



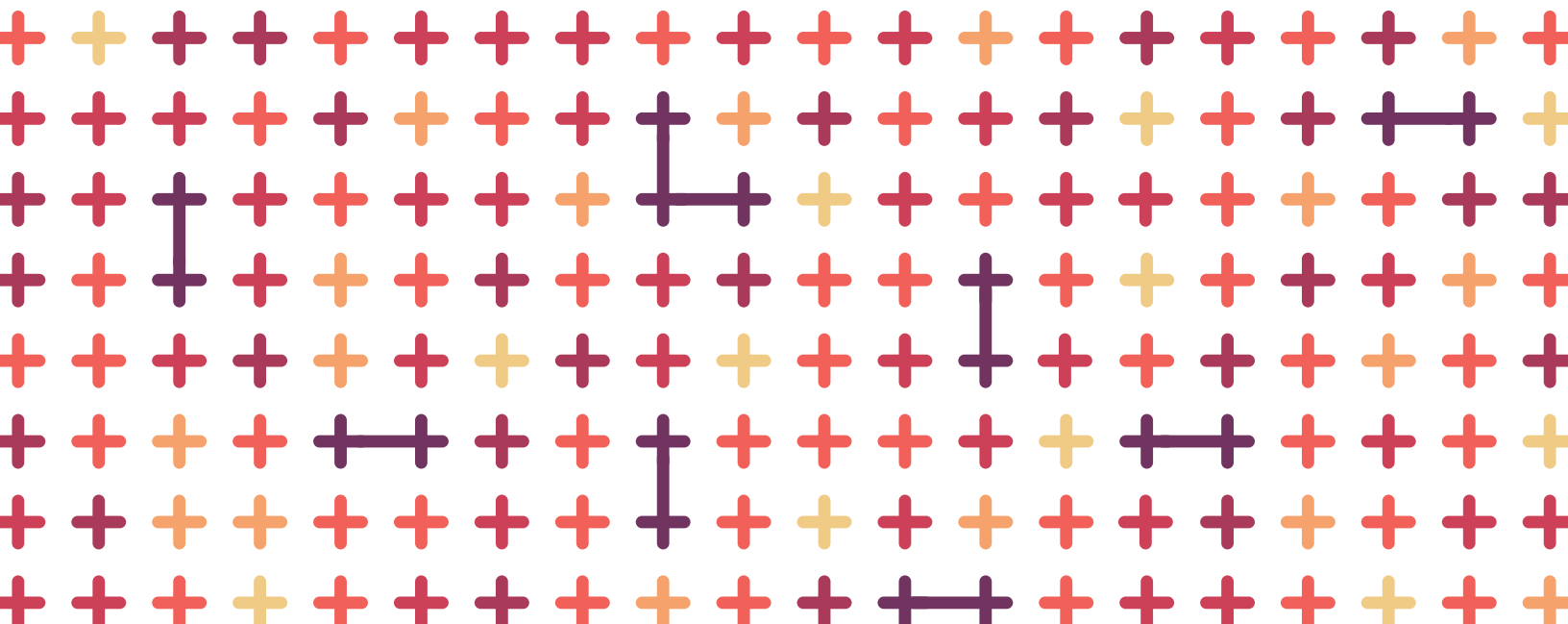
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Embrace International Foundation and
Kyaninga Child Development Center

Bev Carrick,
Fiona Beckerlegge,
Roberta Thomson

Impact of COVID-19 on Attitudes and Cognitive Skills of Ugandan Primary Students

After 12 Months of School Closures



Supported by the Fund for Innovation & Transformation, Embrace International Foundation and Kyaninga Child Development Center wanted to understand the impact of 12 months of school closures due to COVID-19 on primary students in rural Western Uganda. The project team evaluated the cognitive skills of 437 randomly selected grade 5 and 6 students through math and literacy tests. Non-cognitive skills (including self-confidence, intrinsic motivation, and level of aspiration), as well as students' views about gender equality, were also explored through one-on-one interviews.



