Pilot data analysis V2

Findings, suggested solutions

Pilot September-December 2021, Kenya, Rwanda, Uganda

CLAIM post-pilot test results

Average score (% of correct answers)

	Score (average)
Uganda (30 students)	67%
Kenya (142 students)	53%
Rwanda (87 students)	41%

Proportion of students that got a "pass" or "mastery" score

	Pass (>54% questions correct)	**Master** (>83% questions correct)
Uganda (30 students)	70%	40%
Kenya (142 students)	48%	7%
Rwanda (87 students)	28%	1%

The "pass" and "mastery" cut-off is a rough approximation based on the cut-offs used in the primary school trial (>54% correct for passing and >83% for mastery).
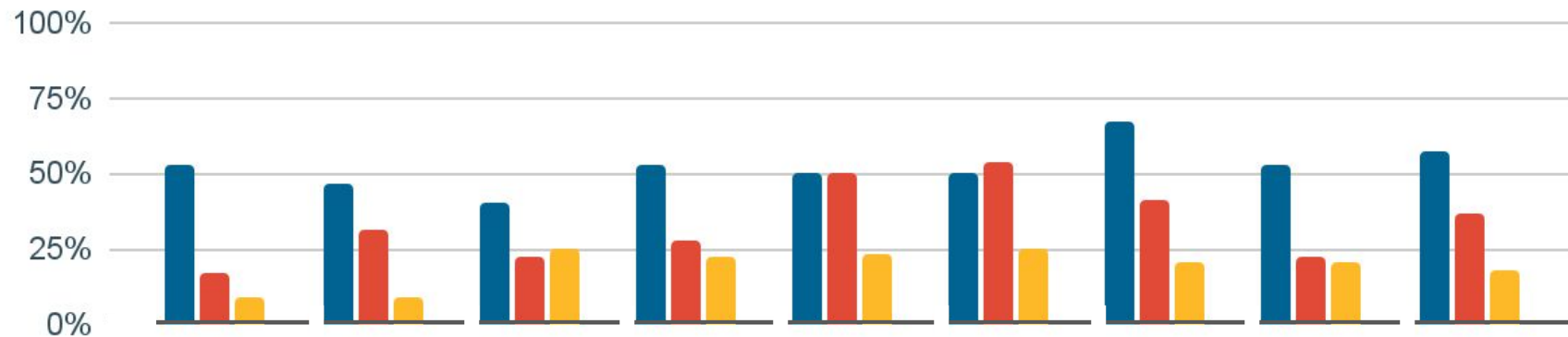
CLAIM post-pilot test
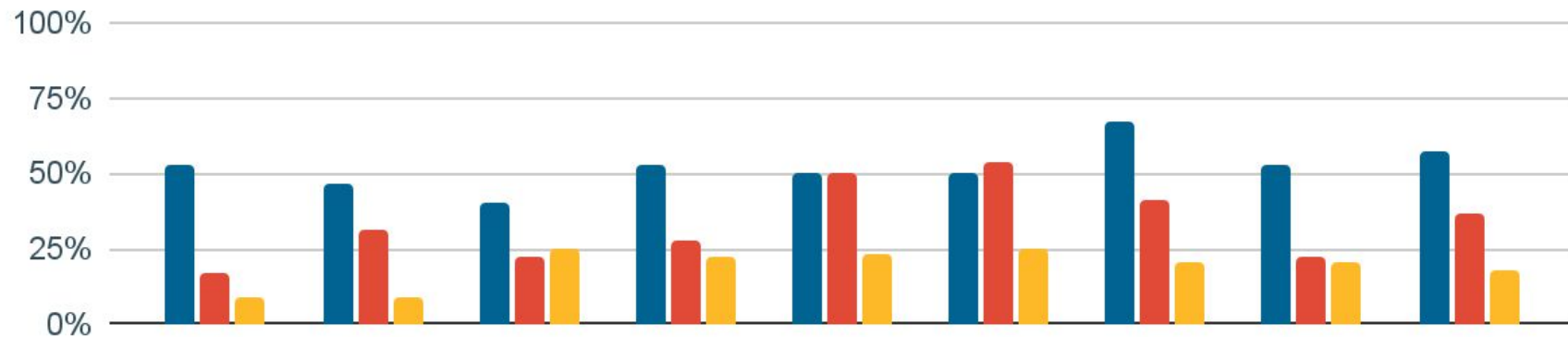
Key Concepts	1.1a Treatments can cause harms as well as benefits	1.1b Large dramatic effects are rare	1.3c Personal experiences or anecdotes alone are an unreliable basis for most claims.	1.2f Identifying effects of treatments depends on making comparisons.	1.2h Widely used treatments or those that have been used for decades are not necessarily beneficial or safe.	1.2i Treatments that are new or technologically impressive may not be better than available alternatives.	2.1a Comparison groups should be as similar as possible.	2.3d Small studies may be misleading.	3.3a Weigh the benefits and savings against the harms and costs of acting or not.
Uganda	53%	47%	40%	53%	50%	50%	67%	53%	57%
Kenya	17%	31%	22%	28%	50%	54%	41%	22%	37%
Rwanda	9%	9%	25%	22%	23%	25%	21%	21%	18%

