Providing information to students and parents to improve learning outcomes

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Giving parents and students information about their educational performance or options often increases parental engagement, student effort, or both, leading to improved learning outcomes. Providing information is also typically a low-cost intervention.



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Summary

Many children struggle to master basic skills despite a rise in school enrollment around the world. For instance, India's 2018 Annual Status of Education Report (ASER) found that only about half of all grade 5 students in rural India could read a grade 2 text [3], . Assessments showed similar results in many other countries [28]. Programs providing information—about parents' roles in education, school quality, students' academic levels, students' health problems, financial aid, and wage returns to education—attempt to address this lack of learning by making relevant information more available to parents and students.

Results from 23 randomized evaluations from low-, middle-, and high-income countries show that overcoming a gap in knowledge about education often increases parental engagement, student effort, or both, leading to improved learning outcomes. Almost all of the programs in this insight led to an increase in parental involvement or student motivation, which led to small to medium increases in learning. However, disseminating information has not improved learning levels when key health, financial, or structural barriers persist that information alone cannot overcome or when the information is discouraging, rather than encouraging, to students.

Because information-based interventions are typically very low cost and have been effective in many contexts, policymakers interested in increasing learning outcomes should consider if there are gaps in parent or student knowledge that they can

overcome.

Supporting evidence

Providing parents with clear, actionable guidance on how to be more involved in their child's academics has improved learning outcomes for their children. Student learning often increases with parental involvement, but parents often do not know how to fully engage at home. Some programs bridge this gap by sending parents actionable advice such as specific activity suggestions or other short, simple tips, often via text message. A program in the United States sent three texts per week to parents of preschoolers with direct advice on quick ideas to enhance their child's learning, often by adding a small educational opportunity onto another everyday activity [30], . The program increased parental involvement (including telling children stories, reciting nursery rhymes, showing children books, and more) by 0.15 to 0.29 standard deviations and led children to score 0.11 standard deviations higher on a literacy test, while originally low-scoring students' scores increased by 0.31 standard deviations [30], . A similar program improved reading comprehension by 0.21 to 0.29 standard deviations for third and fourth graders [20], . The program did not impact first or second graders, perhaps because the tips were designed to support students who had already mastered basic literacy [20], . A program in the United States found that the effect of these texts was strengthened by personalizing them to match students' skill level, which aligns with a broader body of evidence on tailoring instruction to improve learning., Parents who received targeted texts reported engaging more in literacy activities [14], . Consequently, their children were 1.47 times more likely to move up a reading level compared to students whose parents did not receive any messages [14]. Timing of texts is an important design element: A program in the United States was less effective when parents received texts either too frequently or too infrequently [11], . Additionally, sending texts during the weekend was more effective than sending texts during the week, as working parents may be too busy during the week to fully engage with the suggestions [12].

In contrast to text message programs, three two-hour meetings for parents of sixth graders in France, which advised parents on how to be more involved in students' education, boosted parental involvement but did not improve test scores [5], . However, students exhibited more positive attitudes and had better school attendance [5].

Providing parents with school performance statistics has increased parental engagement and learning outcomes. Parents often lack the information on school quality they need to make an informed decision about what school to choose or to know when to advocate for improved quality. Two interventions that provided report cards with schools' average test scores both increased learning. In Chile, giving school report cards to parents of preschool children (along with a video about the importance of school choice) improved math and language test scores by 0.22 standard deviations for children who were not yet enrolled in a school at the time of the intervention [1], . Researchers believe this was because the program made parents more aware of their role in, and the importance of, searching for a high-quality school for their child [1], . In Punjab, Pakistan, school report cards improved average test scores for schools that received the report cards by 0.11 standard deviations, reflecting an additional gain of 42 percent over comparison villages [2], . For the schools in which student learning improved, parents also became more engaged with the school. Researchers speculate that parents' increased engagement resulted in more pressure on the school, which could have played an important role in increasing investments in school quality and therefore improving test scores [2].