What did they discover?

- After 12 months of school closures, students' math and literacy test scores showed little change. While students retained much of what they had previously learned, the impact of COVID-19 and school closures negatively impacted the students' potential learning through lost educational opportunities.
- Self-confidence decreased significantly for both girls and boys living with disabilities. Students' beliefs in their ability to work independently also decreased, especially for girls.
- Intrinsic motivation remained stable for girls, and decreased significantly for boys.
- Students' level of aspiration for future educational achievements decreased dramatically, especially in the percentage of students who planned to complete university. Girls' educational aspirations decreased the most.
- The percentage of students, both girls and boys, who thought boys should be preferentially encouraged to attend school over girls increased significantly.



Pandemic school closures affect learning

There is increasing global concern about the impact that COVID-19 has had on students and their learning. It is predicted that “over 100 million children will fall below the minimum proficiency level in reading as a result of the pandemic.” (<https://en.unesco.org/news/100-million-more-children-under-minimum-reading-proficiency-level-due-covid-19-unesco-convenes>).

Negative impacts on girl students have been especially pronounced.

The Malala Fund estimates that “20 million more secondary school girls could be out of school following the pandemic”.

School closures and increased poverty due to the pandemic have resulted in an alarming increase in child marriages and school dropout rates for girls. The United Nations states that an additional 13 million child marriages could be taking place that otherwise would not have occurred between 2020 and 2030 (UNFPA, April 2020).

In Uganda, **more than 73,200 schools and institutions were closed** between March 2020 and January 2022, except for a brief reopening in March/April 2021. This forced more than 15 million learners to stay at home. Although the government tried to provide children with printed learning packages, radio, TV and online learning, this was inaccessible to the vast majority of students –especially those in rural areas (<https://eprcug.org/press-releases/covid-19-and-e-learning-in-uganda-how-can-the-education-access-inequality-gap-be-closed/>).

Taking a closer look at the situation

In February 2020, Embrace International Foundation partnered with the Fund for Innovation and Transformation in Canada and the Kyaninga Child Development Center in Uganda to conduct baseline studies for an educational research project funded by Global Affairs Canada. Due to COVID-19, the Ugandan Government closed all schools on March 18, 2020, and they remained closed for 12 months.

Baseline studies were repeated in March 2021 with the same sample of 437 grade 5 and 6 students, providing data about the impact of school closures on these students. Baseline testing evaluated both cognitive and non-cognitive skills. Students were also asked questions related to gender equality in the classroom. The purpose of this research was to measure the impact of COVID-19 on Ugandan primary students, with special emphasis on girls and on students living with disabilities.

Testing methodology and results

From March 2020 to March 2021, the project team conducted a cross-sectional study with 437 randomly selected grade 5 and 6 students (56% girls and 44% boys) in 6 inclusive primary schools. Of these, 96 were students living with disabilities (44% boys and 56% girls). Each student completed a math and literacy test and participated in a 30-minute interview focussing on non-cognitive skills such as self-confidence, intrinsic motivation and level of aspiration, designed by McGill University's Education Department (McGill's Department of Integrated Studies DISE). Data analysis was done using Statistical Package for the Social Sciences (SPSS) software and Kinaki programs.



Results for the **grade 5 and 6 students tested after 12 months of school closures** were organized into the following **six categories**:

1. Cognitive Skills Testing: Literacy

STABLE

After 12 months of school closures the average literacy scores for the test sample of 437 students remained essentially the same (61% in 2020; 62% in 2021). There was a slight rise in literacy scores of from 9% in 2020 to 12% in 2021.

	CWDs	CWoDs	Girls	Boys	Grade 5	Grade 6	All Students
2020	60%	61%	61%	60%	55%	67%	61%
2021	56%	63%	63%	61%	57%	66%	62%

CWD – Children with Disabilities, CWoD – Children without Disabilities

2. Cognitive Skills: Math

STABLE FOR ALL

The average math scores for both boy and girl students remained essentially the same (53% in 2020 and 54% in 2021). The breakdown according to gender, students' scores was: boys: 53% (2020); 54% (2021) and girls: 53% (2020); and 54% (2021). There was an average improvement in math scores of 13% compared to 10% in 2021.

