Mainstreaming Equity in Education

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Carina Omoeva

**FHI 360 Education Policy and Data Center /
Education Equity Research Initiative**

Photo credit: Leanne Gray, FHI 360

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Background and Context

Equity is at the heart of Sustainable Development Goal 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", and the Incheon Declaration of the 2015 World Education Forum, which calls inclusion and equity "the cornerstone of a transformative education agenda"[1]. Broad-based expansion of opportunity in education, with particular emphasis on those that are facing disadvantages due to their socioeconomic background, disability, ethnic identity, gender, effects of displacement, or other characteristics and forms of adversity, becomes an important element of understanding success in educational development – indeed, of success in development at large. A transformative education agenda seeks to build equity *in* and *through* education, both changing experiences in the classroom and improving the potential of schooling to shift life trajectories for those facing adversity.

In addition to affirming high-level commitment to education and the importance of equity through educational opportunity, the Incheon Declaration was important in setting a new set of requirements on tracking progress against SDG 4. With equity at the center of the international policy framework, it is no longer acceptable to gauge progress in education using population-wide averages in school participation and learning. Rather, one is pushed to examine the extent to which reform efforts in education are serving to improve inclusion and ease the path to greater equality for those that are facing disadvantage due to social and demographic characteristics. In stating that "no education target should be considered met unless met by all"[2], the Declaration calls on education systems to confront head-on the challenge of identifying, documenting, and measuring education opportunity (and lack thereof) for a much broader set of dimensions that characterize the school-aged population. Just as gender became a mandatory reporting dimension in education since the start of the Education for All era in Jomtien, Thailand in 1990, so is Incheon ushering a new order, calling for greater depth in the provision of educational opportunity, and greater breadth in understanding and closing disparities in participation and learning.

The real challenge, as always, lies in the realization of the promise of Incheon. Convened by UN agencies and governments, the Education 2030 declaration justly places the burden of realizing this promise on national governments. A number of global initiatives and mechanisms are being put in place by multilateral agencies to support and enable this process. However, it is incumbent on the international education community – including international agencies, civil society, private sector, and independent funders and educators – to do their part in creating a culture where an equity lens is increasingly applied to all processes of strategy, program design, implementation, data generation, and evidence building.

As education practitioners and stakeholders in the realization of these goals, it is the responsibility of every funding, implementing and research organization in education internationally to be asking questions about our own contributions to building equity. While a great amount of data gets produced in the course of education development projects, only a fraction provides the depth that is needed to assess intervention impact on the different equity dimensions. At the technical and implementation level, organizations need to capture and use the necessary evidence to understand and respond to inequity in education provision and outcomes. To do that, we need to be deliberate in building M&E and learning systems that generate the depth of data and analysis that helps answer the question: are we improving

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[1] http://en.unesco.org/world-education-forum-2015/incheon-declaration
[2] Ibid.

education equity through our programming and policy? Data and research evidence are the first step to understanding who is left behind in obtaining a quality education for successful and productive adulthood. Without such information, policy makers, funders, and implementing organizations are blind to the disparities they may be missing, or worse, to inequities they may be contributing to. Programming and policy that seeks to address inequity and create broad-based progress in education must be deliberate in using data to identify disparities, generating evidence on effective equity-building solutions, and scaling them for impact.

This document is intended to help establish some of the key issues and challenges that need to be addressed around equity in education, and provide a way forward to mainstreaming equity-oriented programming and data analysis.

What is equity?

As the terms *equity* and *equality* are often used interchangeably in the context of educational development, it is useful to clarify the slight semantic and conceptual differences that determine their usage in this paper[3]. Here, we use the term *equality* as an empirically verifiable state of being equal. In education, equality in outcomes, such as school participation, learning, or outcomes beyond schooling, is a desired end goal and objective of many policies and programs. At the same time, equality in inputs – as in equal resource allocation, for example – may not always be desirable or *fair*, given inequality of starting conditions and opportunities. In such cases, the relevant concept is *equity*, rather than equality.

Equity in this context is defined as a reassessment and redistribution of resources (human, institutional, and financial) in education with the goal of reducing or eliminating *systematic inequality* in outcomes. In this sense, *equity* is a path to achieving *equality*. In the simplest terms, equity is *fairness*, or equal opportunity to achieve the same outcomes regardless of starting conditions and barriers[4]. Figure 1 provides a simple illustration of the equity/ equality distinction.

Figure 1. Equality vs. equity: Equality provides the same conditions to everyone regardless of need, while equity considers needs and disparities and seeks to level opportunity to achieve the same outcome. Source: The Education Trust.

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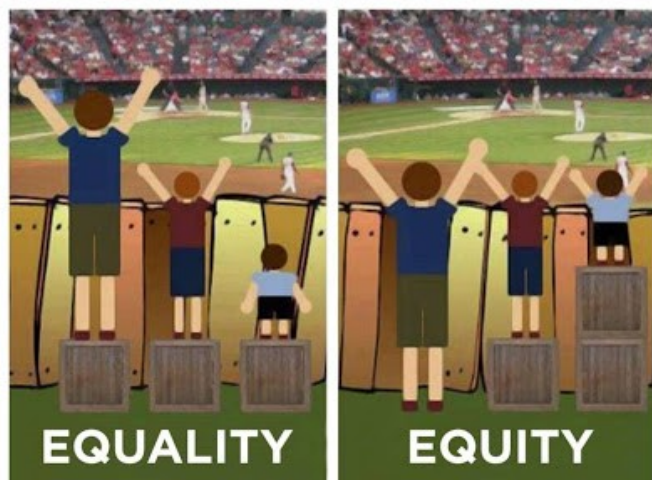
[3] See for example, in: Jacob, W. J., & Holsinger, D. B. (2008). Inequality in education: a critical analysis. In Holsinger & Jacob (eds.) *Inequality in education: Comparative and International Perspectives*. Springer. Pp. 1-34.
[4] Some of the foundational texts on justice, fairness and equality of opportunity include Rawls, J. (1971) *A Theory of Justice*; and Roemer, J.E. (2002) *Equality of Opportunity* (see References).

Systematic inequality in education can either be a product of active and deliberate discrimination within the context of broader social injustice, or a result of failure of the education system to recognize the different starting conditions and challenges facing individuals. It follows that *inequity* is a failure of a program, policy, or intervention to provide every child with an equal opportunity to obtain a quality education.

Equity dimensions denote the social and demographic characteristics of subpopulations that predict – due to discrimination or unequal access to resources –inequality in outcomes. The equity dimensions noted in the Education 2030 Declaration include gender, poverty, ethnicity, disability, and refugee status. Finally, a concept that is growing in usage alongside discussions of equity in education is *intersectionality*. As the term suggests, it refers to intersections of equity dimensions that often predict higher levels of disadvantage. Examples of intersectionality that create disadvantage greater than the sum-total of its elements may include gender and ethnic minority status, or disability and poverty.

