

# Are LLMs Useful in the Poorest Schools?

## TheTeacher.AI in Sierra Leone

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### Context



#### Education in Sierra Leone

- Young: ~40% of population in school
- Only 8% of 3<sup>rd</sup>-grade students can read simple texts (“learning crisis” by UNICEF)
- 1/3 of primary school teachers without teaching qualifications

#### Technology in Sierra Leone

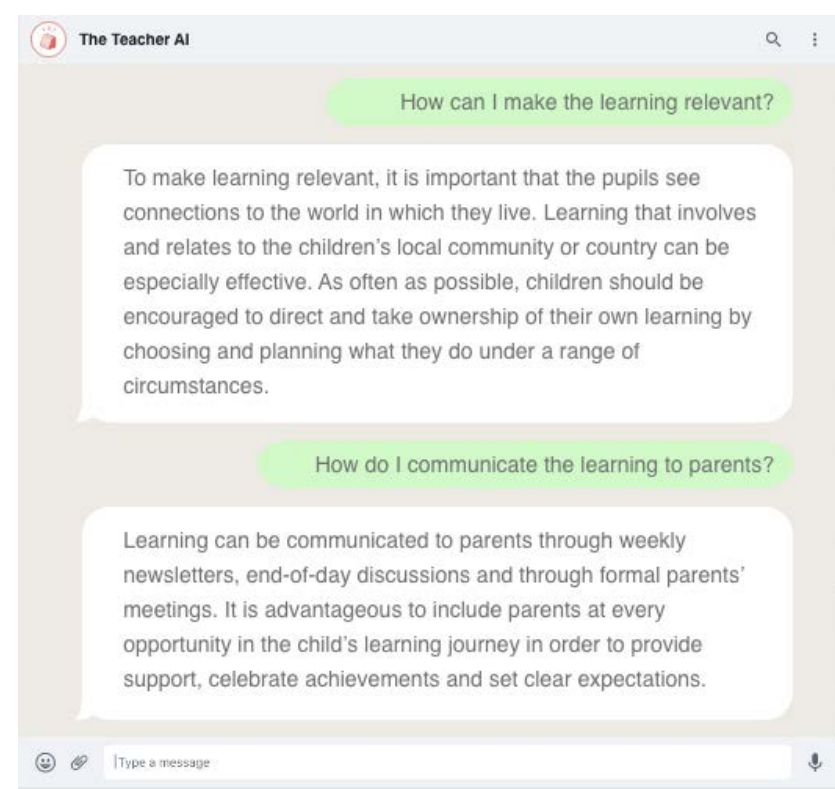
- Only 34% (6% of secondary (primary) schools have electricity, and fewer have internet access
- Most students do not have basic phone or internet connections — but teachers do, and many use WhatsApp

Can LLMs help teachers in these settings to overcome educational challenges?

### The Teacher.AI ChatBot



(Photo credits to EducAid Sierra Leone)

