



CAMBODIA: Can new and improved preschools improve child development in rural communities?

Early childhood is a critical period for growth and development. Research shows that giving young children enough nurturing and stimulating experiences during these early years not only improves their chances of success in school but can also help them succeed and be more productive later in life. Although access to preschool has increased substantially in recent years, in many low-income communities children don't receive any educational services before they start primary school. In some cases, parents aren't aware of the value of early education and might not take advantage of opportunities to enroll their children in preschool, even when services are available. Furthermore, policymakers face the challenge of ensuring early childhood education is of high quality. While a number of carefully implemented, small-scale programs have produced large improvements in children's cognitive and social-emotional development, it is unclear if programs implemented on a large scale in resource-constrained settings can do the same, particularly if the preschool environment provides lower levels of stimulation and care than what the children receive at home.

To help answer these questions, researchers conducted an impact evaluation in the context of a national effort to increase preschool coverage and improve its quality in Cambodia. The evaluation, which was supported by the World Bank's Strategic Impact Evaluation Fund, measured how the construction of new and improved preschools affected school participation and child development. Since providing infrastructure alone may not be enough to get families to send their children to

preschool, the research team also looked at whether providing parents information about preschool services led to higher participation rates and, ultimately, to larger developmental impacts. Overall, the evaluation found that the upgrades were successful in increasing enrollment rates, and many families moved their children from pre-existing schools to the improved ones. The impacts on cognitive development, however,



Source: Jan Berkes

were uneven: children from wealthier families benefitted, while children from poorer families experienced little improvement. Contrary to expectations, the awareness campaigns didn't augment the impacts of school construction. These results suggest that school construction in rural communities can increase access to early childhood education programs, but that pedagogical methods and processes may need to be improved to support the development of disadvantaged children.

Context

Although Cambodia has experienced two decades of robust economic growth, it remains one of the least developed countries in Southeast Asia, and the country faces many challenges in the education sector.

Before this project started, two types of public preschools existed in Cambodia: state preschools and informal preschools (in Cambodia these were also called community preschools; for expositional clarity they are referred to here as informal preschools). State preschools were and still are financed by Cambodia’s Ministry of Education, Youth and Sport. The ministry provides teachers with two years of formal training in a teacher training center. After being placed in a school, teachers receive a monthly salary of roughly \$250 to teach for three hours a day, five days a week. Classrooms are equipped with teaching and play materials, and school buildings and facilities are of good quality. Informal preschools, on the other hand, were inferior in terms of infrastructure and teacher training, quality was inconsistent, and teachers received irregular and relatively low pay.

In an earlier evaluation, researchers worked with the Government of Cambodia to evaluate the impact of three pilot early childhood development programs that were being scaled up with assistance from the World Bank.* The scale up faced implementation challenges related to delays in building schools and problems paying teachers. Another challenge was parents’ low use of the preschool services.

Building on the lessons learned from this evaluation, the government of Cambodia revised its approach to strengthen the quality of preschools and increase demand for these services. As part of this effort, the Cambodian government estab-

lished 500 new community preschools nationwide and created an information campaign about the returns to education to help spur demand for these services. The government decided to scale up these community preschools as a strategy that was feasible in the short run and as a less costly alternative to scaling up the state preschools. Some of the new preschools were built in villages that previously had no preschool, had an informal preschool, or were too large to be served by one preschool alone. Apart from the structural improvements, the community preschool teachers received a package of teaching materials and 35 days of training, which included lessons in pedagogical strategies, curriculum content, testing, as well as basics of child development, child rights and parental education.

Did you know...

In low-income countries, [only 1 in 5 preschool-aged children](#) is enrolled in school.

In Cambodia, preschool enrollment of five-year-olds has greatly increased in recent years:

From	40 percent in 2009 to
	56 percent in 2012
	66 percent in 2016

But there are skill gaps between poor and more affluent children that widen during the preschool years. Analysis of a (non-national-ly representative) sample of households revealed that:

- At age 3, the score gap between the top and bottom wealth quintiles is 0.09 standard deviations in early numeracy and 0.3 standard deviations in language.
- By age 5, the score gap reaches 0.92 standard deviations in early numeracy and 1.18 standard deviations in language.

