



# JOYFUL LEARNING

**Children everywhere learn best when they are happy.<sup>1</sup> When children join our accelerated education program, however, their previous experiences with school have often been far from joyful.**

If they attended government-run classes previously, it is likely that the quality of the lessons was low due to overcrowding, limited resources, and poor teacher training, leaving many students to learn very little.<sup>2</sup> Even more alarming, some students might have suffered abuse and violence from their peers or teachers in the past.<sup>3</sup> In Sub-Saharan Africa, one study of students aged 10–19 found that 43% reported being physically attacked at school.<sup>4</sup> For those who have never enrolled, the idea of school can be intimidating due to both real and perceived threats. When students do not feel safe at school, they are less likely to attend school regularly and succeed academically.<sup>5</sup> Even in schools where violence and abuse are not prevalent, traditional teaching methods that emphasize rote learning rather than interactive and

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1 Suldo et al., 2014.

2 For example, our 2022 baseline survey in Ghana showed that among Luminos students who had previously attended school, 40% were still unable to read a single word in a test using a simple passage when they joined our program (Educational Assessment and Research Centre, 2022).

3 Evans et al., 2022.

4 Aboagye et al., 2021.

5 Mioko, 2015; Chen & Weikart, 2008; Barnes et al., 2006; Peguero et al., 2019; Gottfredson et al., 2005.

At Luminos, we strive to create a safe and inclusive environment where students can feel comfortable and enjoy learning. Our engaging and meaningful lessons provide students with knowledge and skills through a process that empowers them.

engaging methods can stifle students' natural curiosity and desire to learn. As a result, the learning environment lacks the joy that can motivate students to engage with the material.

The Luminos Fund has zero tolerance for any form of violence or corporal punishment in our program. At Luminos, we strive to create a safe and inclusive environment where students can feel comfortable and enjoy learning. Our engaging and meaningful lessons provide students with knowledge and skills through a process that empowers them. By using these methods, we change students' perception of education to something that is joyful, resulting in better learning outcomes and equipping them with a love of learning that will continue to benefit them throughout their lives.

## Summary

This element of the [Luminos Method](#) describes how we make learning joyful in our classrooms. We believe that the following three features are essential in this process:

- **Safe, inclusive, and healthy environments:** We prioritize the well-being of our students by ensuring that staff are well-trained, students are educated about their rights, and there is a well-defined process to address any concerns. Our teachers use inclusive practices that promote the participation of all students. Additionally, we promote the health of our students through education and healthy practices in school, and in some settings, we provide free school meals.
- **A meaningful program of study:** We ensure that our programs meet students where they are, equipping them with the most relevant foundational skills. We use culturally relevant materials and we maximize the use of students' first languages as much as possible.
- **Engaging pedagogy:** We use a range of fun and engaging teaching methods that are designed to promote interaction between students and teachers, as well as between students and their peers. Our pedagogy is designed to empower students by allowing them to experience success, voice their opinions, take on responsibilities, and grow in confidence.



Students in Ethiopia have fun during writing practice.  
(Photo by Mekbib Tadesse for the Luminos Fund)

By combining these three aspects, we create a joyful learning experience for our students, building a love of learning that continues well beyond their time with the Luminos program.

# Our Approach

## Safe, Inclusive, and Healthy Environments

The phrase “joyful learning” often brings to mind images of creative play and games. While these elements are important, ensuring that students feel safe is an essential prerequisite for them to enjoy school.

### Safeguarding Students' Welfare

At Luminos, safeguarding students' well-being is a major priority. Not only is it a fundamental right of all children, but it also helps them to learn effectively. Students who experience violence, bullying, and punitive discipline are more likely to be absent and unsuccessful at school.<sup>6</sup> In all Luminos program locations, staff and teachers receive child protection and safeguarding training created by local and international specialists. See the box to the right for a full list of topics.

The training is interactive, encouraging participants to draw on their own experiences, discuss their feelings on the topics openly, and ask questions. Teachers have frequent opportunities to apply new knowledge using case studies and role plays.

Involving parents, caregivers, and community members is an essential component of child protection.<sup>7</sup> Safeguarding topics are addressed in initial meetings with this group before the school year starts and are woven into monthly meetings that teachers hold with parents. We strive to ensure all parents have a clear understanding of our safeguarding policy and their roles, while feeling that the Luminos team respects their culture and their rights to guide their child.

To complement our efforts, we also train supervisors of our teachers who visit classrooms regularly to deliver lessons to students about their rights, how to respect others in class, and what to do if they don't feel safe. Educating children about their rights can build the confidence and skills they need to protect themselves and their peers, helping to protect them from abuse and exploitation.<sup>8</sup> The lessons are based around a story that

#### Topics Covered in Our Safeguarding and Child Protection Training

**Child rights:** Defining who is a child, understanding the types of rights that children have, and the importance of safeguarding children from harm.

**The Luminos Child Protection & Safeguarding Policy:** The difference between safeguarding (protecting children from all forms of abuse and preventing harm) and child protection (protecting children identified as suffering or likely to suffer significant harm, and how to respond to concerns); Luminos policies and procedures; specific behaviors that are encouraged and those that are unacceptable.

**Classroom management and Positive Behavior Framework:** The difference between building positive behavior and punishment, and practical techniques for classroom management and dealing with difficult behavior using a positive behavior framework.

**Types of abuse:** How to recognize signs of different forms of abuse, how to prevent abuse in class, and how to respond to abuse.

**Supporting every child to succeed and gender-responsive teaching:** Understanding barriers to learning, understanding and applying inclusive and gender-responsive approaches.

**Safeguarding with parents and community:** The importance of community voice, how to engage the community with safeguarding.

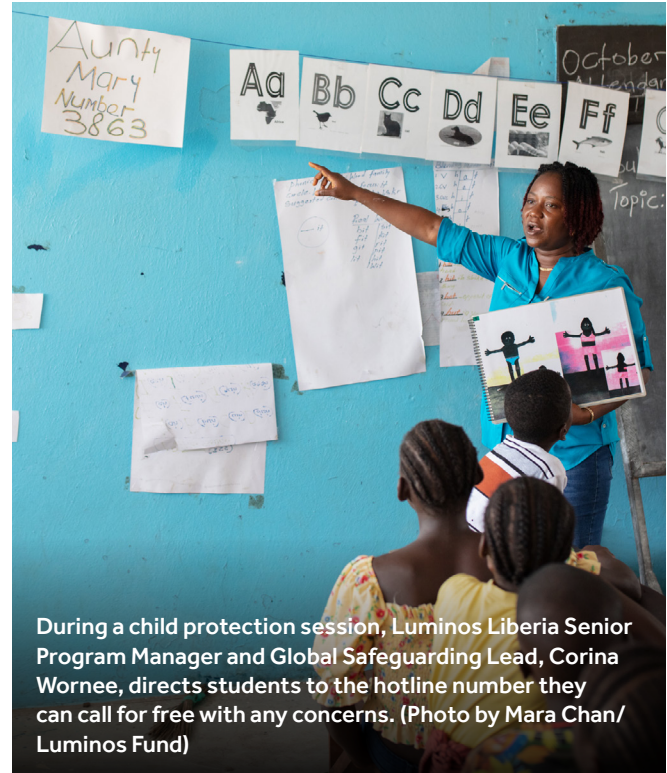
<sup>6</sup> Thapa et al., 2013.

