Engaging South African Students in Online Learning

Boosting the quality of education for schoolchildren with behavioral science

ideas⁴²

Online learning programs can significantly improve children's educational outcomes in low and middle income countries, leading to better employment opportunities and greater earning potential. However, these programs are only effective if students can access them easily and engage with them consistently. We partnered with two South African organizations to identify barriers stopping students from using their online learning programs and to design solutions for increased engagement.

Summary

South Africa ranks among the world's highest investors in education, spending 19.5% of its entire 2020 budget on schools. This investment has led to high levels of school enrollment, but the quality of education remains low. More than three quarters (78%) of South African fourth graders can't read for meaning, and low literacy can impair children's future.

Online learning programs, which are designed to help students practice reading, math, science, and other subjects at school and at home, hold promise for improving children's learning. But for various reasons, these programs are falling short of their potential. This is in part because students lack access to the technology (e.g., smartphones, laptops, high-speed internet) needed to use these programs. But even when students can access them, the programs are only effective when students engage with them for a minimum period of time, and do so consistently. In short, both structural and behavioral barriers are hampering educational progress.

Highlights

▸ Online learning programs hold great promise, but students in South Africa are underusing them.

▸ Rather than trying to change student behavior directly, we explored how teachers and caregivers can encourage more students to use these platforms more often.

▸ We identified six behavioral designs that can encourage students and the adults around them to integrate online learning into a broader educational picture.

In order to address these challenges, ideas42 partnered with two South African organizations to engage more students in online learning. The organizations, Siyavula and the Click Foundation, offer online learning programs for primary and secondary school students, covering math, science, and reading. Although we were ultimately interested in student outcomes, we recognized that students are only part of the behavioral calculus; teachers and caregivers play an important role in a student's education, and, because any one teacher works with many students, are often a more effective way to help the most students. So to begin, we focused on understanding the barriers that 1) prevent teachers from integrating online learning into their practices, and 2) impede caregivers from encouraging their children to use these programs at home. We then designed a set of behaviorally informed solutions to increase teachers' and caregivers' engagement with online learning programs, in order to increase students' use of these platforms and improve their numeracy and literacy.

📢 TWO TARGET ACTORS

Our work with each partner focused on two programs targeting different actors:

📚 With Siyavula, we focused on increasing **teacher** engagement as a way to drive student usage of their program. The Siyavula platform allows teachers to assign math and science exercises for secondary school students to complete using their smartphone, tablet, or computer. The program is designed in a way that prevents students from copying each other, while also helping teachers by automatically grading each question. Siyavula works with 113 schools, sponsored by the Gauteng Department of Education in South Africa, and although the use of Siyavula is encouraged, it is not mandatory for teachers or students.

💙 With the Click Foundation, we focused on increasing **caregiver** support and encouragement to drive children's engagement with their home learning programs. The Click Foundation offers home learning programs for primary school students to practice math and reading (called Matific and Reading Eggs, respectively). There are 134 schools in the Gauteng province whose students have access to these programs, which is sponsored by the Department of Education. The use of the home learning programs is encouraged by teachers, yet optional for students.

Behavioral Barriers to Teacher Engagement and Caregiver Support

Why are students underusing online learning platforms? To answer this question, we interviewed 15 teachers from 12 high schools across the Gauteng province in South Africa. In addition, we spoke with 10 caregivers whose children attended 6 different primary schools across the province. Our interviews with teachers and caregivers revealed that they often want to support students' engagement with online learning programs, but that features of their environments make it hard to do so. The design of many online platforms may unintentionally create behavioral barriers that stand in the way of their adoption.

We identified six barriers discouraging teachers and caregivers from adopting online learning. Four represent behavioral barriers to both teacher and caregiver engagement; another barrier ("Not for me") describes challenges for teachers only, and another ("Never heard of it") for caregivers only.