	CWDs	CWoDs	Girls	Boys	Grade 5	Grade 6	All Students
2020	50%	54%	53%	53%	47%	60%	53%
2021	51%	55%	54%	54%	49%	59%	54%

CWD – Children with Disabilities, CWoD – Children without Disabilities

3. Non-Cognitive Skills: Self-Confidence

DECREASED FOR ALL

Students were asked to agree or disagree with the following statement: **“If I try hard, I can improve my situation in life.”**

		GWoDs	GWDs	BWoDs	BWDs	Girls	Boys
2020	True	96.6%	100%	96.80%	100%	97.30%	97.30%
	False	3.4%		3.2%		2.70%	2.70%
2021	True	98.2%	98%	95.3%	96.8%	97.6%	95.7%
	False	1.8%	2.5%	3.7%	3.2%	1.9%	3.6%
	Don't Know		2.5%			0.5%	0.7%

GWoDs – Girls without disabilities; BWoDs – Boys without disabilities
 GWDs – Girls living with disabilities; BWDs – Boys living with disabilities

The greatest change between the 2020 and 2021 responses were by children living with disabilities (CWDs). These students were less confident that their level of effort would improve their situation in life.

Girls with disabilities (GWDs) scored 100% in 2020 but dropped to 95% in 2021. Boys with disabilities (BWDs) scored 100% in 2020 but dropped to 96.8% in 2021.

Students were also asked whether the following statement was true or false: **“I learn better when I work alone”** as a measure of self-confidence.

		GWoDs	GWDs	BWoDs	BWDs	Girls	Boys
2020	True	64.3%	64.5%	47%	58.3%	64.4%	57.8%
	False	35.7%	35.5%	45.9%	41.7%	35.6%	45.2%
2021	True	58.3%	45%	56.1%	51.6%	55.8%	55.1%
	False	41.7%	45%	43.9%	48.4%	44.2%	44.9%

In 2021 there was a significant decrease in the percentage of girls who said that they learn better when they work alone - 64% (2020); 55.8% (2021) and a slight decrease for boys - 57.8% (2020); 55.1% (2021). Overall, CWDs seemed to have lost confidence in their ability to work by themselves, especially the girls (GWDs 2020: 64.5% and 2021: 45%).

Boys without disabilities (BWoDs) increased in confidence using this measure 47% (2020); 56.1% (2021).

4. Non-Cognitive Skills: Intrinsic Motivation **UP FOR GIRLS, LOWER FOR BOYS**

Students were asked to agree or disagree with the following statement: **“I do extra work because I really want to learn new things”**.

		GWoDs	GWDs	BWoDs	BWDs	Girls	Boys
2020	True	94.2%	93.5%	93.5%	100%	94%	94.6%
	False	5.8%	6.5%	6.5%	0%	6.0%	5.4%
2021	True	95.2%	94.9%	86.9%	90.3%	95.1%	87.7%
	False	4.8%	2.6%	11.2%	6.5%	4.4%	10.1%

Compared to 2020, there is a slight increase in the number of girls both with and without disabilities who said they do extra work to learn new things, which was not the case with the boys. Overall, boys demonstrated a decrease in intrinsic motivation (94.6% in 2020, dropping to 87.7% in 2021). There was an even greater drop for boys with disabilities (100% in 2020, decreasing to 90.3% in 2021).

5. Non-Cognitive Skills: Level of Aspiration **SIGNIFICANT DECREASE FOR ALL**

Student aspirations for achieving higher education significantly decreased after a 12-month absence from school. They were asked to select the highest level of education they hoped to achieve. In 2020, 72.9% of students expressed a desire to complete university. However, this dropped to 53.5% in 2021. Instead of university, in 2021, students stated that their highest level of education would be graduation from either primary or secondary school. There was a significant increase in students hoping to complete secondary school, from 15.1% in 2020 to 27% in 2021, as well as primary school from 2.7% in 2020 to 12.8% in 2021.