<sup>7</sup> UNICEF, 2021a.

<sup>8</sup> UNICEF, 2021b.



the teacher reads aloud and uses to lead discussions. The story has been created by Luminos to specifically reflect our students' context and issues that they could face, anchored in research on best practice in safeguarding. Each page shows a scene from a Luminos class, and students are asked to describe what they see and provide their ideas and solutions. **It is made clear to students that corporal punishment, violence, and other forms of abuse are not acceptable.** The supervisor delivering these lessons, rather than their regular teacher, helps students to understand how seriously we take their welfare and lets them know that the supervisor is one of the safe adults they can talk to if they feel worried about something. This approach also helps to reinforce teachers' accountability to follow their code of conduct. These topics are also revisited in social studies classes throughout the year, including lessons on child rights, responsibilities, and peace education. Where possible, students are also taught about a hotline that they can call for free to report any concerns that they might have.



During a child protection session, Luminos Liberia Senior Program Manager and Global Safeguarding Lead, Corina Wornee, directs students to the hotline number they can call for free with any concerns. (Photo by Mara Chan/Luminos Fund)

## Inclusive Classrooms

Ensuring all students feel included and can fully participate in classes is essential for providing a joyful learning experience. To achieve this, we prioritize inclusion at every step of the process, from teacher recruitment and training to classroom instruction. We address the topic of inclusion with both our students and teachers as part of our safeguarding information, and we emphasize the importance of an inclusive attitude that welcomes all students.



### QUICK TIP

Involve local experts in safeguarding and child protection in developing training and responding to issues as they arise.

A page on protection from violence and corporal punishment from "Your Promise," a story for Luminos students about child protection and safeguarding.

## PROTECTION FROM VIOLENCE (PART 1)

Did you know that every child has the right to live and learn, free from violence, abuse, and harm? Ask students to raise their hand if they knew this.

Class, what is violence? Select 2-3 students to share.

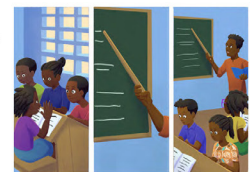
Violence might include hitting, pushing, pinching, and kicking. Violence is not a healthy way to solve a problem for anyone – both adults and children.

Meet Mr. Konneh (point to the teacher wearing orange!)

Mr. Konneh is teaching students the alphabet. He is using his stick to point to the letters. What should Mr. Konneh **not** use the stick for? Call on 1-2 students to share.

In Luminos classrooms, your teacher is never allowed to hit you. Hitting is not a healthy way to solve a problem.

What should you do if you're hit in class? Select 1-2 students to share. A Luminos staff member or program supervisor can help. Let them know what happened next time they visit your class.



### Summary chant:

We have the right to live and learn, free from violence!



## "Your Promise"

A story for Luminos students about child protection and safeguarding.

### Topics Covered:

- The right to go to school and learn
- All children are special: girls and boys
- Protection from unwanted touch
- Inclusive learning and celebrating differences
- Protection from violence
- What to do if things go wrong
- Protection from bullying



An illustration from "Your Promise" that is used for a discussion about what to do if things go wrong and who is a safe adult.



An illustration from "Your Promise" that is used for a discussion about inclusive learning and learning differences.

We set the expectation with our teachers that all children are capable of learning and encourage them to use kind, welcoming language with students to break down the traditional stereotype of a teacher as someone to be feared. Research shows that teacher attitudes towards students, and their support and positive interactions with their class, have a significant impact on students' motivation, behavior, and ultimately their performance. Experiences such as these as early as kindergarten can shape students' attitudes towards education going forward, so it is essential we provide children with positive experiences either as their first taste of school, or to help counter previous negative experiences.<sup>9</sup>

In addition, we encourage teachers to question gendered stereotypes, ensuring boys and girls participate equally across subjects and get the support they need to be successful. This includes training on practices that might inadvertently disadvantage students of either sex.

<sup>9</sup> Thapa et al., 2015.

Luminos parent engagement group meetings "promote girls' learning and challenge unhelpful gender norms and stereotypes that continue to constrain girls and women in Liberia."

**Dr. Jo Westbrook and Dr. Sean Higgins, University of Sussex (2019) p. 9**



### QUICK TIP

Train teachers on how to put gender-responsive teaching strategies into action.

We also work with parents to ensure that they are supporting girls' learning and address gender-related topics in our parent engagement meetings.

We train and support teachers to use diverse methods in their lessons, helping them to meet the diverse needs of learners. This includes using multiple techniques to engage students and generate interest, presenting information in a range of ways, and allowing students to respond and express their ideas in a variety of formats.<sup>10</sup> The goal is to maximize learning for all students, regardless of background and learning needs. Additional information and examples of teaching methods we use are described in more detail below in the section on *Interactive Pedagogy*.

As part of our commitment to ensuring all students are successful, we train teachers to assess students weekly and provide additional support to those who are struggling. For more information about how we assess students and provide support, see the [Teacher-Led Assessment](#) element of the Luminos Method. We are also piloting and evaluating new, more structured approaches to providing remedial support.

## Healthy Students

We also recognize that good health supports students to have enjoyable and successful learning experiences. Most of our students are growing up in communities where access to health information is limited, and poverty creates additional health risks and challenges, such as reduced access to safe drinking water, sanitation, and medical care. To address these challenges, we have integrated health education into the daily timetable. This approach varies depending on the location, but in Liberia and The Gambia, students start each day with a short session called

### Ofa 23: Nsu pa A Yenom



#### Adesua 1:Ka mfonin yi ho asem:

1. Deen na wohunu wo mfonin yi mu?
2. Faako ptee ben na monya nsuo firi wo mo mpotam?
3. Okwan ben na mode nsuo fa ansa na mode aye nea mope?
4. Wonim yaree bi a yenya firi nsuom?
5. Kwan ben na wobefa so abo nsaneyadee a yenya firi nsuom te se mfa ho ban?
6. Aden nti na ense se wo ne mmoo nnom nsuo wo faako?

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### A lesson in Ghana on safe drinking water.

<sup>10</sup> Proponents of the Universal Design for Learning framework assert that providing multiple means of engagement, representation, action and expression are beneficial for all students, including those with disabilities (CAST, 2018).



Luminos student in the Konso zone of Ethiopia eat their hot lunch of rice and beans. In recent years, drought has exacerbated pre-existing food insecurity in the region. (Photo by Michael Stulman/Luminos Fund)

Rise and Shine, where they explore different health-related topics including common diseases, hygiene, nutrition, the human body, and substance abuse, among other topics that are typically found in a social studies curriculum. Similarly, in Ethiopia and Ghana, these topics are covered in environmental science classes or integrated in literacy lessons.

