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READING AND ACCESS EVALUATIONS

OUT-OF-SCHOOL PARENTAL AND COMMUNITY INVOLVEMENT INTERVENTIONS

LITERATURE REVIEW

DRAFT

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THE USAID READING AND ACCESS EVALUATION CONTRACT

The Reading and Access Evaluations Contract was awarded to NORC at the University of Chicago in September 2013. Its aim is to conduct research to advance USAID Goals 1 and 3, by identifying, through research, promising interventions to be piloted, and conducting rigorous evaluations of these interventions to assess their impact on outcomes related to improved literacy and improved access to education in crisis and conflict environments, and thereby contributing to the continuing development of evidence-based programming.

NORC was, therefore, tasked with reviewing the literature to distil a set of lessons and guiding principles that would help identify the design of a pilot intervention that would allow USAID to test the effectiveness of parental and community interventions on children's literacy skills.

LIST OF ACRONYMS

DR	Dialogic Reading
HR	Hearing Reading
HRP	Home Reading Program
IRI	Interactive Radio Instruction
NORC	NORC at the University of Chicago
PR	Paired Reading
RCT	Randomized Controlled Trial
USAID	United States Agency for International Development

1. INTRODUCTION

Historically, literacy interventions supported by governments, international agencies and NGOs in the developing world have focused on school-based inputs in the form of trainings for teachers, capacity building of education officials and provision of textbooks or instructional materials. However, in places where classrooms may be overcrowded, school days short, and teacher and student absenteeism high, one may question the ability of schools alone to make a difference in children's learning. If children do not have sufficient opportunities to learn in school, can students learn outside the school system instead? There has, in recent years, been a growing emphasis on the role that out-of-school learning can play, recognizing that learning opportunities in school alone may not be sufficient. Therefore, in addition to development of teacher trainings and provision of materials, interventions may also aim to increase learning opportunities outside the school system by organizing other venues for learning to occur and encouraging parents to provide these opportunities as well. Such opportunities may arise from the creation of community libraries, the organization of community activities (e.g. read-a-thons, reading buddy programs, story-telling contests) and the implementation of awareness raising workshops with communities and parents on the importance of reading (for instance, Creative Associates, Save the Children, Room to Read, World Vision, FHI360, among others, all integrate some form of community involvement programming into their literacy interventions¹).

In general, out-of-school learning opportunities include three types of learning supports: parental involvement², after-school learning, and summer learning (Weiss et al, 2009). The emphasis on parental involvement, in particular, is based on the belief that parents and the home environment influence children's intellectual and social development (Mattingly et al, 2002). A large body of research shows that parental involvement is a strong predictor of children's academic achievement (Coleman et al, 1966; Fantuzzo et al, 1995; Fehrmann et al 1987; Henderson 1987). In fact, this belief led the United States government to devote an entire section to parental involvement in Title 1 of the No Child Left Behind Act³.

If parental involvement does contribute to a child's learning, then it would seem logical that education service providers and international NGOs make parental involvement an important component of their programming agenda. This paper looks at the evidence around parental involvement at home in order to gain insights as to what exact type of parental involvement, if any, is effective and in what contexts. We start by expanding on the definition of parental involvement; we provide a brief overview of the methodology used for this review; and finally we review the evidence by type of parental involvement.

¹ Source: Key informant interviews.

² The term "parental involvement" is used loosely in this paper and also includes "family involvement" or "community involvement".

³ http://www.ncpie.org/nclbaction/parent_involvement.html

2. SCOPE OF THE REVIEW

Parental Involvement

Parental involvement, or parental engagement, can consist of many different activities. One of the earlier categorizations of parental involvement programs comes from Epstein (1986) who categorizes parental involvement into six types:

- Type 1: Involvement in obligations at home (provision of school supplies, general support and supervision at home)
- Type 2: School to home and home to school communications
- Type 3: Helping and volunteering at the school
- Type 4: Assistance in learning activities at home
- Type 5: Involvement in school decision-making, governance and advocacy
- Type 6: Collaboration and exchange with community organizations

Another simpler categorization is to divide parental involvement into: (1) parental involvement at school, (2) parental involvement outside the school. **This review limits itself to parental involvement outside the school**, i.e. types 1 and 4 as defined by Epstein, and “parental actions at home” as defined by Kohl et al. These types of parental involvement programs generally fall under the umbrella of “family literacy” (a term first used in the US around 1983, (Brooks 2008)) or “home literacy” programs. The UK National Literacy Trust defines “family literacy” as “...any initiative which aims to work through parents to improve the reading and writing of their children, as well as those which have the improvement of the parents’ literacy as an aim. [...]” (Brooks 2008) While the initial aim of family literacy programs was to improve children’s literacy, programs gradually evolved to encompass emergent literacy as well as family literacy practices of both children and parents (Brooks 2008).

The UK has been particularly active in the implementation of family literacy programs since the 1990’s. Interventions have been implemented in a wide range of settings, such as baby clinics, day nurseries, libraries, playgroups, housing schemes, etc (Brooks 2008). Hannon and Nutbrown (1997) developed a conceptual framework for family literacy activity in the home called the ORIM framework. They argued that parents could provide any of the following:

- Opportunities: providing opportunities for children’s literacy development (organizing field trips, providing materials and even opportunities to play).

What is parental/community involvement?

This paper defines parental involvement as: actions performed by the parents to increase educational outcomes, and specifically literacy outcomes, of their children through either a direct action with the child (e.g. helping children with homework, reading with the child) or by providing an enabling environment (e.g. reallocation of time use from chores to reading)

- Recognition: explicitly recognizing and valuing children's literacy practices, and listening to them.
- Interaction: interacting with children to develop their literacy such as reading with them and teaching them letter/sounds/words.
- Modeling: modeling their own literacy practices, such as reading signs, directions, packaging, etc.

Another way to think about family literacy programs is to think about them as programs that aim to impact the home-literacy environment (HLE) through parental involvement. The HLE can be defined as “factors in the family’s or households’ experience that influence a student’s reading outcomes”. Hess and Holloway (Hess 1984) created the following conceptual framework for categorizing interventions attempting to catalyze parental involvement to influence the HLE. Interventions can improve the home-literacy environment by:

- Increasing the implicit value placed on literacy in the home
- Encouraging families to press for achievement by encouraging and instructing children to read.
- Increasing the availability of print material at home as it is an important index of a child’s opportunity to interact with the written word and practice nascent literacy skills.
- Encouraging family members to read with children to encourage children’s love of books, engage the children in conversation around stories, etc
- Increasing opportunities for verbal interaction

These frameworks can be useful for thinking through the different types of interventions reviewed in this report. Most interventions attempt to increase parental involvement across a combination of these different components of home-literacy environment or of the ORIM framework. Few, however, attempt to isolate the impact in learning outcomes for each component, especially since these components are often intertwined.

Furthermore, although interventions attempt to increase parental involvement through several components, most studies reviewed focus on direct involvement of parents in helping children read. These range from informal interventions (such as parents tutoring in reading with no instructions on timing and content of activities) to more formal and structured interventions (with provision of scripted lesson plans to parents).

Community Involvement

We acknowledge that parents may not always be the care providers of children, especially in developing country contexts where grandparents, older siblings or other relatives may be the main or most important caregivers. Therefore, we use the phrase "parental involvement" loosely as it could also include, broadly speaking, "family involvement" or "community involvement."

Furthermore, we also include interventions where non-family members are involved in out-of-school activities with children. These non-family members may include other adult non-relative community members, or older school peers.

Finally, we review interventions which use Interactive Radio Instruction (IRI) and educational TV programs as these programs are delivered by the larger community, albeit via channels other than face-to-face interactions.

3. Methodology and Definitions

This review includes published literature in peer-reviewed journals, dissertations and grey literature, such as white papers and reports transmitted to the authors by key informants from various non-government organizations.

Search strategy

We first conducted internet searches and followed reference trails of relevant papers. We also conducted a systematic database search with the assistance of an experienced search librarian. [Complete List of Search Terms to be included in the Final Draft]. Finally, we conducted a number of interviews with key informants from several organizations to uncover additional grey literature such as internal evaluations. The list of organizations interviewed is provided in Annex A.

Inclusion criteria

Because our review seeks to determine the causal impact of interventions, we review mostly experimental and quasi-experimental studies. More specifically, for interventions conducted in developed high-income countries, we only include experimental and quasi-experimental evaluations. On the other hand, for interventions conducted in developing country settings, in addition to experimental and quasi-experimental studies, we may also include other evaluations such as qualitative evaluations. Finally, we discuss a few non-experimental studies that provide interesting insights on relationships between parental involvement and home literacy involvement and literacy outcomes.

In terms of the inclusion criteria related to behavioral and literacy outcomes, we include interventions aimed at changing parental involvement at home through direct action with the child (reading aloud to children, hearing children read, shared book-reading, etc.) as well as community-based interventions, and interventions targeted at literacy skills but also emergent literacy skills.

Important Considerations

Definition of “literacy skills/outcomes”

Literacy encompasses a number of interrelated skills both receptive and productive, such as the ability to identify letters and their corresponding sounds, the ability to segment those sounds and blend them

to form words and sentences, and the ability to comprehend text and understand vocabulary, among other skills. These different skills are measured through different sets of tools. The most commonly used tool in USAID-funded interventions is the Early Grade Reading Assessment (EGRA) which includes a number of subtasks, each assessing a different type of skill. A wide range of other validated tools designed to measure different literacy skills have been developed, such as Clay's Concepts About Print test, the PPVT for receptive vocabulary, the Woodcock-Johnson Psycho-Educational Battery, etc.

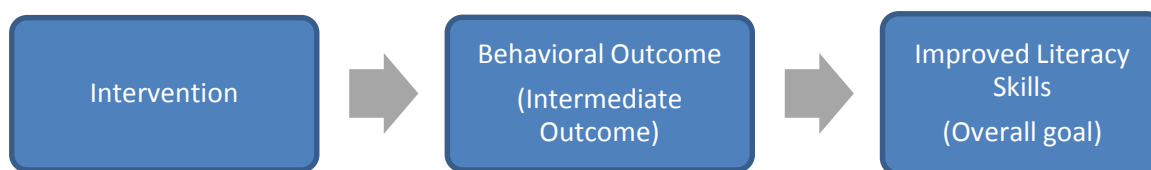
The challenge in comparing different interventions in this review is that studies do not necessarily target the same skills and thus do not report on the same set of literacy skills. Even when they do, these studies do not necessarily use the same measurement tool. These measurement differences make it difficult to draw definite conclusions given that different interventions may have varying impacts on different literacy skills. In some cases, some interventions have a positive impact on a certain type of skill but not on others.