The total percentage of girls who wanted to graduate from university fell by 22.8%, from 74.2% (2020) to 51.4% (2021), whereas the percentage of boys fell by 13.7%. Girls living with disabilities were the most ambitious of all the groups. 83.9% of GWDs wanted to graduate from university in 2020, falling to 67.5% in 2021.

Highest Level of Education Students Hoped to Attain	GWoDs 2020	GWDs 2020	BWoDs 2020	BWDs 2020	Boys 2020	Girls 2020	All Students 2020
Complete primary school	0.8%	0%	4.8%	16.7%	2.7%	12.8%	2.7%
Complete secondary school	18.3%	6.5%	14.5%	8.3%	15.1%	27.3%	15.1%
Vocational post-secondary	5%	6.5%	3.2%	8.3%	4.9%	6.4%	4.9%
Technical post-secondary	3.3%	3.2%	4.8%	8.3%	4.0%	0%	4%
University	71.3%	83.9%	72.6%	58.3%	70.3%	74.2%	72.9%
Other	0.8%	0%	0%	0%	0.4%	0%	0.4%

Highest Level of Education Students Hoped to Attain	GWoDs 2021	GWDs 2021	BWoDs 2021	BWDs 2021	Boys 2021	Girls 2021	All
Complete primary school	18.5%	7.5%	5%	16.7%	7.4%	16.3%	12.8%
Complete secondary school	25%	20%	34.7%	26.7%	31.6%	24%	27.3%
Vocational post-secondary	5%	5%	3%	10%	4.4%	7.7%	6.4%
Technical post-secondary	0%	0%	0%	0%	0%	0%	0%
University	47.6%	67.5%	62.4%	46.7%	56.6%	51.4%	53.5%
Other	0.8%	0%	0%	0%	0.4%	0%	0.4%

When students were asked what careers they hoped to pursue, the three most popular choices were medicine, education and nursing in both 2020 and 2021. However, in 2021, there was a significant increase in students who wanted to pursue nursing.

6. Gender Equality

DECREASED BALANCE

Students were asked: **“Is it better to send boys to school rather than girls”**. In 2020, 32% of all children agreed that it was better to send boys to school whereas, in 2021, this percentage increased to 47% (boys: 2020: 55%; 68% in 2021; girls: 2020: 21%; 33% in 2021). The biggest increase was for girls living with disabilities. In 2020, 16% of these girls believed that it was better to send boys to school, but this number increased to 40% in 2021

Students were also asked: **“Should girls only go to school when not needed at home”**. In 2020, 32% of girls and 36.1% of boys agreed with this statement, but this increased to 43.8% for girls and 48.5% for boys in 2021. In 2020, a strong majority of girls (68%) disagreed with this statement; however, in 2021, this had shrunk to 56.2%.

		GWoDs	GWDs	BWoDs	BWDs	Girls	Boys	All Students
2020	Not True	65.5%	77.4%	60.7%	81.8%	68.0%	63.9%	66%
	Very True	34.5%	22.6%	39.3%	18.2%	32.0%	36.1%	34%
2021	Not True	52.4%	72.5%	47.6%	65.5%	56.2%	51.5%	53.9%
	Very True	47.6%	27.5%	52.4%	34.5%	43.8%	48.5%	46.2%

The third question students were given was: **“If there is only a small amount of money at home, is it better to send boys, girls or both to school?”**

In 2020, most students (51%) said it was better to send both boys and girls to school, but in 2021, this number dropped to 36%. In 2021, 56% of girls believed that it would be preferable to send girls to school, and 52% of boys thought their attendance should be prioritized.

Overall, 18.5% of students believed that boys' education should be prioritized in 2020, but this increased to 25.7% in 2021.