For many children, hunger is also a barrier to joyful learning. A study in Liberia found that hunger was a widespread issue, and students who reported experiencing hunger regularly were more likely to be truant.<sup>11</sup> Research has shown that providing school meals can improve school attendance, student learning outcomes, and student health.<sup>12</sup> Thus, when Luminos launched in Liberia, we identified food insecurity as a potentially serious obstacle to learning and began a midday meals program. Under this program, one parent from each Luminos class receives a stipend to cook and prepare a nutritious hot meal each day. This helps our students stay healthy, concentrate better on their lessons, and serves as an additional incentive for enrollment and attendance. During the pandemic, our research in Liberia demonstrated the importance of these meals, with 54% of our students indicating that it was their only meal of the day (a figure that increased 16 percentage points from before COVID-19).<sup>13</sup>



#### QUICK TIP

Consider providing school meals where needed and feasible.



#### RECOMMENDATION

##### Additional recommendations for creating safe, inclusive, and healthy environments



Allow plenty of time for child protection and safeguarding training.



Ensure there are multiple trustworthy adults whom students can turn to if they do not feel safe.



Create space for parents and teachers to discuss diverse cultural understandings of childhood and beliefs about child-rearing.



Train teachers on how to put gender-responsive teaching strategies into action.



Incorporate multiple methods to engage students, represent ideas, and have students express their ideas – integrate these approaches into teacher's guides.



Involve local experts in safeguarding and child protection in developing training and responding to issues as they arise.



Assess students regularly to monitor their progress and use this information to provide additional support.



Regularly engage parents in safeguarding practices.



Integrate basic health education and safe practices in the classroom.



Educate students about their rights.



Consider providing school meals where needed and feasible.

<sup>11</sup> Appiah et al., 2022.

<sup>12</sup> Bedasso, 2022.

<sup>13</sup> Luminos Fund, 2021.



# Meaningful Program of Study

## Meeting Students Where They Are

We believe that learning is more enjoyable when it is meaningful. To achieve this, our program focuses on meeting children where they are and providing them with the most relevant skills, particularly foundational literacy and numeracy. Most of our students lack these skills when they arrive in the Luminos program, but these skills are necessary for their future success in government schools and beyond.

This targeted approach helps students to see their progress very quickly. As students begin to see their progress, particularly with reading skills, they see the benefits of being in school. Students gain great satisfaction from seeing themselves grow as successful learners, building their motivation, and positively impacting their future achievements.



### QUICK TIP

Prioritize core subjects until students have acquired the basic skills, especially at the beginning of the school year.

## Ensuring Content is Culturally Relevant

Research has shown that incorporating culturally relevant teaching can improve students' engagement and academic performance in lessons.<sup>14</sup> To this end, we use locally created reading materials in our literacy lessons, featuring familiar characters, settings, and activities to make stories relatable for students. Traditional games and songs, along with locally sourced materials, are integrated into lessons to help create a more familiar space for children. Teachers are also encouraged to link lesson content to students' everyday experiences, for example

<sup>14</sup> Byrd, 2016.



Josephine, a Luminos student in Liberia, reads a local short story called "Help for Mama" where she sees children that look just like her in places she sees every day. (Photo by Mara Chan/Luminos Fund)



### QUICK TIP

Incorporate locally created stories and materials.

when reading a story or creating real-life mathematics problems. Wherever possible, we use students' first language as the language of instruction. In cases where this is not an option due to government policy or practicalities, such as classrooms with multiple first languages, we seek opportunities to use and show that we value students' local languages and cultures.

Most of the program, especially literacy and numeracy lessons, are highly-structured, providing teachers with lesson plans each day of the school year. We find this helps teachers feel well-equipped to teach the essential skills students need.

However, we also ensure that there is some flexibility for teachers to address content in different ways and to cover subjects as needs arise. For example, the Rise and Shine sessions (mentioned above) provide opportunities for teachers to incorporate additional topics and use their own ideas and experiences in lessons on topics like culture and traditions.

In addition, three times per year, there is a week scheduled for guest speakers from the community to come into the classroom and explain what they do. This could be the town chief, the village nurse, a shopkeeper, farmer, or the government school principal. As well as helping students to learn about different careers and roles in their community, it also helps them to see the value placed upon local knowledge and voices.

For more detailed information and examples of how Luminos makes classes culturally relevant and how our focus on mastery of foundational skills helps students develop their confidence and self-belief, see the [Identity and Self-Belief](#) element of the Luminos Method.

Luminos students in Ethiopia take learning outside using traditional songs and dances. (Photo by Mo Scarpelli for the Luminos Fund)



### RECOMMENDATION

#### Recommendations for creating a meaningful program of study



Tailor lessons to meet students' actual learning levels.



Incorporate locally created stories and materials.



Prioritize core subjects until students have acquired the basic skills, especially at the beginning of the school year.



Use local languages as much as possible, even when it's not the language of instruction. Find opportunities for students to hear and use it in lessons, such as inviting guest speakers or allowing students to discuss answers in their first language before transitioning to the classroom language.

# Engaging Pedagogy

## Moving Beyond Teacher- vs Child-Centered Labels

Some discussions around pedagogy, especially in low-income countries, center around notions of traditional, teacher-directed lessons as dull and ineffective, contrasting these with more “modern,” engaging, and effective learner-centered approaches. However, as several writers have observed, this can be an unhelpful and false dichotomy that ignores the value of both approaches in different contexts.<sup>15</sup> Student-led learning is not always more effective. There are some situations when more structured, teacher-directed lessons are necessary and the most impactful approach. For example, students cannot discover the letters of the alphabet that represent the particular sounds for themselves. Students need explicit instruction in these foundational concepts, with clear explanations about how letters and sounds relate.<sup>16</sup>

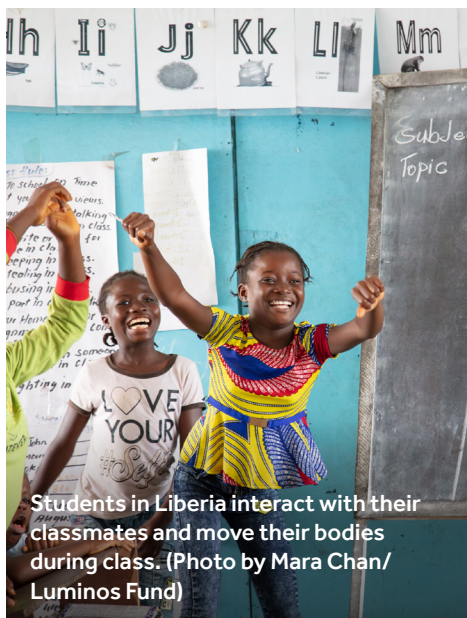
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Furthermore, there are numerous examples of attempts to introduce so-called “child-centered methods” in low-income contexts that have been unsuccessful because they do not fit with the local realities and cultural practices.<sup>17</sup> In these situations, teachers may only adopt surface-level aspects of the new approach, such as using teaching materials or sitting in groups, without actually changing their pedagogy. At best, this means there is limited impact; at worst, the impact can be negative. For example, a group game that does not have a clear learning objective will result in the loss of instructional time.