Senechal (2006) also notes that: "some researchers have argued that it is important to distinguish early literacy from language development because they hold different relations to different types of parent-child activities. And it remains to be tested whether improvement in the language skills of young children will eventually translate into improved literacy in grades 1 to 3." Therefore, while we present interventions targeted at pre-K children together with interventions targeted at primary school children, it is important to keep in mind the distinction between emergent literacy and literacy skills, especially since our overall goal is "improved literacy skills for children in the *primary* grades."

Assessing the impact of behavior on literacy skills

Typically, parental involvement interventions targeted at increasing students' literacy skills are set up in the following manner: (1) the intervention first seeks to influence the behavior of the parents with the hope that (2) the behavior will have an impact on the student's literacy skills.

Figure 1: Link between Behavioral Outcomes and Literacy Skills



In most instances, the main outcome measure is the student's literacy skill(s). Few studies assess the effect on the intermediate outcomes (behavior) of the intervention. In other words, studies do not always assess whether the intervention has led to behavioral outcomes (Mattingly et al. 2002). And few studies seek to determine what type of intervention leads to better behavior adoption through the testing of different treatment arms, although there are systematic and meta-analytic reviews that

compare the effectiveness of different types of interventions *across* studies (Nye 2006, Senechal 2006). Similarly, no studies have assessed whether different behaviors lead to different literacy outcomes.

Nonetheless, these studies provide information on what behaviors are typically targeted and whether the intervention led to improvements in literacy skills, whether or not parents actually implemented the behavior. **However, if the intervention did not lead to improvements in literacy skills, it is often difficult to understand whether the lack of results stems from a lack of behavior adoption (effect on intermediate outcome) or from the ineffectiveness of the targeted behavior (provided the parents implemented the behavior).**

4. Findings

Major Takeaways

- Family early literacy interventions show mixed impact. Heterogeneity of impact may be explained by the large variation in intensity and content of these interventions. It seems that more highly-structured programs of higher intensity show positive impacts while less-structured programs of lower intensity show no impact.
- Community-focused interventions in developing countries (which include promotion of parental involvement as well as activities such as reading buddy programs and community libraries) so far show little or no impact.
- Dialogic Reading seems to have an impact on emergent literacy skills, specifically oral language skills (expressive vocabulary). However most studies involve preschool or kindergarten students and the only long-term study found no effects on reading skills in first and second grade.
- There is some evidence that Paired Reading and Hearing Reading may support children's literacy skills.
- Tutoring programs using volunteers from the community, older children or peers seem to show positive impact.
- Interactive Radio Instruction and educational TV programs also show some positive impact.

The claim that parental involvement leads to improved student learning outcomes possesses strong intuitive appeal. Since the 1960's, a number of interventions, directed at early childhood to secondary school, have been developed based on that belief. However, most studies which investigate the relationship between parental involvement and education outcomes are cross-sectional descriptive works that document strong correlation between parental involvement and education outcomes (Bus, van IJzendoorn, and Pellegrini, 1995; Scarborough and Dobrich, 1994) but that cannot show *causality*. Very few studies use rigorous designs, experimental or quasi-experimental, with a well-defined control or comparison group and therefore the evidence on the causal impact of parental involvement on academic achievement is scarce. For instance, in a review of parental involvement studies, Baker and

Soden (1997) reviewed 145 empirical papers, of which 13 used quasi-experimental designs and only three studies were truly experimental. The rest were either pre-experimental studies with no pretest and/or no comparison group (16 studies), or correlation studies (79 studies).

In general, establishing the impact of parental involvement on student learning and academic achievement has been complicated by differing definitions of parental involvement, and a general lack of consensus in the research community concerning which types of parent involvement lead to which education outcomes. (Nye 2006, Mitchell 2014) The ability to compare between different studies has also been complicated by discrepancies in research design and measurement tools. Some studies use direct observations, some others use surveys or questionnaires, and some others use both. Outcomes measured and tools to measure them also vary greatly between studies (Nye, 2006; Mattingly et al, 2002).

Bearing these limitations in mind, overall, **the evidence from experimental and quasi-experimental studies on the impact of parental involvement on student's education outcomes is mixed**, depending on the type of parental involvement and type of outcome considered.

What can we learn from meta-analyses?

Mattingly, Prislun et al. (2002) conducted a review of 41 studies that evaluated parent involvement programs in grades K-12. They concluded that there is "little empirical support for the widespread claim that parent involvement programs are an effective means of improving student achievement or changing parent, teacher and student behavior." Most of the studies reviewed did not include a matched control and less than half of programs that included parental interventions directly assessed changes in parent behavior, making it difficult to assess whether programs aimed at influencing parental behavior were successful in meeting that goal. The review included interventions targeted at both, math and reading, making it difficult to draw conclusions about the reading aspect only. In the studies that were able to tie parent interventions with parental behavior and student outcomes, there was some evidence suggesting that parent involvement programs have changed parent behavior. Of the four studies reviewed that used pre-post tests with matched controls, three dealt with reading measures, and one showed no significant outcome while the other two did.

In 2006, a systematic review by Nye et al., (Nye et al. 2006) defined parental involvement as "the active engagement of a parent with their child outside of the school day in an activity which centers on enhancing academic performance." They limited their review to randomized controlled trials (RCTs) in order to produce the least-biased estimate of the effect of parent involvement on student achievement. The review included interventions targeting reading, math, or science outcomes; of a total of 19 studies, 13 focused on reading. The types of reading interventions identified included collaborative reading, education and training (parent receiving training, materials or information to use at home), and use of reading games. The study concludes that the average effect of parental involvement on reading achievement is positive, and that the effect size is slightly larger than 0.42 of a standard deviation and statistically significant. Furthermore, in terms of intervention type, education and training produced a

larger average effect than collaborative reading (0.61 vs. 0.27). Finally, they reported that the length of the intervention was not related with the size of the effect. In other words, longer parent involvement interventions do not produce larger effects than shorter interventions (the minimum duration was 20 days to be included in the systematic review).

Senechal and Young (2008) conducted a meta-analysis of the effect of family literacy interventions on children's acquisition of reading focused on grades K-3 using 14 experimental and quasi-experimental studies. The authors categorized interventions into three broad types: (1) interventions where parents are asked to read to their child, (2) interventions where parents are asked to listen to their child read, and (3) interventions in which parents are trained to do literacy exercises with their child. Reading refers to both emergent literacy skills as well as more advanced skills of children in grade 3. Overall, the meta-analysis found that parental involvement has a positive impact on children's reading acquisition (mean effect size of 0.68 of a standard deviation), however effect sizes varied greatly between studies (ranging from 0.07 to 2.02). Interventions that taught parents to teach their child to read (most interventions provided highly structured materials and scripted lessons for parents to use with their children) generated the largest effect size (1.15 standard deviations). Interventions where parents were trained to listen to their child read produced a fairly large effect size (0.51 of a standard deviation, and statistically significantly different from effect size of interventions teaching parents to teach their child) and the three interventions where parents were instructed to read to their child produced a smaller effect size (0.18) which was not statistically significantly different from 0. This suggests that parents reading aloud to their child may not have an impact on literacy skills. Similar to Nye et al.(2006), Senechal (2006) did not find a relationship between intervention duration and outcome effect size.

Brooks et al. (2008) conducted a meta-study of family literacy studies in the UK, US, South Africa, Malta, and Turkey. They identified 19 studies although 2 of them only reported on parent outcomes at the time of the report. The meta-study shows that the four studies with the strongest designs (matched pairs RCT and RCT) reported almost no positive results. One (REAL intervention) showed benefits to literacy but not vocabulary at post-test, benefits to literacy of children whose mothers had no education qualifications, but no overall benefits at follow-up two years later. The other three reported no overall benefit for the treatment group as compared to the control group. The authors do not look at effects by type of intervention. In fact, most interventions reviewed are multi-component interventions that aim to teach parents how to support children's learning without being specific about the methods that parents should use (or at least the studies do not describe those methods).

Goodall (2011) also conducted a review of studies of interventions aimed at supporting and improving engagement of parents of children aged 5-19. The report includes interventions aimed at strengthening school-home links, as well as interventions related to support and training for parents and family and community-based interventions. The review found that general parenting programs are not likely to improve children outcomes. The author suggests that parents require detailed and specific information. This is consistent with the Brooks et al. (2008) meta-study which concluded that general parenting

programs yielded mixed evidence, while Nye et al (2006) and Senechal et al. (2008), concluded that interventions with more specific training and instructions for parents led to positive results.

Finally, a meta-analysis of 19 studies by Block et al. (2005) examined the relative effectiveness of various early childhood interventions and concluded that center-based delivery modes were more effective than home-based delivery in the cognitive domain. Some evidence suggests that home interventions that combine a child education program with parent education work better than a parent-only education program (Kagitcibasi et al, 2009). The following evaluations seem to confirm this point; they also assert that interventions that are more highly structured and of higher intensity lead to positive impacts while studies of lower intensity and with less structure do not.

Link between parental involvement and literacy outcomes in low and middle-income countries (LMICs) is unclear

Most of the interventions included in the aforementioned literature reviews were conducted in developed countries. Much less evidence exists from developing countries. Furthermore, in the developing world context, the link between household characteristics and reading outcomes is much less clear than in developed countries.

Some studies (Park 2008 and Friedlander 2013) suggest a positive association between home learning environment and children's reading ability. However, they cannot establish that this relationship is causal. Spier et al. (2014) attempts to answer this question. The authors recently completed a systematic review of parental, community and familial support interventions to improve children's literacy in developing countries. The study reviewed 13 experimental and quasi-experimental studies, all conducted in LMICs. These studies were categorized as (1) educational television interventions, (2) interventions that help parents learn how to support their children's school readiness and (3) tutoring interventions delivered by peers or other community members. The first category of intervention is not aimed at parents or the community directly but at preschool-age children. For the second category of interventions aimed at increasing parents' ability to support children's school readiness, the effect size was not significantly different from zero, although there was substantial heterogeneity of effect sizes across studies. For the third category, the UNICEF *Getting Ready For School: A Child-to-Child Approach* intervention, which focuses on peer-led tutoring, had a significant effect on children's early writing but not on other areas of literacy.