The biggest change was for girls without disabilities. In 2020, 41% believed that girls should be sent to school rather than boys if there was limited family income. In 2021, 61% believed that girls' education should be prioritized. In 2021, it appears that each gender wanted their own group to be prioritized for education.

		GWoDs	GWDs	BWoDs	BWDs	Girls	Boys	All Students
2020	Send both	51.3%	48.4%	51.6%	50.0%	50.7%	51.4%	50.9%
	Send boys	7.6%	9.7%	40.3%	40.0%	8.0%	40.3%	18.5%
	Send girls	41.2%	41.9%	8.1%	10.0%	41.3%	8.3%	30.6%
2021	Send both	31.8%	46.3%	17.4%	37.3%	34.6%	37.8%	35.8%
	Send boys	7.1%	17.1%	52.3%	50.0%	9.0%	51.9%	25.7%
	Send girls	61.2%	36.6%	10.3%	10.7%	56.4%	10.4%	38.4%



Points to Ponder

After 12 months of school closures, students' math and literacy test scores showed marginal improvement (1% on average). However, the literacy scores for students with disabilities decreased from 60% to 56%.

Self-confidence decreased significantly for both girls and boys living with disabilities. Students' belief in their ability to work independently decreased, especially for girls.



COVID-19 has had a very negative impact on children, especially those living with disabilities. Lockdown measures in Uganda have exposed children to more sexual, physical, and emotional abuse and neglect. The psychosocial impacts of COVID-19 have disrupted the living conditions of children, limiting their access to basic needs such as food and health care. In addition, there is a lack of social support, thus putting children at an increased risk of different forms of child abuse. (<https://onlinelibrary.wiley.com/doi/full/10.1111/jpc.15289>)

The Uganda Child Helpline (UCHL), run by the Ministry of Gender, Labour and Social Development, was established as a child protection mechanism six years ago. The UCHL March 2020 report (<https://onlinelibrary.wiley.com/doi/full/10.1111/jpc.15289>) revealed that sexual abuse was the third most reported form of child abuse contributing 20.1% of all the cases (98% of the victims being girls and 17% of the perpetrators being family members, including fathers, cousins, and uncles). In addition, Save the Children's recent report indicated 60% of the respondents observed an increase in sexual violence against children since the lockdown started.

Child labour has increased during the pandemic, and many girls have had to enter the workforce at a young age to help provide for their families or to save for school fees. After the closure of schools, most girls in rural areas of Uganda started brewing and selling beer, working in restaurants, selling charcoal, weeding, or rearing animals. In some communities, girls are also pressured to take on much of the domestic work at home, keeping them from seeing their friends and joining community-building activities. When schools reopened briefly in March 2021, and this data was collected, many of these girls, when interviewed, seemed to indicate that they had lost self-confidence.

Intrinsic motivation decreased significantly for boys but remained quite stable for girls.

Over the 12 months of school closures, pressure has also been put on boys to reduce the economic hardships endured by their families by making money performing manual labour such as bricklaying. Once schools reopened, boys were often reluctant to give up paying jobs to return to the classroom. With pressure from their parents, boys reluctantly came back to school. The data collected through the interviews seemed to indicate that boys had lost some motivation to apply themselves to improve their education.

The level of aspiration for planned educational achievement decreased dramatically for students. In 2020, 72.9% of students hoped to complete university, but this dropped to 53.5% in 2021. Overall, girls' aspirations for completing university fell the most.

Life has been challenging for most families during the pandemic, especially in rural areas of Uganda. In response to the COVID-19 global pandemic, the Ugandan Government introduced a set of strict measures in mid-March 2020 to prevent the transmission of the virus in the country. These restrictions were put in place so that the healthcare system would not be overwhelmed by the high numbers of cases seen in other countries.

These restrictions severely impacted people's livelihoods, many of whom regularly survive on a meagre daily income of less than \$1 a day. With rising costs of food and an inability to earn money, most parents struggled to send their children back to school. One of the possible reasons why students' educational aspirations diminished in 2021 could be because they felt that their parents could not afford to keep them in school. Poor households often lack resources to pay for schooling and associated costs such as textbooks, uniforms, school supplies and transportation.