In addition, it could be argued that labels like child-centered, can be of limited value. Various writers point out that the term has been used to refer to very different, and sometimes conflicting, approaches.<sup>18</sup> Others note that while some “traditional” methods in low-income countries might look teacher-centered at first glance, a more

nuanced observation might lead to a different conclusion, as observers see the practical value in the method and how it contributes to learning in a way that centers the needs of the learner.<sup>19</sup>

Nevertheless, there are some elements we aim to promote throughout all of our classrooms: lessons that are interactive and engaging, learning that is social and collaborative, and a school day that includes playful, physical, or multimodal elements. Our goal is an experience that empowers our students to become lifelong learners. Researchers from the University of Sussex described our pedagogy as “non-binary, in that it integrates newer pedagogies with more traditional ones.”<sup>20</sup>



Students in Liberia interact with their classmates and move their bodies during class. (Photo by Mara Chan/Luminos Fund)

15 O'Sullivan, 2004; Barret, 2007; Schweisfurth, 2011; Schweisfurth, 2013; Akyeampong et al., 2020.

16 Moats, 2020.

17 Schweisfurth, 2011.

18 Chung, 2000.

19 For example, Croft, 2002.

20 Akyeampong et al., 2020.



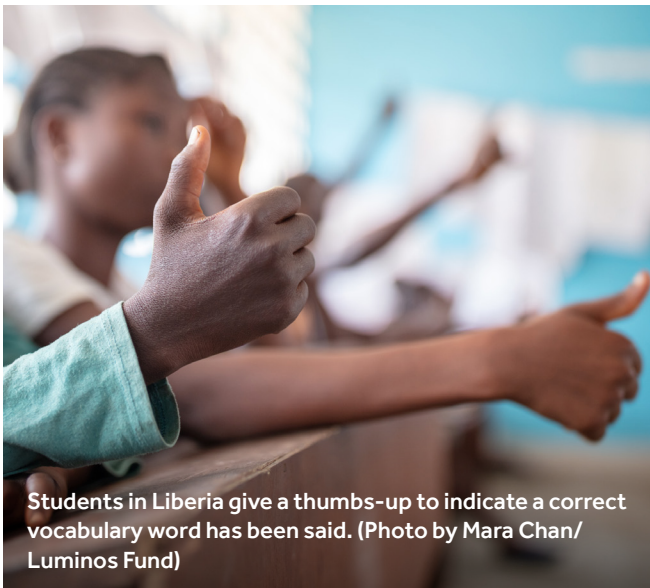
## Interactive Lessons

In Luminos classrooms, we use a wide range of teaching methods that span from structured, explicit instruction to more student-driven projects, depending on the topic being covered and the students' level of understanding. However, a key feature of all lessons is that they are interactive, with plenty of opportunities for students to apply and practice what they are learning.



### QUICK TIP

Prioritize teaching methods that promote frequent interaction between teachers and students and maximize opportunities for students to respond.



Students in Liberia give a thumbs-up to indicate a correct vocabulary word has been said. (Photo by Mara Chan/ Luminos Fund)

When students are novices in an area, explicit instruction is typically more effective. In topics that relate to their daily lives or in areas where students have more background knowledge and experience, they may be better placed to learn more independently from the teachers.



### QUICK TIP

Ensure explicit instruction is interactive and engaging.

For example, in phonics lessons, which require a significant amount of modeling and structured practice guided by the teachers, activities still provide frequent opportunities for all students to practice saying the target sound, reading the new letter in words and passages as a group and in pairs, and writing. Activities are designed to maximize opportunities for students to respond: for example, asking all students to show their thumbs-up if they hear the target sound in a list of words, or to nod or hold up their chalkboard with the letter or word during a dictation activity.<sup>21</sup> As several writers have noted, explicit instruction should still be interactive.<sup>22</sup>

In other lessons, for example in environmental science, students might be encouraged to conduct their own research, including interviewing community members on the topic at hand. The choice of method is typically influenced by the learners' skill level and how much they already know about the topic. When students are novices in an area, explicit instruction is typically more effective.<sup>23</sup> In topics that relate to their daily lives or in areas where students have more background knowledge and experience, they may be better placed to learn more independently from the teacher. Once students have acquired basic skills in literacy or numeracy, they will then have opportunities to apply these skills in projects. For example, a project could be writing and giving a group presentation about careers in their community or calculating a budget for a festival celebration.

The core feature across all of these lessons is that students are active and engaged. There are frequent interactions, with communication moving in two ways between teachers and students: the teacher is not simply imparting information to the students and expecting them to listen passively.

<sup>21</sup> Cuticelli et al., 2016; Haydon et al., 2012.

<sup>22</sup> Archer & Hughes, 2011.

<sup>23</sup> Clark et al., 2012.

## Social and Collaborative Learning

Communication between students is also actively encouraged. We encourage students to work collaboratively in groups and pairs across all our project locations. This provides students with opportunities to practice skills, explore new concepts, and build confidence in a non-threatening way. This is especially important for learners who are shy or apprehensive about speaking in front of the class when they first join the Luminos program. Collaborative work also promotes active engagement, inclusion, and research suggests it can improve academic outcomes.<sup>24</sup> Our experience has shown that students often find these kinds of activities the most enjoyable.

Teachers frequently assign students to work together with another student as a “talking partner.” In these pairs, students might be tasked with answering a question before some pairs are selected to share their answer with the class. Alternatively, they may be asked to practice making sentences with a new vocabulary word or summarize the main idea of a lesson. Students also read together in pairs daily, enabling them to support each other with decoding new words.



### QUICK TIP

Encourage pair and small group work, where appropriate, to help all students participate, e.g., using “talking partners.”



Students in Liberia partner together to identify nouns in a short story. (Photo by Mara Chan/Luminos Fund)

<sup>24</sup> Slavin, 2013.

## Group Task Examples

In Ethiopia, students in the Luminos program sit in five groups per class. Our teachers often assign different tasks to each group, leading them to practice the same content in different ways. After a brief introduction to the topic, the teacher assigns each group to one of the following types of activities:








### QUICK TIP

Ensure group work tasks encourage all students to participate, rather than having one student do all the work while others watch.

1. **Handicrafts** – using local materials to build or construct something representing the concept being studied.
2. **Games** – creating a game to practice the new skill or idea being taught.
3. **Music** – creating a song, often using the tune of a familiar nursery rhyme or traditional song.
4. **Stories** – students create a short oral story to illustrate the idea of the lesson.
5. **Flashcards** – using flashcards to practice a skill or to create a game.

Below are some examples of the kinds of things students in each group might decide to do in a lesson on traditional forms of measurement.

### Sample Group Tasks for a Measurement Lesson:

 Handicrafts	 Games	 Music	 Stories	 Flashcards
Making their own measurement devices from bottle tops, string, cups, tins, and sticks measuring and recording the size of items in the classroom.	Taking turns to see how far they can jump, then measuring and recording the distance using their foot lengths. Recording and totaling scores after three rounds to find the winner.	Creating a song about items they have measured in different ways, e.g., using the tune of a well-known song to sing: "Our desk is ten hands long. My book is nine thumbs wide. The class is eight steps wide..."	Creating a story about why someone needs to measure things, how they did it, and the sizes of the different items, e.g., a carpenter making furniture. The teacher would encourage students to measure items in the classroom to make sure the sizes are realistic.	Creating two types of flashcards. One with numbers 1-10, the other with pictures of different ways to measure, e.g., thumbs, handspans, foot length, steps, or cups. Then choosing one of each kind of card at random and trying to find items in the classroom of that size.