⚠️ Something's got to give 📚💙

Online learning programs are not an integral part of the school curriculum, making teachers and caregivers feel like they are doing additional work if they engage with the platforms. This is exacerbated by the fact that both teachers and caregivers have many competing demands on their time.

👥 Are others doing this? 📚💙

Teachers and caregivers do not know whether their peers are using these programs. Using them is an "invisible behavior"—they are used in private settings like the classroom and the home—and therefore not apparent to others.

Can't access

Students may face structural challenges, such as the lack of a device (or internet) necessary for accessing these programs. Some caregivers believe that the programs can only be used on a laptop, even though they are also compatible with smartphones and tablets. What's more, both teachers and caregivers have behavioral biases that amplify such structural barriers. For example, teachers think that students, even those who can access online learning platforms at home, will use a lack of access as an excuse to get out of completing their work. As such, teachers prefer to assign homework using a textbook or worksheet.

Lack of support

In using online learning programs, teachers and caregivers sometimes encounter issues, like trouble logging in. Small hassles like this can deter people from using these programs, especially when help to address these issues is not easily accessible.

Not for me

Teachers may not engage because they feel like online learning programs aren't for people "like them"—because of age or socioeconomic status, for example.

Never heard of it

In order to use online learning programs, caregivers have to first know about them. Often, caregivers don't encourage their children to use these programs simply because they have not heard about them.

Accounting for Behavioral Barriers with New Solutions

ideas42 collaborated with Siyavula and the Click Foundation to recommend a set of design solutions, which we believe can increase engagement with online learning programs by teachers and caregivers. Each of the solutions draws from behavioral science to address the identified barriers to access and engagement.

Designs to increase **teachers'** use of online learning platforms

➤ *Teacher buddy system*

In order to foster a norm of teachers using Siyavula within schools, and to provide teachers (especially those who are older and less comfortable with technology) with consistent support, we recommended creating a buddy system among teachers. To create this system, Siyavula would work with school principals to pair teachers with differing levels of comfort on the platform (i.e., high vs. low) within the same school and department. Siyavula would also guide teachers on how often pairs should meet, when pairs could meet, and what each meeting should cover.

Targeted behavioral barriers

Are others doing this?

Lack of support

Not for me

➤ **Student buddy system**

Because both teachers and students face a shortage of resources in the classroom and at home, accessing Siyavula can be challenging. To address this problem, we recommended a student buddy system, where teachers would pair students who have a device, like a smartphone, with those who do not. Students could work together to answer questions on Siyavula using one device, both inside and outside the classroom. This program could also be advertised and implemented school-wide, so that both students and teachers would know their peers are participating.

Targeted behavioral barriers

🌐 Can't access

👥 Are others doing this?

➤ *Verbal assignment setting*

An important reason teachers do not use Siyavula is because the platform is not well integrated into their current teaching practices, such as assigning students homework problems from a textbook. To address this barrier, we recommended creating printed versions of Siyavula's online exercises for teachers to reference when assigning work to students on the platform—e.g., "For homework, please do questions 50, 99, and 104 on Siyavula." The books would serve as an easy-to-use, salient resource for teachers, especially those less comfortable with technology. If this system was paired with support via the teacher buddy system, teachers could be encouraged to check their students' performance on Siyavula after each assignment, further integrating the product into their teaching practices.

Targeted behavioral barriers

💥 Something's got to give

👎 Not for me

Designs to help **caregivers** encourage their children to use online learning programs at home

➤ *Redesigned flyer*

The Click Foundation sends schools an electronic copy of a flyer about their online learning programs, which they ask schools to print and pass out to students, who then have to bring it home and give it to their caregiver. However, many caregivers are still not aware of the programs. We reviewed and redesigned this flyer, recommending the following changes:

1. Highlight the **value** of the programs upfront.

2. Make the programs **normative** by referencing other students' use and their resulting improvement in numeracy and literacy skills.

