus on characteristics of the analysis and thorough findings might be difficult to understand for less technical audiences. Second, and conversely, oversimplification of results can lead important nuances and might mislead audiences. Finally, researchers may be tempted to focus only on findings that confirm preliminary hypotheses, and likewise advocates can be tempted to focus on findings that support their advocacy agenda. However, the study result might lead to the conclusion that it is very important to provide access to the children in rural areas, even if it is not possible to provide effective follow-up. In other words, the main audience for the intervention group did not improve scores in any IDELA domains more than the contrast group. The study report and article outline potential explanations for such findings, like the need for in-service training programs.12

COMMUNICATING EVIDENCE TO DIFFERENT AUDIENCES

In the spirit of Ecological Systems Theory,13 there are multiple potential audiences for sharing IDELA data, including government, ECD practitioners, schools, communities, and families with children at the center. These audiences cover the key actors who impact children’s learning and development.

GOVERNMENTS/POLICY-MAKERS: Findings from IDELA studies can be communicated to policy-makers at various levels of the government to advocate for pilot, new policy, or a pre-existing program. For example, The national ECCD study in Bhutan yielded a wealth of data. Among many interesting findings were two related to childrens’ kindergarten teachers found training program for Ghanaian kindergarten teachers found positive effects on teachers’ knowledge and implementation of national curricula. The training program had no effect on child outcomes, as measured by IDELA. Children in the intervention group taught by teachers from the intervention group did not improve scores in any IDELA domain more than the contrast group. The study report and article outline potential explanations for such findings, like the need for in-service training programs.12

Researchers and practitioners. Findings from IDELA studies can be communicated to educators who need to advocate for new policy. For example, the national ECCD study in Bhutan yielded a wealth of data. Among many interesting findings were two related to children. First, the study found that rural ECCD centers were severely under resourced compared to urban centers. Yet, the study also found that children with access to ECCD centers in rural settings showed just as much developmental gains as children in urban settings. These two findings might lead to the conclusion that it is very important to provide access to the children in rural areas, even if it is not possible to provide effective follow-up. In other words, the main audience for the intervention group did not improve scores in any IDELA domains more than the contrast group. The study report and article outline potential explanations for such findings, like the need for in-service training programs.12

INTERPRETING THE IMPORTANCE OF A STATISTICALLY SIGNIFICANT RESULT

When it comes to data analysis, significance is not a straightforward concept. It can refer to both a statistical measure of the likelihood that something could happen by chance and the extent to which we are likely to find the results similar to what we are seeing in the given sample, as the population from which the sample was drawn. Interpreting the importance of a statistically significant result requires knowledge of the children and context in question, and is an important collaboration point between researchers and practitioners.12

For example, a randomized control trial of a pre-service training program for Ghanaian kindergarten teachers found positive effects on teachers’ knowledge and implementation of national curricula. However, the training program had no effect on child outcomes, as measured by IDELA. Children in the intervention group taught by teachers from the intervention group did not improve scores in any IDELA domain more than the contrast group. The study report and article outline potential explanations for such findings, like the need for in-service training programs.12

Researchers and advocates should endeavor to present the full picture and look for the reasons why expected outcomes were not achieved.

Find the connections that matter. Studies using IDELA generate a lot of data and information. It is both interesting from a research perspective, and useful from an advocacy perspective to be able to describe trends and connections. These can be used to tell a compelling, data-driven story to a desired audience. For example, The national ECCD study in Bhutan yielded a wealth of data. Among many interesting findings were two related to childrens’ kindergarten teachers found positive effects on teachers’ knowledge and implementation of national curricula. The training program had no effect on child outcomes, as measured by IDELA. Children in the intervention group taught by teachers from the intervention group did not improve scores in any IDELA domain more than the contrast group. The study report and article outline potential explanations for such findings, like the need for in-service training programs.12