When group activities are completed, each group shares what they did with the rest of the class. In this example, the teacher then leads a discussion about the advantages and disadvantages of the different methods and how these compare with modern forms of measurement. These kinds of activities can be especially useful in lessons to help students make links between formal and informal mathematics, which is a crucial skill in the early grades.<sup>25</sup> It also helps students see the same information or concept represented in multiple ways, reinforcing conceptual understanding behind mathematical processes.



Using the same task and group types over multiple lessons helps students to become familiar with what kind of activities are expected from particular groups. At the beginning of the school year, teachers often need to suggest ideas for each group, but over time students begin to come up with their own ideas.

These group activities not only develop the knowledge and skills targeted in the lesson, like in this case relating to measurement, but also a whole host of interpersonal skills. Dr. Susan Rauchwerk, Professor of Education at Lesley University, described the benefits of this feature of Luminos classrooms:

"Structuring lessons around games and activities in small and large groups generates social interactions and helps students build communication skills. In the process of developing a skit, song, dance, or story, students learn to think, explain, and reflect. As differences of opinion arise, they negotiate, building interpersonal skills, and learn how to substantiate their claims with evidence."

We believe that the social elements of the Luminos program also have an impact on students' happiness at school and overall enjoyment in learning. Research on school climate has shown that when students feel more connected to each other, they feel more positive about school, providing an optimal environment for learning.<sup>26</sup>

## Playful Activities and Games

Playful activities and games are an important feature in the Luminos classroom, serving as a means to engage students, keep their attention, and increase their enjoyment of lessons. Whether played as a whole class or in small groups, they help alleviate the feeling of the school day being long, particularly for those who are new to it. Importantly, these games are always connected to the lesson's objectives and reinforce the concepts or skills being taught.



### QUICK TIP

Use physical activities to represent information in different ways and keep students' attention.

Below are some examples of games that are used in Luminos classrooms to support literacy and numeracy skills.



### Game: Word Scramble

The teacher gives a list of scrambled words for pairs or small groups to decipher within a given time limit.

In some classes, students use flashcards they have made to work out the answers.

### Connection with Lessons

Supports students to apply their phonics knowledge to spell words. In this example, students are practicing spelling three-letter words with the short vowel sound of /a/.

<sup>26</sup> Thapa et al., 2013.



(Photo by Mo Scarpelli for the Luminos Fund)

### Game: Hopscotch

Students replace the numbers on a typical hopscotch board with multiples of two. One student throws a stone to a spot on the board, for example eight, and then the group chant in multiples of two as the student hops to that spot. Another student records how many hops it took to get there, writing the sum  $4 \times 2 = 8$ . Each student takes a turn at hopping and recording.

### Connection with Lessons

Supports students to learn multiplication.

It can also be used to support basic counting, number recognition, and even division later in the year.

Students are also encouraged to use role play to demonstrate their understanding or apply new skills. For example, they might act out a story after reading or listening to it, with different members of the group taking on the role of different characters. This approach not only helps students to understand the story more fully but also gives them opportunity to practice using any new vocabulary. Role play is also used to support numeracy: every classroom has a pretend market stall with tins, boxes, and bottles used as goods, along with pen and paper for creating price labels and a bank with pretend money. Small groups use this area to apply skills such as addition, subtraction, and multiplication, helping students to make connections between mathematics in the classroom and in the real world: an essential component of numeracy education.<sup>27</sup>



Student Abraham shows the play money that his peers and he created for their pretend bank.



After getting money from the pretend bank, student Benita heads to the play market stall to make her purchases.



Student Violet proudly displays her purchases of soft drinks from the play market stall.



After Violet makes her purchase, she brings the change back to the bank to be counted as students check one another's math.

27 Lutfalei et al., 2021.

Photos by Mara Chan/Luminos Fund



## Physical and Multi-Modal Methods

Luminos lessons are multi-modal, meaning that they use tactile and kinesthetic methods, alongside visual and auditory approaches. Our classes include frequent opportunities for students to move as they learn. Activities might involve jumping, running, stretching, dancing, and clapping, or the use of objects for interactive learning. Like with the games we use, this helps to keep students alert and engaged, links with the lesson topic, and supports students to see and express concepts in different ways.

The use of physical objects is especially important in mathematics lessons to support students to build their conceptual understanding. Students who understand the concept represented by  $3 \times 5$  perform much better than students who only learn to recite their timetables.<sup>28</sup>

Below are some examples of materials used by students in our numeracy lessons.



### QUICK TIP

Ensure games, group work, and physical activities clearly link with the learning outcomes of the lesson, and provide guidance on when and how to use them in training and teacher's guides.



Photo by Obeng Baah for the Luminos Fund

<b>Material</b>	Bottle tops, stones, beans, and seeds.
<b>Activity</b>	Used for counting, addition, subtraction, multiplication, and division.



Photo by Mara Chan/Luminos Fund

<b>Material</b>	Bundles of sticks or straws, with elastic band to group them.
<b>Activity</b>	For counting, addition, and subtraction, especially for numbers over 10 to demonstrate place value.

<sup>28</sup> Lutfeali et al., 2021.



	<b>Material</b>	Paper for cutting and folding, or clay.
	<b>Activity</b>	Used to support understanding of fractions, dividing a shape or object into equal pieces.

Teachers also encourage students to use their own bodies, including their fingers, to support calculations. Another common activity is to have students move and make groups to practice numeracy skills. The teacher can call a number while students move to make groups of that number. At the beginning of the year, this is used to support counting and simple sums by asking, "How many more people does this group need to make a group of six?" Later it can be used to practice multiplication and division by asking, "How many groups of three do we have on this side of the room? How many students is that in total?" or, "We have 24 students in class today, how many groups of three can we make? If we make groups of five, how many groups do we have and how many left over?"

Another activity used in our classrooms is as follows: Students all stand on one side of the classroom and when the teacher calls out a trait, for example "everyone wearing blue" or "everyone with a sister," those students move to the other side of the room. Each group counts how many students are in their group and shares the number with the class. The numbers can be recorded by a student or the teacher as a sum on the board to demonstrate the different ways that the same total number can be made up by different sums.

Once students have grasped a new concept using physical objects, they can transition to pictorial representation before moving on to using mathematical symbols.<sup>29</sup> Teachers encourage students to use their fingers to point as they interact with these visual representations. For example, when they are using a number line to support



#### QUICK TIP

Support teachers' understanding of how to use different types of resources by providing training, coaching, and teacher's guides.



Students in Ethiopia have fun creating objects out of paper to bring their lesson to life. (Photo by Michael Stulman/Luminos Fund)

<sup>29</sup> Sitabkhan et al., 2019.

addition, they use their finger to “jump” each time they go up a number, or later as they use a chart showing numbers 1 to 100, they will physically point as they move across columns and rows.