(Sources: UNICEF, GPE, Berkes et al (World Bank working paper, 2019), and Berkes et al (Developmental Science, 2019)

Evaluation

Researchers used a randomized controlled trial to evaluate the impacts of this community preschool upgrading and expansion effort on school participation and children’s social-emotional and cognitive development. The research team assessed the impact of school construction with and without an awareness campaign. Two levels of intensity were tested for the awareness campaign, though both aimed to increase parents’ awareness

about preschool education, and in turn their demand for, preschool services.

The study took place in 305 villages in 13 provinces in south and northeast Cambodia. The villages qualified for the program if they desired a community preschool, had a high poverty rate, and had a large number of children five years old or younger.

*Adrien Bouguen, Deon Filmer, Karen Macours and Sophie Naudeau, “Preschool and Parental Response in a Second Best World: Evidence from a School Construction Experiment,” *J. Human Resources* (2018) vol. 53 no. 2 474-512 and Adrien Bouguen, Deon Filmer, Karen Macours and Sophie Naudeau, “Impact Evaluation of Three Types of Early Childhood Development Interventions in Cambodia,” World Bank Policy Research Working Paper; No. 6540

Before baseline data collection began, villages were randomly assigned to a control group or one of three treatment groups: i) a group that received a community preschool, ii) a group that received a community preschool and a door-to-door awareness visit by a village leader and field staff, or iii) a community preschool with both the door-to-door awareness visit and counselling on early stimulation and nutrition based on Cambodia's existing home-based program.

The door-to-door awareness program aimed to stimulate demand for early childhood development and education programs by speaking directly to individual caregivers. The goal was to sensitize them to the value of preschool education and guide them through the enrollment of their children at a community preschool. The information was provided in a leaflet and distributed by the local village head and members of the evaluation field staff.

The home-based program was a more intensive approach that was implemented by local volunteer parents. These parents underwent a 35-day long training from Ministry of Education and Youth Services that covered a wide range subjects

such child rights, pre- and postnatal care of mothers, hygiene, nutrition, disease prevention, developmentally appropriate activities for children, school readiness, disabilities, health services, and child protection. These volunteers were responsible for promoting preschool enrollment of children aged three to five years and for leading monthly informational meetings with parents of children up to age six.

Researchers collected and analyzed three main waves of data collection: a baseline survey from May-July 2016, a mid-line survey from April-June 2017, and an endline survey from May-July 2018. Through detailed classroom observations, they were able to measure both structural and process quality. In addition, a brief monitoring survey conducted in late 2016 helped confirm that the school construction was proceeding as scheduled.

To measure cognitive development, the research team used a child assessment which took about 45 minutes to administer to each child and which aimed to measure children's skills related to executive function, language, and early numeracy, as well as their fine and gross motor development.

Findings

The construction of the community preschools increased preschool participation overall and induced school switching.

Children in villages with a newly built school were 11 percentage points more likely to have ever attended a preschool by the time they were between four and six years old (70 percent in the program group compared to 59 percent in the control group). This impact translates to about one more month of preschool for children in areas that received the new preschools, relative to children in the control group (who were enrolled for an average of about 5.4 months).

In community preschools specifically, enrollment increased by 41 percent after one year, largely because many families moved their children from informal preschools to the improved community preschools (since in many cases the latter replaced the former).

For the average child, the construction of the community preschools led to slight improvements in cognitive and social-emotional development at first, but these small impacts faded out over time.

One year after the program started, children's cognitive development improved by a small amount as a result of construction of the new schools, but for the average child this improvement faded out completely by the two-year mark. More specifically, children in treatment villages scored a significant but negligible 0.04 standard deviations higher on an index of cognitive development (made up of measures of early literacy and numeracy along with executive function). After two years, however, these impacts were even smaller and no longer statistically significant.

Similarly, children's social-emotional development also improved modestly after one year as a result of the new school construction. Children in the villages with the new preschools scored 0.09 standard deviations lower on an index

of social-emotional problems. These impacts, however, also faded out by year two.

Beyond average effects, the program widened the cognitive development gap between children from wealthy families and children from poorer families between year one and year two.

Impacts on cognitive development for children from the wealthiest households were larger and statistically significant. Children in the highest wealth quartile showed gains of 0.09 standard deviations compared to their counterparts in control villages after one year of the program and gains of 0.13 standard deviations after two years. These results suggest that wealthier families benefitted more from the preschools.

These uneven and limited impacts on child development point to a need to focus on pedagogical practices and the quality of teacher-child interactions.

While the construction of the community preschools led to substantial increases in infrastructure and the availability of materials, this improvement in structural quality was not accompanied by a concomitant improvement in the quality of educational content.