**Targeted behavioral barriers**

🔍 Never heard of it

🌐 Can't access

💬 Lack of support

3. Include a **call to action** with a deadline, to instill urgency.

4. Incorporate **login information** for each student on the flyer, rather than sending this information to schools separately, as the Click Foundation does currently.

5. Make the channels for IT support more **obvious** and **accessible**.
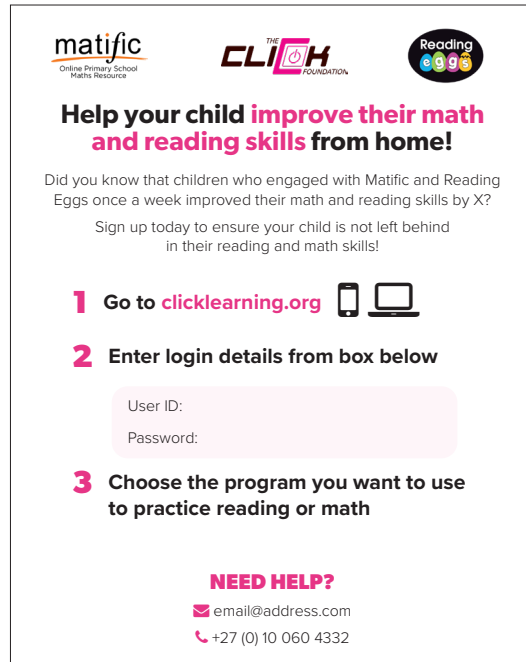
Additionally, we recommended that the Click Foundation print and distribute the flyers to schools. This would bypass hassles that might prevent schools from printing the flyers to hand out to students, like running out of ink or not having access to a printer.

❯ *Stickers as visual reminders*

In order to make caregivers aware of the Click Foundation's online learning programs, as well as to provide a reminder to encourage their children to use them consistently, we recommended creating stickers for students to put on the cover of the workbooks they bring home each day. Interviews with caregivers revealed that many of them help with or review their children's homework; it is therefore likely that caregivers would notice the sticker and talk about the programs with their children. Stickers should showcase the logos of the programs (Matific and Reading Eggs), have a clear call to action, and include a phone number to call for support. A Click Foundation representative should distribute the stickers to schools at the beginning of the school year or term; at this time, students could be asked to apply the sticker to their workbooks.

Targeted behavioral barriers

Never heard of it

Lack of support

Are others doing this?

Have you completed your **Reading Eggs** and **Matific** exercises **today?**
+27 (0) 10 060 4332

➤ *After-school computer lab program*

Many students in South Africa don't own smartphones or computers, which means that they can't engage with online learning programs at home. But what if they did not have to be *at home* in order to use them? We recommended that the Click Foundation partners with schools that have computer labs and/or tablets available for students during the day, in order to conduct an after-school program in which students use their schools' facilities to engage with online learning programs. Schools should require caregivers' signatures to allow their children to participate in this after-school program, in order to make using the programs normative among students and their caregivers, as well as to help overcome the barrier of caregivers not knowing that these online learning programs exist.

Targeted behavioral barriers

Can't access

Are others doing this?

Never heard of it

We recognize that this solution would be most useful to students who have access to these devices at school but not at home, and that it could only be implemented at schools that have the infrastructure to give students access to technology after school hours.

Takeaways

Companies spend billions of dollars each year developing online learning programs. Too often, though, these programs fall short of their potential because of avoidable behavioral barriers. We hope that our insights will encourage the designers, investors, and implementers of this technology to reassess their products through the lens of behavioral science so the programs can serve their intended purpose and support students' educational attainment.

If after rigorous testing our recommended solutions are shown to be effective, they could have a meaningful impact on the educational outcomes of millions of primary and secondary school students. With almost 20% of its national budget allocated to education, South Africa has already invested deeply in human capital. The country can take steps to make this investment go further by committing to better tools, programs, and processes, in order to achieve what actually matters—high quality education and more economic mobility for their citizens.