CLAIM post-pilot test

Legend: Uganda (blue), Kenya (red), Rwanda (yellow)

Key Concepts covered in the 10 lessons	Treatments can cause harms as well as benefits	Large dramatic effects are rare	Personal experiences or anecdotes alone are an unreliable basis for most claims.	Identifying effects of treatments depends on making comparisons.	Widely used treatments or those that have been used for decades are not necessarily beneficial or safe.	Treatments that are new or technologically impressive may not be better than available alternatives.	Comparison groups should be as similar as possible.	Small studies may be misleading.	Weigh the benefits and savings against the harms and costs of acting or not.
Uganda	53%	47%	40%	53%	50%	50%	67%	53%	57%
Kenya	17%	31%	22%	28%	50%	54%	41%	22%	37%
Rwanda	9%	9%	25%	22%	23%	25%	21%	21%	18%

Possible reasons for student test results and variation across countries

All countries:
- Some teachers struggled with content, teacher's training is needed

Rwanda:
- Language is a problem
- Long day, 3 last lessons in same day.
- Computer based lesson used up to lesson 4, lots of problems with this mode

Kenya:
- Shorter term, teachers may not have finished all content or been rushing to finish
- At time of CLAIM test, students had just finished normal exams, might be tired.
- Type of schools engaged, most are day students (low performing students)

Uganda:
- Smaller class size helped
- Setting of pilot, under lockdown, teachers and students had ample time on their hand

Qualitative data from pilot

Qualitative data - Analysis steps so far

Data collection:

- Lesson observation
- Interviews (teachers, students, curriculum developers)
- Focus group discussions at end of pilot (teachers and students)

Data analysis:

- We (A,J) reviewed interview and observation data as it was coming in, created list of questions we needed more input on; these questions formed the basis of focus group discussion guides
- Phd fellows coded implications, and wrote comments on some data points
- We (J,S) assessed implications codes, changed some, and developed Topics codes
- We (J,S) pulled out all data relevant to each topic in separate google docs, and summarized:
    - Overarching findings across lessons, suggestions, ideas for solutions
    - We (A,M,J,S)discussed these and agreed on proposed solutions
    - This presentation represents that analysis
    - We will summarize the lesson-specific findings and address those when we go through each lesson

4 types of findings

- Positive findings
- Main problems across lessons
- Other problems across lessons
- Lesson-specific problems

Positive findings (404 data points)

Specific lesson comments (118)

- Examples, language, student enjoyment and engagement, participation, content

Activities (56)

- Specific activities, student participation, motivation, understanding

General positive comments (43)

- Website usability, language, motivation, usefulness of learning, cross-cutting, curriculum integration

Quiz & review previous lesson (38)

- Correct responses, student enjoyment

Wrap up (38)

- Teacher asking questions, students recalling, giving assignment and next lesson

ICT, Projector (17)

- Setting up, teachers and students liked projector

Positive findings summary

The most important positive findings is that teachers and students appear to appreciate the learning in these lessons, experience the overall content as relevant to them and useful in their daily lives. Many students were actively participating in the lessons and enjoying them.