Teachers often take students outside for activities like jump rope or throwing a ball (often a ball of paper). These activities can be used to support counting skills, counting both up and down, and for multiplication as students count in multiples each time they jump or throw the ball. Creating number lines outside using lines drawn in the sand is another common practice.

Using space outside the classroom can provide a welcome change of scenery throughout the day and give students a chance to burn off energy while practicing new skills.

## Empowering

All our teaching methods aim to empower students *in* and *by* their learning.

There are frequent opportunities for students to lead activities. In literacy and numeracy lessons, for example, students have opportunities to come to the front of the class and lead the class in a familiar routine like calling letter sounds for the class to blend, or numbers for calculations. Group work also allows students to take turns being assigned group leader.

We aim to build students’ sense of confidence by giving them specific responsibilities. Students in Luminos classes are assigned specific roles that they perform on behalf of the class. These include, among others, teacher’s assistant, attendance monitor, and punctuality monitor. In some countries, teachers have made some creative additions to these roles, including a meteorologist responsible for reporting the weather each day, a class photographer who uses a cardboard camera to record key moments in lessons, and a shopkeeper to manage the play market area used for mathematics. Students also take responsibility in the numerous group projects, such as by playing their part in creating a presentation or contributing to solve a problem. Giving students responsibilities like these helps to keep them engaged and develop a sense that the classroom is a shared space. It also serves to develop a sense of



Students in Ghana practice math outside using a paper number line. (Photo by Obeng Baah for the Luminos Fund)



Students in Liberia count in multiples of two as they throw a ball. (Photo by Derrick Michael for the Luminos Fund)



A student in Ethiopia demonstrates his role as the class photographer, proudly displaying his cardboard camera. (Photo by Michael Stulman/Luminos Fund)





### QUICK TIP

Give students responsibilities within group tasks and the day-to-day organization of the classroom.



An emoji chart in an Ethiopian classroom. (Photo by Dr. Alemayehu Gebre/Luminos Fund)



A feedback box in Ethiopia. (Photo by Dr. Alemayehu Gebre/Luminos Fund)

pride in their work, an important factor in enjoyment of learning.

Teachers encourage students to express their ideas and opinions across all subjects. In Ethiopia, for example, emoji charts are sometimes used to encourage students to express how they are feeling, both generally throughout the week and in response to specific activities. Teachers also solicit feedback from learners, getting their ideas about what they do and do not enjoy in the classroom and what they would like to learn. In many classrooms, this is done through boxes where students can write their ideas anonymously. These kinds of techniques help teachers respond better to students, as well as sending the message to students that they and their opinions are valued, contributing to their overall happiness at school.

We also find that students feel very empowered by the progress they can see themselves making. This is often most apparent in literacy lessons where our targeted approach on foundational literacy skills helps students to move from recognizing just a few letters to being able to read sentences and short stories independently in a matter of weeks. For detailed information about how we teach literacy and monitor students' progress, see the [Phonics for First-Generation Readers](#) and [Teacher-Led Assessment](#) elements of the Luminos Method.

Researchers from the University of Sussex asserted that our “participatory pedagogy instills confidence and resilience in students in their capacity as learners, which is an enabler for academic success in the program and beyond. A characterization of the pedagogy encompasses the assemblage of values and behaviors that produce inclusive classroom practices.”

**Akyeampong et. al. (University of Sussex), 2020**





## RECOMMENDATION

### Additional recommendations for an engaging pedagogy



Prioritize teaching methods that promote frequent interaction between teachers and students and maximize opportunities for students to respond.



Ensure explicit instruction is interactive and engaging.



Tailor the teaching methods to the subject being taught and students' skill level.



Make connections between the lessons and the students' daily lives.



Encourage pair and small group work, where appropriate, to help all students participate, e.g., using "talking partners."



Consider having groups apply the same concept in different ways, and offer choice to each group on how they approach a task.



Ensure group work tasks encourage all students to participate, rather than having one student do all the work while others watch.



Use physical activities to represent information in different ways and keep students' attention.



Ensure games, group work, and physical activities clearly link with the learning outcomes of the lesson, and provide guidance on when and how to use them in training and teacher's guides.



Use role play to help students understand stories and apply new skills to real world situations.



Support teachers' understanding of how to use different types of resources by providing training, coaching, and teacher's guides.



Support teachers with how to manage, organize, and store materials.



Give students responsibilities within group tasks and the day-to-day organization of the classroom.



Use mechanisms such as feedback boxes and emoji charts to encourage students to express their ideas.



Luminos students in Ethiopia in their classroom. (Photo by Mekbib Tadesse for the Luminos Fund)

# Challenges & Ongoing Discussions

## Limited Infrastructure for Child Protection

In many of the countries where we work, the infrastructure to support child protection outside our program is extremely limited. Often, there are no social workers to refer matters to or, if these positions do exist, they may have limited training or resources to respond to issues. Similarly, police are often not trained to support children and families in more serious situations. To compound these issues, the communities where we work often have different norms about what is and is not acceptable child-rearing behavior and what constitutes abuse. In these circumstances, we collaborate with other organizations in-country who have specialist expertise in this field, as well as local community leaders, to help guide our response. However, it is still an area that is dramatically underfunded and requires significant investment to ensure all students can have a safe childhood and education.

A related issue is that when students graduate from the Luminos program, they return to the local government school where the same risks exist. In some locations where we work, for example in Ethiopia, we have begun working with government schools to help those teachers recreate the safe and joyful learning environment that we have established in Luminos classrooms. However, we recognize that this is not sufficient, as many potential threats to our students' safety persist both inside and outside of government schools. Our hope, however, is that our students enter government school much more confident and better equipped to respond to risks and challenges as and when they arise. Our goal is that students know their rights and how to respond when they feel unsafe: a skill that will serve them well throughout their lives.

### Meet an Alum: Emmanuel



Photo by Mara Chan/Luminos Fund

Emmanuel attended the Luminos program in Liberia four years ago. His mother, Josephine, was unable to send him to school prior to that because she was unable to afford the school fees. When Josephine learned about Luminos' free catch-up education program, she knew it was a second chance to help her son learn, grow, and gain the tools he needed to succeed — and the first step for their family into the world of education. In the Luminos classroom, Emmanuel discovered his passion for math, which quickly became his favorite subject. Emmanuel loved coming to class and learning with his friends in such a joyful, fun environment. Reflecting on Emmanuel's progress, Josephine says,

“He learned to read, write, and how to speak in public. **He was more confident at the end of the program.** He's still progressing and learning. The program helped him a lot. I'm proud that he can read and write.”

Today, Emmanuel is in eighth grade at his local government school. One of Emmanuel's current teachers, Robert, was amazed at the differences between Luminos alumni like Emmanuel and other students. Luminos students were better behaved, able to concentrate for longer periods, could pronounce words correctly, and were much more likely to volunteer — especially to read in front of the class.