Equity-oriented programming and policy addresses the underlying causes and drivers of inequality in education. It is continuously assessing disparities against known social and demographic factors, and seeks to minimize the magnitude of their effects on outcomes. One can consider a program or policy to be **equity-building** if the resulting gains in outcomes – school participation, learning, or skills for successful workforce transition – are greater for individuals and groups that started out with a disadvantage.

In the rest of the document, we discuss the current status and blind spots of data and evidence when it comes to equity in education, and offer a way of applying an equity lens towards funding strategy and programming.

What are we missing (by not looking at equity)?

One of the greatest accomplishments of the Education for All forum in Jomtien, Thailand in 1990 and the following decade was the recognition of the severe gender inequality in education. The resulting near-universal mandate for sex-disaggregated reporting from funders and multilateral agencies led to the proliferation of data on dramatic disparities between male and female learners in their access to education, and in later years, their learning outcomes; which in turn created the demand for programming focused on building gender equity. Twenty-seven years after Jomtien, gender disparities have not gone away, but there is a substantial, and growing, amount of evidence on solutions that build gender equity in education, and on how education systems need to adapt to help girls and boys overcome gender-related institutional barriers.

The same cannot be said for other dimensions of inequity in education. With the exception of poverty, many other known socio-demographic characteristics of learners are not routinely collected, and are frequently overlooked in analysis. Datasets with equity dimensions are largely limited to outcomes on school participation, and to a lesser extent, learning achievement, although coverage of learning outcomes data remains scattered. Program-level datasets are often under-powered with samples too small to reliably conduct analysis, and most are not longitudinal, which makes it difficult to reliably track change in school progression and learning over time. Both at the system level, and at the level of programs, consistency and comparability of definitions and metrics are a challenge, making it virtually impossible to pool data and zoom out of the confines of a given dataset.

This section offers a sense of the extent of knowledge gaps that are created by a lack of a consistent integration of equity into systems and programs, drawing from a review of existing data sources and insights on current practice in routine program effectiveness analysis.

Blind Spots

To get an initial gauge of where our blind spots are in terms of equality in key education outcomes, the Education Equity Research Initiative carried out a landscape review in 2016[5]. The review covered all major global and regional data sources, including administrative data reported by the UNESCO Institute for Statistics (UIS), household survey data, student achievement databases, as well as a selection of instruments and survey tools from implementing Equity Initiative partner organizations. Two key questions drove the analysis as part of this review: 1) what equity dimensions are being measured, and how consistently? and 2) how is equity information that is collected being used, if at all?

Scarcity and inconsistency of data on equity dimensions. What we found is that across the board, gender is the only equity dimension that is consistently present across nearly all data sources, whether they are small scale (programmatic) or system-wide student rosters. Table 1 summarizes the findings in terms of availability of data on key equity dimensions, and in terms of the consistency of their definitions across sources. *Poverty*, *ethnicity*, *disability* and *displacement* are categories that are often not well defined and even less consistently measured. Among these, some measures of poverty – or economic well-being more broadly – appear most frequently across sources. However, we found that even with such an seemingly common dimension of disadvantage, data on economic well-being are highly fragmented and inconsistent across studies and programs. Sources differ in what is included in the operationalization of poverty: while many are limited to proxies of wealth measured by household possessions, other instruments include measures of social capital and home learning environment, such as parental education levels and behaviors conducive to schooling. Similarly, ethnic identity is increasingly present in programmatic data sources, but the definition of ethnicity and the proxies used to measure it often differ, particularly in highly ethnically diverse environments.

Table 1. The data landscape across key equity dimensions: an availability and comparability assessment. Source: Adapted from Measuring Equity in Education: A Landscape Review (FHI 360 & Save the Children, 2016)

Equity Dimension	Availability	Consistency/ Comparability	Notes
Gender/ Sex	High	High	Traditionally defined as a binary, present in nearly all datasets
Economic well-being/ Poverty	Medium- High	Medium	Varies in the extent to which sociocultural capital and learning environment is included
Ethnicity/ Race/ Language	Medium	Medium	Usually proxied through language; inconsistent in highly diverse contexts (i.e. may denote clusters of ethnicities or only the main ones)
Disability	Low	Low/ Medium	As of this writing, absent from nearly all main datasets, but new modules are being rolled out with household surveys
Displacement	Low	Low	Present in a limited number of household surveys
Orphanhood/ OVC status	Low	High	Present in a limited number of household surveys

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[5] http://www.educationequity2030.org/resources-2/2016/12/14/measuring-equity-in-education-landscape-review

As the table shows, disability is by far the most challenging equity dimension to find, making children and youth with disabilities "invisible" when it comes to data on education programming, learning outcomes measurement, and resource allocation. The complexity of measurement of disability can be daunting, as there is a wide spectrum of both physical and cognitive disabilities that can affect school access, participation, learning achievement, and successful transition into adulthood. There is reason to hope this will soon change: UNICEF is leading the charge in defining key metrics for child functioning disability[6], and tools are being adapted by members of the Education Equity Research Initiative to use with both children and their caregivers.

Other equity dimensions, such as displacement, orphanhood or other vulnerability characteristics, have been scarce and generally poorly defined. Large-scale household surveys were most likely to contain information on migration, but even then this information was extremely uneven and limited. With displacement affecting vast swaths of the populations of the Middle East, Sub-Saharan Africa, South Asia, and other parts of the world, migration status is bound to become a core dimension of equity across both system-level and programmatic data sources.

Limited utilization of equity data. While availability and presence of equity dimensions is the first step towards an understanding of disparities in education, we found that even when such data are available, they are often left outside the main focus of analysis. **Wealth, ethnicity, and gender** are regularly included as explanatory, or "control" variables that help reduce variation and increase precision in analyses of impact of policies or interventions, but **rarely are used to examine differences in impact effects, or to model trajectories of learning acquisition from different starting points.**

The program implementing organizations interviewed during the review indicated that while gender disaggregation was present for many descriptive data, child characteristics, such as their socioeconomic status, language spoken in the home, and their rural or urban residence were helpful but secondary elements of the analysis. In many cases, the small number of observations within a dataset made it difficult to run analyses just on the subgroup that is defined by an equity dimension. In instances where the disadvantage is compounded by several such factors, the subgroup that suffers multiple disadvantages is even smaller, rendering the analysis unreliable, and therefore less than useful from the program monitoring standpoint. Thus, the cycle of limited data production leading to low utilization, and consequently, to an even lower incentive to generate equity-friendly data, is perpetuated across the program implementation landscape.

A near absence of equity dimensions to education inputs data. The situation with data availability and utilization is even more dire when it comes to data on resource allocation. In developed contexts, means testing, such as qualification for school nutrition programs, or eligibility for support programs makes it possible to identify schools with higher concentrations of needy students. In low-resource systems, such markers often do not exist. Whether it is system-level data on teacher deployment, teacher quality, pupil/ teacher ratios, and per student expenditure; or program-level data on costs and resource allocation per school or student, equity dimensions generally do not enter the framework for resource allocation analysis.

