ideas42

Improving Student Engagement with Online Learning Programs
in South Africa through
applied behavioral science

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Acknowledgements

About ideas42

We are a non-profit looking for deep insights into human behavior—why people do what they do—and using that knowledge in ways that help improve lives, build better systems, and drive social change. Working globally, we reinvent the practices of institutions, and create better products and policies that can be scaled for maximum impact.

We also teach others, ultimately striving to generate lasting social impact and create a future where the universal application of behavioral science powers a world with optimal health, equitable wealth, and environments and systems that are sustainable and just for all.

For more than a decade, we have been at the forefront of applying behavioral science in the real world. And as we've developed our expertise, we've helped to define an entire field. Our efforts have so far extended to 40 countries as we've partnered with governments, foundations, NGOs, private enterprises, and a wide array of public institutions—in short, anyone who wants to make a positive difference in people's lives.

Visit ideas42.org and follow @ideas42 on Twitter to learn more about our work. Contact us at info@ideas42.org with questions.

About this work

With generous support from the Michael and Susan Dell Foundation, ideas42 partnered with two South African organizations, Siyavula and the Click Foundation, to improve educational outcomes in South Africa through applied behavioral science. Both Siyavula and the Click Foundation offer online learning programs to support primary and secondary school students' development of their math, science, and/or reading skills.

About Siyavula

Siyavula believes that the value and impact of mathematics, physics, and chemistry extends far beyond the classroom. Critical and analytical thinking, creativity and exploration, and problem solving and collaboration are the skills needed for innovation, growth, and change. Further, Siyavula believes that all children should have access to resources and support to achieve their goals, and that the inequalities in Africa's education systems can be reduced by leveraging affordable and innovative technology. Siyavula Practice, built by scientists, educational experts, and teachers, aims to make high-quality education accessible to all students. To date, Siyavula has had more than 1,000,000 high school students use this platform and complete 60 million questions!

Siyavula's online mathematics and physical sciences practice platform was initially built for high school students in South Africa. Over the past two years, Siyavula has aligned their content to other curricula in order to make their product relevant to other countries on the African continent. Their platform can be accessed by students, anywhere, anytime, and on any device.

About the Click Foundation

The Click Foundation deploys online English literacy programs in underprivileged primary schools across South Africa. The programs offer young students the opportunity to work at their own pace through fun and enjoyable activities, navigating their learning journey by means of technology. In doing so, the Click Foundation is not only addressing the literacy crisis but also equipping these young students with the technological skills required for future success. Visit clickfoundation.co.za to learn more.

>> *Introduction*

Ayanda is a South African tenth grade teacher who likes the idea of using an online learning program to set assignments for students—the program would automatically grade each student, students would be able to work independently and not copy each other, and she would be able to easily assign homework during the COVID-19 lockdown. Ayanda received training on how to set assignments in the program, but she struggles to find time during her busy day to actually do it. She feels that it's easier to continue delivering assignments the way she's done it for years: by opening her textbook and reading the question numbers out loud, while students copy them down in their individual workbooks. She knows it will take her longer to grade the assignments by doing it through analog methods, but she's so busy each day that she can't think about the long-term time-saving opportunities the program offers. It's also been many months since her training, and she can't remember her login details or how to navigate the program. Having never seen other colleagues assign work on the program leads her to conclude that it's not the norm.

Lethabo is the father of a fourth grader. He is very involved in his daughter's schoolwork, making time every evening to help her with her homework. He would like for his daughter to engage with online learning programs more often because they have helped her improve her numeracy and literacy skills, but she is already very busy with homework and the content of these programs doesn't always align with what is being taught in class. Having never heard of other caregivers supporting their children to use these online programs, Lethabo concludes that regular engagement is not the norm.

Ayanda's and Lethabo's stories are hardly unique. The success of online learning programs depends on students engaging with them regularly. Teacher and caregiver support is key to making this happen, particularly during the COVID-19 pandemic, during which most learning occurs at home due to school closures. However, this requires teachers and caregivers to invest time and effort, which they are generally *willing* to invest, but have difficulty actually *doing* so. Additionally, some students don't have direct access to the technology needed to engage with these programs.