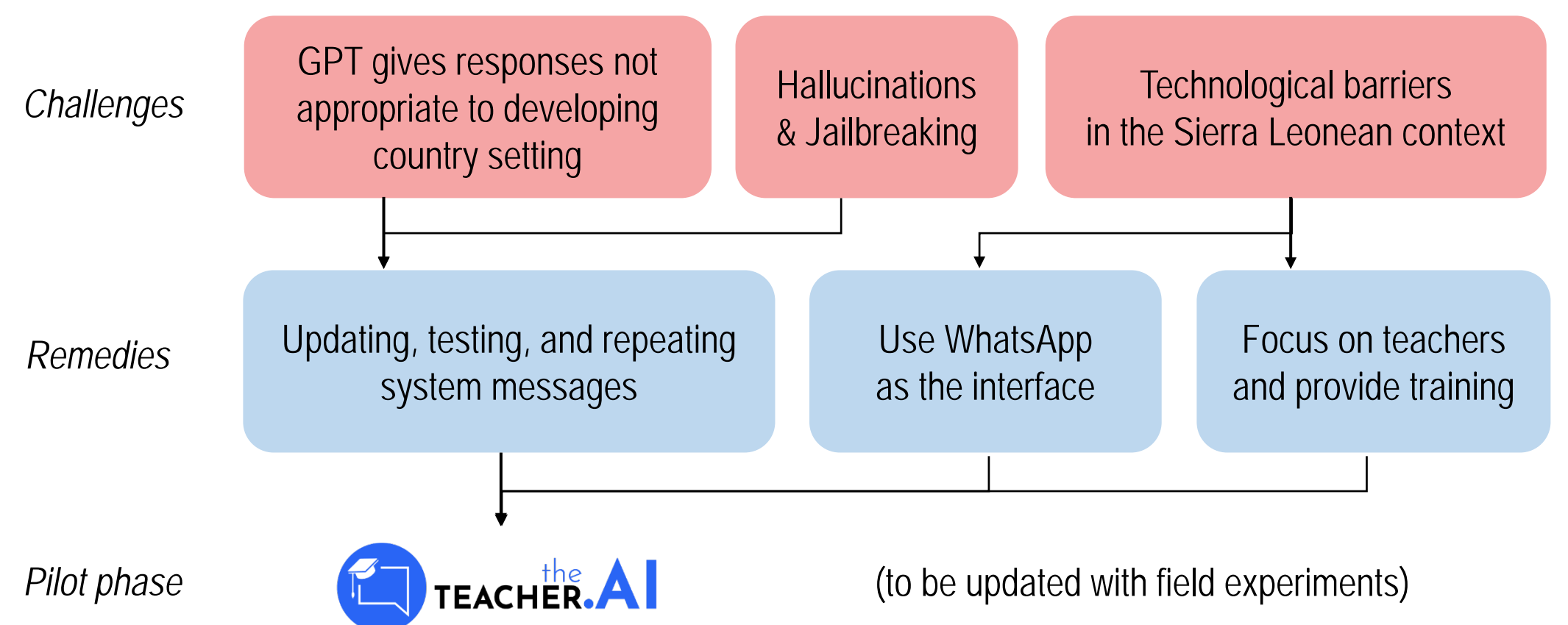


(Photo credits to Fab Data)

Fab Data developed a chatbot for teachers, where queries are sent through WhatsApp.

TheTeacher.AI adds a system message, passes queries onward to GPT, and returns the response.