A closer look by type of involvement

In addition to the papers mentioned above, our own search efforts yielded additional studies. The following sections delve more deeply into these studies by type of parental involvement. As mentioned, parental involvement interventions can be categorized along multiple dimensions and different meta-analytic reviews include slightly different types of interventions. Some interventions are more informal with no specific instructions on what parents should do with their children (Tizard et al, 1982) while others are more specific and provide scripted lesson plans and direct instruction of specific reading skills

(Powell-Smith et al, 2000). Usually these interventions involve some form of parent training or awareness raising sessions. We aim to bring all of the studies together giving preference to studies conducted in the developing country context and classify them into the following categories:

- General family literacy programs
 - Targeting primary school children
 - Targeting early childhood
 - Clinical-based interventions
- Home reading programs (HRP)/parent tutoring interventions: teaching specific reading skills, parents read to their child, child reads to the parent
- Community activities, including tutoring interventions
- Interactive Radio Instructions and education TV programs

There are other ways that parents can be involved with their children's learning development, such as encouraging them to do homework, reading signs, singing songs but we have not been able to locate rigorous evaluations of such interventions.

General family-literacy interventions

Studies targeting primary school students

Banerji et al. (2013) conducted a randomized controlled trial in India to investigate whether increasing the human capital of parents, specifically around the skills and experiences of mothers in helping children with their homework, can improve child learning. This study assumed that mothers do have a preference for helping their children learn but that they lack the skills to do so and therefore “do not dedicate as much (productive) time or resources”. The author conducted a randomized controlled trial to test the effectiveness of three interventions targeted at mothers of children 5-8 years old and designed by Pratham: (1) Daily literacy and math classes for mothers ; (2) Weekly materials, activities, and training for mothers around how to help children with their homework at home. Pratham staff members visited mothers on a weekly basis and provided a worksheet for mothers to complete with their children, instructions on how to review school notebooks, guidance on how to discuss a child’s learning and progress with the child’s teacher, and encourage the child to do schoolwork; and (3) a combination of both daily classes and weekly visits.

Family Literacy Interventions: Takeaways

- Family literacy interventions often target both children and parents (child-rearing classes, literacy classes)
- Most family literacy interventions target early childhood
- More intense, highly-structured programs seem to be more effective
- Examples of successful family literacy programs in developing country settings exist. The longest-standing one is in Turkey.

Results indicate that all three interventions had positive impacts on math scores but the impact on literacy scores was inconclusive as the effects, while positive, were not statistically different from zero with the exception of the combined intervention which had positive impact on the child's ability to read letters, matra (more complex) words, and paragraphs. An important limitation of this study is that children may have attended mother literacy (ML) classes alongside their mothers, so gains in child outcomes could have been because they attended the classes directly.

The Primary Age Learning Skills (PALS) trial is a randomized controlled trial targeting parents of 5- and 6-year-olds attending primary school in a high-risk, ethnically diverse setting in London, England (Scott et al, 2010). The intervention, a parenting-group program, focuses on the parent-child relationship, child behavior and child literacy in a highly disadvantaged community. The program combines both parenting and literacy classes during which parents are encouraged to discuss books and play rhyming games. It also teaches the Pause Prompt Praise approach to reading. The intent-to-treat analysis on follow-up data one year after the intervention shows that there was a positive impact on the parent-child relationship but neither on child behavior nor on reading (single-word reading).

Studies targeting pre-school or kindergarten age children

The evaluation of the Turkish Early Enrichment project (TEEP) is the only long-term evaluation of an early childhood intervention in a developing country. It started in 1982 and targeted mothers of children 3 and 5 years of age. In 1983-1984, mother training was provided to a randomly-selected group of mothers in the form of biweekly home visits and group sessions, and included a cognitive component with work sheets and storybooks to be used by mothers with their children to promote pre-literacy and pre-numeracy and a mother-support component. Both treatment and control groups were assessed before the intervention and again in the fourth year. The results indicated that the intervention had an impact on mothers' literacy skills and self-efficacy, and also on children's IQ scores, school grades, and standardized tests of academic achievement. In 1992, six years later, a follow-up was conducted and found that children whose mothers had undergone mother training were more likely to still be in school and scored better on other measures than control students (Kagitcibasi, 1997). The latest follow-up was conducted 22 years later (Kagitcibasi et al., 2009); children whose mothers had participated in the intervention had more favorable outcomes in terms of educational attainment, occupational status, age of beginning gainful employment, and some indicators of integration in modern urban life, such as owning a computer.

Another early intervention conducted in Turkey is the Family Supported Pre-Reading Training program (Buyuktaskapu, 2012). The quasi-experimental evaluation (non-matched comparison) compared children who attended pre-school (control) with children who attended pre-school education but also participated in a training program for their families. The intervention involved 13 weekly meetings and distribution of workbooks that included 18 activities each to be performed by mothers with their children on phonological awareness, letter recognition, story creation, reading concepts, and predicting events' chronology activities. Results suggest that treatment students scored better on all literacy outcomes (phonological awareness, letter knowledge, and writing).

Aboud (2007) evaluated an early childhood parenting program in rural Bangladesh using an intervention-control post-test design (no pre-test). It targeted mothers of children aged less than three years and consisted of 90-minute weekly education sessions offered for a year and which covered topics related to health, hygiene, breastfeeding and nutrition, language development, positive discipline, gender equality and child rights. After covariates were controlled, the treatment mothers showed higher scores on child-reading knowledge and on the Home Observation for Measurement of the Environment (HOME) inventory of stimulation but they did not communicate differently with their children while doing a picture-talking task and children showed no positive outcomes in language comprehension (receptive vocabulary). This program seemed to offer mothers fewer opportunities to practice skills that the Turkish Early Enrichment project described above.

The Family Literacy Program (FLP) in South Africa⁴ was set up in 2000 to provide monthly meetings with parents of pre-school children to build their capacity to support their children's early literacy development. The FLP later developed to include a wide range of activities including: adult literacy classes, pen friend programs, provision of notebooks for parent-child diaries, community and box libraries, child-to-child groups, and groups to support mothers' involvement with children's literacy development at home among others. Brooks et al. (2008) note that an evaluation of the child-to-child program found very small benefits for literacy, language, and numeracy.

Rolla et al. (2006) carried an experimental study to test the effectiveness of different interventions on the emergent literacy skills of low-income Costa Rican kindergarteners. Participants were randomly assigned to one of the following conditions: tutoring, classroom activities, work with family, combination of all three, or control group. The family intervention consisted of five parent education sessions which included opportunities for parents and children to engage in structured, hands-on activities around oral and written language. The tutoring intervention consisted of a maximum of 21 tutoring sessions of 45 minutes each on reading, writing and work on letters and/or syllables. The classroom intervention focused on phonological awareness and letter-sound relationships with activities that combined reading and reciting Costa Rican children's poetry and other activities. The tutoring and combined interventions were found to have positive impact on concepts about print and letter identification but no other outcomes (vocabulary, phonological awareness and reading) were impacted. The family and classroom intervention had no impact. The authors note that anecdotal observations suggest that the family and classroom interventions were of insufficient intensity.

OSI's Getting Ready for School (GRS) is a program to promote school readiness for those children that have no access to public preschools. The program works with parents to instruct them on how to teach their own children school readiness skills. It was initiated in Armenia in 2001 and later expanded to

⁴ <http://www.unesco.org/uii/litbase/?menu=4&programme=43>

other countries in East Europe and Central Asia such as Bosnia and Herzegovina, Croatia, Moldova, Mongolia, Kazakhstan, Slovakia, Tajikistan, and Ukraine. In Armenia, communities were randomly assigned to treatment or control. The initiative showed a positive and significant effect (0.27 of a standard deviation) at the end of the program, however the impact had disappeared one year later when children were expected to finish grade 1 (Sherman, 2012). According to the author, a possible explanation is that “the percentage of children enrolled in the first grade was somewhat lower for the intervention group than for the comparison group, which may reflect the greater awareness of the intervention group parents of the extent to which their child was ready for school. The lower percentage of the children in the intervention group who received formal schooling in the first grade may at least partly explain why the significant differences at the end of the program year favouring the intervention group disappeared by the end of first grade.” In Kazakhstan, Tajikistan and Bosnia and Herzegovina, the evaluation of GRS was based on a quasi-experimental design using matching at both community and family levels and the impact analyses included controls for baseline differences. In Kazakhstan the evaluation showed some significant and positive effects at the end of the program in mathematics scores (0.24 standard deviations) but not on literacy scores. The positive effects did not persist through Year 2. According to Sherman (2012b), it is possible that the effect on mathematics disappeared due to “a ceiling effect of the assessment, in which many children were able to attain perfect or nearly perfect scores.” In Tajikistan, the evaluation found, negative and significant effects in literacy scores right after the program and very large (1.22) and significant effects one year later. In Bosnia and Herzegovina the program showed no significant effects on literacy scores. In general, all these results should be interpreted with caution given the small samples used and some significant baseline differences between treatment and control groups due to less than perfect matching between units.

In the U.S., the Raising Early Achievement in Literacy (REAL) project provided families with monthly home visits over a period of 12-18 months as well as literacy resources, scrapbooks, games, center-based activities for parents to meet with teachers, and special events such as group visits to libraries. The program also offered an optional adult education component but few parents took up this program. Hannon et al (2005) conducted a randomized controlled trial of this intervention and found benefits at age 5 on literacy outcomes but not vocabulary (effect size of 0.4 across the whole program). However, at follow-up, at age 7 when the children were in school, the effects had disappeared.

The Birth to School Study (Evangelou et al, 2007) was a six-year evaluation of the Peers Early Education Partnership (PEEP) which is a family-focused intervention designed to promote early literacy, numeracy and self-esteem in disadvantaged communities, starting with children in the infancy stages. It focuses on supporting parents to communicate with their children (rather than 'teaching' their children) and emphasizes the interactive and nurturing characteristics of learning. In practice, PEEP organizes groups which include circle time, talking time, story time, book sharing, borrowing time and home activities and provides age-appropriate curricula. PEEP also offers services for adult learning. The Birth to School Study employed a quasi-experimental design with a matched control group. The analyses show that the treatment group made significantly greater progress than the comparison in vocabulary, phonological

awareness rhyme, total phonological awareness, letter identification and emergent writing skills between the ages of 2 and 5.