The promise of online learning programs bolstered by behavioral design

The share of government budget spent on education in South Africa is among the world's highest, at 19.5% in 2019. This level of investment has led to high rates 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 levels can have significant negative implications for future opportunities. The South African government is committed to the United Nations' Sustainable Development Goal of ensuring inclusive and quality education for all by 2030. In order to meet this goal, governments, philanthropies, and organizations working to improve education need innovative solutions to improve learning levels.

Online learning programs, which are becoming more popular around the world, are a promising class of solution. These programs are designed to help students practice reading, math, science, and other subjects both at home and in school. Questions are framed in a way that is meant to be fun and interactive, and students can access the programs through a smartphone, tablet, or computer. Most importantly, online learning programs positively impact children's learning levels. Given the potential benefits, there is global interest in developing these platforms—in 2019, $18.66 billion was invested worldwide in the development of education technology, including online learning programs.

However, these programs are only effective if students engage with them for a minimum period of time, and do so consistently. There is also an access issue, as not all students own or have ready access to the technology required to engage with online learning programs.

The application of insights from behavioral science—the study of how people make decisions and take actions in the real world—has already revolutionized the design of products, policies, and programs addressing various social problems and development goals around the world. There are ample opportunities for behavioral science to contribute to better global education, from encouraging caregivers to enroll their children in school, to ensuring teachers show up to school, to supporting student engagement with schoolwork. In the realm of online learning programs, behavioral science is a promising yet underutilized approach to help students engage with these beneficial tools on a regular basis in order to improve their skills on core numeracy and literacy metrics. To be truly impactful, online learning programs need to be designed in a way that takes students' real-world contexts, needs, and behaviors into account. A behavioral design approach aims to achieve this by first identifying the (often hidden or counterintuitive) problems, or barriers, that students face when trying to use online learning programs, and then directly addressing the behavioral barriers preventing students from engaging with these programs consistently.

Online learning programs have become even more important during the COVID-19 pandemic. Global lockdowns and school closures required students to study from home on their own, without the traditional support structures offered by in-person instruction. However, students in low and middle income countries face two distinct challenges to online learning: (1) Access: Many students don't have access to the technology needed to use these programs (e.g., smartphones, laptops, high-speed internet), and (2) Engagement: Those with access need to consistently engage with these programs in order to see an impact.

To allow more students in South Africa to benefit from the skill attainment that online learning platforms offer, two questions must be addressed when designing effective solutions—(1) how can we ensure students who don't have access to technology are not left behind? and (2) how can online learning programs be designed to encourage students to engage with them regularly and at the right times?

>> *Understanding the Challenge*

There are two actors poised to impact student behavior, particularly that of primary and secondary school students: teachers and caregivers. These actors play a crucial role in supporting students throughout their education. In relation to online learning programs specifically, they play a key role in encouraging students to use these programs regularly in order to continue developing their reading, math, and science knowledge and skills. This is why we spoke to teachers and caregivers of primary and secondary school students in South Africa to understand the challenges that students face when engaging, or trying to engage, with online learning platforms. If teachers set mandatory assignments on online learning programs, for example, students would be more likely to engage with them. Similarly, if caregivers support and encourage their children to use these programs, students would be more likely to do so. However, *not enough teachers are integrating online learning programs into their practices and not enough caregivers are supporting their children to use them at home, leading to a missed learning opportunity for students.*

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 (GDE) 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 GDE. The use of the home learning programs is encouraged by teachers, yet optional for students.

Behavioral barriers to teacher engagement and caregiver support

To understand the behavioral barriers preventing consistent engagement with online learning platforms, we conducted interviews with 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 these populations often have the intention to support students' engagement with online learning programs, but that the realities of their environments are not optimally designed to help them do so. The way that many online learning platforms are designed may unintentionally create behavioral barriers that stand in the way of their adoption.

We identified six themes around barriers to effective online learning program adoption. Four represent behavioral barriers to both teacher and caregiver engagement; the fifth describes barriers for teachers only and the sixth 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.

