The Effects of a Play-Based Preschool Learning Program in Rural Ghana

Researchers:

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Sector(s): Education, Health

Fieldwork: Innovations for Poverty Action (IPA)

Location: Northern and Upper East Ghana

Sample: 2,400 pre-school aged children and 2,400 caregivers

Target group: Children under five

Outcome of interest: Student learning Cognitive development

Intervention type: Early childhood development

AEA RCT registration number: AEARCTR-0002777

Research Papers: Lively Minds: Improving Health and Development through Play—A Randomised Contro...

Partner organization(s): Lively Minds

As in many other developing countries, children under the age of five in rural Ghana often fail to reach their developmental potential. Researchers there are partnering with the organization Lively Minds to evaluate the impact of a low-cost, play-based learning program on early childhood cognitive development. Preliminary results suggest that the Lively Minds program is an effective and potentially scalable way to improve children's cognitive and socio-emotional development, health, and school readiness.

Policy issue

Early childhood is a crucial time for development, since during these early years children form the basis for future learning. However, in developing countries, many children under five fail to reach their developmental potential. Training caregivers to run educational "Play Schemes" in kindergarten classes may be a cost-effective way to improve early childhood development, but there is little rigorous evidence on its efficacy. In Ghana, researchers evaluated whether a play-based learning program that engages both teachers and parents could improve early childhood cognitive development at low cost.

Context of the evaluation

This evaluation took place among pre-primary schools in the Bongo District (Upper East Region) and Tolon District (Northern Region) of Ghana. In remote, rural communities in Ghana, many children do not receive any education before primary school. Although Ghana has introduced two years of kindergarten into the primary education system, many rural schools struggle with a lack of trained teachers, large class sizes, lack of play-based resources, teacher absenteeism and an emphasis on rote-based teaching.

Additionally, low levels of maternal education may reduce rural parents' involvement in their children's education. Maternal education levels are particularly low in the areas where this study took place. As of 2014, the median educational attainment for

women was 0 years in the Northern region and 2.9 years in the Upper East region, compared to a national average of 7.2 years.[1]



Schoolchildren hug their teacher in Ghana.

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Details of the intervention

Researchers partnered with Lively Minds, an organization that runs educational programs in rural Ghana and Uganda, to evaluate the impact of a community-led play-based learning program on four- to five-year-old children's cognitive development and health. Among eighty rural schools, half were randomly assigned to receive training and support from Lively Minds, while the other half served as a comparison. The Lively Minds program included the following components:

1. Teacher training:Two kindergarten teachers from each school received a training course on the importance of education and play, classroom management, how to use and make games, and how to train volunteer mothers on implementing the program.
2. Volunteer training:The trained kindergarten teachers then trained 30–40 mothers in their community during two two-hour community meetings and eight two-hour participatory workshops. The training was designed for women who are illiterate and have never been to school. Content included the importance of education and play, how to make and play games, child-friendly teaching, and how to install simple handwashing devices (tippy-taps) at home.
3. Play schemes:Four days a week for one hour each day, groups of trained mothers volunteered at the kindergarten. Each mother ran a play station using discovery-based methods, rather than the rote-based teaching that is common in Ghana's kindergarten classrooms.There were five play stations in each kindergarten: matching and sorting; numeracy; sizes, colors,

and senses; books; and building. Children had to wash their hands with soap before participating, which aimed to develop handwashing habits.

4. Ongoing support:Ghana Education Service officials and Lively Minds staff had monthly meetings to track the progress of the play schemes and ensure implementation quality. Once a month, “top-up” training workshops were held for kindergarten teachers.

To measure the impact of the program on children’s cognitive development, researchers used the International Development and Early Learning Assessment (IDELA) tool, which tests pre-numeracy and pre-literacy skills, socio-emotional and motor development, and self-control. They also measured the program’s impact on child health outcomes, school attendance, caregivers’ psychological well-being and knowledge of childcare, and parents’ investment in their children both inside and outside of school.

Researchers measured these outcomes before the intervention began in late 2017, mid-way through the program in April 2018, and after the program ended in August 2018.

Results and policy lessons

Researchers are still analyzing data for a complete analysis — all results reported below are preliminary.

Overall, the Lively Minds program had positive impacts on children’s cognition and school readiness, with improvements in pre-numeracy, pre-literacy, and fine motor skills. The program also improved children’s socio-emotional development, in particular reducing children’s externalizing behaviors (conduct problems and hyperactivity). Children in program schools also saw health improvements indicated by an increase in average upper arm circumference.

In addition, the program had positive effects on the well-being and behavior of the volunteer mothers: as a result of the intervention, their self-esteem and mental health improved, they were more likely to know their children’s teachers and visit schools, and their knowledge and practice of hand-washing improved.

These preliminary results suggest that the Lively Minds program is an effective and potentially scalable way to improve children’s cognitive and socio-emotional development, health, and school readiness. In contrast to many early childhood education programs, the program was administered by volunteers rather than highly-trained professionals, which suggests that it is possible to improve child development in overburdened school systems by involving parents and using existing infrastructure. A critical priority was ensuring that the intervention was delivered within existing government systems to facilitate sustainability and pathways to scale. “Hybrid” early childhood development programs that simultaneously target home and pre-school environments through parents may be effective at improving both child development and parents’ well-being and practices. As a growing number of low- and middle-income countries are rolling out universal access to preschool but struggle to ensure adequate quality of education, this evaluation also provides an example of a program successfully implemented in a remote, rural setting.

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1. Ghana Statistical Service (GSS), Ghana Health Service (GHS), and ICF International. 2015. Ghana Demographic and Health Survey 2014. Rockville, Maryland, USA: GSS, GHS, and ICF International.