For Science. For Insights. For Health.

About Us

Afyabridge Health Institute is an independent health research center that provides rigorous and comparable measurement of the world's most important health challenges and evaluates the strategies used to address them. AHI is committed to transparency and delivers objective research insights critical to sound decision making so that policymakers have the evidence they need to make informed decisions on allocating resources to improve population health. For more information, visit our website: www.ahi.or.ke.

Our Approach

Afyabridge Health Institute (AHI) goals, among others, is to foster improvements in learning and enrichment for high school, college and University students. Our approach to accomplishing our aims emerges from the idea that those of us who know have the duty to act. This also consistent with one of the 10 Essential Public Health Services; Inform, educate and empower people about health issues. We believe education has a unique but often untapped capacity to develop evidence and experiences that can help advance an entire field. One of the sectors we want to move forward is understanding chemistry.

Project Tittle: MAPPING LAST MILE BARRIERS TO UNDERSTANDING CHEMISTRY.

The Situation

Globally, education in the 21 century is evolving exponentially. This evolution is fueled largely by technology, value-based transformation and incentives that are aligning for continuous, proactive learning within the education ecosystem. Over the ten years, poor performance in sciences among high school students have steadily increased. However, concerns about overall utility and the reliability of the current teaching methodology has never been reviewed to establish the benefits to students. This impedes the much desired good results by payers, providers and students. While there is no agreed-upon standard for how success should be judged, a new approach on how schools can best train and support students so they can raise the quality of classroom instructions is much overdue. To ensure maximal benefits it may be necessary to evaluate critically

and restructure existing teaching methodology pathways to capitalize better on delivery of quality education in the 21st century.

The Challenge

Globally, understanding Chemistry by students is a significant source of stress. We know stress is a risk factor for so many other health conditions, like heart disease, cancer and diabetes. As the shortage for medical scientists continues to make inroads globally, embracing science by payers, providers and students is paramount. As we shift into this new reality a key component will be to illuminate, unpack and demystify Chemistry. In understanding the context, at AHI, we think of our theory of change as a continuous cycle, it is best understood as starting with the identification of a gap in knowledge significant enough that narrowing it could lead to powerful change. One example of a knowledge gap is lack of understanding about how schools can best train and support students so they can raise the quality of classroom instruction. If this knowledge gap were filled, and teachers across the country put the insights into practice, the result could be a high-quality education and better academic achievement for high school students.

The Solution

Generating improvements and insights to help fill important knowledge gaps typically requires both innovative work in the field and evaluating it objectively to see what works, what does not and why. An essential component in advancing the quality of teaching chemistry in schools is a 3D periodic table design. At AHI, we know there's always more work to be done, and so we pride ourselves on being a continuous learning and innovation shop. We're now launching a 3D periodic table of elements design that include remote student care, home-made Chemistry teaching tool kit for all high school students and beyond. We'll continue to refine and spread this model so that even more students can get access to the tool kit. AHI is ***Introducing 3D Periodic Table Design as a Teaching aid/Toolkit for High School Learners***.

Collaboration

As part of our strategic partnership, AHI is currently seeking collaboration with a primary Institution (a University, Hospital, Government agencies, Private and public Institutions).

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FEASIBILITY STUDY

MAPPING LAST MILE BARRIERS TO UNDERSTANDING CHEMISTRY.

Section 1: For Teachers and Subject specialists.

Question:

What do you not know that, if you did know, would allow you to make a breakthrough in Chemistry subject performance?

Why ask such a question? We call these activity/ies "understanding the context." In this phase of our approach, we try to frame the question we are trying to answer in way that will yield the most useful information.

Section 2: To students and Teachers

Introduction to Chemistry Topics.

We sought to identify gaps in understanding five basic chapters in Chemistry:

1. Matter and measurement
2. Basic structure of Atom
3. Periodic Trends: Navigating the Table
4. Compounds and chemical Formulas
5. Joining Atoms: The Chemical Bond

Chemistry Literacy Score your level of understanding	
Matter and measurement	Very poor 1 Poor 2 Ok 3 Good 4 Very good 5
Basic structure of Atom	Very poor 1 Poor 2 Ok 3 Good 4 Very good 5
Periodic Trends: Navigating the Table	Very poor 1 Poor 2 Ok 3 Good 4 Very good 5
Compounds and chemical Formulas	Very poor 1 Poor 2 Ok 3 Good 4 Very good 5
Joining Atoms: The Chemical Bond	Very poor 1 Poor 2 Ok 3 Good 4 Very good 5