In Depth

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Making the Grade in Global Education

School Improvement in Developing Countries: Experiences and Lessons Learned

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This report builds on the discussions generated in the AKFC Seminar, **Leading Educational Change: Best Practices in School Improvement** (February 12, 2015), part of the Making the Grade in Global Education series launched in fall 2014.

When a classroom is vibrant and colourful, when teachers and school administrators are trained and knowledgeable, and when families and communities play an active role in supporting local schools – children can learn to their full potential. How can global education research and policy changes be translated to the developing world, improving the way that students learn and apply new knowledge?

This report was developed to stimulate a discussion about best practices in the delivery of programs that support improvements in education access and quality at the pre-tertiary education levels in developing countries. Looking at the experience of the Aga Khan Development Network (AKDN) and others, it synthesizes evidence, experiences, and lessons learned in the broad field of pre-primary, primary and secondary school education and improvement in eight areas: overall approaches to school improvement; student learning; teacher development; school management; parent and community involvement; early childhood education; gender in education; and monitoring and evaluation.

It draws on a series of literature reviews pertaining to the AKDN's practice-based experience in school quality and improvement programs; rapid research reviews in the eight domains named above, drawing particularly on key syntheses of research over the past decade globally and in developing countries[i]; interviews with selected AKDN education officers on school improvement efforts; and a meeting of AKDN representatives and international experts in the field of school improvement.[ii]

Key references cited in the bibliography are organized according to the different sections of the paper. Each section begins with a broad discussion of the research evidence and contextual issues associated with a specific topic and concludes with key questions based on that review.

The views communicated in this report synthesize the authors' interpretations of the documentary sources and of input from participants at the meeting cited above. The content should not be attributed directly to the AKDN, other participants, or documentary sources except where explicitly noted.

Approaches to School Improvement

Global efforts to improve the quality of education in developing countries include the adoption and implementation of system-level policies promoted by international donor agencies as a condition of external aid; as well as local and district-level school improvement projects (SIPs) designed and supported by international non-governmental institutions (NGOs) with the financial assistance of foreign aid agencies.

As has been shown in the UNESCO Education for All (EFA) Global Monitoring Report, financing remains a significant challenge for all educational systems in the developing world. Even among countries which presently spend 20 percent or more of the governmental budget on education, per capita expenditure on schooling is still too low to provide all aspects of quality learning. This drives a strong concern with efficiency in all public expenditure – that is to say, with finding the most cost-effective way to achieve improvements in access, equity and quality.

Related to this concern with efficiency is a strong interest in re-organizing education systems so that they are less top-down and better placed to engage and stimulate action from local level actors in education through, for example:

- decentralization reforms (devolution of central government control over school management and finances to local education and to school authorities – school management committees, capitation grants);
- use of incentives (conditional cash transfers to parents, teacher incentives);
- school choice/competition and privatization schemes;
- teacher policy reforms (reform in national teacher education and certification systems);
- reforms to teacher professional support systems such as teacher centers, system-wide action research projects; and
- national curriculum and accountability reforms.

While system-wide policy changes interact with local and program-based school improvement initiatives, the interaction between these two thrusts of school improvement has not yet received adequate attention in the research literature.

Macro-policy initiatives often emphasize financial, governance, infrastructural and material changes – such as improved facilities and access to better teaching and learning materials – and basic human resource needs (number and deployment of teachers) that are expected to contribute to higher quality teaching and learning on a system-wide basis. Micro-level school improvement projects tend to place more emphasis on investing in developing the individual and collective capacity of educators in the field (including principals, teachers, supervisors, and teacher educators) to deliver quality teaching and learning in schools.

Macro-policy initiatives often originate from global policy interests independent of the experience and learning accruing from the more micro-level SIP experiences. These larger policies are often based on a weak understanding of implementation at the local (school or district) level, and tend to be framed in "either/ or" or "before/ after" terms. The results and learning arising from the more local and smaller scale SIP experiences do not obviously trickle up to influence system-level decisions and policies for education quality and improvement, although they are embedded within the macro-policy context for education delivery.

Overall, there is a wealth of experience with school improvement projects in the developing world supported by NGOs independently and in partnership with local government education agencies and authorities, including teacher training institutions. Yet there is insufficient comparative research and knowledge about these initiatives, and what has been learned about effective school improvement models and practices in varying geographic, demographic, sectoral and policy contexts within and across countries. In particular, the field of school improvement research and experience in developing countries suffers from an absence of inquiry and knowledge about the sustainability of school improvement project inputs and outcomes for students, teachers, school and system leaders, and the communities they serve.

Approaches to School Improvement:
Discussion Questions

How can knowledge about the effectiveness of alternative models and strategies for school improvement be more widely documented and shared across government and non-governmental agencies to inform and strengthen collective efforts and policy to improve the quality of pre-K12 education?

How can system policy initiatives and local school improvement efforts be effectively integrated in ways that lead to a comprehensive knowledge base and approach to education improvement in pre-K-12 education that remains sensitive to variability in local and regional contexts?