### Challenges

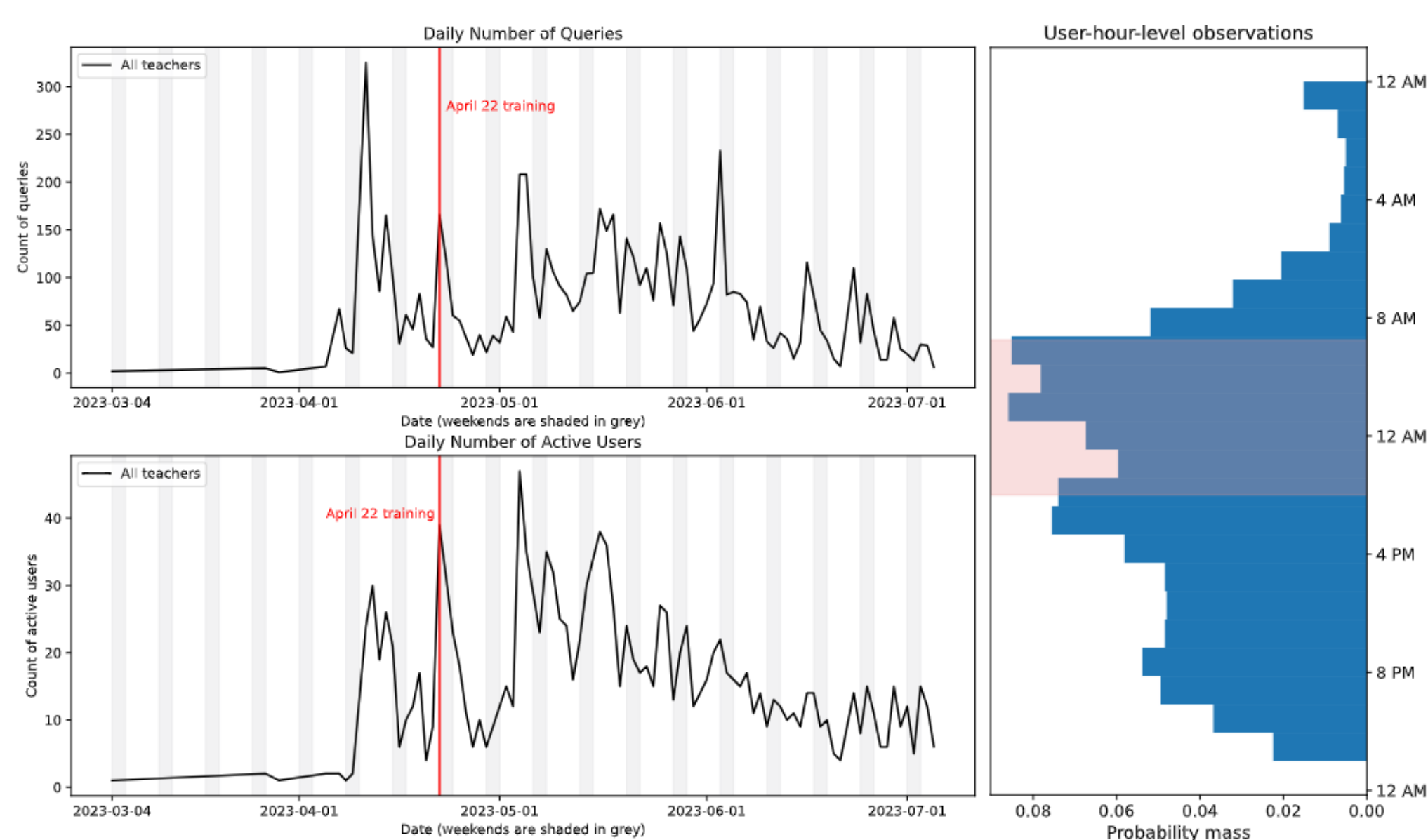


### A pilot study demonstrates some regular usage among teachers

Teachers in the pilot study were recruited from EducAid Sierra Leone schools or included in larger training sessions at the request of the Sierra Leonean government. Approximately 1,080 teachers participated in the 3-day training, focusing on (a) refining questions to better suit the context, (b) practicing scenario-based question selection, and (c) sharing and comparing query ideas. As of the data cutoff in July, 193 teachers had posed at least one query, resulting in a total of 6,900 queries throughout the study duration.