Select the audience for presenting the findings. In most cases there is no single audience to whom study findings are communicated. Typically, audiences include government officials, schools, communities, target families, teachers, academics, and press. Researchers as well as advocates often neglect schools, communities, and families when strategies are developed for communicating research findings. Yet, having a local support and buy in can help form a strong foundation for advocacy. Governments at various levels are often the audience for research findings and advocacy messages. In particular, in case of IDELA studies at the national level, the audience is usually representatives from ministries of education, health, social protection, or families, depending on the structure and status of preschool education in the given country. At regional and local levels, audiences are representatives from regional or district departments of education, health, social protection, or families, depending on the structure and status of preschool education in the given country. At regional and local levels, audiences are representatives from regional or district departments of education, health, social protection, or families, depending on the structure and status of preschool education in the given country.
Use Appropriate Language for Communication of Findings

There is often uncertainty among IDELA users about the language used for communicating findings. IDELA results can be communicated as:

1. A comparison between two groups. In this case we ask whether average scores of two groups differ from each other. For example, in a cross-sectional study, we can talk about differences in scores between boys and girls, comparison and intervention group, children living in rural areas and children living in urban areas.

2. Progress over time. In this case we use data to make statements about how certain groups of children improved their scores over time.

3. Combination. Offer statements about how particular groups gained more or less than others. For example, in a cross-sectional study, we can talk about how certain groups of children gained more than others in terms of children’s emergent literacy, numeracy, executive function, and approaches to learning. At midline, we found positive EYPP impacts on children’s emergent literacy, numeracy, and executive function, though the effects varied by gender. For example, in a cross-sectional study, we can talk about how certain groups of children gained more in literacy, numeracy, and executive function, though boys also benefitted.

4. The positive effects on learning and development persisted into year two, right before the children entered primary school – a remarkable finding given that nearly all children in both study groups had just completed the one-year government pre-primary classes.

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Relation Between Research Objectives and Advocacy Goals

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Research Objective
What is the impact of offering an additional year of preschool on the cognitive development of young children in a rural setting?

Policy Brief
After one year, when children were entering government primary school at age 5, those in the program group were developmentally more advanced than children in the comparison group, even though many children in the comparison group also attended preschool.

Technical Report
We looked at cognitive development in terms of children’s emergent literacy, numeracy, executive function, and approaches to learning. At midline, we found positive EYPP impacts on children’s cognitive development in literacy, numeracy, and approaches to learning but not in executive function. The positive effects were modest in magnitude, equivalent to bridging the gap between children whose mothers did versus did not complete a primary education, and we found significantly greater benefits for girls than for boys in all three areas that showed positive effects (literacy, numeracy, and executive function). We also found significant, nationally positive intervention effects on children’s overall school readiness (across all IDELA tasks), with a significantly greater intervention effect for girls than for boys.

Research Objective
Were the results sustained?

Policy Brief
Girls reaped the largest benefits from the program, gaining more than boys in literacy, numeracy, and social emotional development, though boys also benefitted.

Technical Report
As medians, the intervention effects persisted for both emergent literacy and emergent numeracy, but the effects on approaches to learning failed to inequity, with still no significant program effect on executive function. For both literacy and numeracy, the effect sizes were relatively stable between midline and endline, meaning that the gaps between the treatment and control groups persisted (but did not widen or narrow). Therefore, the persisting effects of the EYPP are in the areas of academic learning (here, literacy and numeracy) and not on other areas such as motor development or social emotional development, though those in the program group were developmentally more advanced than children in the comparison group also attended preschool.

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For most audiences, the graph offers the more compelling way to present the information. Almost immediately, a viewer understands that girls’ scores are lower than boys’ scores in every domain. Communicating findings is not an easy task and requires taking into account the nature of data, variables used, audience. On the other hand, graphs can contain more detail and nuance about the findings and can be better understood by the audience with more technical knowledge of the subject and analysis methods.

**Communicate findings on a sustained basis**

Often researchers or advocates produce a report, or organize an event to disseminate the findings and recommendations without subsequent follow-up. Some of the successful advocacy cases using IDELA studies have, in fact, relied on sustained communication of evidence to the right audience at various stages of the study implementation.