[6] https://data.unicef.org/resources/module-child-functioning/

Evidence building: Do we know what works (and for whom)?

The lack of depth and consistency in the measurement of equity dimensions places limitations on the utility of evidence on education interventions. Figure 2 is borrowed from a recent review of evidence in education by the International Initiative for Impact Evaluation (3ie), which covered a wide range of systematic reviews and evaluations at different levels[7]. While the state of the evidence is far from comprehensive, the review found a couple of modalities that were effective across most contexts, a few promising approaches that have shown to be effective in some contexts, and some that had limited success. Unfortunately, even when the modalities were well-researched and supported by a wealth of research evidence and data, the equity dimensions were not addressed. The second research question of the 3ie review: *do the effects differ across subpopulations (due to sex, age, or socioeconomic determinants)?* remained largely unanswered, as researchers struggled to identify equity-relevant variables in the analysis, and bring together the disparate sets of evidence under a common framework.

Figure 2 The state of the evidence of education: A summary from a 3ie systematic review. Source: 3ie
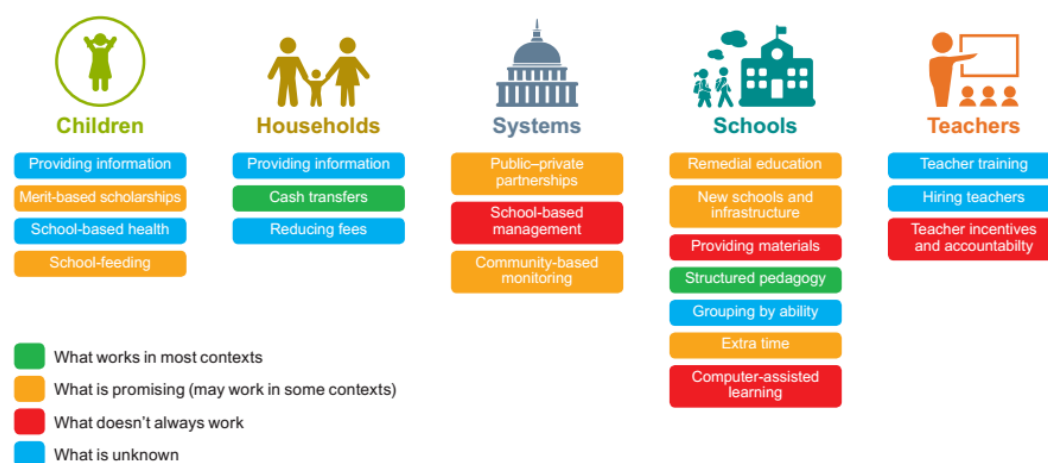
Structured pedagogy, for example, may be highly effective for all students, and even more effective for struggling readers who are placed in unfamiliar language environments. Or on the contrary, it may be effective on average, but it may be the most capable learners who benefit most from structure and the additional challenge it creates. Similarly, we learn little about whether school-based management support programs were more ineffective in lower resource contexts, where capacity is lacking, or equally ineffective regardless of school type and population characteristics.

It is certainly true that even if data on equity dimensions within the underlying studies that went into the systematic review were available, reliable estimates for subgroups and sub-contexts could often be difficult to generate, due to sample size constraints within many studies. Unfortunately, the missed opportunity for 3ie to generate real insights of what works for whom is reflective of the overall state of

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[7] Snilstveit, B, Stevenson, J, Phillips, D, Vojtkova, M, Gallagher, E, Schmidt, T, Jobse, H, Geelen, M, Pastorello, M, and Eyers, J, 2015. *Interventions for improving learning outcomes and access to education in low- and middle- income countries: a systematic review.* 3ie Systematic Review 24. London: International Initiative for Impact Evaluation (3ie). Note: the 3ie snapshot provides an illustration of the challenge in obtaining subpopulation-specific estimates and integrating equity into analysis of impact. It is not intended as a criticism of 3ie, nor do we interpret it to represent the ultimate and comprehensive review of all evidence – only that from rigorous quantitative impact evaluations.

things when it comes to monitoring and evaluation of program-level data. As we learned in our program-level equity measurement landscape analysis, this level of depth is simply not a common, accepted practice for analysis and reporting. Meanwhile, leaving socioeconomic and demographic predictors out of the main analysis often conceals important insights about how interventions affect the learning and life trajectories of children and youth.

Figure 3 offers an illustration: a recent example from a program-level analysis that explicitly examines program effect by the equity dimensions available in the data. As the figure shows, the overall positive program impact effect – which would have been sufficient to identify and report in most cases – masks the fact that there are substantial differences in how different types of learners responded to the program. While the gender gap appears to have been closed, indeed slightly reversed, a disproportionately larger share of the gains accrued to the relatively better-off students, who had already started out with a substantial advantage. In other words, the program, while creating a positive treatment effect across the board, exacerbated inequality in outcomes along the wealth equity dimension.

Figure 3. Equity-oriented program impact analysis unveils differences in impact size. Source: FHI 360
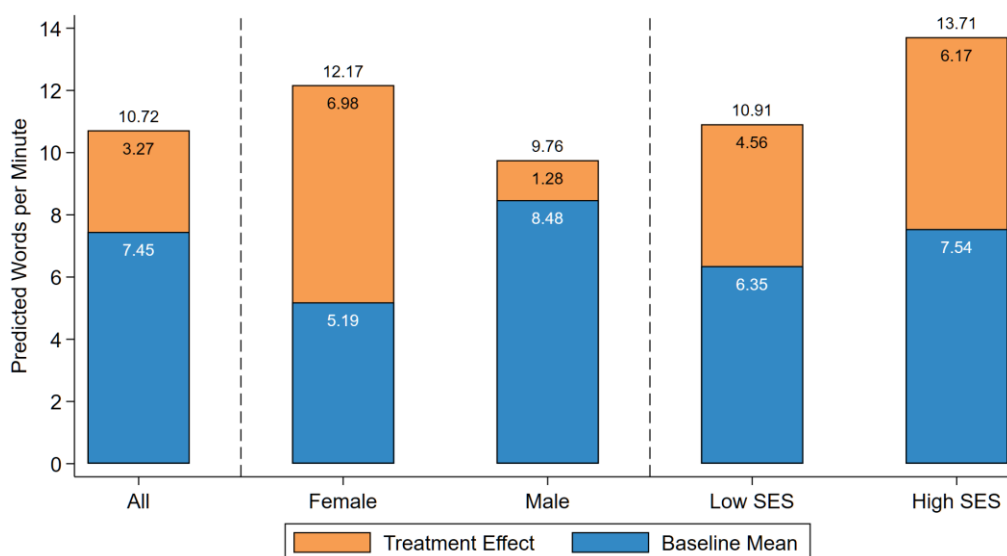
The analysis in Figure 3 was possible because data on equity dimensions were present in the dataset. This analysis is limited in that it does not look at outcomes for children not speaking the language of instruction at home, nor at migrant children. However, it does provide insights that are directly actionable within the confines of the program, and contributes to a broader knowledge base on the effectiveness of reading interventions for children at the lower end of the socioeconomic spectrum. Ideally, this is the type of analysis that every program and education system should be able to do, and the type of data and evidence that should inform funding, programming, and policy decisions. In the next section, we offer a process for realizing this vision.