Whitehurst et al (1994) conducted a randomized controlled trial to test the effectiveness of an add-on emergent literacy curriculum to Head Start for classrooms of 4-year-olds. The treatment group experienced interactive book reading at home (dialogic reading, see below for more details) and the intervention was found to have positive impact on writing and concepts about print. These findings were replicated in a new cohort by Whitehurst et al (1999) but the effects had dissipated when measured by the end of first and second grade. A large family literacy program in the U.S. is Even Start, which started in 1989 with \$14.8 million to fund 76 sites and grew to over 1,000 projects in 2001-2002. Even Start projects have leeway to decide how to administer activities, such as the frequency and duration of instruction, whether instruction is center based or home based and what curricula to use. But all of them provide early childhood education, adult education, parenting education and joint parent-child literacy activities to children and parents. St Pierre et al. (2005) conducted a randomized experiment to evaluate the effectiveness of the program specifically on literacy skills of children and their parents. Overall the evaluation results indicate that Even Start children and parents did not score significantly better than the control group at post-test or at follow-up one year later on any of the outcome measures (expressive vocabulary, letter-word identification, story and print concepts, social skills, parent report of child literacy, etc). The authors suggest these results could be attributed to low uptake among the treatment group while some families in the control group received similar services (from Head Start for instance), and that even among families who participated, they did not participate fully. Furthermore, observations of instruction indicate that while classrooms displayed positive environment, instructors did not focus on children's reasoning and communication skills. However, the authors also do "question the theoretical model underlying Even Start and most other family literacy programs."

Early interventions in clinical settings show no effect on early literacy outcomes

Another set of early childhood family literacy interventions includes those conducted in clinical settings. The most well-known program in the US is the Reach out and Read program in which pediatricians provide information to parents on the benefits of reading at well-child visits. To date two experimental and one quasi-experimental studies of Reach out and Read have been conducted. Golova et al (1999) conducted a randomized controlled trial of the intervention with low-income Hispanic families. Books, handouts and anticipatory guidance were provided to parents at three of their infants' well-child visits. Results showed that while parent behavior changed (parents in the treatment group were more likely to read to their child than the control group), no language effects were observed for children.

Another similar intervention was conducted in disadvantaged areas of Melbourne, Australia. The Let's Read Trial is a randomized controlled trial of a low-intensity literacy promotion program provided to parents during well-child visits during the first four years of their child's life. At each visit, trained nurses spent about 5 minutes delivering, modeling and discussing the literacy promotion messages with the parents and distributed materials for them to take home. Both the midline and final evaluation showed

no positive impacts on the treatment group. Treatment and control children scored similarly on vocabulary, communication and home literacy environment (Goldfeld et al, 2011). According to a self-administered questionnaire, parents did change how often they read to their children and how they communicated with their child as a result of the program, however the questionnaire was only administered at the end of the intervention. The authors conclude that a low-intensity book distribution and literacy promotion program are "unlikely to provide value for money on their own."

Home Reading Programs (HRP)

Home Reading Programs (HRP) involve parents and children reading together at home using a specific approach. Many parental involvement interventions fall under the umbrella of Home Reading Programs (HRP) or parent tutoring interventions. In general, it is unclear what type of parent tutoring is most effective (Erion, 2006; Powell-Smith et al., 2000). However, Senéchal and Young (2008) suggested that

Home Reading Programs: Takeaways

- Home Reading Programs teach parents a specific technique for supporting their children in reading
- Dialogic Reading is generally found to be effective, although the long-term effects are unclear. The one long-term study found that effects had faded by first and second grade
- Most Dialogic Reading interventions target early childhood and emergent literacy which are different from literacy skills.
- There is some evidence that Paired Reading and Hearing Reading may be effective. Hearing Reading in particular may be a good strategy to employ in low-literate environments.

programs that train parents to teach specific reading skills are more effective than programs that train parents to listen to their children read or that train parents to read to their children. Yet, again this may depend on the level of intensity and quality/type of content. For instance, a randomized controlled trial by Powell-Smith et al (2000) targeting second-grade students provided highly structured guidelines, in the form of notebooks with scripts, to parents to use with their children 4 times a week for 8-12 minutes each time. One treatment group used the scripts with children's literature while the other treatment group used curriculum-based materials. The evaluation assessed not only the effectiveness of the parent tutoring intervention but also the relative effectiveness of the type of materials used. The results showed no significant difference between the treatment and control groups, although the authors indicate it is possible the sample size was too small to detect differences. Another possibility is that the treatment duration was too short (5 weeks). Furthermore, despite randomization, control parents had higher levels of education at baseline.

Dialogic Reading

Dialogic Reading (DR) is a highly interactive technique for joint book reading and is one of the most studied book reading techniques. In DR, the child is encouraged to take an active role and become the storyteller while the parent (or other adult) coaches the child by teaching new vocabulary, providing feedback and asking questions. While DR techniques are easy to learn, the techniques do not necessarily occur naturally in households (Huebner & Paine, 2010). Because DR techniques encourage the child to

tell the story, DR has been linked with vocabulary skills. More specifically, it is believed that DR can promote the development of expressive vocabulary more than typical book reading.

Mol et al. (2008) conducted a meta-analysis of 16 experimental and quasi-experimental studies to investigate the added value of DR on language and literacy skills as compared to children who only engage in typical book reading. The study found that Dialogic Reading had a significant impact on vocabulary measures over typical book reading (Cohen's $d = 0.42$). In particular, they did find a stronger effect for expressive vocabulary than for receptive vocabulary measures. They also find that impacts were greater for younger children (2-4 year-olds) than older children (5-6 year-olds) that the authors note had scarcely benefited from DR or even reported negative results. The authors speculate that it may be possible that parents could not adapt the technique to older children that may even prefer hearing the story without interruptions which may be seen as disruptive and annoying.

Another finding from Mol et al (2008) is that groups whose parents have lower levels of education and with lower levels of income benefit less from DR than groups with more highly educated parents and who have higher levels of income. This may be explained by the fact that the use of DR requires a pre-existing set of skills and a certain educational background or that these children do not benefit because questions asked in DR are not (yet) part of their abilities. As mentioned before, these studies do not typically report on or control for what happens at home, i.e. whether parents actually implemented the DR techniques. When findings are null, it is therefore impossible to assess whether it is because the technique was flawed or the intervention did not lead to behavior adoption.

There is some evidence that DR has positive effects on vocabulary scores of children in developing country context as well. Although not a home-based intervention, Opel et al (2007) found that preschool children randomly assigned to the DR condition had higher expressive vocabulary scores than control children in rural Bangladesh. While the intervention was implemented in a low-literacy and low-resource country, the DR was delivered through teachers so we cannot compare this study with the ones in Mol et al (2008). Chow & McBride-Chang (2003) also found that DR was effective with Hong Kong kindergarten students in learning Chinese literacy skills so there is evidence that DR is effective in languages other than English.

As mentioned previously, DR skills mostly impacts oral language skills (i.e. expressive and receptive vocabulary) which are part of the emergent literacy skill set. However, it may not impact other literacy skills, such as alphabet knowledge and concepts about print (Sim, Berthelsen et al. 2013). DR interventions are typically implemented with young children, either preschool or kindergarten age and it

What is Dialogic Reading?

A stimulation package created by Whitehurst in the 1980's that encourages interactive dialogue between parent and child; the child learns to become the storyteller rather than just listening to the parent read to him/her. Dialogic Reading follows three principles:

- use of evocative techniques by parent to encourage the child to talk about pictured materials
- informative feedback
- adaptive parent sensitive to child's developing abilities (Mol et al 2008)

is therefore difficult to assess the long-term impacts on other literacy skills. To date, the only study that has assessed the long-term effects of a dialogic reading intervention -Whitehurst et al. 1999- shows that DR had positive effects at the end of Head Start and one year later on emergent literacy skills, but not at the end of first or second grade on reading scores. In this study, the link between emergent literacy skills and literacy skills was not found. However, in Chow & McBride-Chang (2003), while the DR technique was also tested with kindergarteners, the outcome measures included both emergent and later literacy skills because Hong Kong children start learning how to read Chinese from the age of 3. The study found an effect of DR on both receptive vocabulary and Chinese character identification and visual/auditory discrimination.

A more recent study (Sim, Berthelsen et al. 2013) involved an eight-week intervention where parents attended one training session for one of 3 conditions: DR, DR + print referencing, and attention-matched control which received training on number learning instead of literacy. Training sessions included a short video, and parents were also given materials to take home as well as a different book each week. Researchers followed up with parents once a week by phone and parents were asked to complete a reading log in order to monitor fidelity to implementation. The study found that the DR and DR + print referencing interventions had significant effects on expressive vocabulary, rhyme recognition and concepts about print at post-test (after 8 weeks) but only concepts about print was significant at follow-up (3 months after the intervention). This study is similar to Whitehurst et al (1999) in that it calls into question the long-term effects of DR.

Paired Reading and Hearing Reading

Two other types of parental involvement are paired reading and hearing reading (see Box for description). Both types have mixed evidence of their effectiveness.

In 1982, Tizard et al. implemented an experimental study in which schools were randomly assigned to receive a parental involvement program, extra teacher help, or nothing (control). In the parental involvement intervention, parents were instructed to listen to their child read with no other specific instructions or training. The intervention, known as the Haringey Project, took two years and children were assessed at the final year of their infant schooling (6-7 years old) and in the first year of junior

What is Hearing Reading (HR)?

Two major aspects of HR are providing feedback and assistance. Feedback involves telling the child whether they have read accurately, and assistance comprises providing the words or phrases that the child cannot read and encouragement to read for meaning. Encouragement, however, can range from general encouragement to specific assistance.

What is Paired Reading (PR)?

- (1) Parents read together with their children, in close synchrony, at the child's pace;
- (2) Child indicates desire to read independently by giving a signal (often a nudge);
- (3) In the event of an error and in the absence of self-correction by the child, parent provides the correct word within four seconds and the child is required to repeat the word correctly;
- (4) Parent joins in the reading again if (3) occurs until the child indicates the desire to read independently once again;
- (5) Parent praises child for independent reading and self-correction

(Shah-Wundenberg (2012).

schooling (7 to 8 years old). At the end of the two-year intervention, results showed that the experimental group which received the parental involvement program scored significantly better than the control group, while the differences between the children who received extra help and the control group were not significant. A follow-up three years later after the end of the project also showed that students who were part of the parental involvement program still benefited from the program while the children who had received extra teacher help did not perform better than controls (Hewison, 1988).

