

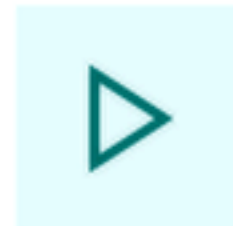
MULTIPLE WAYS TO LEARN



READ

Linguistic Channel

Comics activate narrative +
visual processing simultaneously
- dual-encoding pairing.



PLAY

Spatial Channel

Engaging variables in a game
helps the learner build new
mental models to support
learning.



QUIZ

Retrieval Channel

Active recall is the single
strongest predictor of long-term
memory retention.

DIAGNOSING THE PROBLEM

In Africa, we've treated learning as a one-way street: Teacher talks, student listens. Textbook explains, student memorises. Exam tests, student regurgitates. Even with brilliant comics, reading is only the surface of how children actually learn.

THE PROBLEM

Passive consumption builds temporary familiarity with STEM that disappears when the exam paper is flipped.

THE ONE-WAY MODEL



Input without Output

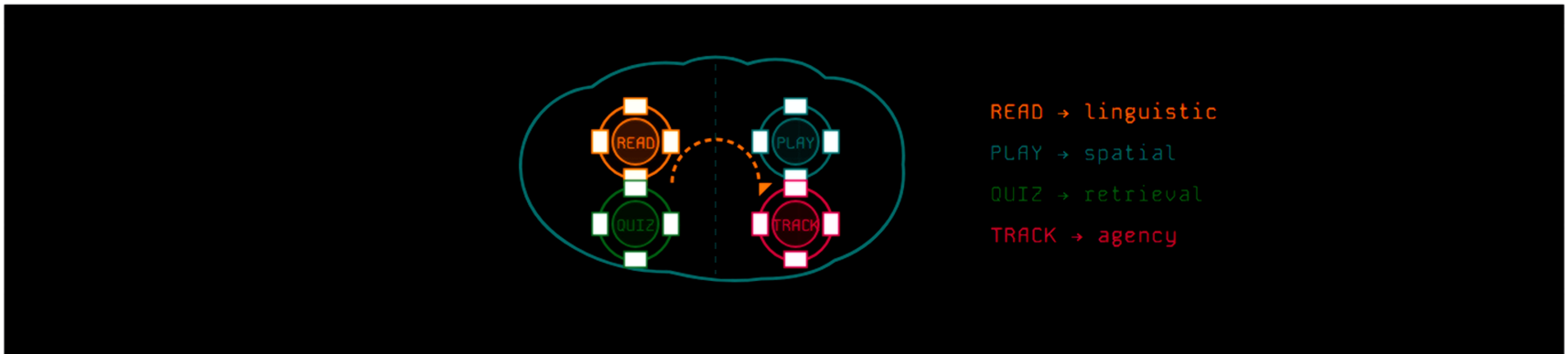
Knowledge enters but has nowhere to go – no retrieval, no application, no ownership.



No Feedback Loop

The student never knows if they understood. The teacher never knows if they taught. Both assume the best until the exam proves otherwise.

MULTIMODALITY IS HOW KNOWLEDGE STICKS



Cognitive science tells us neural pathways strengthen when we learn through multiple reinforcing channels. To move knowledge from short-term awareness to long-term retention, we need a multimodal ecosystem: **Read. Play. Compete. Track.**



STEM EDUCATION
THROUGH COMICS

IT ALL BEGINS WITH A STORY

PHASE 01 The Story Comic · Narrative · Immersion	PHASE 02 The Quiz Retrieval · Reflection	PHASE 03 The Game Engagement · Transfer	PHASE 04 The Portal Progress · Agency
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Meet Amara. She discovers a comic about an inventor in Lagos building a solar purifier. She's not "studying" – she's following a character she cares about through a challenge she understands. The learning is invisible, embedded in the narrative.

Stories ignite the interest; action fans the flame.



STEM EDUCATION
THROUGH COMICS

ACTIVE RETRIEVAL PRACTICE

PHASE 01 The Story ✓ Complete	PHASE 02 The Quiz Retrieval · Reflection	PHASE 03 The Game Engagement · Transfer	PHASE 04 The Portal Progress · Agency
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As Amara finishes, she's invited to think: *"Why did the inventor choose solar over a hand-crank?"* By recalling what she read, her brain moves information from "passing glance" to "active understanding."

THE SCIENCE BEHIND IT

A student who reads and is then quizzed retains **50% more** after one week than one who reads twice without retrieval. Playful retrieval removes test anxiety entirely. The brain engages freely without the threat of judgement.

SPATIAL LEARNING THROUGH PLAY

PHASE 01 The Story ✓ Complete	PHASE 02 The Quiz ✓ Complete	PHASE 03 The Game Engagement · Transfer	PHASE 04 The Portal Progress · Agency
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Now Amara enters a 2D game. She adjusts panel angles to maximise sun exposure. She solves the same problem the character did – but now **she** is the inventor. She has read (linguistic), answered (retrieval), and manipulated variables (spatial). Three channels. One concept. Locked in.

Engagement leads to deep conceptual transfer.



STEM EDUCATION
THROUGH COMICS

THE SELF-EFFICACY ENGINE

PHASE 01 The Story ✓ Complete	PHASE 02 The Quiz ✓ Complete	PHASE 03 The Game ✓ Complete	PHASE 04 The Portal Progress · Agency
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Traditional education leaves no record of small wins. In Amara's portal, she sees her growing bookshelf, her quiz patterns, and her game achievements. This builds "**self-efficacy**" – the belief that she can succeed through her own effort. And self-efficacy is a strong predictor of academic persistence.

When progress is visible, persistence is inevitable.

PSYCHOLOGY-DRIVEN DESIGN

GAMIFICATION *done right.*

We use the psychological drivers of great games to sustain daily interest.



Streaks

Rewarding consistency over single bursts of effort. Daily return becomes identity, not task.



Points

Accumulating visible evidence of effort. Points externalise progress that was previously invisible.



Badges

Visual symbols of mastery. A "Solar Scholar" or "Energy Engineer" badge signals identity, not just completion.

STEM ED AS A *community sport*

Amara sees her ranking on the leaderboard. She sees her friend Zainab just earned the "Biology Boss" badge. Suddenly, science is a friendly competition and a community. It stops being "that subject I study alone" and becomes a shared mission.



×3

Retention Boost

Learning in social
context triples recall
vs. isolated study



SCALE

Network Effect

Each new student
makes the platform
more valuable for
every existing one



STEM EDUCATION
THROUGH COMICS

ACCESS AS A PRINCIPLE

Interest cannot be gated. The child in a rural village deserves the same spark as the child in a private school. By making the core ecosystem – comics, quizzes, and games – free, we ensure STEM literacy is a right, not a luxury.



FREE

Core Ecosystem

Comics, quizzes, and games available to every child regardless of income



PAID

Premium Layer

Advanced tools and institutional features fund the free access tier sustainably

We are building for everyone, not just those who can afford it.



STEM EDUCATION
THROUGH COMICS

A MILLION MINDS REWRITING THEIR FUTURES.

A million students tracking progress, earning badges, and discovering that science belongs to them. This is how we deliver on the promise of an African century.

PLATFORM

stemcom.africa

EDUCATORS

Create. Publish. Earn.

STUDENTS

Read. Play. Quiz. Track.