Enabling and mainstreaming equity: The way forward

Addressing equity, or combatting inequality, is already a key motivating factor for many funders and development organizations in education. Education interventions supported by public and private donors across the developing world support access to education for girls, children and youth living in poverty,

and offer alternative approaches to provide schooling for marginalized communities. Solutions supported by private foundations and individuals bring technology into classrooms in low-resourced environments, offer school feeding to support students in high poverty households, and offer leadership training for youth in rural and remote communities.

At different levels, a careful review of data on a variety of education indicators will help organizations to assess where investments are most appropriate, and how effective they may be in institutionalizing equitable solutions. At the **strategy level**, data analyses may capture the magnitude of inequality in the system as a whole, measure its effects on outcomes for countries and societies at large, identify who is left behind, and examine the root causes and underlying drivers of perpetuating social and economic disparities in education. These analyses can serve to inform strategic priority setting for funding allocation to an emphasis on equity. At the **program level**, iterative data analyses seek to understand who is falling behind and why, within the boundaries of target populations, unpack the mechanism by which programs succeed or fail to meet the needs of specific or subgroups, and build evidence on implementation solutions that help advance equity-oriented teaching and learning practices.

The challenge of equity in and through education cannot be resolved without a consistent and deliberate application of an equity lens in program design, monitoring and program implementation, impact analysis, and evidence building, which in turn is used to strengthen programming. Collaborative action by groups of organizations, jointly applying a common set of tools and processes to address equity, and agreeing on a key set of challenges that can be consistently addressed and examined through a range of programs at different levels can be a powerful way of advancing the field towards the promise of Incheon. Through the Education Equity Research Initiative, implementing and research organizations have already begun to reach agreement on key equity dimensions that must be consistently identified, and approaches that increase the availability and quality of data needed to assess progress. A similar approach by funders would strengthen field-building around equity in education, and help mainstream data production and evidence building, creating the foundation for system-wide change.

Incorporating equity into strategy and programming

Incorporating equity into a strategy involves a review of data and a deliberate process of recognizing relevant equity dimensions, drivers of perpetuating disparities, and identification of key stages and levels of engagement that address them.

This process can be guided by a series of questions:

1) What outcomes are crucial for equity and equality, both within the education system and beyond? In other words, *what does equity and equality look like*?
2) Relative to the outcomes desired, *who is left behind*? What subpopulations or groups are systematically denied opportunity to advance their life trajectories?
3) What are the *underlying causes of inequity and inequality*? And what system-level, resource, or cultural factors can be affected through programming or policy?
4) Given all of the above, what is the *appropriate scope and level of investment* for an organization?

Starting from the outcomes and working down to the operational level of scope and level of engagement allows funders and mission-driven organizations to establish a vision of what it means to achieve equity *in and through* education, and focus on identifying the right metrics for success, target resources to those

who need them most, and help find effective ways to eliminate the root causes or institutional barriers of inequity.

Clarity of outcomes: What does equity look like?

Focusing on outcomes as a first step is essential: it addresses the question, in the minds of the funder and implementer, of what the end goal of equality should look like – how do we know if we have achieved it? It also triggers an exploration of what is needed to reach equity, in terms of the relevant solutions and resource allocation decisions, at different levels and stages of the education system. So, what are the appropriate outcomes in which to seek equality?

Participation. School access and meaningful attendance and participation in basic education, measured in school enrollment and completion rates, remain relevant in many parts of the world. Educational attainment is a strong determinant of future productivity and wage earnings in most parts of the world, and increasing the proportions of youth completing basic cycles of schooling therefore continues to be a central goal for governments and donors around the world. Depending on the context, the equity debate around attainment may be focused on getting more learners to transition to the secondary and tertiary levels, on the one hand, and on expanding access to early childhood education, on the other.

Learning. In recent years, much of emphasis in international education has shifted to the need for a more consistent set of measures of learning achievement at every stage. SDG 4 calls for indicators of minimum proficiency at three points of the basic education cycle: end of second grade, end of primary, and end of secondary schooling. Assessments of learning outcomes vary, from fluency-based reading assessments of early literacy and tests of early numeracy, to sophisticated assessments of subject-matter knowledge applied following completion of primary schooling.

Noncognitive ("soft") skills. Alongside learning achievement, a growing area of study is noncognitive outcomes, or "soft skills", such as persistence and resilience, self-control, positive self-concept, or social and communication skills, which have been found to be predictive of a range of positive outcomes in youth.[8] While the jury is still out on whether these correlation mechanisms are causal, there is a strong argument to be made that soft skills lie at the heart of internalized inequity for many children and young adults. Poverty and discrimination can be detrimental to positive self-concept and individual ambition. Low "soft skills", in turn, can perpetuate a lack of engagement that dampens the potential for academic achievement and later life outcomes.

What does equality in outcomes look like? In a purely mathematical sense, it is the absence of a noticeable gap in individual or average group outcomes. For most measures of interest in education, some variation is normal and expected. Equality is attained when disparities are no longer predicted by systematic bias imposed on individuals by their social and economic constraints. Equality can be measured through a simple difference in means (simple averages) between groups identified by equity dimensions, or through a ratio of one group's mean to the other. In instances where there are more than two units and the distribution of the underlying indicator is continuous and linear (in the case of assessments scores), one may examine the overall variability (variance or standard deviation) in the outcome. Finally, more complex measures such as Gini and Theil indices can be applied to continuous outcomes that are also

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[8] USAID (2016) YouthPower Soft skills review *http://www.youthpower.org/resources*.

cumulative (such as years of schooling, or dollars spent on schooling).[9] Table 2 provides some illustrative examples of indicators and equity metrics.

Table 2. Illustrative outcomes, equity metrics, and sources of data

Illustrative indicator	Class of outcomes	Applicable Equity Metric				Possible data sources
		Diff. in means	Ratio	Vari-ance	Gini/Theil Index	
Enrollment ratio	Participation	X	X			Administrative records
Attendance	Participation	X	X	X*		Administrative records, surveys
Completion rate	Participation	X	X			Administrative records
Retention/ dropout rate	Participation	X	X			
Words read per minute	Learning	X	X			Student learning assessments
% Correct answers (of total)	Learning	X	X	X	X	Student learning assessments
% at learning benchmark	Learning	X	X			Student learning assessments
Scaled assessment score	Learning	X*	X*	X	X*	Student learning assessments
% With high perseverance	Soft skills	X	X			Soft skills tests
% With high self-control	Soft skills	X	X			Soft skills tests
% Employed within 3 mos	Post-educ	X	X			Tracer surveys, employer surveys

Note: the asterisk (*) denotes that the scale of the indicator must be continuous; i.e. days attendance rather than attendance rate. For learning assessment, the scale of the assessment score needs to be on a linear scale for differences and ratios to be applicable.