Teaching and Learning

Education for All has been a defining preoccupation of efforts to strengthen K-12 education across the developing world over the past two decades. Significant gains in enrolment and attendance have been achieved through interventions focused on infrastructure (school facilities, roads, and learning materials) and on alleviating the costs to families of sending children to school. Issues of access, however, remain a prominent concern in many developing countries, particularly for students and families marginalized for various reasons, such as location, poverty, language, gender, ethnicity, disability, or religion. Improvements in access and enrolment have also created new challenges (e.g., large class sizes or large numbers of overage students) and have heightened concerns about the actual quality of education students receive once in schools.

School improvement efforts around the world are strongly influenced by national and international accountability systems that focus attention on a relatively narrow range of student learning outcomes, in particular basic literacy (reading and writing) and numeracy. This narrowing of the learning agenda is even more pronounced in developing country contexts, where literacy and numeracy proficiency levels are typically low for adults as well as for children, and where academic learning in all subject areas is seen as highly dependent upon strengthening student reading, writing and mathematical skills. While some argue that literacy development need not be confined to language arts classes, the rhetoric of teaching language across the curriculum presumes a level of pedagogical expertise that is unusual even for well-educated teachers in developed countries. The emphasis on early literacy and numeracy, at the expense of investment in student learning and development in other curriculum areas valued by parents and governments (e.g., science, social studies and citizenship education, health and physical education, arts, vocational skills) is controversial. The controversy arises in part from the tension between the perceived value of a broader agenda for learning and improvement and the reliance on accountability and reporting measures that continue to frame and focus talk about the quality of learning outcomes in terms of test results on basic skills and the actions that follow by policy and funding authorities.

The challenges for teaching and learning in developing countries are further complicated by linguistic diversity and competing stakeholder expectations and national policies respecting the medium of instruction and the teaching of national, local and international languages (e.g., English and French). What responsibility should public education systems take for both mother tongue instruction and official national languages? What language(s) at what levels (e.g., pre-primary, primary, secondary) should be used as the medium of instruction? What role should international languages play in the curriculum and in the medium of instruction? How can national interests be balanced with parental interests in terms of priorities for different languages in the curriculum? How can teacher capacity and teaching and learning resources be adequately developed and supported to effectively teach in contexts of linguistic diversity and varying government and parent expectations? While language policies and multi-lingual education are issues in high-income countries as well, evidence about the effects of language choices and pedagogy on learning outcomes in pre-tertiary education are not readily transferable to low-income developing world contexts. These questions require more research and evaluation that is sensitive to local demographic, political, human and material resource realities internationally.

Comparative evidence and perspectives on student learning in developing countries converge on a common cluster of instructional concepts and strategies. First and foremost, learning should be student-centered, use low-cost teaching and learning materials, and be provided in a language which students understand. Some of the most effective teaching strategies to foster learning include the appropriate use of small group learning in addition to large group instruction; regular diagnostic and formative assessment of student progress to guide instructional decision-making; clear directions and checking student understanding of the purpose of learning activities; personalized feedback to students based on assessments of their learning; and explicit teaching of learning skills to strengthen students' problem solving competencies. With the possible exception of low-cost learning materials, these prescriptions for good teaching are consistent with evidence about effective instruction internationally.

An ongoing debate in developing countries concerns the persistent challenge of how to adapt instructional programs and practices to local curricula and classroom working conditions (e.g., class size, multi-age and multi-grade classrooms, community cultural norms, available teaching and learning materials, and linguistic diversity). This concern applies whether teachers are provided with scripted programs or whether they are expected to acquire and effectively apply professional knowledge and skills about alternative teaching methods (see the following section on Teacher Development).

Worldwide interest and investment in the pedagogical uses of alternative information communication technologies (ICTs) extends to education in developing countries – particularly as the costs of ICT materials decrease – because of their potential to provide access to education for remote groups of students and access to curriculum content beyond the limits of traditional textbooks. It remains unclear how effective the use of ICTs is at actually improving student learning outcomes; how to effectively support teachers in ICT use; and how to practically embed and sustain the pedagogical uses of ICT into teaching and learning on a large scale.

Teaching and Learning:
General Discussion Questions

How can the need and pressure to develop students' basic literacy and numeracy skills be reconciled with the broad spectrum of goals for student learning advocated by diverse stakeholders (e.g., science and social studies, social and citizenship development, 21st Century learning skills) in the contexts of national policies and local/regional SIP initiatives?

How can school improvement initiatives respond effectively to the realities of linguistic pluralism and language policies in the national and local community contexts in which they operate?

How can the influence of variability in local contexts be more adequately taken into account in evaluating and understanding the implementation and impact of instructional innovations, and in planning for scaling up and supporting the transfer of effective practices to more schools?