**CASE STUDY: RWANDA, ADVOCATING FOR CHANGE**

Until few years ago, effective strategies for providing opportunities for early learning and literacy for children under 6 years were absent in Rwanda. Save the Children coordinated research and policy efforts to 1. Establish evidence base for pre-primary education in the country and 2. Support the national government implementation of pre-primary education. The first piece of analytical evidence came in fact from a political economy analysis conducted in the country in 2013. It indicated that there was no effective early childhood education curriculum in Rwanda. Furthermore, while there was an early childhood education policy in place it was not comprehensive and did not include an emphasis on cognitive development for children under three years of age. Thematic limited understanding about the importance of early learning and literacy for children 0-5 years among stakeholders including parents, policymakers and teachers. In addition, the gap that surfaced was related to research and implementation literacy and early learning programs in Rwanda especially for children under 6 years. There was limited data on what works in ECD, how it works and how much it would cost for the government to adopt such interventions. These and other results from the PEA influenced a robust research and advocacy agenda to target different gaps in the system, including stakeholder behavior, policy and implementation gaps.

Following this, the Save the Children produced evidence on the effectiveness of certain ECD interventions using IDELA to measure child outcomes. A quasi-experimental study in Rwanda in 2015 compared four different groups to each other: children who did not have access to ECD services at all, children who has access to Save the Children’s flagship ELM at center and ELM at home programs and children who had access to other ECD services. Not only did the study show that access as such had positive impact on child development, but that quality of services was of importance.

In particular, results demonstrated that:

- Children were struggling in literacy and maths skills pre-intervention and made significant gains post-intervention using Save the Children’s Early Literacy and Maths (ELM)/ Ready to learn approach. The evidence from this program has influenced the government of Rwanda’s pre-primary curriculum that emphasized foundational skills for preschool children.

- A children’s playground ELM at center and ELM at home programs and children who had access to other ECD services. Not only did the study show that access as such had positive impact on child development, but that quality of services was of importance.

- Evidence-Informed decision-making has also become intrinsic to the internal culture of Save the Children. Reflections and evaluations have led to program and practice improvements, adjustments to the teacher-training approach and adaptations to the educational system, including textbooks development.

- The evidence from this program has influenced the government of Rwanda’s pre-primary curriculum that emphasized foundational skills for preschool children. It is estimated that up to 80% of the changes have been influenced by Save the Children’s Emergent Literacy and Maths (ELM)/ Ready to Learn approach. The ECD policy was also revised in 2016 to comprehensively cover the 0-5 age range and to place emphasis on cognitive development. Save the Children in collaboration with other partners also successfully advocated for increased ECE funding including funding for teacher salaries and resources for pre-primary classrooms such as storybooks for promoting emergent literacy.

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Develop Actionable Recommendations

Developing actionable recommendations might seem an easy and straightforward task. However, it requires a lot of effort and insight from stakeholders, particularly when a piece of research is produced with the intent to influence policy or decision-making. Most research pieces are accompanied by a set of recommendations at the end. However, we define ‘actionable recommendations’ as specific, supported by evidence, and action-oriented.

The first step towards making actionable recommendations is taking a step back from the specific findings to see a bigger picture, to situate findings in the larger context of the specific study, as well as within the realm of similar research pieces. For example, in the case of Rwanda, Save the Children used results from a political economy analysis conducted prior to their impact evaluation to identify key areas where the results from their evaluation could inform the broader ECD policy landscape in the country.

In addition, to the extent possible recommendations should address the source or root cause of an outcome. For example, the national ECCD study in Bhutan found very strong ties between children who had access to ECCD services and children who scored higher on IDELA. At the same time, learning gains were not uniform across all children. Through detailed analysis, researchers found that more learning was happening in higher quality classrooms. Further, researchers asked the question: what drives the high quality of classrooms, which can then contribute to better learning? Data showed that facilitator-child and child-child interactions had a stronger relationship with quality than other aspects of the classroom environment. Hence the recommendation of the study was NOT to simply open more ECCD centers so more children could attend, but rather to invest in pre- and in-service teacher training focused on fostering positive interactions in the classroom.