The dimensions of inequity: Who is left behind?

It follows that the key question for equity is, in attaining important outcomes both within and outside the education system, *who is left behind?* In an ideal world, life outcomes are determined solely by personal choices and motivations, and are independent of one's background and social and economic constraints. It is known that education systems are far from this ideal, and they often fail to reverse the effects of broader social, demographic, and economic barriers affecting learners; in fact, they often reinforce them. Thus, an equity-oriented analysis in education seeks to uncover the systematic relationships between key outcomes, on the one hand, and the demographic and social characteristics of subgroups that may predict disparities over and above individual choice and motivation, on the other.

The answer to the question of "who is left behind" may differ depending on the choice of outcome and the measure chosen to capture it. The *equity dimensions* – the social and demographic characteristics that predict inequality – may play out differently in different contexts: a gender gap in learning outcomes may not appear in an analysis of early grade reading scores, but in many cases the girls' disadvantage may emerge dramatically when the outcome of interest is secondary school completion. Collecting and analyzing data on different dimensions across a range of outcomes and indicators will give a more detailed picture of the relevant gaps and how they change over time. At the same time, it is important to recognize the persistent negative effects of such factors as poverty, disability, ethnicity of the minority group, and migration status in post-conflict and fragile environments.

An in-depth analysis of who is left behind on a range of outcomes may point to a specific group, perhaps categorized by one or more equity dimensions, that is then identified as a target for an equity-building funding strategy. Once such choices are made, it is important to keep the focus on the outcome(s) of

[9] More information on these equity metrics, and other statistical approaches to measuring equity can be found in the forthcoming UNESCO Institute for Statistics *Handbook for Measuring Equity in Education* (UIS, forthcoming).

interest for the selected target population, while maintaining a broader reference point – as with a population average, or with the average for more advantaged groups, for equity comparison.

What are the underlying causes and systemic drivers?

Disparities in outcomes are the manifestations of the underlying dynamics of inequity that are at play in any given context. Many of these dynamics are rooted in broader imbalances in power and social structure that affect an individual or group's access to a broad range of services. Others stem from cultural beliefs and practices that place a low value on education and cause individuals to internalize a limited set of expectations for their own life trajectories. It is useful to distinguish these causes of uneven starting conditions from *systemic drivers* of inequity, or deep disparities in the levels of educational quality and resources that often reflect and reinforce social divisions.

Some of these institutional and systemic drivers are known and well-documented: children from poor households and ethnic minorities tend to be clustered in lower-resourced schools where the quality of resources and instruction is markedly different from those available to their wealthier peers. Teacher deployment and retention patterns often show higher quality, experienced teachers placed in high-functioning schools, thus expanding the potential for inequity in learning trajectories of students. For other equity dimensions, the institutional drivers are less visible: girls may be socialized through curriculum and classroom interaction to assume traditional gender roles, while students with disabilities are prevented from fully participating in classroom activities. For each context, studies and analyses of available data (albeit limited) may help determine the relative magnitude of the different factors and their malleability through targeted interventions. **Annex A:** Illustrative Analyses of Known Disparities in Educationprovides an illustrative set of disparities that can be identified through data on education outcomes, along with their known underlying causes and institutional drivers, and attempted solutions.

Understanding the lived experience of children and youth, with the underlying causes and institutional drivers that generate and perpetuate inequity in education, can inform decisions on a range of approaches to address them. Whether to focus on the underlying root causes of unequal starting conditions, or to address a range of institutional drivers of inequity within the education system, depends on the scope and scale of engagement, including the time horizon for funding, that is feasible for a given funder. Even for small-scale interventions, however, the potential impact can be dramatic if they are linked to a broader framework for building equity, coordinated, and consistent in generating evidence with the potential for further institutionalization.

Investing for equity

In addressing the root causes and the institutional drivers to inequity, solutions may differ, and the scope and scale of the impact that an individual funder can make may vary dramatically across programs and geographic contexts. Individual funders with a commitment to equity can magnify their imprint on the field through a coordinated, deliberate approach across a community of funders to address a set of known challenges and reduce the prominence of known equity dimensions, such as gender, poverty, ethnicity, disability, and displacement in key outcomes. Such an approach would include agreement on key outcomes and indicators of school participation and learning, sharing knowledge and evidence on the drivers of inequality, and a consistent process for using a set of core equity dimensions in identifying disparities and measuring progress against them. Finally, this would require a commitment to generating consistent data and evidence on equity in education, allowing a broader and ever-increasing circle of education stakeholders to witness the diminishing effect of gender, race, ethnicity, disability, poverty, and

refugee status on the way children and youth attend school, engage in the learning process, and move on to productive adulthood.

Coordination and consistency in applying an equity lens towards identifying gaps, developing funding strategies, and tracking progress in outcomes achieves the important objective of institutionalizing equity within the education system.

Establishing strong learning systems

Even as decisions on strategic funding priorities are made, funders and their implementing partners need a better understanding of why programs may fall short in meeting the needs of the most disadvantaged, and how interventions can be best designed to strengthen equity in education. Within subpopulations of children and youth targeted for a known disadvantage, there is variability and range in the level of adversity faced by individual learners. Those characterized by multiple layers and dimensions of disadvantage (aka intersectionality) are likely to be at greater risk of falling behind, even when a mechanism is intended to help them overcome the most visible barriers. Learners starting at lower levels due to the constraints they are facing will likely need proportionately more support than their peers close to the average in learning, just to remain in school, and an even greater push in order to succeed. Equity-oriented programming recognizes the multiple factors that affect the starting conditions and progress trajectories of children and youth, and provides the necessary, targeted support mechanisms to compensate for their effect on school outcomes.

Integrating an equity lens into monitoring

The diversity of funding portfolios for many grant-makers means that program implementation offers multiple avenues to generate data and evidence, both on the magnitude and nature of disparities – whether they are based on ethnicity, gender, poverty, or all of the above – and on how learners respond to a given policy or program. Establishing data and monitoring systems that allow funders and implementers to identify these challenges, analyze impact differentially across equity dimensions, and provide timely feedback loops back into program implementation would make it possible for programs to make substantial headway in understanding who is not helped by an intervention and why, as well as generating evidence on what does work in closing equity gaps. Extending the question we posed earlier at the strategy level, the challenge here is to identify *who is being left behind,* and how can we accelerate their progress?

As an example of a process that can help guide this analysis and set up data and monitoring systems with a focus on equity, the Education Equity Research Initiative offers a set of Structured Questions[10] that are intended to help program implementing and research organizations apply an equity lens to the analysis of program effectiveness. While originally designed as a framework for a statistical analysis tool, this set of questions can be adapted to guide the thought process for funders and grantees in establishing data systems.