Teacher Development

Research internationally demonstrates that the quality of teaching is the most significant in-school factor affecting student learning. In developing countries, infrastructure (school facilities) and the availability and adequacy of teaching and learning resources (textbooks) are known to exert a significant fundamental influence on measures of education quality. Yet for learning to take place, teachers are the basic resource, and they have to be in the classroom. The challenges of creating and sustaining an effective teaching workforce extends beyond the quality of initial and continuing teacher education opportunities and interventions as described below. Policies and practices related to teacher recruitment, deployment (particularly to rural schools and schools serving socio-economically disadvantaged or otherwise marginalized families and students), selection and hiring, working conditions, and retention are also important. To get teachers into remote or rural schools, various kinds of incentives – such as better housing or pay bonuses – have proven effective. Reducing high rates of teacher absenteeism, which negatively affect the quality of teaching and learning in many low income countries, is a challenging human resource issue, and one that is likely dependent more upon improving the overall working conditions and levels of teacher professionalism than upon unique interventions. More research on teacher evaluation and the use of financial and other types of incentives to attract people into the profession and to reward performance (based on factors such as placement in difficult to serve schools, regular attendance, and student results) are clearly needed.

Once the basic resource issues are taken care of, the centrality of teacher effectiveness takes prominence as in developed countries. Teacher development, both pre- and in-service, are a major focus of education improvement efforts in developing countries at both the system-level and at the level of local/regional SIP projects. Given the overall low levels of student learning on national as well as international indicators of achievement, together with the low level of educational qualifications required for becoming a teacher in many developing countries (especially in Africa), the challenges for initial and continuing teacher education are particularly daunting.

One focus of ongoing debate is whether efforts to improve the quality of teaching should focus on training teachers to implement highly structured, even scripted, teaching and learning programs that have proven effective in some contexts, or on developing teachers' pedagogical knowledge and skill to creatively design and implement instructional programs and lessons in collaboration with other teachers and with expert assistance from local teacher leaders. Some argue that the former approach is a realistic

and cost-effective short-term strategy, particularly in regions where well-educated, skilled and committed teachers are in short supply. Others argue that long-term improvement in the quality of teaching and learning requires an investment in raising the standards and level of teaching from a technical procedure to a professional practice. Even when externally developed programs are adopted and accompanied by intensive implementation training, the need to adapt those programs to the practical realities of local contexts requires a high level of collective professional judgment to preserve the integrity and effectiveness of the programs. Indeed, the root issue may be less about the sources of programs and practices than the processes of adapting them to the local contexts – comprised of the schools, communities, or policy frameworks within which they are implemented. Hargreaves and Fullan (2012) make a strong, evidence-based argument that, in order to develop an effective corps of teachers, teacher development policies and interventions should extend beyond developing teachers' individual professional knowledge and skills (human capital) to developing their collective capacity (social capital) and authority (decisional capital) to improve student learning. This vision of teacher development implicates the organizational dimensions of teachers' work and decision-making processes related to classroom and school change.

The international knowledge base on effective teacher development practices is consistent, including: combining expert input in formal training contexts (e.g., workshops, courses) with follow-up mentoring and coaching in the classroom; addressing teachers' subject matter knowledge as well as their generic and subject-specific instructional methods; engaging teachers in collaborative activities in schools or school clusters where they learn together rather than independently of one another; modelling expected teaching practices in teacher training activities; linking teacher development activities to school and system goals for improvement; and involving principals in teacher development activities in order to increase their understanding, capacity and commitment to support the use of new programs and practices. The availability of that knowledge, however, does not mean that it is universally and consistently applied in policy and in practice, regardless of context. Some common challenges to the design and delivery of effective pre- and in-service professional learning systems for teachers in developing country contexts include:

- weak linkages between pre-service and in-service professional learning experiences;
- absence of organizationally and financially sustainable field-based in-service teacher learning systems;
- scarcity of teacher developer expertise to support the development, implementation and local adaptation of instructionally effective methods, regardless of their source; and
- persistence of organizational and working conditions in schools that hinder rather than enable teacher learning and improvement in instructional practice.

While not denying the importance of high-quality, initial teacher education, teacher effectiveness in the long term is more dependent on direction and support for ongoing professional learning in the workplace linked to shared goals and resources for improvement in teaching and learning. Non-traditional, field-based, or in-service professional learning strategies – such as peer mentoring and coaching; teachers working as professional learning communities to solve common problems and improve student learning; and teachers engaging in collaborative action research on solutions to shared problems of teaching and learning – have been implemented with some success at the project level in developing countries. The challenge remains how to develop, replicate and sustain effective field-based professional learning systems on a large scale in ways that are not dependent upon extraordinary financial aid or expertise outside the system. This challenge is complicated by the difficulty of assessing the quality and development of instructional practice.

International research also clearly demonstrates that the prospects for school improvement at any scale are unlikely if school improvement promoters limit their focus to single dimensions of the constellation of factors that interact to influence change, such as curriculum materials or teacher development. Bryk and Sebring et al (2010), for example, report findings from a longitudinal investigation of school improvement in the Chicago school district that document the combined importance of school leadership, professional capacity, parent-community ties, a student-centered learning environment, and instructional guidance in improving student outcomes in public elementary schools. Schools strong on these supports were 10 times more likely to improve learning of reading and mathematics compared to schools weak in these supports.

Teacher Development:
General Discussion Questions

How can the professional capacity of teachers to implement instructional programs and practices that are effective in terms of student learning and appropriately adapted to the local political, geographic, community and resource contexts be developed on a large scale?

How can teacher development be coordinated in coherent and sustainable systems of initial and in-service professional learning that incorporate best knowledge about effective professional learning and that lead to authentic improvements in the quality of teaching and learning?