However, Powell-Smith 2000 reports that “only a handful of studies support the benefits of informal parent tutoring in reading methods. For example, studies by Crawford (1985) and Tizard et al. (1982) suggest that Hearing Reading (i.e., listening to one's child read) has a positive impact on student reading achievement. However, a study by Hannon (1987) showed no significant impact of "Hearing Reading" on children's reading achievement." The intervention by Hannon (1987) was in fact implemented for an even longer period of time than the Haringey project, for three years.

Leach and Siddall (1990) compared the relative effectiveness of different home reading programs (paired reading; hearing reading; pause, prompt, praise⁵; and direct instruction) and found that paired reading and direct instruction were both more effective than hearing reading and the pause, prompt, praise method on accuracy and comprehension scores. On the other hand, Shah-Wundenberg et al (2012) found that both hearing reading and paired reading were effective in increasing Indian student's beginning English skills, reading accuracy and comprehension and found no significant differences between the two methods. The Hearing Reading technique was particularly promising with this population given that some parents could not speak or read English. They were encouraged to talk about the pictures in the book in their home language. Qualitative data indicates that parents were sensitive to their child's interests and abilities and that they used their home language to paraphrase and ask picture-related questions to encourage critical thinking. When the text was difficult, parents often asked for the larger community's support (extended family for instance) to understand the book before they started reading with the child and often a family member literate in English would substitute for the non-English literate parent. The findings suggest that in a low-literate environment, HR strategies may be useful in enhancing children's literacy skills. However, this is only one study investigating parental support in a developing country with multi-lingual setting so the findings should be interpreted with caution.

By contrast, Miller & Narrett (1995), in a study with second and third graders, found no effect of paired reading on reading comprehension and phonetic analysis whether parents were provided with feedback on their children's performance or not. However, this could be due to the very small sample sizes.

⁵ Pause, Prompt, Praise is a strategy that encourages students to monitor meaning and self-correct when they are reading aloud.

Community activities

Many interventions implemented in developing countries that include community or parental involvement are often combined with activities targeted at improving the quality of education through teacher trainings, provision of instructional materials, etc.. The interventions therefore consist of multiple components, and evaluations, when available, rarely tease out the impact of individual parts; instead, they evaluate the effectiveness of the intervention as a whole package combining school-based interventions (targeting teachers/principals) with out-of-school interventions (targeting parents or community volunteers or children).

Community activities: Takeaways

- Evaluations that aim to isolate the effect of each component in a package of community activities in developing country settings are scarce
- Tutoring programs seem to be the most promising and scalable
- Interactive Radio Instruction and educational TV programs have some evidence of positive impact

The impact evaluation of the Aga Khan Foundation's East African Quality in Early Learning (EAQEL) initiative, also referred to as the Reading to Learn (RtL) approach (targeted at children in grades 1-3) is one exception. It evaluated the effectiveness of two treatment arms, Core model and Core model plus vs. a control (Oketch et al, 2012) with a randomized controlled trial design. The Core model consisted of an instructional model implemented by teachers, and the Core model plus combines the Core model with a community component consisting of storytelling for children, community libraries, and asking parents to read to their children, among others. The intervention and evaluation were implemented in Uganda and Kenya. In Uganda, the Core model was implemented in one district and the Core model plus in another district; results suggest that the Core model plus may have a greater impact than the Core model (9 vs. 3 percentage points) however it was not possible to establish statistical significance. In addition the study did not report on implementation and intervention uptake by parents/community.

In Burundi, Kajangwa et al. (2013) conducted a midline evaluation of Save the Children's Literacy Boost (LB). Clusters of schools were randomly assigned to either LB or comparison group, stratified by urbanicity. Save the Children organized a number of interventions related to community action, including community reading activities (reading buddy program, reading camps, read-a-thons) and creation of age-appropriate local language material. Of interest is the organization of the Parental Awareness Workshops, which provided information to parents about language development, how to create materials to help their child, the importance of asking questions to children, and how to give children the opportunity to ask questions. They collected data on participation in community activities and found high participation for students in the treatment group (more than 80% in reading buddies and reading camps) however the impact analysis shows no differential impact on literacy skills so far.

Tutoring

In India, Banerjee et al (2010) used information as well as trainings to mobilize community involvement. The experiment included three treatment arms alongside a control: 1) an intervention that provided information on local institutions and the state of service delivery of education, 2) an intervention that, in

addition to information, trained community members on how to implement a testing tool for children, and 3) an intervention that combined the previous two interventions with provision of a week-long training of volunteers on how to hold remedial reading camps. The authors reinforced the common understanding in behavioral theory that “information alone is not enough” to encourage community involvement; the week-long training on reading camps combined with the first two arms impacted both community behavior as well as student outcomes, while the other two interventions did not yield results different from the control. A similar study (Banerjee, 2005) also finds positive results when female high-school graduates provided two hour/day tutoring sessions during school hours. In both studies, literate volunteers from the community were trained for a short period of time (a couple days to two weeks), yielding improvements in students’ reading test scores. Both studies also observed heterogeneous results, with remedial students experiencing a higher increase in test scores than higher-performing children.

UNICEF implemented pilot programs of their project Getting Ready for School: A Child-to-Child Approach in Bangladesh, China, the Democratic Republic of Congo, Ethiopia, Tajikistan and Yemen. The project aims to help young children in their transition to primary school by providing academic and social school readiness skills. It relies on “Young Facilitators” who are older children that receive guides that they share with young children in the community through formal and planned activities and also through informal interaction. In addition the program attempts to raise parents' and the community's understanding of school readiness and their support to prepare young children to succeed in the early grades of primary school. Randomized controlled trial evaluations exist for 4 countries, Bangladesh, Democratic Republic of Congo, Tajikistan and Yemen. The outcomes analyzed include: on-time enrolment, connectedness to school, academic skills in literacy, mathematics, science, applied skills and life skills, social skills and behavior, and family-school connections. The program impacts were different across countries, while the Tajikistan pilot shows no positive effect the results were very positive in Yemen and the Democratic Republic of Congo, and only on-time enrolment and family-school connectedness show significant differences in Bangladesh. Comparing the experiences between countries shows that intensity of the program and early involvement of parents and community are associated with successful results.

Another model of tutoring is that of peer-to-peer tutoring where students with higher academic skills tutor students with lower academic skills within the same class. Li et al (2010) conducted a Randomized Controlled Trial to test the effectiveness of three educational inputs, a cash incentive pay-for-grades scheme, incentivized peer tutoring and parental communication. The experiment involved four treatment groups: cash incentive only, cash incentive + peer tutoring, cash incentive + parental communication and cash incentive + peer tutoring + parental communication. The control groups consisted of control students from control schools, as well as control students from treatment schools. The peer tutoring component also included an incentive whereby tutors (who were the highest performing students in the class) whose tutees made the most progress received a cash prize. Parental communication consisted of communicating to parents that their children were part of the intervention. The results show that cash incentive only yielded no effect, while cash incentive coupled with the

incentivized peer tutoring increased reading and math scores by 0.14 standard deviations and the combination of all three inputs increased scores by 0.20 standard deviations. The authors also estimated the pure marginal effect of peer tutoring and found that it increased scores by 0.11 standard deviations; coupled with parental involvement, its effect was even higher at 0.197 standard deviations. This model of peer tutoring is promising as it required no training of the tutors and could easily be scaled up given that administrative structures are in place to organize the payment scheme.

Other community activities

Abeberese et al (2011) evaluated the impact of the Sa Aklat Sisikat reading program in the Philippines, a program which provides schools with culturally and age-appropriate books and encourages reading through a 31-day read-a-thon with daily literacy activities (story-telling, literary games, and individual silent reading)⁶. This program was implemented with 4th grade students given that this is the age at which they are expected to enjoy reading independently. The randomized controlled trial found that the program had a positive impact on reading habits, with treatment students reporting having read 2.3 more books than the control students in the past week and 7.2 more books in the past month. In terms of impact on overall reading skills, the study found a positive effect of 0.13 standard deviations immediately after the program and a small effect of 0.06 standard deviations at follow-up 3 months later. An analysis by test component shows that the program had a significant impact on word recognition and oral reading comprehensions immediately following the program but not on letter recognition, sound recognition, oral reading and the written test. At follow-up three months later, only the effect on word recognition remains. The authors did not however distinguish between the effect of providing books to school (which in itself could have increased students' interest in reading, especially since the authors note that the books were highly valued by teachers) and of the reading activities themselves. Finally, the authors conclude that such short-term programs can be effective ways to improve children's reading skills, however the effect size found at follow-up is quite small.

Interactive Radio Instruction and educational TV programs

Interactive Radio Instruction (IRI) programs have been implemented since the 1970's. It is an instructional tool which uses audio lessons to guide teachers and students through interactive activities that teach specific skills. It has been used to teach various subjects such as math, English, local language literacy. The Education Development Center (EDC), in particular, has implemented IRI programs in more than 50 countries over the past 30 years. A review by Ho & Thukral (2009) of EDC's IRI programs in Zambia, Sudan, Somalia and Haiti suggest that IRI contributed to improving learning outcomes in primary literacy instruction. However, the evaluations from these countries only include post-test data so it is unclear whether these improvements in literacy scores can be attributed to the intervention with certainty.

⁶ While we classify this under "community activities" the read-a-thon itself was implemented at the school by teachers although international NGOs often implement such activities at the community-level.

Similarly, educational TV programs have been implemented for many years. Sesame Street is likely the most well-known of these programs. Borzekowski and Henry (2010) evaluated the impact of different levels of exposures to Sesame Street in Indonesia (Jalan Sesama) on children 3-6 years old using a randomized design. Jalan Sesama offered educational and life skills lessons on health, cultural and environmental awareness and social development. The high exposure group watched 3-4 episodes a week, the low exposure group 1 episode a week and the control group watched another educational program. Results show that the 14-week intervention had a positive impact on children's letter recognition skills in the high exposure group but not in the other two groups and that it didn't have an impact on early reading and writing skills. The program showed the strongest impacts on cultural and environmental awareness outcomes. In Turkey, Baydar et al (2008) employed a randomized controlled trial to determine the impact of watching an educational childhood television program with the use of an experimental group, with mothers who were asked to watch the TV program with their children every day for 13 weeks, a natural observation group, where mothers were informed about the TV program and its benefits but not asked to watch it, and a control, where researchers asked mothers and children to watch an entertainment program that aired at the same time as the educational TV program. While encouraging emergent literacy skills was an important component of the program, it was aimed at improving overall cognitive skills. The study found that children with higher levels of exposure to the program (watched the program at least 3 times a week in the experimental group) experienced the highest and most wide-spread outcomes over the control, including gains in vocabulary and syllabification—children with lower levels of exposure had some positive results, but only in one or two areas. There was heterogeneity in results; effects were higher for students that had lower baseline test scores and watched the program with more frequency.