### Findings from the study

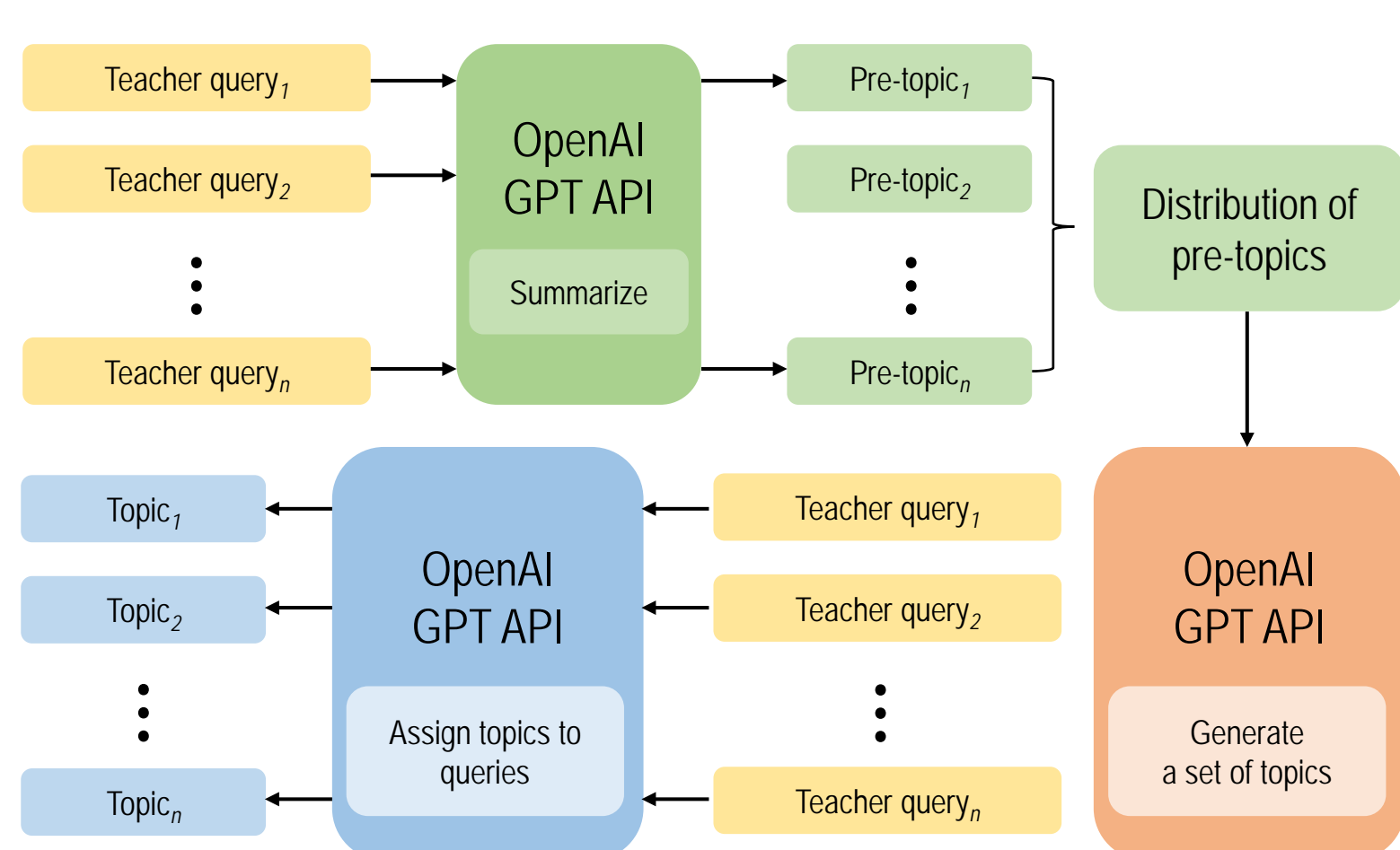
#### When did teachers use it?



#### What topics do teachers ask about?

Topic	%	Example Query (Paraphrased)
Business & Economics	23	Write a research proposal to address poverty in rural areas.
Language & Literature	19	Suggest a title for the following story: [excerpt of the story].
Social Sciences	11	What kinds of policies can best promote gender equality?
Natural Sciences	10	Explain Newton's laws of motion.
Mathematics	9	Suggest strategies for teaching addition of 3-digit numbers.
Pedagogy & Instruction	6	What should I tell a teacher not following the lesson plan?
Health, Wellness, & Pers. Dev.	6	What are the components to a school health program?
Environmental Studies	4	Write a 200-word story about protecting the environment.
Arts & Humanities	3	What is stoicism?
Technology & Innovation	3	Explain what a computer mouse is and list some of its types.
History & Culture	1	Was building boats important in pre-colonial Sierra Leone?

#### Diagram of topic generation and assignment



Note: Similar process for functionality assignment conducted  
Above process will be updated for future applications

#### What tasks do teachers use TheTeacher.AI for?

Functionality	%	Example Query (Paraphrased)
Concept clarification	48	What does “cracy” mean in “democracy”?
Lesson planning	21	Prepare a lesson to teach word families in a phonics class.
Writing support	7	Make a short story with these words: [list of words].
Teachers' professional dev.	6	Write a research proposal on addressing food insecurity.
Classroom communication	5	Discuss the importance of positive feedback to students.
Behavioral management	3	How do you discipline students coming to school late?
Exam & assessment	3	Suggest two math problems to prepare for WASSCE.
Sbj. matter & problem-solving	3	Calculate the length of a diagonal of a 5-by-7 rectangle.
Parent & comm. engagement	1	How do you strengthen school-community relationships?
Greetings or gratitude to AI	1	OK, thank you.
Supervision of other teachers	<1	What should I tell a teacher not following the lesson plan?
Asking AI chatbot to continue	<1	Continue to receive part 2 of your answers.