How can teacher development policies and strategies be effectively coordinated with other policies and practices that influence the overall professionalism and quality of the teacher workforce (e.g., recruitment, deployment, contractual conditions, workplace conditions, retention, incentives, evaluation)?

School Management and Leadership

The school improvement literature internationally affirms that effective school leadership is an important condition for a successful school, but not in isolation of other contributing factors. There are two relevant bodies of knowledge on school management and leadership: (1) the characteristics of effective school managers and leaders; (2) the development of effective school managers and leaders.

Evidence about the characteristics (beliefs, preparation) and practices of effective school leaders centres mainly on the work of principals, notwithstanding current interest internationally in sharing and distribution of leadership practice and influence. Evidence about principal effectiveness in developed country contexts focuses on principal behaviours associated with the quality and improvement of teaching and student learning. While there are debates about leadership models (transformational leadership, instructional leadership), there is convergence around key leadership practices associated with principal effectiveness when skillfully enacted in a coherent, goal-focused way: developing consensus on school goals focused on student learning; developing teacher knowledge and skills to effectively teach; creating workplace conditions and relationships that support teaching and learning (such as time for teachers to plan and learn together and parent/community involvement); and managing the instructional program to support pursuit of school goals (resourcing, staffing, monitoring and use of assessment data for decisions about improvement in teaching and learning, and ensuring an orderly climate conducive for learning). The research emphasizes that leader effects operate indirectly to promote student outcomes by supporting conditions for teaching and learning affecting teachers and their work.

The literature on school leadership and quality in developing countries emphasizes the principal's role and skills in addressing basic resource challenges (e.g., quality of school facilities, teaching and learning materials, funding) and in the enactment of basic management tasks (e.g., budgeting, planning, and resource management), in addition to the perceived need for instructional leadership in the context of external reform initiatives promoted by governments and donor agencies. Studies in developing countries also point to major shifts in expectations for school leadership due to structural reforms (decentralization, privatization) that thrust greater responsibility and accountability on principals for school quality and improvement; mark a change from traditional roles centered more on carrying out orders and complying with administrative regulations from supervisory authorities; and often involve them working with school management committees comprised of parents and community members. Policy changes related to school governance and management may complicate the work of principals without reducing the challenging practical constraints to carry out their work effectively in these contexts. Simply stated, policy instruments that increase accountability and competition – and that alter governing and funding structures and authority – do not in themselves improve the knowledge and skills that school and system leaders need to effectively manage and lead school improvement. There is less research-based evidence and consensus on the characteristics and practices of effective school leaders in developing country contexts, particularly in regard to enactment of new expectations for instructional leadership and school improvement.

The growth of private sector schools, particularly low-cost private schools targeting low-income families and students, as an alternative to government-managed public schools is a controversial phenomenon in many developing countries. Evidence concerning their impact on student access to education and on the quality of teaching and learning is mixed and strongly polarized along ideological grounds. Research on school management and leadership for improvement in these schools is not yet well developed.

What are the components of effective school leadership is one question. How to develop effective school leaders is another. Some common findings and claims from international research on effective principal development programs include the following:

- principals need initial and ongoing training for both management and instructional leadership tasks;
- effective principal development programs are linked to competency standards aligned with research on good practice; and
- principal development programs delivered by universities need to be integrated with provisions for mentoring of new principals and with ongoing professional learning supports provided by local education authorities.

It remains unclear on how to best assess the impact of principal development programs on principal beliefs and practices, and on the quality of teaching and learning in schools where they work (given the indirect effects of their actions on student performance). Alternative models of principal professional learning include problem-based approaches, action research, and training in specific competencies (e.g., classroom visitation, use of data for school and instructional decision-making), though it cannot be said that there is consensus in the literature on the most effective models.

Information about school leadership development programs in developing countries is minimal and focuses more on the general preparation for school management and leadership than on evidence of program effectiveness. In many developing countries there are no system-wide provisions for initial preparation of principals, and in-service programs and courses are few and irregular in occurrence and quality. Thus, principals mainly learn informally within the workplace how to do their work.

The development of principal effectiveness is not just about initial and ongoing training of principals, but also about developing coherence between training and local policies and processes for principal hiring, placement, appraisal, and succession planning; and developing the capacity of local supervisors to carry out their responsibilities to ensure and support principal effectiveness at the school and system levels. The role of leadership for school improvement at the local education agency (e.g., district education officers) and higher levels of education systems is recognized in the literature internationally; however, there is comparatively little research on the actual leadership skills for people in positions at those levels. Leadership at the intermediate level has not been a focus of research in developing countries.

School Management and Leadership:
General Discussion Questions

How can political imperatives to reform education governance and funding systems be combined with professional imperatives to develop effective systems of school and system management and leadership for school quality and improvement?

What approaches to initial and continuing professional development of school and system leaders are needed to strengthen their capacity to manage and lead schools towards system and local goals for quality and improvement?

How can the role of intermediate levels and agents in public education systems be strengthened in the pursuit of greater equity and quality in education provision and outcomes in K-12 education?