Relevant actors	Psychologies at play
🍎 *Teachers* 💙 *Caregivers*	▸ ***Status quo bias*** People's preference for the current state of affairs. ▸ ***Mental models*** People's mental schemas, or representations, of how things work or of how things are. ▸ ***(Time) scarcity*** Having a shortage of resources, like time, narrows people's focus and cognitive bandwidth.

➤ *Teachers*

Teachers rely heavily on the ATP, or annual teaching plan, a guide created by South Africa's Department of Basic Education that outlines the topics that need to be covered each week. They often select exercises suggested in this guide, as well as from textbooks and previous lesson plans they have created, when assigning classwork and homework to their students. Because Siyavula is not integrated into these resources, teachers hold the *mental model* that the platform is "extra" or "optional"—to be used with students only if they have time. However, teachers' *time is scarce;* they teach back-to-back periods each day and sometimes have to rush through material in order to keep up with the ATP. Further,

teachers are **biased by the status quo;** continuing to do things as they have always been done is easiest, whereas incorporating a new tool like Siyavula into their teaching practices requires thought, time, and effort.

> *"Our syllabus has more topics than what we can handle. At times you want to rush and finish the syllabus, so you don't assign students work on Siyavula because it would take time."*

> *"I follow the annual teaching plan. Students do activities in the textbook. They can use Siyavula, as well as other websites, on their own to enhance their knowledge. Siyavula is optional."*

➤ *Caregivers*

Usage of the Click Foundation's home learning programs is optional; students are expected to use these programs independently, in addition to their homework. However, students face **time scarcity** in that they only have so much time at home each day to devote to learning, and their caregivers only have so much time to support them. This creates competing priorities, contributing to the **mental model** among caregivers that Click's programs are not complementary to their children's schoolwork, but rather take up time that could be devoted to homework instead.

> *"Use of the program is voluntary [and the content] is different from what my son learns in class."*

> *"They already have to spend a lot of time on schoolwork, so my daughter needs to balance between that and Matific. The more time she spends on Matific, the less time she has to spend on schoolwork."*

Are others doing this?

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

Relevant actors	Psychologies at play
Teachers **Caregivers**	▶ *Social norms* People shape their behavior to what they believe is typical in their community. ▶ *Salience* Our attention is limited, so people tend to focus on what is most prominent and to ignore things that don't stand out or aren't top-of-mind.

➤ *Teachers*

Teachers are not sure if using Siyavula is the **norm** among other teachers at their school. In some cases, this perception is accurate; at some schools, teacher usage is low. In other cases, however, multiple teachers within a school are using the platform but not discussing this with each other. Further, because teachers who utilize Siyavula do so within their own enclosed classrooms, use of the platform is not visible. As such, other teachers do not receive cues or reminders to model this behavior; this inhibits the **salience** of Siyavula when they are deciding which resources to use when assigning classwork or homework to their students.

> *"I don't think anyone is using it in my department. Based on what I hear in meetings."*

> *"I don't know about others since it is done in enclosure, so I don't know."*

➤ *Caregivers*

Usage of Click's home learning programs occurs at home, so caregivers don't know of other caregivers who are supporting their children to use the programs. In fact, *none* of the caregivers we spoke to knew of other caregivers or children using these programs. Therefore, using these programs is not a visible **norm**, even though many children are using them.

> *"I don't know [if other caregivers are helping their children engage with the programs]. I've never talked to the school about the programs."*

Can't access

Students may face structural challenges, such as the lack of a device (or internet) required to access these programs. However, both teachers and caregivers have behavioral biases that amplify such structural barriers.

Relevant actors	Psychologies at play
Teachers *Caregivers*	▶ *Scarcity* Having a shortage of resources narrows people's focus and cognitive bandwidth. ▶ *Mental models* People's mental schemas, or representations, of how things work or of how things are. ▶ *Risk aversion* The tendency to prefer a certain but possibly less desirable outcome over an uncertain but potentially greater outcome.