Both of these studies suggest that culturally-relevant educational TV programming can have a positive impact in improving emergent literacy skills as well as basic cognitive and behavioral skills for school readiness.

5. Eliminating barriers to parental involvement

As mentioned previously, a challenge in the review of parental involvement interventions stems from the fact that parental involvement itself is not always monitored making it difficult to distinguish between a lack of results as a consequence of a lack of parental involvement and a lack of results as a consequence of a non-effective parental involvement behavior. Some studies do however discuss the challenge in changing parental behavior and attempt to overcome barriers to parental involvement. These barriers generally fall under several categories: a lack of knowledge regarding their children's performance and their need to be involved, a lack of parent literacy skills, a lack of tutoring skills, and environmental barriers such as a lack of books.

Informing parents of student's performance and of importance of parental involvement

Some interventions are based on the premise that parents are not involved in their child's schooling simply because they do not know how well their children are performing in school or that education matters. However, there is no strong evidence that providing this information to parents has a positive

impact. For instance, the Uwezo Initiative in Kenya assumed that parents would be encouraged to become more involved if they were aware of their children's low academic achievement. The intervention attempted to increase parental involvement by providing parents a call to action in the form of their child's performance on a recent standardized exam, and a series of strategies a parent could pursue if they wanted to improve their child's learning. However, while uptake was high (around 84% of treatment households had at least one of the instruction materials provided to them visible and in use their home) there were no notable differences in test scores between treatment and control groups as students' performance already met or exceeded parents' expectations (Lieberman et al 2013). In an intervention in Madagascar, Nguyen (2008) tested the effect of role models who shared their success at parent-teacher conferences. The impact on parent behavior as well as student outcomes was unclear. The intervention also tested the effect of teachers delivering statistics on returns to education to parents and students in parent-teacher conferences. While the impact on student outcomes was mixed, this treatment did change households' perceived returns on education and their schooling decisions.

More targeted information on how parents can be involved may make a difference. Avvisati et al. (2010) evaluated a French program where principals led parent teacher meetings to communicate that homework is important for success, that it is important for parents to look at a child's notebook, and that it is important that the child feels parents have a good understanding of school and adhere to school requests in order to succeed. The study found positive impacts on both parental behavior, as well as student outcomes.

Provision of skills

Low human capital and competence as the barrier to participation is well addressed in parental involvement interventions. The assumption is that parents may not have the literacy level or the tutoring skills required to help their child with reading activities. The assumption is that arming parents and community members with increased literacy and/or tutoring skills not only instills skills necessary for reading, but also empowers recipients of the training by increasing their human capital level. Providing tangible ideas and prompts for how to get involved makes it easier for parents and community members to participate. Family literacy programs which may include both parenting education and parent-child tutoring training sessions are based on that premise.

Provision of literacy skills

The logic behind adult literacy classes is that, by educating parents in adulthood, a parent's preferences are shifted "toward demanding more quantity of education and of higher quality, household resources toward more education assets at home, time allocation toward more time educating their children at home, and increased productivity of that time" (Banerji 2013). Banerji also theorizes that empowering women in the household will allow them to shift their preferences, time, and resources towards educating their children. However, as with providing knowledge on the importance of parental

involvement and on student's performance, provision of literacy skills to parents does not necessarily lead to increased parental involvement.

Banerji et al (2013) tested the effectiveness of several different interventions in India: two-hour mother literacy courses provided over the course of several years, training for mothers on how to help enhance children's learning at home, and a combination of both interventions. The study, which finds small but positive impacts on children's math and, to some extent, reading test scores, also collected data on changes in parental behavior and other outcomes related to literacy (e.g. presence of books) to explore the channels through which these interventions could have improved student outcomes. Banerji found that all three interventions had an impact on mother's self-reported participation in child learning and educational assets in the home, including "indicators of school visits, helping with homework, and talking to the child and others about the child's studies". While the programs had positive impacts on measures of mother's empowerment, the programs had less clear impacts on the mothers' use of time (and reallocation of time from household chores towards participation in a child's education).

In the US, the Comprehensive Child Development Program included case management and house visits from case managers alongside parent education on infant and child development, parenting skills, and activities to the parent and to ask the parent to conduct the activity with her child. These intensive programs also included a human capital component, where the CCDP would connect parents to vocational trainings, adult literacy classes, and GED trainings. However, the five-year study found no impact on child outcomes or parent outcomes, along with no impact on the socio-economic situation of the parent. The study suggests that a combination of case management and parenting education delivered through home visits—quite an intensive intervention-- is not an effective means of improving development outcomes for low income children.

The Family Literacy Project in South Africa coupled adult literacy classes with family literacy groups, community book centers, and book sharing interventions. These adult literacy classes grew out of demand in the first year of the project, when participating "parents, and others in the area, requested that the FLP provide adult literacy tuition"⁷ in addition to the education services that the project was already providing. Since then, the program has taken a community based approach, with groups nominating members of their communities to take part in train-the-trainer trainings organized by FLP. Kvalsvig et al (2003) observed parents and their interactions with children to document differences in parental practices and behaviors across parents that had not received the intervention (Group 1), parents that had been enrolled in the project for less than 2 years or had attended "very few sessions" (Group 2), parents that had been involved in the project for more than 2 years and had attended meetings regularly. While this qualitative study does not provide causal evidence, the authors observed

⁷ <http://www.unesco.org/uil/litbase/?menu=4&programme=43>

that parents in Group 3 “incorporated more educational activities into their interactions with children than other groups.”

Provision of tutoring skills

Providing information on how a parent can get involved in a child’s education is especially important as parents may not have a reference point from their own education of what parental involvement means and how to practice it with their own child. Interventions that provide information on how a parent can get involved in a child’s education address this need. These parent tutoring interventions (family literacy or home reading programs) often include information on the various techniques that parents can use at home to participate in reading activities and effectively improve their child’s literacy level. These interventions take on the form of in-person training sessions as well as structured activities for parents to walk through with their children.

The majority of interventions reviewed in Section 4 fall under this category and provide training to parents on how best to support their children. In some cases this led to changes in parental behavior while in others the effect on parental involvement was more mixed. For instance, Shah-Wundenberg et al. (2012) provided in-person parent-training workshops to Indian parents on how to engage in Paired Reading and Hearing Reading. The study finds that these interventions led to changes in parents’ behaviors and approaches to reading instruction and positive impact on children literacy scores. Banerji et al (2013) also tested the efficacy of “CHAMP” classes, or weekly sessions with instruction on how to review school notebooks and encourage the child to do schoolwork at home. This study finds that weekly instruction sessions impacted parent behavior although it did not impact student literacy scores. In the Birth to School Study (BTSS) by Evangelou et al. (2007), the Peers Early Education Partnership (PEEP) intervention included a wide range of activities to foster specific aspects of parenting. It organized groups which included circle time, talking time, story time, book sharing, borrowing time and home activities while providing age-appropriate curricula for parents to implement with children. PEEP also offered services for adult learning. The quasi-experimental evaluation found that parents in the PEEP group reported significantly enhanced view of their parent-child interaction when the children were one year old and they were rated higher on the quality of their care-giving environment when children were two years old but found no impact on parental pleasure in carrying out care-taking activities or on range and frequency of parent-child activities.

Some studies have also investigated the long-term effect of providing these types of trainings to parents. Huebner and Payne (2010) trained parents to use Dialogic Reading techniques and tested whether parents continued to use the techniques 2 years after instruction. Treatment parents were taught DR through one of three instructional styles: (1) in-person instruction with video instruction in small groups, (2) self-instruction with video followed by a telephone discussion, (3) self-instruction with video alone. Treatment and comparison parents were interviewed and audio-recorded during a parent-child reading session two years later and results indicate that treatment parents used significantly more Dialogic Reading techniques than comparison groups (DR was twice as frequent in the treatment group), suggesting an enduring effect of instruction of the technique. However the study used a treatment-

comparison post-test design and the comparability of the treatment and comparison group at baseline was not discussed.

Clinical-based interventions in the developed world also employ in-person interventions, using existing opportunities to interact with parents, such as government-recommended health check-ups for infants and toddlers. These interventions take advantage of the trusted roles that medical practitioners play in households. In the treatment group of Goldfeld et al (2012), nurses delivered five minute messages on at-home reading practices, in addition to shared reading activities, guidance materials, and a picture book with mixed results on parental behavior. Similarly, Jones et al (2000), Golova et al (1999) and High et al (1998) evaluated interventions that provided anticipatory guidance to parents by physicians during well-child visits. Physicians recommended early literacy practices (reading aloud and booksharing) and demonstrated how to read to the child during the visit. Families were also given a book and in some cases handouts. These evaluations showed positive impacts on self-reported parent behavior and enjoyment of shared book reading.

More time-intensive programs include Sylva et al (2008), which employed twenty-eight 2.5 hour sessions on reading activities and practices for parents. These interventions combined center training and home visits with detailed manuals, videotapes, DVDs, roleplay, homework, and structured activities. The intervention seemed to have a positive impact on parent's behavior, as well as student reading outcomes; however, the causal link between these interventions and reading outcomes is unclear as literacy interventions were also combined with interventions aimed at improving children's social behavior.

Environmental barriers

Some poor environments face a lack of access to print materials. To address this gap, books, libraries, and physical materials are often provided in addition to parent tutoring or literacy sessions. Interventions may address other physical or environmental barriers, such as electricity or space. The impact of providing these materials alone to communities is undetermined, as most evaluations bundle the provision of physical resources with other interventions. As a result, it is difficult to make definitive claims about the impact of addressing physical environmental barriers on parent behaviors, although addressing these barriers is also a pre-requisite for the success of many of these interventions which aim to increase parental involvement at home.