Additionally, there were positive comments about many things that are also coded as problems: finishing the lesson in the allotted time, correct understanding, suitable language level, examples, and website usability.

The projector lessons seemed to work best, but the blackboard version worked satisfactorily for those without projectors, or as a backup alternative when losing electricity, once teachers became familiar with the solution.

Main problems across all lessons & proposed solutions

1. Student computer mode - did not work well

Problems:

- Equipment (time to set-up, connectivity)
- Students navigation (finding the lesson, looking up answers)
- Student concentration
- Not well aligned with REB expectations (individual/self-study, more interactive)
- Projector mode preferred by teachers who used both (better class attention focus)

Solution:

- Dropping this mode for the trial
- We will likely reactivate and update this mode after the trial.

2. Time - Lessons took longer than 40 minutes

Problems:
- Quizzes & Review previous lesson take too much time at the beginning of the lesson
- Too many activities in single lessons
- Getting into small-groups took a lot of time
- Note taking takes time

Data:
Time
Quiz
Small groups/class discussions
Structure
Review previous lesson
Wrap up
Notetaking
Printouts
Flexibility/tailorability
Teacher training

2. Time

Solutions:
- Adjust lessons so they fit into 40-min sessions
- Shorten Review of previous lesson and Quiz (see Quiz item)
- Fewer small group discussions / activities. Consolidate activity. Give teacher choice/flexibility about how to organize groups, include buzz groups and classroom discussion as options.
- Give options for note taking, including printouts for students that include difficult terms, putting the outline on the board, give teachers option of handing out printouts at the end or beginning of the lesson, option to print quizzes as separate document.
- Shorten key messages in wrap-up.
- Consider combining lessons to make more time for other things (for example: maybe combine personal experience, new and old into one lesson)
- Consider including timers.
- Better teacher preparation will help lesson flow: teacher training
- Consider dropping concepts (if so, which?)

3. Quiz

Problems:
- In addition to taking too much time, also sometimes repetitive together with Review of previous lesson
- Teacher needed to explain a lot of terms, quiz questions (both some words and structure)
- Hard for students who weren't in class for previous lesson
- Several suggestions to place quiz at the end of the lesson

Solution:
- Reorganisation of quiz:
  - Consider alternating between homework and quiz
  - Fewer quiz questions placed at the end of lesson
  - Or having only 3 quizzes, one for each segment (claims, comparisons, choices)

Reorganisation plan (titles of lessons may be adjusted further)

Lesson 1: Health actions

Lesson 2: Health claims

Lesson 3: Weak bases for claims (or some other title, combining "Personal experience" and "New and Widely-used")

Lesson 4: Comparisons

Lesson 5: Quiz/reflection Lessons 1-4: Quiz I, Discussing homework, Main message Wrap-up

Lesson 6: Randomization

Lesson 7: Large-enough groups

Lesson 8: Personal choices

Lesson 9: Community choices

Lesson 10: Quiz/reflection Lessons 6-9: Quiz II (lessons 6-7), Quiz III (lessons 8-9), Main message Wrap-up

4. Understanding (both teachers and students)

Data:
[Conceptual misunderstanding](#)
[Glossary edit (and language)](#)
[Review previous lesson](#)
[Teacher training](#)
[Printouts](#)

Problems:

- Poor conceptual understanding (teachers and students) of some lessons

- Difficulty with (english/technical) language -

- New content/teacher not well prepared
- Lacking a teacher's guide

Solutions:

- Teacher training workshop
- Add a Teacher's guide
- Reconsider the titles of the lessons
- When Reviewing previous lesson, make the connection to the current lesson
- Shorten key messages in wrap-up. Maybe link key messages to homework. Focus on gist.
- Have printouts for students. Include difficult terms. Give teachers option of handing out printouts at the end or beginning of the lesson. Print quizzes as separate document.
- Consider making the printout for teachers an editable Google doc instead of or in addition to a PDF, and creating the teacher printouts instead of generating them automatically.