Parent and Community Involvement

The literature internationally on parent and community involvement in education at the school and the system level is structured around three broad themes: (1) parent and community participation in school governance and management; (2) parent involvement in teaching and learning; and (3) parent and community engagement at the system level (governance and accountability).

The World Bank and other international donors have promoted considerable investment in policies and structures to involve parents and community members as key stakeholders and participants in School Based Management (SBM) structures associated with decentralization measures in developing world countries, such as School Management Committees. Unfortunately, optimism about the positive effects of interventions to increase parental and community participation in school governance in developing country contexts is not well supported by research. Formal opportunities for parental involvement and community participation are neither always implemented nor necessarily translated into influence. Dunne et.al (2007) refer to a review of decentralization policy and practice in six sub-Saharan African countries and conclude that core education decisions are hardly ever decentralized in a way that encourages genuine local community participation in decision-making. Several studies in different contexts show that when accountability systems are weak at both the school and district level – and there is little information shared with parents or parent awareness about how to hold schools responsible – decentralization measures through SBM are ineffective as a means to involve parents in improving the management and quality of schools. Research in various African and South Asian contexts has shown unequal access to participation in bodies such as School Management Committees (SMCs) and Parent-Teacher Associations due to socio-economic status, race, caste, social class, location, political affiliation and gender.

Lack of teacher and school leadership support in promoting parental and community engagement in school decision-making are also cited as significant barriers to effective participation. Bryk and Sebring et

al's (2010) longitudinal research in Chicago elementary schools highlights the significance of parent and community engagement with schools as one of five essential supports for school improvement in combination with leadership, instructional guidance, professional capacity and a student-centered learning climate. A focus on strengthening parental involvement without adequate attention to the other supports yields little improvement.

Little empirical evidence exists to show a direct relationship between parental involvement in governance and enhanced learning outcomes. When parents have a meaningful role in hiring and firing teachers and principals, however, evidence shows that school personnel are more likely to be consistently on-the-job when compared to similar schools and contexts where they do not have that authority. Curiously, expectations for parent and community involvement in school governance are not emphasized in the privatization movement. More research is needed internationally on the nature and quality of school governance and management within the growing private education sector in both high and low income countries, including the roles of parent and community stakeholders in those processes.

Research in developed countries reveals that parental participation in school councils and other forms of school decision-making has lower impact on student learning than forms of parental engagement that focus on helping parents to better understand and support their own children's learning. A small body of evidence in developing countries affirms that interventions that provide ways for parents and community members to support their children's learning can be promising and valuable. These include:

- community programs that support parenting and parental involvement in early literacy and school transition;
- use of parent/community volunteers to enhance learning and school readiness; and
- community education campaigns to encourage school entry by children from vulnerable groups; and
- greater engagement of parents and children hesitant to enter school because of social stigma and exclusion.

Parental involvement in student learning may also positively affect teachers, as research shows that people who have close contact with schools – such as parents who assist in classrooms– often have much more positive attitudes towards teachers than people with little direct contact. Building stronger links between the schools and the community can help to enhance the status of teaching and, indirectly, teacher motivation and commitment. Another common form of parental and community involvement in developing countries concerns the expectations for parents to fund and participate in the construction and maintenance of school facilities. Though sometimes necessary, the expectation of parental contributions of this kind can act as a barrier to access for poorer children.

There are also cases of system-wide initiatives to mobilize parent and community participation and influence on education policy through citizen-led, household-based assessment initiatives – called ASER (which means "impact") in India and Pakistan and Uwezo (which means "capability") in East Africa – which utilize volunteers to assess student learning and survey parent views on education, and then present this information as a way of enhancing the education system's accountability to the public. While these initiatives and other forms of policy influence through various civil society organizations (e.g., Haki Elimu in Tanzania) have become a significant political presence and voice in education, the formal research about the organizations, their activities, and impacts is limited. The role of these kinds of organizations and initiatives in national and local school improvement initiatives undertaken by governments and by NGOs is unclear. Should they be partners in education reform and improvement efforts? Is it more important for them to position themselves as independent monitors, critics and advocates for the publics they serve? What difference does the information they generate and disseminate actually have on education policy, parental awareness and understanding of education issues, or school performance (Banerjee et al 2010)?

In a study of educational initiatives on community and parental engagement in Africa, Kendall (2007) concludes that new models of education development planning and practices – in which parents and communities participate broadly, such as by partnering with state and international actors to set the agenda for what primary education is expected to accomplish and how such accomplishments should be measured – are required to significantly improve educational quality.

Parent and Community Involvement:
General Discussion Questions

Should parent and community involvement in school governance and in student learning be addressed as distinct goals for improvement, or should they be in the service of other goals for improvement in student learning?

How can parent and community involvement in school governance be strengthened to enable significant input into decision-making about school management and improvement and to ensure equitable participation of school community members over time?

How can parent and community involvement to support student learning at home and in school be effectively integrated into school system and school-level school improvement initiatives?