6. Summary of Findings and Conclusion

Most parental involvement interventions are family literacy interventions, which may focus not only on activities to support children's literacy skills but also on activities to develop parents' literacy skills or good child-rearing practices. Most of these family literacy programs, however, focus on emergent literacy skills which are different from literacy skills - there is some debate among the research community as to whether emergent literacy skills lead to literacy skills, although emergent literacy skills such as vocabulary and phonemic awareness are highly predictive of literacy skills. Furthermore, the

evidence from these studies is mixed. This may be explained by the differences in intensity and content between programs. Programs which are highly intense and structured and provide guided materials to parents seem more effective (Kagitzibasi, 1997; Kagitzibasi, 2009; Buyuktaskapu, 2012; Evangelou et al., 2007) than less intense and less structured programs (Rolla et al., 2006; Aboud, 2007; St Pierre et al., 2005; Golova et al., 1999; Goldfeld et al., 2012, Sherman, 2012).

Another set of interventions aims to teach parents a specific technique for supporting their children read at home. The most extensively studied technique is DR. In general, the evidence shows that DR is effective at increasing children's oral language skills, especially expressive vocabulary (Mol et al., 2008). However, the only long-term evaluation of DR (Whitehurst et al., 1999) found that effects on these emergent literacy skills had faded by first and second grade. There is also some evidence that techniques such as HR and PR may be effective in supporting children's reading development. One study conducted in India (Shah-Wundenberg et al., 2012) found no difference between the two techniques and both techniques positively impacted children's beginning English skills, reading accuracy and comprehension.

Overall, the evidence on the effectiveness of community-focused activities, particularly in developing country settings, is scarce. We have identified two evaluations that aimed to assess the effectiveness of a package of community activities, one in Uganda and Kenya (Oketch et al., 2012), and the other in Burundi (Kajangwa et al., 2013). Both of them show no conclusive evidence that the community components had a positive impact on children's literacy outcomes. Given that many interventions in developing countries are designed as a bundle of activities⁸, this would be an important area of further research. Tutoring seems to be more promising; interventions like Read India and UNICEF's Getting Ready for School as well as Li et al's (2010) peer tutoring intervention in China show that tutoring can lead to positive impacts and that tutoring may be delivered through community members, older students as well as peers. There is also some evidence that education TV programming and interactive radio instruction may impact literacy skills.

In reviewing these studies, however, several key take-aways emerge:

- Parental involvement can take many different forms and no single type of parental involvement has been shown to have a positive impact universally. In general, intense, highly structured programs seem to be more effective. However, this may not be feasible in developing country contexts where resources are limited. Issues of scale and sustainability need to be considered carefully.

⁸ Save the Children's Literacy Boost is one example of a literacy intervention which has included community action activities. Save the Children, in partnership with Stanford University, is currently conducting an RCT in Rwanda to determine the effectiveness of teacher trainings only vs teacher trainings + community action vs control. Other USAID-funded interventions include Creative Associates' project to Revitalize a Culture of Reading in Yemen which organizes parent training, national reading campaign, social media and news coverage. The impact assessment, however, did not isolate the effect of the campaign alone.

- Most of these evaluations involved small sample sizes and therefore it is difficult to know how the interventions would perform if implemented at scale.
- The interventions that have a positive impact seem to be those which are more highly structured and intensive. This has implications for communities which may not have the resources to develop and implement such interventions although positive examples from low and middle-income countries have been found in India and Turkey, for instance.
- The majority of studies which assess the effectiveness of parental involvement on children's literacy skills do not assess the impact of the intervention on parent behavior. Therefore, it is not possible to determine whether a lack of results stems from the ineffectiveness of the behavior or from the ineffectiveness of the intervention to impact behavior. A well-designed impact evaluation must evaluate uptake, impact on intermediate outcomes (behavioral objectives) and impact on ultimate outcome (the overall goal).

Next steps:

The goal of this literature review is to inform the design of pilot interventions to be implemented in partnership with USAID Missions and designed in a way that allows for rigorous impact evaluation. The literature review describes in broad terms a process for developing a strategic communication intervention aimed at achieving greater parental involvement in supporting children's literacy skills. Therefore, the next steps would be to implement this process. In other words, in accordance with principles of strategic communication, the process should be *results-focused*, *evidence-based* and *participatory*. As such, the determination of the specific behavioral objective should be based on evidence but should also be made in consultation with key stakeholders. Given that the evidence base does not point towards a specific type of parental involvement as universally beneficial, this will be an opportunity to test the effectiveness of the parental behavior, along with the effectiveness of the communication strategy.

Table 1. Summary of studies

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Abeberes et al, 2011	Philippines	RCT N = 5,510	T = school received books and 31 day read-a-thon C = no intervention	read-a-thon	letter recognition, sound recognition, word recognition, reading comprehension, reading habits	T>C in # of books read in last month/week, especially during read-a-thon, sustained at follow-up but effect sizes were much smaller T>C in literacy skills at post-test (0.13 sd) and at follow up (0.06 sd)	Yes
Aboud 2007	Bangladesh	T/C post-test design (no pre-test) 159 children 1 year	T = Parenting education sessions for mothers of children less than 3 y.o.; 90-min weekly sessions offered by facilitators on health, nutrition, language development. C = no treatment	Family literacy		T mothers child-reading knowledge > C Children showed no positive outcomes related to nutritional status or language comprehension (receptive vocabulary)	No
Aram and Levin 2009		RCT	Treatment: 3 hour-workshop on mediated practices. Parents carried out pre-planned joint activities with the child three times a week. Weekly home visits by a tutor. T ₁ = joint writing T ₂ = joint storybook reading T ₃ = visuo-motor activities C = no-treatment control	Joint writing and storybook reading (dialogic).	Alphabetical skills, receptive and expressive vocabulary, listening comprehension	Alphabetical skills: letter naming and sounding, PA, word recognition and invented spelling: T ₁ > T ₂ , T ₃ , and C at t2 T ₁ >C at t3 Linguistic competencies: receptive and expressive vocabulary, listening comprehension and definitions: T ₂ > T ₁ and C at t2 T ₂ >C at t3.	Yes

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Banerji et al 2013	India	RCT 2-3 years	T ₁ = Daily mother literacy classes T ₂ = Weekly sessions on how to engage in child's homework T ₃ = Combination of T ₁ + T ₂ C = No treatment	General parental involvement (reading at home with children)	Student outcomes in math and literacy: standard assessment tool Parent outcomes: math and literacy scores, household surveys of mother's time use, attitude of education	T ₁ , T ₂ , T ₃ math scores > C math scores. Only T ₃ had impact on literacy scores. T mother test scores > C ↑ women's empowerment, mother (self-reported) participation in child learning, education assets in the home, and redirection of student time use to homework	Mixed
Bierman, et al 2013	US	RCT 356 children in pre-school	T = Typical head-start program + Teachers asked to plan daily reading lesson, extension activities for reading and social-emotional skills. Parents: Take home materials for parents, including modeling DVDs describing the importance of positive support, emotion coaching, and interactive reading, parenting tips and learning activities to use at home C = No treatment; typical head-start program	General parental involvement (reading at home with children)	Emergent literary skills: letter-word ID, vocab, accuracy, phonologic abilities) Also: learning enthusiasm, social skills, aggressive behavior	T > C in vocabulary, print awareness, and phonological sensitivity. In kindergarten, a sustained intervention main effect emerged only for phonemic decoding.	Yes
Borzekow ski and Henry, 2010	Indonesia	RCT T1 = 58 T2 = 48 C = 54	T1 = high exposure T2 = low exposure C = other TV program	Jalan Sesama (Sesame Street) TV program. Delivery by school teachers.	early cognitive skills, literacy (letter recognition, early reading and writing) and math skills, health, safety, social development, environmental and cultural awareness	T1>C on letter recognition No impact for T2 No impact for early reading and writing	Mixed
Buyuktas apu 2012	Turkey	Quasi-experimental 50 students	T = Family Supported Pre-Reading Program in pre-school C = No intervention (attended regular pre-school)	Family literacy	Student outcomes: reading and writing letters, words, sentences, comprehension,	T children higher reading success than C	Yes

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
					mechanic reading, writing		
Chow & McBride-Chang, 2003	Hong Kong	RCT N = 86	T = dialogic reading (given books) C1 = typical reading (given books) C2 = control (no books)	Dialogic reading	Character identification Visual and auditory discrimination Receptive vocabulary	T>C1, C2 on character identification/visual and auditory discrimination T>C2 on receptive vocabulary C1>C2 on receptive vocabulary	Yes
Ellis 1996	US	Experimental (RCT?) 20 experimental; 38 control	T = reading program C = no-treatment control	Relaxed reading, paired reading, comprehension questions, praise	Reading ability (error rate in passage) Word reading (error rate in word lists) Comprehension, Self-perception of reading ability	Reading ability in T > C. No significant results on other measures	Mixed
Evangelou et al 2007	UK	Quasi-experimental 6 years	T = Organizes groups for parents which include circle time, talking time, story time, book sharing, borrowing time and home activities and provides age-appropriate curricula	Family literacy	Child outcomes: vocab, comprehension, concepts about print, phonology Parent outcomes: Stress level, care-giving environment, freq. of activities	T progress > C in vocab, phonological awareness rhyme, total phonological awareness, letter identification and emergent writing skills between the ages of 2 and 5	Yes
Foster & Bittner, 1998	US	Quasi-experimental One treatment class (T=19) One control class (C=16)	T = parents asked to read to their child C = No intervention	Parents reading aloud to children	Letter Identification, Writing Vocabulary, Concepts about Print	No significant differences between T and C	No