## Support for Inclusion

As we work in communities with severely limited resources, one field that is particularly under-resourced is that of learning differences and disabilities. While we strive to make our classrooms as inclusive as possible, we are aware that some students would benefit from more specialist services alongside the lessons we provide. Unfortunately, in many locations, referral systems for assistive devices or professionals for diagnosis and support with learning differences and disabilities are either non-existent or severely under-resourced.<sup>30</sup> Even culturally and linguistically appropriate screening tools can be difficult to find. Again, when needs arise, we try to work with other experts and non-governmental organizations. As noted above, we are also conducting our own research into how to identify students with additional learning needs and provide effective support.

## Provision of School Meals

Another challenge we have encountered is deciding when to implement the school meals component of our program. While it is true that all the children in the communities where we work would benefit from receiving nutritious meals each school day, the costs are significant, and the logistics of this part of the program require substantial staff time that could be used to address other issues, such as instructional quality.

## Variety and Complexity vs. Fidelity of Implementation and Scalability

A major challenge for us is ensuring that our teachers, many of whom are high school graduates with no prior teaching experience, are able to consistently execute the methods we want to see in the classroom. We have intensive, limited training days to equip teachers with the skills they need to create safe and joyful learning environments. This is no easy task when most of our teachers have not experienced this kind of education before. In addition, the teachers' own subject knowledge, especially in mathematics, is rarely as strong as would be ideal. This is a common problem in the countries where we work, even among qualified teachers.<sup>31</sup> We tackle this challenge by ensuring training is very practical and encouraging teachers to participate and then lead activities that help to strengthen their own grasp of mathematical concepts. This enables them to see the value of the methods we use in Luminos classrooms to build understanding as well as how they can be utilized effectively.

<sup>30</sup> Aduana, et al., 2020.

<sup>31</sup> Lutfeli, 2021.



Photo by Mara Chan/Luminos Fund

**During a midyear refresher training in Liberia, a teacher practices completing a double-digit math problem using local materials for tens and ones.**



Photo by Mara Chan/Luminos Fund

**In the same refresher training, teachers practice using the game of Oware (also known as Mancala) as a tool to use math skills in class.**



“Facilitators... build content knowledge and skills through... flash cards, movement, singing, small group discussions, hands-on investigations, activity-based learning, community engagement, authentic materials, and indoor/outdoor play.”

**Dr. Susan Rauchwerk, Lesley University (2017)**

We also find that using detailed guides with lesson plans for each day is crucial to help teachers know which methods to implement when, and ensuring that they remember the details of each activity weeks after the initial training. To the same end, supervisors visit teachers multiple times per month to provide coaching support, helping to ensure that teachers are applying methods successfully and to provide them with a resource person they can turn to with questions. Both of these approaches have been demonstrated as critical in supporting qualified teachers to improve the quality of teaching and learning,<sup>32</sup> so it is perhaps not

surprising that they are vitally important for our teachers who do not have the same training or experience. For more information about how we recruit, train, and support our teachers, see the [Community Teachers](#) element of the Luminos Method.

Nonetheless, it remains an ongoing endeavor to ensure that lessons incorporate a variety of activities to spark students' interest and meet a range of learning needs while also being realistic for teachers to carry out. We also recognize that some methods might work well with small groups of closely supported teachers over several years, but these same techniques might be more difficult to replicate on a larger scale, particularly when they are supported by government trainers and coaches, as we are doing in Ethiopia. Larger class sizes undoubtedly have an impact on how teaching methods need to be adjusted. We continuously work to adapt and adjust what is feasible in each different situation.



A joyful classroom in The Gambia. (Photo by Lena Nian for the Luminos Fund)

32 Piper & Dubeck, n.d.



# Conclusion

The safe, healthy, and inclusive space that Luminos creates for our students is essential for effective learning to take place. Fear, hunger, illness, and exclusion can all create barriers to learning, particularly for students who may have had negative experiences in school in the past. Therefore, we make it a priority to ensure that all our students feel safe, welcomed, and valued in our classrooms.

Once these barriers to learning have been addressed, our meaningful curriculum and our interactive and fun pedagogy makes learning a joyful experience for our students. Our methods help students not only acquire academic knowledge and skills, but also reframe how they feel about education and the experience of learning. It equips them with the social skills and confidence that enable them to succeed both inside and outside of the Luminos classroom. As researchers from the University of Sussex observed, our program has the ability to “re-ignite the joy of learning – and, for the facilitators, of teaching – by using learning activities such as games, drama, music, etc. to make social and emotional learning the central ingredient in learning.”<sup>33</sup>

We firmly believe that our approach combining care and concern for students’ welfare with engaging pedagogy could benefit students worldwide who are currently being failed by their education systems. By instilling a love of learning in our students, we empower them to achieve their full potential.

<sup>33</sup> Akyeampong et al., 2020.



Liberian student Abraham leads his class in chanting vocabulary words. (Photo by Mara Chan/Luminos Fund)



Betelehem, a Luminos student in Ethiopia, reads her notes from class. (Photo by Michael Stulman/Luminos Fund)



Liberian student Melvina successfully lays out numbers 20-29 during an outdoor math activity. (Photo by Mara Chan/Luminos Fund)

# References

- Aboagye, R. G., Seidu, A. A., Adu, C., Cadri, A., Mireku, D. O., & Ahinkorah, B. O. (2021). Interpersonal violence among in-school adolescents in sub-Saharan Africa: Assessing the prevalence and predictors from the Global School-based Health Survey. *SSM - Population Health*, 16, Article 100929. <https://doi.org/10.1016/j.ssmph.2021.100929>
- Aduugna, M.B., Nabbouh, F., Shehata, S., & Ghahari, S. (2020). Barriers and facilitators to healthcare access for children with disabilities in low and middle income sub-Saharan African countries: a scoping review. *BMC Health Services Research* 20 (15) Article 15. <https://doi.org/10.1186/s12913-019-4822-6>
- Akyeampong, K., Westbrook, J., & Pryor, J. (2020). *The Speed School pedagogy and how it unlocks the creative and learning potential of disadvantaged children in Ethiopia*. NISSEM Global Briefs, 2. pp. 34-53. [https://sro.sussex.ac.uk/id/eprint/95460/7/1\\_Akyeampong.pdf](https://sro.sussex.ac.uk/id/eprint/95460/7/1_Akyeampong.pdf)
- Appiah, F., Salihu, T., Oppong, Y., Acheampong, H. Y., Fenteng, J. O. D., Darteh, A. O., Takyi, M., Ayerakwah, P. A., Boakye, K., & Ameyaw, E. K. (2022). Association between hunger and truancy among students in Liberia: Analysis of 2017 Global School-Based Student Health Survey. *BioMed Research International*, 2022, Article 4785238. <https://doi.org/10.1155/2022/4785238>
- Archer, A. L. & Hughes, C. A. (2011). *Explicit instruction: Effective and efficient teaching*. The Guilford Press.
- Barnes, J., Belsky, J., Broomfield, K. A., & Melhuish, E. (2006). Neighbourhood deprivation, school disorder and academic achievement in primary schools in deprived communities in England. *International Journal of Behavioral Development*, 30(2), 127–136. <https://doi.org/10.1177/0165025406063585>
- Barrett, A. M. (2007). Beyond the polarization of pedagogy: Models of classroom practice in Tanzanian primary schools. *Comparative Education*, 43(2), 273–294. <http://www.jstor.org/stable/29727829>
- Bedasso, B. (2022). In Sandefur, J (Ed.) *Schooling for all: Feasible strategies to achieve universal education*. Center for Global Development. <https://www.cgdev.org/sites/default/files/schooling-for-all-feasible-strategies-universal-education.pdf>
- Byrd, C. M. (2016). Does culturally relevant teaching work? An examination from student perspectives. *SAGE Open*, 6(3). <https://doi.org/10.1177/2158244016660744>
- CAST. (2018). *Universal Design for Learning guidelines version 2.2*. CAST. <http://udlguidelines.cast.org>
- Chen, G. & Weikart, L. A. (2008). Student background, school climate, school disorder, and student achievement: An empirical study of New York City's middle schools. *Journal of School Violence*, 7(4), 3–20. <https://doi.org/10.1080/15388220801973813>
- Chung, S. & Walsh, D. J. (2000). Unpacking child-centredness: A history of meanings. *Journal of Curriculum Studies*, 32(2), 215–234. <https://doi.org/10.1080/002202700182727>
- Clark, R., Kirschner, P., Sweller, J. (2012). Putting students on the path to learning: The case for fully guided instruction. *American Educator*, 36(1). <https://www.aft.org/sites/default/files/Clark.pdf>
- Croft, A. (2002). Singing under a tree: does oral culture help lower primary teachers be learner-centred? *International Journal of Educational Development*, 22(3–4), 321–337. [https://doi.org/10.1016/S0738-0593\(01\)00063-3](https://doi.org/10.1016/S0738-0593(01)00063-3)