Early Childhood Development and Pre-Primary Education

Children's participation in pre-primary programs internationally, including developing countries, has been shown to improve the transition to schooling; promote on time school enrolment; enhance retention; strengthen children's confidence as learners; increase academic performance and completion; as well as address equity problems that exclude girls or economically/ socially marginalized groups. These differences are most evident for children from socio-economically disadvantaged family and community backgrounds. The benefits of early childhood program interventions for children's early primary school success are greater when accompanied by supports for families and parental involvement, such as advocacy, participation, and support at home. Five features of effective programs in early childhood include: targeting the most disadvantaged; using well-designed curricula, including a parent component; monitoring quality; and employing well-trained and supported teachers (Woodhead & Siraj-Blatchford 2009).

Given the growing interest in the science of early childhood development and strong policy support for pre-primary programs, it is notable that there few attempts in either high- or low-income countries have been made to adopt an educational effectiveness perspective within the field of early childhood education (Sammons, Anders & Hall, 2013). This stands in sharp contrast to the tradition of "school effectiveness" research on schools and teachers. A remaining challenge is to understand better what effectiveness means in early childhood education: i.e. what matters (characteristics of home and educational environments), what works (social interactions, quality of provision) – and in what context, and under which conditions?

A recent review of pre-primary effectiveness in a North American context highlights the most important aspects of quality in pre-primary education as, firstly, stimulating and supportive interactions between teachers and children and, secondly, the effective use of curricula (Yoshikawa et al., 2013). From a North American perspective, the effective use of curricula involves the implementation of developmentally focused curricula (rather than global curricula) that focuses on such specific aspects of learning as language and literacy, math, or socio-emotional development. The AKDN models encourage and

reinforce stimulating and supportive interactions between teachers and children in pre-primary, but unanswered questions remain about the effective use of curricula in low-income countries.

In addition to identifying effective curricula, a research gap exists internationally on effectiveness related to supporting pre-primary teachers in their implementation of instructional approaches as well as in the optimal timing, length and exposure to pre-primary. Evidence from AKDN programs in Bangladesh (Bartlett, 2013; Proulx & Kabir, 2012), for example, suggests that the gains from two years of pre-primary were not as large as from the first year of pre-primary. This may be because children who attend two years of pre-primary are not experiencing a sequential building of instruction from the first to the second year.

Further investigation is needed about specific practices and conditions in both pre-primary and primary school settings that benefit the transition of children to primary school. These include developing and evaluating effective models that combine parent and family-directed early learning and stimulation strategies with centre-based pre-primary, innovative approaches to developmentally focused curricula; and effective practices for supporting pre-service and in-service teacher development initially and for program implementation. Although there has been a surge in early childhood research in the last 10 to 15 years, most of this research has been generated in North America. The usefulness of such research for policy makers, practitioners and researchers in developing countries is limited because the contexts, funding and structures for pre-primary vary enormously from country to country.

Early Childhood Development and Pre-primary Education:
General Discussion Questions

How can robust indicators of quality in pre-primary programs be developed and used to systematically inform teacher development practices and decision-making processes related to school improvement?

How can longitudinal and comprehensive approaches to early childhood development that include the identification of risk factors in the first years of a child's life (e.g., inadequate psycho-social stimulation, stunting, maternal depression, exposure to violence) be integrated into school improvement strategies, especially with respect to providing targeted programming for children most at risk for school failure?

How can school improvement initiatives address the concept of "ready" schools that focuses on building smooth transitions for children to help them adjust to the primary school environment and providing professional development to early grade teachers on topics related to early childhood development?

Gender Equality in Education

For close to twenty-five years, the international community has been constructing and pursuing goals and strategies related to the achievement of gender equality in education. Since 2000, gender equality in education has been pursued as part of the Millennium Development Goals and the Dakar Framework for Action on Education for All. The focus in much of the gender equality in education research has been on assessing and measuring gender gaps in education, identifying barriers, and developing best practices towards the enhancement of girls' education. While significant gains have been made in terms of improving girls' access to basic education worldwide, gender disparities persist particularly at the level of secondary (and higher) education in most developing countries. Researchers, practitioners, policymakers and donors increasingly recognize that focusing on access and the achievement of gender parity in enrolment is an inadequate approach to and measure of gender equality in education. Girls' educational

experiences, the quality of education they are exposed to, and what they are able to do with their education after graduation are critically important factors that shape girls' educational opportunities.

A robust literature documents the many demand- and supply-side factors that can act as barriers to girls' educational opportunities at the pre-tertiary levels, including in terms of access, retention, quality and outcome. On the supply side, socio-economic and cultural factors include poverty; the direct costs of schooling; high opportunity costs/low rate of return; geographic location (i.e., remote, low population areas); limited employment opportunities for graduates; early marriage or pregnancy; and gender norms that devalue girls' education. On the demand side, political/institutional factors include budget constraints; political instability; conflict/emergencies; weak policy frameworks/lack of a clear strategy for gender equality in education; weak, uneven or inconsistent policy implementation; poor quality of education; weak data collection mechanisms/lack of gender disaggregated statistics; and top-down policy and programming. Demand-side factors linked to schools include inadequate classroom space; distance to school; high school fees (including "hidden" costs); lack of female teachers; teachers not sensitized to gender issues; gender bias in curricula and teaching/learning materials; gender-based violence; inadequate or absent support for pregnant adolescents and young mothers; lack of separate and secure toilets with running water; and school calendars that conflict with farming cycles.