5. Examples

Problems:

- Mistaking examples for main message
- Too familiar/too many opinions
- Not always relatable or not engaging enough

Solutions:

- Reconsider examples
- Consider not using Covid specifically
- Provide extra examples

Data:
Conceptual misunderstanding
Glossary edit (and language)
Teacher training
Printouts

Examples from students:
Examples Jenny collected from students

6. Structure

Problems:

- Structure not aligned with structure teachers were familiar with
- Rwanda feedback emphasized "discovery" structure, where explanations are not provided before activity where students discover the learning points
- Kenya feedback emphasized providing definitions and explanations upfront, and reinforcing these through the activity
- These approaches are in conflict with each other

Solutions:

- Chunk the lesson in 3 parts: Review + Introduction, Activity, Wrap-up
- Try to find a middle ground between the Kenyan and Rwandan feedback, for instance putting questions that start students thinking early, but definitions and explanations still early enough to inform the activity
- Additionally, the teachers suggested that we could consider interchanging the order of the lessons from 5,6,7 to 5,7,6 as this will allow students to understand why comparisons are important and how to create groups and then that the groups should be large enough.

7. Homework

Problems:

- Didn't go over homework in class or collect it
- Not always understandable or related to lesson

Solutions:

- Clarify purpose of the homework to both teachers and students (transfer to daily life).
- Not homework in every lesson
- Provide some options for how to deal with homework

Other problems across lessons
& proposed solutions

8. Note taking

Problems:

- Took time
- Could be distracting (especially slower students),
- Not consistently signaled on slides
- Not enough notes for studying at the end?

Solutions:

- Give options for note taking, including printouts for students that include difficult terms, putting the outline on the board
- More consistent marking on slides

9. Navigation

Problems:

- Some expressed difficulty finding/navigating to the lessons
- Overview and Background not used by many - due to time but maybe still partly due to visibility of links
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Solutions:

- Redesign lesson menu (Overview/Lesson/Background) to make more visible
- Make it easier to access lessons directly from the main menu.
- (Menu/site structure/front page also needs adjusting to accommodate for taking out students computer lessons, and for adding teacher's guide content.)
- Drop teacher log, as this is a common barrier to navigating and doesn't provide critical functionality (Use Nettskjema for data collection)
- Explain site organisation in Teacher's training

10. Slow download time

Problems:

-   Despite Epistemonikos work-around mid-pilot, website connections may still be slow

Solutions:

-   Epistemonikos implemented a helpful solution mid-pilot.
-   Continue to monitor size of site when adding new content
-   Explain offline functionality in Teacher's training

11. Some lack of student engagement

Problems:

- Some students were bored (long lessons, unrelatable examples)

Solutions:

- Shorter lessons will help some of this problem
- Reconsider some examples that better stimulate students' interest and discussion
- Teacher training combined with making teacher flexibility/options clearer may help, so teachers can present in a more engaging way

Lesson-specific problems

Findings sorted into lesson-specific problems will be addressed when we are creating an adjusted version of each lesson. These include among other things:

- Bringing more clarity to places where there have been specific kinds of conceptual misunderstanding or difficult words
- Addressing any confusion about an activity/instructions
- Addressing mistakes or redundancy in the slides
- Fixing text or illustration problems

Data:
Conceptual misunderstanding
Activity misunderstanding
Slides edit
Text edits
Illustration edit
Other

Sharing findings with teachers/curriculum developers for quick feedback

1. Do you disagree with any of the proposed solutions?
2. Are there any major problems that you think we have not adequately addressed?
3. Given the proposed changes to the lessons and the inclusion of a teacher's training workshop, do you think it is feasible for teachers to teach these lessons in 40 minutes?
4. (If you don't think that is at all feasible, which concepts/lessons would you suggest we cut?)
5. Alternative ideas to printouts for students?