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Goldfeld et al 2012	Australia	RCT 630 parents, 563 children	T = Let's read program, delivered 4, 12, 18, and 42 months during well-child care visits. Parents given age-appropriate book, book list, and guidance messages (plus Let's Read DVD at 4- to 8-month visit only) C= No treatment, regular clinical visit	General parental involvement (reading at home with children)	Child emergent literacy and language skills (core, receptive, and expressive)	Yielded neither the anticipated benefits to literacy and language nor enhanced uptake of literacy activities at 4 years of age, even when targeted to relatively disadvantaged areas	No
Golova et al 1999	US	RCT 135 families	T = Community-based pediatricians gave intervention families an age-appropriate bilingual children's book, a bilingual handout explaining the benefits of reading to children, and literacy-promoting anticipatory guidance in three consecutive visits. C = No treatment (regular clinical visit)	Family literacy	Interview of parental behavior Overall language scores	Joint parent-child reading in T > C (66% in T versus 24% in C read with children). T parents read more often to their children than C. ↑ children's books at home in T v C. Children's overall language scores not statistically different between T and C.	Mixed
Goodson et al 2006	US	RCT 4410 families 5 years	T= CCDP: case management, early childhood education (educating parents about infant and child development, teaching parenting skills, suggest an activity to the parent and to ask the parent to conduct the activity with her child), developmental screening, referred services (linking parents to adult literacy education, vocational training, employment counseling, GED classes, etc) C= No treatment	General parental involvement (reading at home with children)	Child outcomes: cognitive and social progress, and health Parent outcomes: parenting, socio-economic status	Found no statistically significant impact on CCDP families when they were compared with control families in either child outcomes (cognitive and socio-emotional development, and health) on parent outcomes (parenting, family economic self-sufficiency, or maternal life course)	No
Hannon, 1987	UK	Quasi-experimental Treatment cohorts compared to previous cohorts T = 76 C = 64	T = Hearing Reading C = No intervention (Pre-Project)	Hearing Reading	NFER Reading Test A and Young's Group Reading Test	No significant differences between T and C	No

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Hannon et al 2005	US	RCT 12-18 months	T = monthly home visits, literacy resources, scrapbooks, games, center-based activities for parents to meet with teachers, special events such as group visits to libraries, optional adult education component to provide parents with information about local adult education opportunities and an accredited course C = no treatment	Family literacy	Student outcomes: vocabulary		
Kagiticibas i et al 1997 Kagiticibas i et al 2009	Turkey	RCT 255 families 4 years	T = cognitive training (mother training to promote pre-literacy through storybooks), mother-support training (cope with problems) C = No treatment	Family-literacy	Student outcomes: Grades, attendance rate, IQ and standardized tests	At end of study: T child IQ scores, school grades, standardized test scores > C T mothers verbalized more with children and were less punitive than C 6 years after study: T children > school attendance (86% of T versus 67% of C still in school). T grades and attitudes > C. Better parent-child and spousal relationships.	Yes
Kajangwa, et al 2013	Burundi	RCT (at school level) 28 schools total	T = Literary Boost Program, with community action component: parental action workshop, community reading activities such as reading buddies, reading camps, read-alongs), age-appropriate local language material C = No treatment	General community involvement (reading alongside children)	Home literacy environment: access to print, reading activities at home Reading outcomes: concepts about print, alphabet knowledge, single word reading, fluency, accuracy, comprehension)	↑ treatment children reporting seeing someone in household reading over control ↑ learners exchanging/reading books in the community, number of household members reading to children and telling learner stories increased across control and treatment groups	Yes
Leach & Siddall, 1990	Australia	Random assignment into 4 groups N=40 (10 in each group)	T ₁ = Hearing Reading T ₂ = Paired Reading T ₃ = Pause, Prompt, Praise T ₄ = Direct Instruction	Hearing reading; paired reading; pause, prompt, praise; direct instruction	Accuracy and comprehension	T ₄ =T ₂ on accuracy and comprehension T ₄ >T ₁ , T ₃ on accuracy and comprehension T ₂ >T ₁ on accuracy and comprehension T ₁ =T ₃ on accuracy and comprehension	

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Li et al, 2010	China	RCT N = 850	T1 (basic intervention) = pay for grades T2 (cross-cutting) = incentivized peer tutoring T3 (cross-cutting) = parental communication C = no intervention (control schools and within treatment-class control)	incentivized peer tutoring parental communication pay-for-grades incentives scheme	reading and math	T1 only had no effect T1 + T3 had no effect T1 + T2 had positive effect (0.14 sd) T1 + T2 + T3 had largest effect (0.20 sd)	Yes
Miller et al, 1986	UK	Randomized pipeline (2 months delay) T=33 C=21	T = paired reading C = delayed intervention, 2 months later	Paired reading	Accuracy and comprehension	T>C on accuracy No impact on comprehension	Mixed
Miller & Narrett, 1995	US	RCT T1 = 15 T2 = 15 T3 = 16 C = 15	T1 = paired reading with feedback T2 = paired reading only T3 = feedback only C = no intervention	Paired reading Feedback: parents received graphic feedback about students' reading progress on biweekly basis	reading comprehension and phonetic analysis	No effect (but implementation of PR was mixed; only half of parents implemented technique)	No
Oketch et al 2012	Uganda Kenya	RCT 229 schools, 14,000 students 2 years	T ₁ : Core model: instructional model implemented by teachers T ₂ : Core model plus: parental/community involvement, including storytelling, community libraries, and asking parents to read to children C = No treatment	General community involvement (reading alongside children)	Numeracy and literacy standardized tests	Uganda: Oral literacy T ₂ > T ₁ , but not statistically sig (small standard errors). Statistically sig impact on written literacy scores. Kenya: + but not statistically sig impact on written literacy scores; no impact on oral literacy	Mixed

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Opel et al 2009	Bangladesh	RCT 80 preschoolers 4-week program	T = Dialogic reading (teachers ask questions to children and encourage verbal participation) + regular reading program (teachers read story books with illustrations): note this was administered to teachers, not parents. C = Regular reading program	Dialogic reading	Expressive vocabulary, measured in terms of definitions	Mean vocabulary T scores 2x > C	Yes
Powell-Smith et al 2000	US	RCT 36 student/parent pairs 5 weeks	Treatment: Parent tutoring for home-reading programs, with tutoring sessions 4 x a week for 20 minutes T ₁ = Parent tutoring that used children's literature books T ₂ = Parent tutoring that used child's classroom basal reading materials per session C = No treatment	General parental involvement (reading at home with children)	Curriculum-based measurement	Parents implemented the tutoring programs as designed Neither tutoring program had a significant effect upon student reading achievement	No
Pretorius 2003	South Africa	Treatment/Comparison post-test only	T = adult literacy classes, community notice boards, pen friend programs, newsletters, provision of notebooks for Parent-Child diaries, community libraries, box libraries and book clubs, family literacy groups, child-to-child groups, groups to support mothers' involvement with children's literacy development at home, and teenage sexuality and health support groups No control	Family literacy		Benefits were small	Mixed
Rolla San Francisco et al 2006	Costa Rica	Randomized	T ₁ = classroom intervention T ₂ = family intervention: parents instructed in 5 sessions to engage in structured activities T ₃ = tutoring intervention T ₄ = combination C = control	Structured activities around oral and written language at home	Concepts about print, letter identification phonological awareness, vocab, reading	T ₂ and T ₃ : no impact T ₃ and T ₄ : Impact on concepts about Print and letter identification only	No
Shah-Wundenburg, et al 2012	India	Quasi-experimental 241 children	Treatment: home reading programs T ₁ = Paired reading T ₂ = Hearing reading	Paired reading Hearing reading	Reading accuracy and comprehension (through Running Record) Gates-MacGinitie Reading Test	T ₁ , T ₂ scores > C HR and PR treatments performed equally well	Yes

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Scott et al 2010	UK	RCT 174 families	T = parenting program + literacy program C = no treatment	Family Literacy (+ parenting education focused on child behavior)	Parent-Child relationship Child behavior Literacy outcomes: single word reading ability	T > C on parent-child relationship No impact on child behavior or literacy outcome	No
Sherman 2012 vs.	Armenia Tajikistan Kazakhstan Bosnia and Herzegovina	RCT Quasi-experimental Matching	T: Getting Ready to School C: No Treatment	Family Literacy	Parents' perceptions, teachers' perceptions, Child numeracy and literacy skills	Mixed short run effects. No effects one year later on literacy or numeracy outcomes	No
Sim et al 2013	Australia	RCT	T ₁ = Dialogic reading T ₂ = dialogic reading + print referencing C = attention-matched control group	Dialogic reading or dialogic reading with print referencing	Receptive and expressive vocabulary Phonological abilities (rhyme, syllable, phonemes) Alphabet knowledge Concepts about print	T ₁ and T ₂ > C at post-test for expressive vocabulary, PAT-rhyme and CAP No other impact at post-test T ₁ and T ₂ > C at follow-up 3 months later for CAP only.	Mixed
St. Pierre 2005	US	RCT 463 families 2 years	T = Even Start program-- parenting education, adult education, and early childhood education C = No treatment	Family literacy	Child measures: listening comprehension, letter-word id, dictation, story and print concepts, written skills, social skills, parent rating Parent measures: reading vocab, letter-word id, passage comprehension	No statistically significant or educationally important impacts on Even Start families when they were compared with control families on child literacy outcomes, parent literacy outcomes, or parent-child interactions	No

Author	Loc.	Method and Sample	Arms	Behavior	Outcomes measured	Results	Positive impact?
Sylva et al 2008	UK	RCT 100 children from inner city disadvantaged communities	T = prevention program aimed at tackling behavioral and literacy problems		Child literacy: ability to read single words, vocab, rhyme and alliteration, phonological awareness, concepts about print, writing Parental behavior: self-reported	T effect of the intervention on children's word reading and writing skills, as well as parents' use of reading strategies with their children > C	Yes
Tizard, Shofield, Hewison 1982 Hewison 1988	UK	Quasi-RCT (at the class level)	T = Extra teacher help. Parents were encouraged to listen to child read through meetings with teachers as well as through home visits through advice and demonstrations. Parents also received books school. C = No treatment	Parents listening to their child read with no special training in the techniques of tutoring.	Word recognition, reading comprehension, phonics.	Difference between experimental vs. control groups (positive impact), no significant difference between extra help vs. control groups. One year after: positive impact for experimental group over control remained. Three years after: Students who were part of the parental involvement program still benefited from the program while the children who had received extra teacher help did not perform better than controls	Yes
UNICEF	Bangladesh DRC Tajikistan Yemen		T= Getting Ready for School – Child –to-Child	Tutoring by older children Information to parents	On-time enrolment Child and parents connectedness to school Academic and social skills	Positive in Yemen and DRC Only partially positive in Bangladesh No effect in Tajikistan	Mixed
Whitehurst et al 1988	US	RCT (by class) 280 children	T = Head start C = no treatment	Dialogic reading vs conversational training		Effects on emergent literacy skills positive for treatment group (as measured in Kindergarten) Did not carry over to reading outcomes in 1st and 2nd grade	Yes

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Annex A: List of Organizations Interviewed

- Creative Associates
- FHI360
- Hewlett Foundation
- Plan International
- Room to Read
- Save the Children
- UNICEF/Moldova
- UNICEF Consultant
- World Vision