Two main approaches have characterized global efforts to address the myriad factors inside and outside school that can fuel gender disparities in education. The first is what Unterhalter (2007) refers to as the interventionist approach, where the focus is primarily on expanding educational access. Driven by instrumentalist rationales – be they informed by human capital/cost-benefit analysis, basic needs, or Women in Development (WID) perspectives – the focus of the interventionist approach is to get girls into schools, with little concern paid to the experience of schooling or to what happens outside of schools with respect to gender (in)equalities. The interventionist approach privileges the "what works" agenda, and targets a core set of technical reforms aimed at improving girls' access to schooling: reducing cost; building schools; making schools safe; and improving the quality of education. Significant gains in terms of girls' educational enrolment and achievement have been realized through the provision of subsidies to needy girls; recruiting and training more female teachers; pre- and in-service training for teachers on gender sensitive and gender responsive pedagogy; revision of curricula and textbooks to remove gender bias; improving school conditions and facilities; implementing school feeding programs; providing sanitary supplies for young women to use during their menstrual cycle; and establishing science and math clubs for girls.

Addressing socio-cultural and other non-economic factors that constrain girls' education continues to present unique challenges for policymakers, administrators and educators. Some success has been registered with the development and implementation of community sensitization programs that aim to educate people about the importance of girls' education as a human right and an investment in human capital, as well as mobilizing community support for and engagement with their children's schooling. For example, UNICEF's Mothers' Club initiative has helped create spaces in many countries for schools to benefit from the involvement of community mothers through income generation, school feeding programs, school maintenance, mentorship, and teaching. Peer learning and peer-based advocacy initiatives have also constituted effective strategies for improving community engagement with and support for formal schooling in general and girls' education more particularly.

The second main approach to promoting gender equality in education is the institutional approach, which maps onto gender equality advocacy from a human rights perspective (Unterhalter, 2007). Examples of building and reforming institutions towards the goal of gender equality in education include the adoption of gender mainstreaming approaches (including gender-responsive budgeting); the development of systems for monitoring girls in school; and developing and enforcing anti-sexual harassment policies and

re-entry policies for young mothers. A key challenge for institutional approaches is the need to establish and sustain institutional attention to the complexities of gender-based inequalities in education.

Starting from the premise that interventionist and institutional approaches have been "necessary but insufficient", Unterhalter (2007) theorizes what she calls the "interactive" approach as a blend of the two former orientations to promoting gender equality in education. The interactive approach emphasizes the necessity of dialogue and negotiation concerning the weighting and content of rights and capabilities claims as a means to broaden and deepen gender equality in the education agenda and beyond.

Gender Equality in Education:
General Discussion Questions

What are the best ways to enhance teacher awareness, commitment, and action on achieving goals for gender equality in education as an integral component of school improvement efforts?

How can organizations working on gender equality in education better address the intersection of gender with other lines of disadvantage particular to specific local contexts, such ethnicity, socio-economic status and geographic location?

What can organizations working on gender equality in education do to strengthen the sustainability of initiatives that yield positive results?

Monitoring and Evaluation

Given the need for improving access to quality pre-tertiary education (pre-K, primary, secondary) in the developing world – and the enormous investment by governments and international donor agencies towards the accomplishment of those aims through macro-policy and micro-level education improvement initiatives – monitoring and evaluation of those efforts is a high priority. Our comments here will focus mainly on approaches and issues associated with monitoring and evaluating the implementation and outcomes of the more micro-level school improvement initiatives, because that is the level at which AKDN school improvement projects and related initiatives operate in different countries, albeit within the context of macro-level policy initiatives and trends in those countries. The discussion is not inclusive of all dimensions and issues pertaining to SIP monitoring and evaluation, but does address key topics that emerged in our document reviews and in the spring 2014 AKDN meeting.

Internationally, in both developed and developing countries, concerns about how to best assess and judge the outcomes – particularly student learning outcomes – of interventions to improve teaching and learning are a major focus of debate. Historically, the absence of high-quality, national assessment systems for student learning in most developing countries has been an obstacle to impact evaluations of SIP initiatives, given the lack of common, reliable baseline data to track progress and to compare outcomes for and between distinct policy and project interventions. As a result, virtually every government or non-governmental school improvement initiative plans and executes its own approach to monitoring and evaluating implementation and outcomes. This presents a significant challenge, not just for the quality of those evaluations and associated reports, but also for the development of a cumulative knowledge base for what works or does not within and across contexts.

In recent years, donor agencies and other international stakeholders have emphasized and even required more experimental research designs, often referred to as randomized control trials (RCTs), as the gold

standard for evaluating the impact of interventions to improve teaching and learning. There is heated debate within the comparative and development education community of researchers, donor agencies, project implementation agents, governments and advocacy groups about the use of RCTs. These debates centre around controversial expectations and claims about evidence of outcomes through RCT use; the generalizability of RCT findings; the costs and expertise required to do RCTs well; and the continued relevance of well-done case studies and other more qualitative investigations of SIP-related interventions and impact.