Teachers

Teachers worry that not all students can use Siyavula at home, due to lack of internet connectivity and/or technology devices. The classroom isn't always a great alternative for accessing an online platform, as some schools suffer from a lack of resources (e.g., slow or no internet, malfunctioning tablets, etc.). Because of this *scarcity*, teachers tend to default to analog options, like the textbook, when assigning work to their students. In addition, teachers hold the *mental model* that students, even those who can access Siyavula at home, will make excuses in order to get out of completing their work. As such, teachers view assigning homework on the platform as a *risky* alternative to more traditional methods, even though Siyavula offers benefits to students beyond the capabilities of a textbook, like individualized problems and automatic grading.

> *"Sometimes students say it's challenging to use Siyavula when there is a problem with the network itself."*

> *"Those who don't do their homework are lazy. During COVID-19 they had all day to complete their homework because they were not going to school, but they would still come up with reasons for not doing it."*

Caregivers

Caregivers and their children also face obstacles to accessing Click's home learning programs due to resource *scarcity*, such as a lack of internet connection at home. These obstacles are exacerbated by the *mental models* caregivers hold about the resources required to access these programs. For example, some caregivers believe that the programs can only be used on a laptop, even though they are also compatible with smartphones and tablets. Additionally, caregivers may believe that they need to buy data before downloading or using the programs; however, several of the programs can be used without data.

> *"My son has a smartphone but we don't have WiFi so I have to buy data for him to use the programs."*

> *"We don't own a laptop so we need to coordinate with our family friend on a time that works for him and go to his house while my son uses the program."*

? Lack of support

In using online learning programs, teachers and caregivers sometimes encounter issues, like trouble logging in. Such small hassles can prevent or deter usage of these programs, especially when help to address these issues is not easily accessible.

Relevant actors	Psychologies at play
🍎 **Teachers** 💚 **Caregivers**	▶ ***Prospective memory failure*** People's tendency to forget to carry out an intended action at a future point in time. ▶ ***Hassle factors*** Seemingly trivial inconveniences or obstacles that impede a desired behavior.

➤ *Teachers*

Even though many schools who use Siyavula have a dedicated support representative assigned to them, many teachers reported not receiving training on the platform in over a year. Because we conducted interviews in February of 2021, this was likely due in part to COVID-19 and the limitations placed on in-person meetings; however, teachers also reported sometimes having to miss training sessions that were offered pre-pandemic due to being busy with other matters. Thus, teachers are likely to experience ***prospective memory failure***—they may form the intention to use the platform during a training session, but later forget to do so when it comes time to assign work to their students. This problem is exacerbated by the fact that teachers are receiving training infrequently, as they may have forgotten how to use the program or even how to log in since their last training. Although teachers know that they can reach out to their dedicated Siyavula support representative for help, this is a ***hassle factor*** that often prevents usage of the platform (just like forgetting a password can deter us from signing into a website, even if we know we can retrieve it).

> *"I stopped using it when I couldn't figure out how to use it until the Siyavula support person came to school."*

> *"The login was giving me problems, and now I've forgotten how to do it."*

➤ *Caregivers*

Unlike teachers, caregivers don't have direct access to help for any technical issues they (or their children) experience with Click's programs. ***Hassle factors*** such as trouble downloading or logging into the programs become problems that can prevent students from using them. Further, the inability to easily ask a support person questions can perpetuate misconceptions that caregivers have about the resources required to access

these programs, such as cellular data. Caregivers may intend to help their children use the programs once they have acquired these resources (like data) in the future, but experience *prospective memory failure* and later forget.

> *"Most of the programs, except for one, gave me an issue. I couldn't log in."*

> *"I waited for two weeks until I had data and went to the Google Playstore and tried to download the app and it didn't work."*

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.

Relevant actors	Psychologies at play
Teachers	▶ **Mental models** People's mental schemas, or representations, of how things work or of how things are. ▶ **Identity** People's behavior is influenced by their sense of self and how they identify.

➤ *Teachers*

Older teachers' hesitation to adopt online learning programs can stem from their ***identity*** as coming from the generation before the advent of technology. They often hold the ***mental model*** that technology isn't "for them," but that it comes naturally to younger teachers and to students. This can intensify other behavioral barriers; for example, older teachers may need to spend the most time learning and practicing to use these tools, but be the least willing to expend this effort.