Some parents made their children work to help support the family during these challenging times, and students who have become used to earning their own money may have lowered their aspirations for continued education.



The percentage of students, both girls and boys, who thought boys should be preferentially encouraged to attend school over girls significantly increased.

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In 2020, most students in the sample, both girls and boys, believed that even if families were experiencing economic hardship, every effort should still be made to send both girls and boys to school rather than prioritize one gender. Once the pandemic took hold and families struggled with having adequate money for food and other necessities, this changed. A significantly higher percentage of both boys and girls felt that it was better to send boys to school and that girls should only attend school if not needed at home.

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Historically in Uganda, educating girls has not been seen as a good investment. If there is spare cash, it is often the boy who benefits from education. Despite recent progress in girls' enrollment, school dropout is still a major problem. Although Uganda achieved gender parity at the primary level in 2014, girls' enrollment at the secondary school level is lagging behind, and girls are more likely to drop out of school early compared to boys ([The Republic of Uganda, 2016](#)). Similar to other developing countries, girls' education in Uganda is hindered by the male-dominated social and cultural norms that favor boys' education, especially when a family has limited financial resources.

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In addition, adolescent girls face challenges due to gendered social norms that place a high value on girls' reproductive capabilities while reinforcing harmful practices such as early marriages. Girls are primarily seen as bearers of children, and there is often a very limited vision of what they can do and can achieve ([Bantebya et al., 2014](#); [UNICEF, 2014](#)). Compared to boys, girls are more likely to marry early, have their first child at a very young age, have more children, and have limited access to family planning services ([UNICEF, 2014](#)). The Uganda Bureau of Statistics ([UBOS, 2012](#)) estimates that 35% of girls drop out of school due to early marriages and 23% due to pregnancy.

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The pandemic and 12 months of school closures may well have contributed to a regression in the more progressive cultural attitudes about girls' education that were evident before 2020.

Implications and Conclusions

- School closures had a **negative impact on the cognitive skills** of both grade 5 and grade 6 students. Although the average scores for math and literacy tests remained essentially the same after 2 months of school closures, the expected 9-12% increase in scores from grade 5 to grade 6 was not demonstrated.

This represents the learning loss resulting from a lack of classroom teaching. The majority of these rural Ugandan students did not have access to computers, cell phones, and online teaching during this 12-month period, which disadvantaged them in comparison with their peers in the Global North.

When schools reopen, an intensive catch-up period will be needed in classroom teaching to try and reduce the learning losses experienced during COVID.

- According to non-cognitive skills interviews, self-confidence levels, diminished, especially for girls, as did confidence in their ability to work independently on schoolwork.

As schools reopen, teachers should be made aware of this lack of self-confidence by girls and make every effort to rebuild their self-esteem and confidence.

- The level of students' **aspirations for future educational achievements decreased dramatically** for all students, but especially for girls, over the 12 months of school closures.

If students do not pursue their education, this may have many negative impacts for Uganda as a nation. Incentives, such as scholarships and bursaries, may need to be increased to encourage more students, especially girls, to continue their education.