As seen in these examples from Rwanda and Bhutan, the most impactful IDELA studies are those that use IDELA alongside other measurement tools so that information about children’s learning and development can be appropriately understood in the context of their learning environments. Depending on the focus of your work, the larger context can range from the policy environment to the home, but being able to answer questions about how and why children arrived at their current developmental status is critical to making informed recommendations about how to improve in the future.

We are incredibly proud of the impact that IDELA partners around the world have had on local and global learning environments for young children, and we hope this guide further supports those efforts. However, with more than half of the world’s children unable to access formal early childhood education programs and the mounting demands on caregivers of young children, there is more to be done to bolster children’s early learning and development in the years leading up to primary school.

Understanding how and why children arrived at a certain level of school readiness is critical to developing, maintaining or expanding services that work. To that end, there are a few key steps in the data-driven decision-making process that will maximize the utility of your work. Meaningfully engaging with local stakeholders before designing a study so that your work reflects the needs of the children and families you hope to support is an important first step in developing information that is as relevant as possible to the needs in a community. Then, identifying measurement tools to use alongside IDELA in order to illuminate connections between learning environments and child development will help to answer pressing questions about enablers and inhibitors of early learning and development. Finally, situating your study in the larger context of early childhood development or pre-primary education efforts in your area will go a long way in ensuring the results are leveraged by relevant stakeholders.

The preschool years (ages 3 – 6) are a time when children’s brains are developing the foundations for language, problem solving and social skills, which they will carry with them for the rest of their lives. There is a movement toward providing better services to children and families in this age group at local, national, and global levels but more data and information are needed to drive forward solutions that are best suited to each community. IDELA studies that focus on children’s learning and development as the primary outcome have the opportunity to offer child-centered, data-driven recommendations to this important work.
ANEX 1

TABLE 4. IDELA core task and domain structure.

<table>
<thead>
<tr>
<th>Motor Development</th>
<th>Emergent Literacy</th>
<th>Emergent Numeracy</th>
<th>Social-emotional Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hopping</td>
<td>Print awareness</td>
<td>Comparison of any shapes</td>
<td>Peer relationships</td>
</tr>
<tr>
<td>Copying a shape</td>
<td>Expressive vocabulary</td>
<td>Sorting and classification</td>
<td>Emotional awareness &amp; regulation</td>
</tr>
<tr>
<td>Drawing a person</td>
<td>Letter identification</td>
<td>Number identification</td>
<td>Empathy</td>
</tr>
<tr>
<td>Folding paper</td>
<td>Emergent writing</td>
<td>Shape identification</td>
<td>Self-awareness</td>
</tr>
<tr>
<td>Oral comprehension</td>
<td>Addition &amp; subtraction</td>
<td>Puzzle completion</td>
<td>Solving conflict</td>
</tr>
</tbody>
</table>

TABLE 5. Stages for Base IDELA Analysis.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Details</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean data for all assessment questions</td>
<td>Check for outliers, and recode missing values as needed</td>
<td></td>
</tr>
<tr>
<td>Generate task-level scores</td>
<td>Add all scores for questions within a given task and divide by the total possible points</td>
<td>Add the scores from all questions in the shape identification task together and divide by five</td>
</tr>
<tr>
<td>Generate domain-level scores</td>
<td>Add all task-level scores within a domain together and divide by total number of tasks</td>
<td>Add scores for all tasks in the number domain together and divide by seven</td>
</tr>
<tr>
<td>Generate total IDELA scores</td>
<td>Add all core domain scores together and divide by 6</td>
<td>Add scores for all domains (i.e., motor, literacy, numeracy, and social-emotional) and divide by four</td>
</tr>
</tbody>
</table>

NOTE: Executive function and learning approaches are not core domains so they are not typically included in the total IDELA score.
Julio, 11, reads with his 18-month-old sister, Ariana, in Colombia.

Credit: Save the Children