Providing parents with information about their child's performance in school has increased learning. Eight programs in Bangladesh [17], , Chile [10], , Mozambique [26], , Pakistan [2], , and the United States [7], [8], [21], [9], improved learning outcomes by telling parents about their child's current educational performance. A ninth program in Colombia [6], had a positive impact on learning that faded over time. Programs reported different types of information: Eight programs [10], [2], [6], [7], [8], [21], [9], [17], told parents about their child's academic performance, three [10], [8], [26], provided information on

attendance, two [10], [21], on behavior, and two [7], [8], on missing assignments. The impacts of these eight programs ranged from a 0.10 to 0.38 standard deviation increase in test scores [8], [17], , a 0.09 to 0.19 standard deviation increase in grades [10], [7], , and a 28 to 41 percent decrease in course failure [8], [21], . Several programs also had non-academic effects including increased attendance [8], [26], and reduced misbehavior [10].

Many researchers noted that impacts on learning were likely due to changes in parents' behavior, which in turn improved student effort or instruction quality at school. Six programs reported increased parental engagement [6], [8], [7], [17], [21], [2], [10], , including more parent-teacher meetings [6], , parents contacting schools [8], [7], , and time spent helping with schoolwork [17], . Parents also reported taking away privileges for bad grades [7], and changing the content of conversations with children to better emphasize what they could improve [21].

Policymakers considering parental information provision programs should keep in mind several implementation features. The programs above sent information to parents via texts [10], [7], [8], [21], [9], , take-home report cards [2], [26], , emails [7], [21] , , calls [7], [21], , or short in-person meetings [17]. All of these channels of delivery are fairly straightforward, although it is important to note that they require schools to have contact information for parents (often phone numbers or emails). This information is typically already recorded by schools but could be collected by teachers or school administrators at the beginning of the school year if not. Parental literacy may present a barrier in areas with low adult literacy rates; calls or short in-person meetings might be more appropriate in these contexts. In some areas, cell phone, internet, or electricity coverage could prevent parents from receiving phone or email-based messages. In these cases, schools should determine the most reliable method of conveying information to parents. Finally, in addition to choosing a delivery method, schools must collect data for the content of these messages. This requires that schools have a system in place to track and record student absences, late assignments, academic progression, and/or in-class behavior.

Another key feature of this type of program is affordability. After initial systems are established, almost every program reported being very low cost [10], [26], . For example, in the United States, a program reported spending USD$0.002 per text [8], , in Pakistan a program reported spending USD$1 per child per year [2], , and in Bangladesh a program reported spending USD$1.58 per student over two years [17].

Health information programs sometimes help parents improve their child's health and ability to learn but only if parents understand and can act on the information provided. A child's health and her ability to learn are intricately linked.[1] However, providing parents with information about their child's health has often not been enough to improve it: Among five programs that told parents about their child's health, health and learning only improved when information was accompanied by a complementary intervention. Information campaigns alone may have been insufficient because the information's importance was not conveyed or because parents could not act on it.

In Shaanxi, China, telling parents about their child's anemia status or ways to prevent anemia had either a very small effect on health or none at all [23], [27], . Consequently, these programs had no effects on learning [23], [27], . This may be because parents were not able to translate this knowledge into increased iron intake for their children due to lack of resources or because their children attended boarding schools and received most of their nutrition at school [23], . Similarly, in Ningxia, China, the children of parents who received weekly texts about anemia prevention did not experience increased iron levels or perform better on math tests [24].

Two programs that provided health information plus a complementary intervention did increase learning outcomes. In the United States, while free vision screening had no effect on learning, test scores did increase when, in addition to screening, glasses were provided to those who needed them [15], . In China, a more intensive version of the Ningxia anemia program improved students' general health. Children of parents who received both weekly texts about anemia prevention and monthly quizzes on this

information performed 0.14 standard deviations better on math exams and concentrated more in class, perhaps because these parents could better recall the information or perceived it to be more important and therefore acted on it [24], . Policymakers should therefore consider if parents will understand the importance of information or be able to act on it, as barriers other than a lack of information (such as financial constraints or physical distance) are also important. For more information on improving learning through school-based health programs, see here.

Providing information about financial aid will likely not increase learning unless other barriers are also addressed. Students are often not aware of financial aid opportunities or how to qualify for them. Three programs in Chile, China, and Mexico told students about financial aid opportunities, but only the program in Mexico improved learning, perhaps because it was the only one that provided additional information to spur academic improvement.