> *"Most teachers at school are old, so they are not familiar with this technology and are not interested to learn it."*

> *"I was born before technology. At first I was like, I can't, I'm used to the chalkboard and chalk."*

Never heard of it

In order to utilize online learning programs, caregivers have to know about them first.

Relevant actors	Psychologies at play
Caregivers	▶ **Salience** Our attention is limited, so people tend to focus on what is most prominent and to ignore things that don't stand out or aren't top-of-mind.

➤ *Caregivers*

Often, caregivers of children who have not used Click's programs simply have not heard about them. Despite previous communication efforts by Click, such as text messages and letters sent to schools for students to take home, this information has not been received by caregivers or, if received, is not **salient**. It may be the case that these messages are not being transmitted via channels that capture caregivers' attention or that the content of the messages themselves does not stand out.

> *"I don't know about the Click Foundation or their programs."*

Accounting for Behavioral Barriers with New Solutions

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

Designs to increase teacher usage of online learning programs

Teacher buddy system

In order to foster a norm of teachers using Siyavula within schools, as well as to provide teachers (especially those less comfortable with technology) with consistent support, we recommend 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 provide teachers with a guide to outline how often pairs should meet, when pairs could meet (e.g., at

Targeted behavioral barriers

- Are others doing this?
- Lack of support
- Not for me

the end of department meetings), and what each meeting should cover (e.g., Meeting 1: practice logging in, Meeting 2: learn how to check students' work on the platform, etc.).

Further, teachers could be given a physical way to track their meetings and hold themselves accountable, such as a booklet with different pages to represent each meeting and a space at the bottom of each page to sign after meeting. Finally, in order to make using Siyavula as visible as possible, teachers could be recognized publicly, potentially by South Africa's Department of Basic Education, for achieving important outcomes each month, like highest activity on the platform.

Student buddy system

Because both teachers and students face a shortage of resources in the classroom and at home, using Siyavula can be challenging. To address this issue of scarcity, we recommend a student buddy system, where teachers pair students who have a device, like a smartphone, with those who do not. In this way, students could work together to answer questions on Siyavula using one device. Teachers could still require that each student show their work in a notebook to receive credit.

Targeted behavioral barriers

🌐 Can't access

👥 Are others doing this?

A buddy system offers the flexibility for students to work together in the classroom, but also to work together on homework outside the classroom. This addresses teachers' hesitancy to assign work on Siyavula due to the belief that students will make excuses about their inability to access the platform in order to get out of completing their work. A buddy system would ensure that all students have access, as well as increase the motivation to use the program. This program could also be advertised and implemented school-wide, so that both students and teachers would know their peers are participating.

Verbal assignment setting

An important reason why teachers do not utilize Siyavula sufficiently 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 recommend 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

Targeted behavioral barriers

❗ Something's got to give

👎 Not for me

questions 50, 99, and 104 on Siyavula." These printed books would be organized by the same topics outlined in the annual teaching plan that teachers use for planning lessons and assignments. The books would serve as an easy-to-use, salient resource for teachers, especially those less comfortable with technology, since they could just be grabbed at the end of class and used to assign homework on the platform before students ran out the door. 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.

Designs to help caregivers encourage their children to use home learning tools

Redesigned flyer

The Click Foundation developed a flyer with instructions on how to download their home learning programs to improve literacy and numeracy skills. They send each participating school an electronic copy of the flyer and a list of auto-generated usernames and passwords for each student. Schools print these two documents (flyer and individual login information) and hand them out to students, and students are expected to give them to their caregivers at home. However, many caregivers are still not aware of the home learning programs, despite existing communication efforts (including this flyer).

Targeted behavioral barriers

- Never heard of it
- Can't access
- Lack of support

Help your child improve their math and reading skills from home!

Did you know that children who engaged with Matific and Reading Eggs once a week improved their math and reading skills by X?

Sign up today to ensure your child is not left behind in their reading and math skills!