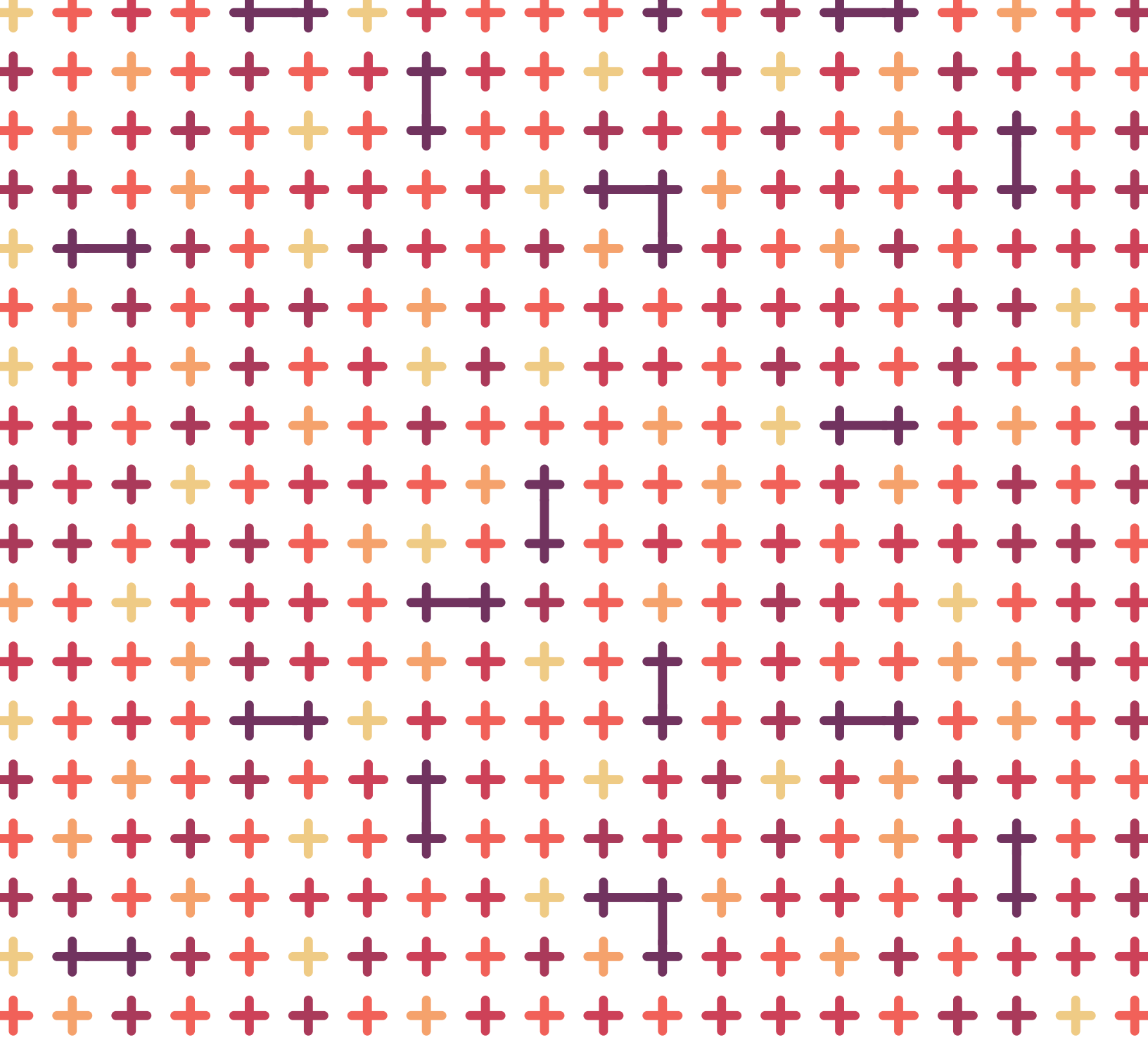
Limitations of this Study

When the initial data was collected for this research, it was designed as a Baseline Study for an e-learning project in rural Uganda. However, when the COVID-19 pandemic began to impact the country and schools were closed, the opportunity presented itself to conduct research on the impact of school closures on students. Whereas the original sample included 1000 students, a sub-sample of 437 was chosen because the researchers had access to testing scores of this group both in March 2020 and then again in March 2021 when schools briefly reopened after 12 months of closure.

No specific questions were given to students on their perceptions about COVID-19 and its impact on their lives or educational aspirations, so assumptions were made based on their answers from the two testing periods. Researchers had hoped to further explore the answers given about gender, relationships with students living with disabilities and educational aspirations through Focus Group Discussions. However, this was not possible due to the COVID restrictions imposed by the Government of Uganda at the time.

References

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