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[10] http://www.educationequity2030.org/resources-2/2016/12/14/structured-approach-to-equity-analysis, and by request at educationequity@fhi360.org.

Box 1. Integrating equity into programming and monitoring: Adapted from the Equity Initiative Structured Questions

A. Knowing who we are serving

1. What is the *shape of the overall distribution of outcomes*? For any outcome of interest, is there substantial variability? Are there clusters of observations at the bottom?
2. What is the *equity profile of the most disadvantaged group of beneficiaries*? Is it substantially different from the equity profile of those closer to the top of the distribution?
3. Are the most disadvantaged beneficiaries *clustered in a small group of schools (communities), or spread* across the target population?

B. Knowing if we are making an impact on equity

4. Does the program or intervention supported by the grant funding create a *positive effect on the outcome*, relative a counterfactual state? *Does this effect differ when examined across the known equity dimensions*?
5. What are *the trajectories over time*, in terms of reaching the outcomes of interest, for learners or program participants that started out at the bottom of the pack? Are their gains, if any, *similar or larger than those that had an initial advantage*?
6. What are the *levels of resources that were necessary to achieve gains*? What can be said about the level of funding per child, across equity dimensions?

The first step for integrating an equity lens through monitoring and programming is establishing a *good understanding of the target population and the distribution of outcomes* across individual participants (or units, such as schools or communities). Depending on the scale and diversity of the target population, distributions of outcomes may be wide, with vast disparities between the highest and lowest points, or they can be narrow, with nearly all participants clustered around a few values. They can have long tails on either end, or they can have distinct clusters, as in the bimodal distribution with a group of nonreaders on the one hand, and a group of fluent readers, on the other. Figure 4 illustrates these examples.

Figure 4. Illustrative distributions of outcomes. Source: FHI 360
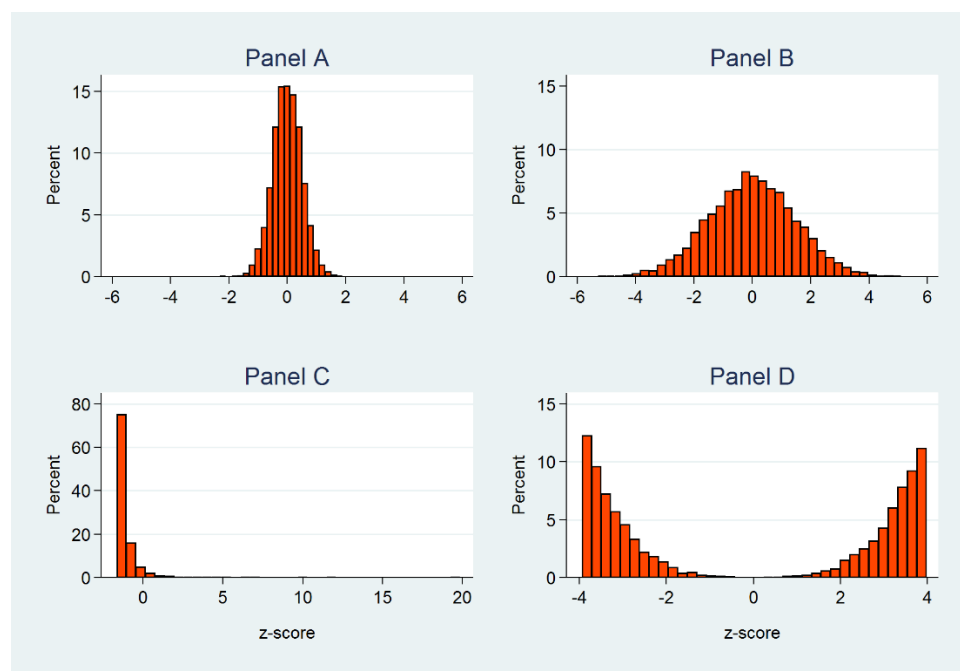
Particularly in instances where there are distinct clusters at the lower end, it is important to know *who those participants are*, and what equity issues they may be facing. Whether or not one has the opportunity to do that depends on how consistent and deliberate he or she was in integrating background and demographic measures into the data. Assuming the metrics on key equity dimensions are present, an equity profile for low-performers (as distinct from the higher-performing learners, for example) may provide insights on what the underlying dynamics may be that can prevent them from fully benefitting from the offered program or policy. This information may be crucial if the program is able to offer additional support, or find complementary efforts to build equity in the amount of resources provided to achieve equal outcomes. Similarly, as implementation is often focused at the school or community as a unit, knowing *whether the most disadvantaged beneficiaries are clustered* within a smaller number of units, or spread out across all, can be useful in directing resources where they are most needed.

In examining impact, organizations want to know if the programs they support are making a substantive change in outcomes, compared to the counterfactual of what would have happened otherwise. In rigorous evaluations, randomized or quasi-experimental designs allow for causal attribution and provide a gauge of the magnitude of program effect. Equity-oriented impact analysis examines treatment effects for each relevant equity dimension, and notes the relative magnitude of each. In Figure 3 above we provided an example of how such a deliberate examination reveals insights about how the same intervention may be successful on average, and detrimental for closing equity gaps. Thus, *understanding whether the effect differs for key subgroups is central to building evidence on equity in education*.

While not every program currently does longitudinal tracking of participants, we recommend that this be attempted whenever interventions are offered for a known cohort. Rather than the before/ after cross-sectional samples, longitudinal tracking strengthens the validity of assessing change over time, and offers the unique opportunity of building evidence around the dynamics of that change. Because *equity-building is an inherently iterative, extended and persistent process focused on lifting the trajectories of growth for disadvantaged students*, seeing a more rapid improvement over time for those who started at a disadvantage can be very powerful. Conversely, a substantially more rapid upward trajectory for better-off learners than the low-performing peers can be a sign that more attention is needed to ensure that program objectives are met.

Adaptive program management

Of course, such equity-oriented data systems are limited in their utility if programmatic approaches are designed and implemented as package "treatments", and cannot be adapted or modified in response to a dynamic, iterative monitoring process. Knowing who is being left behind and how interventions may be missing learners facing the most disadvantage is not helpful if resources cannot be targeted to provide additional support. A persistent cluster of nonreaders in a classroom may be useful to know about, but this knowledge adds little value to the program if no additional support is provided to them, and program implementation moves on to another cohort. If programs are to build equity, they must be adaptive, and allow for continuous learning to inform adjustments and support mechanisms. Depending on the main program design, such support mechanisms can include additional resource materials, targeted remedial education, focused mentoring, supplementary cash transfers, or infrastructure adjustments (e.g. ramps). Teacher training can include provisions and modules for identifying those at risk of falling behind, and targeting wrap-around support that engages the family, community, and additional school-level support.