1 Go to clicklearning.org

2 Enter login details from box below

User ID:

Password:

3 Choose the program you want to use to practice reading or math

NEED HELP?

email@address.com

+27 (0) 10 060 4332

We reviewed and redesigned this flyer based on the behavioral barriers described previously. The changes we recommend include the following:

1. Clearly highlight the *value* of the programs upfront
2. Make the use of the programs *normative* by referencing other students' usage and their resulting improvement in numeracy and literacy skills
3. Include a *call to action* with a deadline to instill urgency
4. Incorporate the login information for each student *on the flyer,* rather than on a separate piece of paper
5. Make the channels for IT support more *obvious* and *accessible*

Additionally, we recommend that the Click Foundation print and distribute the flyers to each participating school. This would avoid any potential hassles that might prevent schools from printing the flyers to hand out to students, like running out of ink, having a printer that is too slow, or not having access to a printer at all.

Stickers as visual reminders

Many caregivers are not aware of the Click Foundation's home learning programs, so they are not able to encourage their children to use these programs. Even if caregivers are aware of the programs, they might forget to help their children use them. To address these barriers, we recommend creating stickers for students to stick on the cover of their workbooks, which they use to complete their daily homework.

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

matific CLICK FOUNDATION Reading Eggs

Potential messages to test:

Have you completed your Reading Eggs and Matific exercises today?

Join the thousands of students who improved their math and reading skills by using Matific and Reading Eggs!

Don't fall behind on reading and math! Practice your skills with Reading Eggs and Matific today.

Stickers should showcase the logos of the home learning programs (Matific and Reading Eggs), have a clear call to action, and include a phone number to call for support. The final wording of the call to action should be decided after user testing various messages with students, such as those listed above.

The main goal of the sticker is to grab caregivers' attention and prompt learning about the programs by reminding them to ask their children about these programs. 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 home learning programs with their children. Stickers would also serve as a visual reminder that their children should be engaging with these programs regularly. We recommend that a Click Foundation representative distribute the stickers to each participating school at the beginning of the school year or term. During this event, students could be asked to stick the sticker on their workbooks.

After-school computer lab program

As mentioned earlier, many families in South Africa live in conditions of resource scarcity. Many students don't own smartphones or computers, which means that they can't engage with online learning platforms at home. But what if they did not have to be *at home* in order to use them? As of February 2021, schools in South Africa have started to reopen, and some schools have the technology and infrastructure needed to provide students with ready access to online learning programs. We recommend partnering with participating schools that have computer labs and/or tablets available for students during the day, to conduct an after-school program in which students use their schools' facilities to engage with online learning programs. The after-school computer lab program would run a couple of times per week for one hour after school.

Targeted behavioral barriers

- Can't access
- Are others doing this?
- Never heard of it

Schools should require caregivers' signatures to allow their children to participate in this after-school program, in order to make usage of the online learning 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.

This solution is likely most useful to students who have access to these devices at school but not at home. We recognize that this solution could only be implemented at schools that have the infrastructure required to give students access to technology after school hours.

⟫ *Conclusion*

We designed a suite of solutions, stemming directly from the behavioral barriers identified, to increase teacher and caregiver engagement with online learning programs. Targeting these actors is key to driving consistent student use of these platforms. This will lead to improved numeracy and literacy skills and an increased likelihood of students completing their studies, thus allowing them to obtain decent employment opportunities and increase their earning potential.

With billions of dollars being spent each year on the development of education technology around the world, we hope that our insights will serve as a guide for the designers, investors, and implementers of this technology to reassess their products through the lens of behavioral science. Even if a product or platform is well-intentioned, if it is not designed in a way that takes the users' contexts, needs, and behaviors into account, it cannot be truly impactful.

As next steps, we hope to work with Siyavula and the Click Foundation to rigorously test the efficacy of our recommended solutions. If effective, these interventions could have a meaningful impact on the educational outcomes of millions of primary and secondary school students. With almost 20% of their national budget allocated to education, South Africa has already made a deep investment 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—quality of education and the opportunity for economic mobility for their population.

For more information, please contact livelihoods@ideas42.org.