In Chile, students from the highest income bracket are 45 percentage points more likely to be enrolled in tertiary education than students from the lowest income bracket [13], . A program showed low-income eighth-graders a video about scholarships and how improved effort and grades could help them qualify for these opportunities [13], . Although the video increased attendance, it had no effect on students' grades [13], . Similarly, in China, up to a quarter of low-income students do not complete middle school, compared to fewer than 3 percent of high-income students [29], . An information campaign made students more aware of financial aid opportunities by giving seventh graders information about, and a commitment to provide, financial aid for three years of high school [29], . However, this knowledge was not enough to increase math achievement or decrease dropout rates [29], . In both programs, translating information into increased learning may have required other complementary types of support, such as better-quality teaching or more school resources. Researchers noted that in China specifically, the school system is so competitive that very strong academic performance is a more important criteria than ability to pay [29]; knowing that high school is financially feasible is not enough to make it academically feasible. This highlights the importance of contextual factors when considering the relevance of these programs.

In contrast, a program in Mexico that gave information about higher education scholarships did improve test scores by 0.31 standard deviations [4]. The program may have been effective because it also provided information on the returns to education (described below). This additional knowledge may have served as extra motivation for students, a component not present in the other programs.

Policymakers considering information campaigns about financial aid should keep in mind that such programs are typically very low cost [4]. However, they should also consider whether students will be able to act on the information being presented to them and if additional resources or other complementary information might make these programs more effective.

Providing information about the financial returns to education has led to improved learning outcomes. In many contexts, additional schooling increases future wages. As with financial aid opportunities, not all families are aware of the financial returns to education. If parents underestimate these returns, they may be less willing to pay tuition or conduct a serious search for high-quality schools. If students underestimate returns, they may spend less effort on academics. Providing information about the returns to education tends to be very low cost [4], [1], [25].

Three programs that told parents [1], , students [4], , or both [25], about average wage returns to different levels of education all increased learning. In some cases, students were motivated to increase their effort [4], . In Mexico, a program told students about average earnings of workers who had completed high school, which was higher than the students estimated [4], . As noted above, the program also mentioned financial aid opportunities [4], . These students improved test scores by 0.31 standard deviations as compared to students who did not receive any information [4], . A program in Madagascar explained average earnings by education level and the increase in income one could expect from higher levels [25], . Students who heard this information performed 0.20 standard deviations better on tests than comparison students did several months later [25], . In fact, students

who learned that returns were greater than they had guessed performed 0.37 standard deviations better on tests than comparison students [25], . Researchers hypothesized that the gains were explained by increases in effort—the students in Mexico reported a 0.24 standard deviation increase in effort at school [25], [4], . Although all students in the Mexico program increased their effort, only high-income students with already strong academic skills were able to translate increased effort into higher test scores [4], suggesting that while information is important, other barriers exist.

The previously discussed program in Chile (that provided parents with school report cards) also increased learning through reporting on returns to education but due to a shift in parents' behavior rather than students' [1], . The program in Chile showed parents of preschool students videos about wages associated with higher education and encouraged them to take seriously the decision of picking their child's school [1], . The intervention also provided schools' average test scores [1], . Five years later, students whose parents waited to pick their school until after the program performed 0.22 standard deviations better on exams [1], . These improvements are likely due to parents' improved motivation to make an informed school choice given that the intervention also shifted parents toward selecting higher-achieving schools [1].

Policymakers should note that additional research suggests learning about the returns to education has also increased attendance [18], and has sometimes, although not always [19], , shifted desired career paths away from jobs or post-secondary degree choices with the lowest earning potentials [16]. However, policymakers should also note that providing information on the returns to education would likely not be motivating for students in contexts where achieving a higher level of education consistently does not lead to increased wage returns.

However, providing information about the returns to education has not increased learning when students or parents overestimate the benefits or when other barriers persist. Just as learning that the returns to education are higher than expected often motivates students, learning that they are lower than expected may disincentivize effort. In the Madagascar program, there was either no effect or a slightly negative effect on learning among students who overestimated returns [25], . Sharing the returns to education may also not increase learning if a lack of information was not the main barrier to student learning. For example, a program in China that gave information to grade 7 students about financial returns to different levels of education had no effect on learning [22]. Researchers suggest this may have been because many students correctly identified that they were personally receiving a low-quality education, and also that due to high tuition fees, continuing to attend school was not financially feasible even if it would lead to higher wages.

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