Flexible and adaptive program design and management requires a substantial change to the current models. Different levels of intensity have to be thought out from the start, and assumptions must be made

about the proportions of children and youth beneficiaries likely to require additional support. Decisions have to be made on what those mechanisms are, and how they will be rolled out. Importantly, a strong monitoring and evaluation system must be put in place, to carry out continuous analyses and ensure that programs are informed about who and how they are serving, and generate evidence on what works and what doesn't, for whom, and in what context.

Characteristics of an equity-oriented M&E system

As we explain above, an equity-oriented M&E and learning system around a program or set of interventions has an essential purpose not just to produce data on scope and coverage, but to allow for depth of understanding around who benefits and doesn't, and offer actionable information on what to do about it. Below are the characteristics that describe such a learning system.

Consistency in inclusion of key dimensions. A commitment to equity means a commitment to consistency in measuring equity-relevant demographic and social characteristics. The Education Equity Research Initiative recommends that the "Big 5" dimensions be included in all micro-level surveys: gender, ethnicity, socioeconomic status, disability, and migration status. The *Practical Recommendations for Equity Analysis*[11] provide the modules that can be included in questionnaires to ensure comparability of such information. Disability modules are currently being piloted and will likely be adapted, but the set of tools developed by UNICEF[12] will provide a strong foundation for making progress on this.

Strong instruments for outcome measurement. An M&E system is only as good as the quality of the data it collects. For each outcome of interest, there should be a validated instrument that measures change with a high degree of reliability. A growing number of tools are available for measuring learning outcomes, and a range of instruments is now being developed for noncognitive skills[13]. Beyond student learning assessment, instruments can include surveys that track employment or other life outcomes beyond schooling. A valid instrument with proven scales would make it possible to reliably separate group-level values and identify disparities, which is necessary for equity analysis.

Comparison points. Even when a program is targeted at a subgroup characterized by equity dimensions, progress is difficult to gauge when no comparison point exists for groups that are not marked by the same characteristics. For some outcomes, population-based averages, or data from other program and policy monitoring may provide a valid comparison point. For others, having a control or comparison point within the program design will strengthen the quality of the evidence.

Adequately powered samples. Equity analysis involves breaking down the data on the target populations in order to see disparities along a range of dimensions and subgroups. While not all dimensions of equity will always require separate descriptive and impact analysis, it is likely that intersections of such dimensions will become the focus of a program or policy intervention. The reliability of the estimates around specific subgroups depends on the sample size for that cell. Intersections of two or more dimensions can create particularly small units that are difficult to include reliably in analysis (Figure 5).

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[11]http://www.educationequity2030.org/resources-2/2017/3/8/practical-recommendations-for-equity-analysis-in-education
[12] http://www.educationequity2030.org/resources-2/2017/4/14/module-on-child-functioning
[13] A range of learning outcomes measurement tools are publicly available. Some of the most widely used public instruments include Early Grade Reading Assessments and Early Grade Mathematics Assessments (EGRA/EGMA, available for adaptation and use through https://globalreadingnetwork.net/tools), a range of citizen-led assessments (CLA), which can be accessed at www.palnetwork.org . Noncognitive skills assessments are catalogued at http://www.youthpower.org/resources/measuring-soft-life-skills-international-youth-development-programs-review-and-inventory

Figure 5. Diminishing cell size for intersections of equity dimensions.

	Population Proportion	Dimension 1: Girls	Dimension 2: Rural	Dimension 3: Minority
		50%	30%	20%
Dimension 1: Girls	50%			
Dimension 2: Rural	30%	15%		
Dimension 3: Minority	20%	10%	6%	

As the figure shows, two dimensions that represent 30% and 20% of the population, respectively, create only a 6% group for the intersection. For a sample of 1,000 individuals it's only 60 observations – too few for many analyses. The Practical Recommendations for Equity Analysis offer some guidelines on how to address this. However, even when sufficiently large samples for each cell of interest are not feasible, consistency in the demographic and social categories of equity in the data allow for post-hoc analysis or pooling across datasets that still generate useful insights.

Longitudinal designs. As we note above, a crucial element in building equity is changing the trajectories that are predetermined by the constraints and barriers that individuals face due to their social or demographic characteristics. Designs that track learners over time and trace the magnitude of how a predicted path changes, as a result of a policy or program, allows program implementers and funders to see whether the program builds equity or diminishes it.

Setting priorities

Setting up a monitoring and learning system that is geared towards equity and generates evidence that helps advance the field can seem a daunting proposition, particularly for smaller programs and initiatives. However, it can be a sequential process, gradually building from the most essential, "low-hanging fruit" changes and modifications to existing tools and instruments. Even if large samples or longitudinal designs are beyond the reach of a program, achieving consistency of inclusion of key equity dimensions and categories of analysis in the instruments can be a smaller, lower cost modification that can make it possible for the program data to be pooled into larger analyses.

In sum, while these requirements will in many cases demand greater resources for monitoring and learning, is important to maintain a field-building and evidence-building perspective on this process: generating high quality data on education inputs, interventions, policies, and their impact on outcomes across equity dimensions allows the field as a whole to move forward closer to fulfilling the promise of Incheon.

Closing: Field-building around educational equity

Fulfilling the promise of Incheon requires a consistent effort on the part of all actors in the education field, including governments, educators working within formal and non-formal systems, funding agencies, private grant-makers, implementing organizations and civil society. It requires a commitment to building strong data and learning systems, generating evidence on effective equity-building approaches, and scaling them up to achieve equality in education outcomes by 2030.

The individual efforts by funders and implementing organizations can be amplified through coordination and collaboration around an equity agenda. A shared understanding of the current inequities and disparities at different levels of the education system, a consistent approach to identifying causes and

institutional drivers of inequity, a common framework for producing strong, equity-oriented data and evidence, and continuous learning through sharing evidence and data will ultimately result in more equitable, fair, and progressive education systems. Through mainstreaming and institutionalization of equity-oriented practices, processes, and data within the programs that they fund, grant-makers can help create broad-based change, making it possible for education systems to recognize and address the diversity of needs and lived experiences of individual learners.