One issue pertains to the appropriateness of RCTs for the evaluation of different kinds of school improvement-related interventions. Simply stated, RCTs might be useful for evaluating the effects of discrete interventions, such as the use of a new reading program, but they are not appropriate for evaluating the effects of complex school improvement initiatives that encompass a multiplicity of interventions, such as teaching practices, materials, teacher development, and parent involvement.
A second issue concerns any expectation that the results of implementing a program or practice in one setting are simply replicable in other settings. Research on educational change since the mid-1970s irrefutably demonstrates that implementation of new programs and practices is strongly influenced by factors particular to the different local contexts in which they are introduced. Comparative studies of alternative programs often show greater variation between sites implementing the same program than between the programs per se. Some argue that RCT evaluations should not be done unless accompanied by parallel investigations – often more qualitative – of intervention implementation and associated local conditions. Simplistic conclusions about whether a program is effective or not should be deepened by understanding of program effectiveness when implemented in what ways and under what conditions. Sensitivity to the influence of variability in contexts on implementation of innovations in education programs and practices is of particular relevance to the evaluation of interventions in developing countries.

A third issue, not just for use of RCTs, but for monitoring and evaluation of school improvement-related policies and initiatives more generally, has to do with the sources of professional expertise and resource capacity to do that work. Expectations that project staff should be capable of doing their own summative evaluations of project outcomes and implementation seems unreasonable on a wide scale in terms of human resources and expertise in most developing countries, and is unlikely to produce results that independent observers (e.g., policy makers, donor agencies) deem credible. On the other hand, strong arguments can be made about the importance of developing tools, opportunities and local expertise for a school, school system, and project staff to monitor implementation progress and effects for the purpose of learning and refining the quality of programs and practices *in situ*. Who should do that?

The majority of published evaluations of school improvement policy and project interventions in developing countries are commissioned, funded, carried out, and disseminated under the authority and direction of external donor agencies, not by national or local education agencies, and often by foreign researchers alone or with some local researchers external to specific projects. International donor/stakeholders and in-country education authorities have made little concerted effort overall to develop institutional capacity and expertise within countries to assess and evaluate the implementation and impact of the multitude of school improvement-related policy and program interventions that have characterized the field of "development education" over the years. A big question for all is how to develop local and national capacity to monitor and evaluate the implementation and outcomes of school improvement related policy and program interventions.

Finally, questions remain concerning the purposes of school improvement monitoring and evaluation activities in both developed and developing world contexts. Certainly legitimate questions persist about whether investments in particular policies and school improvement interventions yield results that are worth the money and resources allocated to their implementation, and whether further investment in

scaling up and sustaining them is justified locally or elsewhere. Monitoring and evaluation activities should also be producing information that is a source of cumulative learning about how to improve the quality of education in particular contexts over time. This implies that monitoring and evaluation frameworks and tools can produce findings that are comparable over time within particular policy and project intervention contexts, as well as across interventions that aim to produce similar results albeit with different approaches and strategies. Thirdly, systems and activities are needed to mobilize knowledge arising from monitoring and evaluation of school improvement experiences and to increase the possibility that relevant stakeholders have access to that knowledge to inform debates and decisions about how to achieve education equity and quality locally and internationally. Two related arguments offered by one of the external experts (L. Crouch) in the discussion forum that contributed to this paper are:

- school improvement monitoring and evaluation systems should be designed to gather information about needs for professional support, not just about student outcomes; and
- monitoring and evaluation systems should take into account contextual realities and adaptations of knowledge about what works and does not in local efforts to implement change.

Monitoring and Evaluation:
General Discussion Questions

How can national and local capacity (expertise, resources and systems) to monitor and evaluate the implementation and outcomes of education policy and program interventions be developed independent of particular policy and program initiatives?

How can the desire for policy and program evaluations that will yield clear judgments about the effects of school improvement-related interventions be balanced with the need for practical understanding of how the implementation of all policies and programs is situated and shaped within particular contexts?

What more can be done nationally and locally to mobilize knowledge about the implementation and outcomes of school improvement-related policies and program interventions and to inform debates and decision-making by relevant local, national and international stakeholders?

Endnotes

[i] Quinan, E., Anderson, S. and Mundy, K., Teaching and Learning: A Rapid Review of the Literature. OISE/UT, June 2014. Fernandez Hermosilla, M., Anderson, S. & Mundy, K. Education Management and Leadership: A Rapid Review of the Literature. OISE/UT, June 2014. Bramwell, D., Anderson, S. & Mundy, K. Teachers and Teacher Development: A Rapid Review of the Literature. OISE/UT, June 2014. Afridi, M., Anderson, S. & Mundy, K. Parent and Community Involvement in Education: A Rapid Review of the Literature. OISE/UT, June 2014. Proulx, K. Approaches to Early Childhood and Pre-Primary Education. OISE/UT, March 2014. Manion, C. Snapshot of the Field of Gender and Education. OISE/UT, August 2014.

[ii] The group of experts external to the AKDN who participated in the meeting included the two authors of this paper; Dr. Penny Sebring of the Chicago Consortium for School Research (University of Chicago); Dr. Andy Hargreaves (Thomas More Brennan Chair in Education, Boston College); and Dr. Luis Crouch (Chief Technical Officer, International Development Group, RTI International).

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