Classroom observations show that the new community schools were substantially better than the informal schools and about the same as state preschools in structural quality. For example, teacher characteristics and classroom setup were similar. Classroom equipment was even better in community preschools than in the state preschools. However, the observations also show that curriculum content and the quality of pedagogy, as well as the frequency and quality of teacher-child interactions, were only slightly better in the community schools than in the old informal schools—while those in the state schools were substantially better. The results are consistent with research showing that pedagogical practices and the quality of teacher-child interactions are key to child development.

The awareness campaigns, even the more intensive home-based program, had no additional impact on school enrollment rates, parental involvement, or child development.

Children in villages where the awareness campaigns were deployed were not more likely to enroll in the new schools (or any type of preschool). This was despite the fact that caregivers in those villages were more likely to recall receiving a leaflet promoting preschool enrollment (8 percentage points more likely) and participating in home-based program sessions (10 percentage points more likely). The findings suggest that the awareness campaigns, which were designed to increase demand for preschool, did not heighten the effects of preschool construction alone.

The lack of impact from the awareness programs—even the most intensive version—could be due to inadequate information or support. Researchers cannot rule out the possibility that even providing both the door-to-door and home-based program together did not have the intensity required to make a large enough difference and that a more intensive program (e.g., more frequent household visits) might have had larger impacts.

Community preschools cost much less to build and run than state preschools, but knowing which is actually more cost-effective would require more research.

Estimating cost-efficiency is quite straightforward as it only requires an estimation of the annual unit cost to deliver the program. The estimated average cost per child per year was between \$331 and \$669 for state preschools and between \$156 and \$443 for community preschools.** To understand if the extra cost of state preschools is worth the extra investment, further study would be needed on whether and to what extent the state preschools better promote child development. While this study suggests that the new community preschools do not substantially promote child development over and above the mix of services that children in the control group receive (a mix of state preschools, informal preschools, and stimulation in the home) and that pedagogical quality appears to be higher in the state preschools, there is currently no estimate of the value-added of the state preschools on child development.

**Jan Berkes, Adrien Bouguen, Deon Filmer, Tsuyoshi Fukao, [“Combining Supply and Demand-side Interventions: Evidence from a Large Preschool Program in Cambodia,”](#) Impact Evaluation Final Report, June 2019

Conclusion

Overall, the evaluation found that constructing the community preschools increased enrollment and moved children who had been attending informal schools into structurally better schools, as intended. However, the information campaigns—even the most intensive one—didn’t further increase demand, and researchers didn’t find much improvement in children’s cognitive or social-emotional development. These findings are consistent with other studies that show that it is hard to implement large-scale preschool programs that improve child development.

These findings have implications for both intervention design and research. On the program side, it is likely that the focus of policy should shift to improving the quality of community preschools, now that preschool coverage is relatively high. A key place to start would be the training of the community preschool teachers—which was much shorter (35 days, compared to two years) and less intensive than the training the state preschool teachers received. The training gap likely contributed to the low levels of pedagogical skills and poor teacher-child interactions measured through classroom observations. Similarly, there was a large pay-differential between the two types of teachers, which might have affected both the composition of teachers that applied for positions in community schools as well as their motivation

on the job. Teachers in community preschools earned only a quarter of what their counterparts in state schools earned per month.

The findings also suggest that further research should explore the drivers of preschool demand and quality. The demand-side approaches tested in this evaluation were not enough to mobilize much additional enrollment over and above simply building preschools, suggesting that other factors inform parents’ decision to send children to preschool. Direct or indirect costs may play a role, so approaches to reduce those costs—for example, cash transfers or even further reductions in travel distances—might be necessary to induce higher participation rates.

In addition, if the quantity and quality of preschool services fail to meet families’ needs, households might have low demand for them. Therefore, increasing the time spent in preschool per day or the quality of preschools may increase families’ demand for them. Further investigation of the factors that enabled children from wealthier families to reap higher benefits from the schools is also critical, as this understanding will be key to designing programs that help young children in resource-constrained homes reach their full potential.

The Strategic Impact Evaluation Fund, part of the World Bank Group, supports and disseminates research evaluating the impact of development projects to help alleviate poverty. **The goal is to collect and build empirical evidence that can help governments and development organizations design and implement the most appropriate and effective policies for better educational, health, and job opportunities for people in low and middle income countries.** For more information about who we are and what we do, go to: <http://www.worldbank.org/sief>.

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