Annex A: Illustrative Analyses of Known Disparities in Education

Type of disparity	Examples of disparities[14]	Underlying causes	Institutional drivers	Policy solutions	Policy examples
Ethnic, religious, or linguistic minorities at disadvantage	In Ghana, young adults aged 20-24 from the Gurma ethnic group have, on average, only 5.8 years of education—6 years less than young adults from the Akan group, which has, on average, 11.8 years (2014). In Paraguay, on the LLECE15 primary school reading assessment, only 2% of students speaking the language of the assessment (and, likely, of instruction) at home reached the highest reading level compared to 13% of primary school students who do speak the language at home. This is a difference of 11 percentage points (2013).	Discrimination; cultural or social biases	Bias in admission to schools or universities; teacher bias; language of instruction, e.g., where some groups do not speak the language of instruction outside of school and, therefore, are at a disadvantage in school or where use of a former colonial language gives elite groups an educational advantage; history or social studies curricula that privilege the narratives of some groups over others	Direct: Affirmative action or education quotas; revision of curricula; revision of language policy (e.g., in some contexts, provision of instruction in mother tongue, especially in early grades, coupled with teaching of a lingua franca or a language of business may alleviate linguistic disadvantage) Indirect: Anti-discrimination laws; legal recognition of minority rights	In the 1970s, Malaysia introduced quotas in public education institutions reflective of the relative populations of indigenous groups from Malaysia and Chinese to stem inequality between these groups. To avoid the challenges of providing mother tongue instruction in a deeply multilingual environment, Tanzania uses Kiswahili, which is widely spoken across the country, as a language of instruction in primary grades; however, until recently, English, which is less widely known, was the official language of instruction at the secondary level, a policy

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[14] Unless otherwise noted, estimates cited in examples come from the World Inequality Database on Education (WIDE), accessed September 2017, http://www.education-inequalities.org/.

[15] Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación

Type of disparity	Examples of disparities[14]	Underlying causes	Institutional drivers	Policy solutions	Policy examples
	In Tanzania, the lower secondary completion rate for youth from the richest quintile, who tend to have a stronger background in English, is 35 percentage points higher than for those from the poorest quintile (2010).				decision criticized for maintaining advantages to the elite.
Poorer households at disadvantage (certain ethnic, religious, or linguistic minorities often disproportionately poor where discrimination is a factor)	In Peru, the out of school rate for youth of upper secondary school age from the poorest households is 18% points higher than from the richest households, (27% versus 9%, 2012).

In South Africa, 20-24 year olds from the richest quintile have 1.2 additional years of education compared to those from the poorest quintile (10.8 years versus 9.6 years, 2013). | Poverty; legacies of discrimination or cultural or social biases | Inadequate infrastructure and resources in historically neglected areas; expense of school fees and other schooling costs prohibitive to poorer families | Direct: Investment in infrastructure; elimination or reduction of school fees and other financial barriers to education

Indirect: Economic strengthening programs, pro-poor policies | Apartheid-era policies discriminated against black South Africans and led to starkly unequal investment in education infrastructure in their communities. In modern South Africa, these racial inequalities have largely translated into economic inequalities. One recent policy that aims to reduce the burden of school fees on poorer communities in South Africa can be considered pro-poor, though greater investment would be needed for it to close gaps in educational inequality. |

Type of disparity	Examples of disparities[14]	Underlying causes	Institutional drivers	Policy solutions	Policy examples
Gender disparities	In Ethiopia, the percentage of 15-to-24-year-old women with basic literacy skills is 21 points lower than men (44% versus 65%, 2011). In Tajikistan, 49% percent of women of upper secondary school age are out of school, compared to 26% of men, a difference of 23 percentage points (2012).	Attitudes towards gender; social biases	Unsafe travel to school; lack of adequate latrines and other WASH facilities; teacher bias; cultural expectations in schools or at home that privilege education for boys over girls (or for girls over boys)	Direct: Ensure school environment is friendly to both girls and boys; gender sensitivity training for teachers and school staff; offering incentives for educating the disadvantaged gender Indirect: Legal recognition of the right to education for girls and boys; gender sensitization campaigns; equal representation of women in the teaching force and workforce (with female teachers and workers serving as role models for girls)	Bhutan has aimed to reduce educational disparities for girls, including by building more schools in rural areas so that parents' concerns over safe access to schools and time spent away from home, which had been a deterrent to girls' education in particular, are diminished. To incentivize girls' education, Cambodia has offered scholarships for girls.
Geographical disparities (regional or urban/rural)	In Laos, 21% of children aged 9-12 in rural areas have never been to school compared to 6% in urban areas, a difference of 15 percentage points (2011). In Mali, 66% of primary-age children are out of school in Mopti compared to 14% in	Heavier development of some regions than others due to historical priorities or environmental barriers; violent conflict impacts certain regions more than others	Better education infrastructure available in more developed or peaceful regions; more developed or peaceful regions attract stronger teaching staff	Direct: Greater allocation of education funds to disadvantaged regions; incentivize teaching in more disadvantaged regions Indirect: Economic strengthening programs; pro-poor policies in disadvantaged regions	In Ghana, investment and development was historically focused in southern regions, leaving northern regions at a disadvantage, including in terms of education infrastructure. To address this, efforts to improve educational provision, for example by building additional

Type of disparity	Examples of disparities[14]	Underlying causes	Institutional drivers	Policy solutions	Policy examples
	Bamako. This is a difference of 52 percentage points (2012).				schools, have sometimes targeted northern regions.
Children with disabilities or difficulties at disadvantage	In rural areas of Pakistan, children with moderate to severe difficulties are less likely to have ever enrolled in school and to be learning than children with no difficulties. For example, 60% of children with moderate to severe disabilities were at the lowest reading level compared to only 14% of those with mild or no difficulties (2015).16	Attitudes towards disability; social biases	Non-inclusive schools; teacher bias; lack of instructional support	Direct: Inclusive education programs; teacher training in disability-sensitive education and in learning to identify and support children with disabilities; improve school infrastructure so that schools are accessible to students with disabilities Indirect: Legal recognition of the right to education for children with disabilities; disability sensitization campaigns	The Sarva Shiksha Abhiyan program in India facilitated improvements to school infrastructure, such as building ramps and disability-friendly bathrooms, that make schools more easily accessible to students with disabilities. In addition to policy efforts, India has invested in data on disability in education, including data shared in the Unified District Information System for Education. U-DISE tracks student enrollment by type of disability and access-related facilities, like availability of ramps.
Internally displaced persons, migrants,	In Turkey, only about one-third of refugees in urban areas have	Violent conflict, emergencies, and natural disasters;	Limited availability of schooling following violent conflict,	Direct: Greater provision of education in refugee camps and	In Bangladesh, which frequently experiences severe floods that

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16 2015 ASER Pakistan estimates from Singal and Sabates (January 2016).

Type of disparity	Examples of disparities[14]	Underlying causes	Institutional drivers	Policy solutions	Policy examples
immigrants at disadvantage	participated in formal schooling. In Iraq, only 45% of 78,000 internally displaced children and youth living in camps were enrolled in school. Of 730,000 internally displaced children and youth not living in camps, only 30% could access schooling (2014). In China, 1 in 5 (or 24 million) internal migrants attained less than a primary school education (2004). 17	limited local employment opportunities	emergencies, and natural disasters; difficulty in accessing and registering at schools in refugee camps or in new communities; social or cultural biases against migrant children in new school environments	temporary settlements; building resilient schools in areas prone to natural disasters Indirect: Legal recognition of the right of all children to education; economic strengthening in areas with limited employment opportunities	displace populations, the Solar-Powered Floating Schools program supports boat-schools that provide education even during periods of flooding.

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[17] These examples and supporting data are taken from UNESCO (2016).

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