- Cuticelli, M., Collier-Meek, M., & Coyne, M. (2016). Increasing the quality of tier 1 reading instruction: Using performance feedback to increase opportunities to respond during implementation of a core reading program. *Psychology in the Schools*, 53(1), 89–105. <https://doi.org/10.1002/pits.21884>
- Educational Assessment and Research Centre. (2022). *The Luminos Fund Ghana CBE program baseline Early Grade Reading Assessment and Early Grade Mathematics Assessment*. [Unpublished dataset].
- Evans, D., Hares, S., Holland, P., Mendez Acosta A. (2022). Adolescent girls' safety in and out of school: Evidence on physical and sexual violence from across sub-Saharan Africa. *CGD Working Paper 597*. Center for Global Development. <https://www.cgdev.org/sites/default/files/adolescent-girls-safety-in-and-out-school-sub-saharan-africa.pdf>
- Haydon, T., MacSuga-Gage, A. S., Simonsen, B., & Hawkins, R. (2012). Opportunities to respond: A key component of effective instruction. *Beyond Behavior*, 22(1), 23–31. <https://doi.org/10.1177/107429561202200105>
- Gottfredson, G. D., Gottfredson, D. C., Payne, A. A., & Gottfredson, N. C. (2005). School climate predictors of school disorder: Results from a national study of delinquency prevention in schools. *Journal of Research in Crime and Delinquency*, 42(4), 412–444. <https://doi.org/10.1177/0022427804271931>
- Luminos Fund. (2021). *Hunger, safety, and aspirations: New data on student well-being during COVID-19 from Liberia*. <https://luminosfund.org/hunger-safety-and-aspirations-new-data-on-student-well-being-during-covid-19-from-liberia/>
- Lutfeali, S., Sitabkhan, Y., Ralaingita, W., & Piper, B. (2021). Designing effective numeracy programs in low- and middle-income countries. *Science of Teaching*. [https://scienceofteaching.site/wp-content/uploads/2022/11/PROJ\\_12\\_SoT-Practical-Guide-for-Numeracy\\_converted\\_link4NOV.pdf](https://scienceofteaching.site/wp-content/uploads/2022/11/PROJ_12_SoT-Practical-Guide-for-Numeracy_converted_link4NOV.pdf)
- Mioko, S. (2015). Assessing school climate towards sustainable learning for all in sub-Saharan Africa: Perspectives from unstable health to school-related gender-based violence (SRGBV). *SACMEQ Gender Series Contribution*, 6. [https://healtheducationresources.unesco.org/sites/default/files/resources/assessing\\_school\\_climate\\_sacmeq\\_brief\\_6\\_ver3.pdf](https://healtheducationresources.unesco.org/sites/default/files/resources/assessing_school_climate_sacmeq_brief_6_ver3.pdf)
- Moats, L. (2020). *Speech to print: Language essentials for teachers, Third Edition*. Brookes Publishing.
- O'Sullivan, M. (2004). The reconceptualisation of learner-centred approaches: A Namibian case study. *International Journal of Educational Development*, 24(6), 585–602. [https://doi.org/10.1016/S0738-0593\(03\)00018-X](https://doi.org/10.1016/S0738-0593(03)00018-X)
- Peguero, A. A., Merrin, G. J., Hong, J. S., & Johnson, K. R. (2019). School disorder and dropping out: The intersection of gender, race, and ethnicity. *Youth & Society*, 51(2), 193–218. <https://doi.org/10.1177/0044118X16668059>
- Piper, B., & Dubeck, M. M. (n.d). Structured pedagogy: Literature review. *Science of Teaching*. <https://scienceofteaching.site/wp-content/uploads/2022/11/Structured-Pedagogy-Literature-Review-1.pdf>
- Schweisfurth, M. (2011). Learner-centred education in developing country contexts: From solution to problem? *International journal of educational development*, 31(5), 425–432.
- Schweisfurth, M. (2013). Learner-Centred Education in International Perspective. *Journal of International and Comparative Education*, 2(1), 1.

Sitabkhan, Y., Davis, J., Earnest, D., Evans, N., Ketterlin-Geller, L., Lutfeali, S., Ngware, M., Perry, L., Pinto, C., Platas, L., Ralaingita, W., Smith, K., & Srikantaiah, D. (2019). *Instructional strategies for mathematics in the early grades*. Mathematics Working Group Working Paper. [https://ierc-publicfiles.s3.amazonaws.com/public/resources/Maths\\_Strategies\\_Final.pdf](https://ierc-publicfiles.s3.amazonaws.com/public/resources/Maths_Strategies_Final.pdf)

Slavin, R. E. (2013). *School and classroom organization*. Routledge

Suldo, S. M., Huebner, E. S., Friedrich, A. A. & Gilman, R. (2014). Life Satisfaction. In Furlong, M. J., Gilman, R., & Huebner, E. S. (Eds.). *Handbook of positive psychology in schools*. Routledge.

Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research*, 83(3), 357–385. <https://doi.org/10.3102/0034654313483907>

UNICEF. (2021a). *Child protection systems strengthening*. UNICEF. <https://www.unicef.org/media/110871/file/1.%20The%20UNICEF%20Child%20Protection%20Systems%20Strengthening%20Approach.pdf>

UNICEF. (2021b). *Child protection strategy (2020–2030)*. UNICEF. <https://www.unicef.org/media/104416/file/Child-Protection-Strategy-2021.pdf>

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