MuggsOfLearning.net

AI-Integrated Education — Built by a Teacher, to Be Used and Molded by Teachers

You've met edTech that says it can teach.

Have you met a teacher that says he can build edTech?

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MuggsOfLearning is a Scientist AI learning program — an ecosystem of AI-powered educational tools where AI acts as an analytic instrument for the teacher, not an autonomous agent interacting with students. AI observes, measures, and reports. The teacher interprets and acts. All AI-assisted feedback is inspected and tuned by the teacher before reaching the student.

This isn't meant to compete with existing platforms. It's meant to do what those platforms aren't designed to do. The hardware is in hand. The tools are built and tested. The system is ready for a school of up to 400 students, powered by local infrastructure with zero third-party cloud dependencies for student data.

11	6	4.4
YEARS CLASSROOM TEACHING	YEARS CLINICAL SOCIAL WORK	LEADS SCORE (EXEMPLARY)

· PHILOSOPHY   · TOOLS   · CURRICULUM   · INFRASTRUCTURE

Educational Tools for Public Good

Every tool in the MuggsOfLearning ecosystem is purpose-built, teacher-owned, and freely accessible at muggsoflearning.net

MuggsOfMastery.net MUGGSOFMASTERY.NET

AI-powered constructed response & extended response evaluation across all LEAP content areas. US History CR/ER is live and in classroom use; ELA, Algebra, Geometry, Biology in active development. Gauntlet-calibrated, teacher-override, source-verified.

MuggsOfSurveys.net MUGGSOFSURVEYS.NET

Survey item evaluation pipeline for the Social Data Science capstone. Four specialized evaluation folders — Behavioral, Psychographic, Cognitive, Demographic — each with calibrated system prompts, few-shot examples, and teacher override.

MuggsOfDataSci.net MUGGSOFDATASCI.NET

Curriculum delivery platform for Social Data Science. Students access scaffolded content, assignments, and assessments through individual workstations. Structures the five-phase research framework with differentiated pathways.

MuggsOfDSFP.net MUGGSOFDSFP.NET

Data Science Futures Project — the SDG-aligned capstone where students present original research findings, methodology, and implications. Assessed through MuggsOfMastery with LEAP-calibrated rubrics.

MuggsOfWriting.net MUGGSOFWRITING.NET

An AI-free composition space where students produce authentic work — essays, term papers, extended writing, original fiction, and poetry. No autocomplete, no generative assistance. AI lives only in the evaluation layer (MuggsOfMastery), never in the writing environment.

MuggsOfAnalysis.net MUGGSOFANALYSIS.NET

Takes qualitative and quantitative data from analysis through synthesis into visual representations — charts, graphs, and dashboards that surface the stories data tells. Makes patterns legible so decisions can follow.

MuggsOfDreams.net MUGGSOFDREAMS.NET

Client web development intake platform. AI-guided spec generation and wireframe variants for building custom web properties for organizations.

AiEmpoweredU.org AIEMPOWEREDU.ORG

AI-integrated education resources, methodology documentation, and professional development materials for educators exploring responsible AI integration.

Teacher in the Loop, Teacher at the Helm

A framework for AI integration that centers educator judgment

The ed-tech industry talks about "freeing up teachers." That framing makes the teacher passive. MuggsOfLearning starts from a different premise: teachers freeing up time. The teacher is the agent. AI is the instrument. The difference determines who controls the feedback loop, who owns the data, and whose judgment shapes what students see.

AI as Analytic Instrument (Scientist AI)

AI evaluates student work against teacher-defined rubrics. It does not generate content for students — it extends the teacher's eye, enabling substantive feedback to every student, every assignment. All AI-assisted feedback is inspected and tuned by the teacher before reaching the student.

NOT THIS	AI writes the essay. Student submits it.

THIS	Student writes. AI evaluates. Teacher confirms.

Single Pass AI

One prompt. No iteration. Stateless. Efficient for student-facing workflows. Student data effectively vanishes after the session — privacy by architecture.

Gauntlet Prompting

Saturate the context window with rubrics, exemplars, corrections, and full source documents. Force precision through density, not iteration.

Teacher-at-the-Helm Tuning

AI proposes; the teacher confirms. No feedback reaches a student without teacher review. Corrections feed back as few-shot examples, shaping the system over time.

Consistency Engine

AI maintains an unbiased standard across all student inputs, preventing grading fatigue and subjective drift. The 30th essay is evaluated with the same rigor as the 1st.

Student as Auditor

Students do not passively consume AI outputs. They peer review them — reflecting on what they agree with, disagree with, or find incoherent. Critical thinking, not consumption.

Exit Plan Design

Every tool is built with a plan for the student to outgrow it. Scaffolding is temporary. The goal is independent performance, not platform engagement.

Wholesale Tokens

Local inference means the teacher controls the context window — not a vendor protecting margins. This system spends compute where it matters: larger gauntlets, full source documents loaded into every inference pass.

Malleable by Design

EdTech sells finished platforms. This system improves as teachers use it. Teacher overrides become training data. UX friction becomes interface changes. Summer corrections become fine-tuning data for model improvements.

Purpose-Built Tools for a Data Science Classroom

Each tool serves a specific pedagogical function within the MuggsOfLearning ecosystem

MuggsOfMastery   ASSESSMENT FEEDBACK

The flagship tool. Evaluates student constructed responses (CR) and extended responses (ER) against Louisiana LEAP rubrics using AI inference, calibrated through gauntlet prompting with rubric text, anchor papers, and teacher-authored few-shot examples.

Every piece of feedback passes through a teacher override layer. When the teacher corrects an AI evaluation, that correction becomes a new few-shot example, continuously improving alignment with the teacher's professional judgment.

- US History CR/ER live and in classroom use
- ELA, Algebra, Geometry, Biology in development
- Teacher override with few-shot learning loop
- Future-ready — recalibrates via prompt updates

MuggsOfDataSci   CURRICULUM DELIVERY

The course delivery site. Students access scaffolded content, assignments, and assessments at individual workstations. Structures the five-phase research framework with differentiated pathways matched to each student's current phase and skill level.

MuggsOfSurveys   ITEM EVALUATION PIPELINE

Students design original survey instruments for their capstone research. MuggsOfSurveys evaluates individual items against methodological standards using four specialized folders — Behavioral, Psychographic, Cognitive, Demographic — each with calibrated system prompts, few-shot examples, and teacher override.

AI evaluates clarity, bias, leading language, scale appropriateness, and research-question alignment. The same iterative process a graduate methods course uses, made accessible to high school seniors.

MuggsOfDSFP   DATA SCIENCE FUTURES PROJECT

The SDG-aligned capstone where students present original research findings, methodology, and implications. Assessed through MuggsOfMastery with LEAP-calibrated constructed-response rubrics.

MuggsOfWriting   AI-FREE COMPOSITION

An AI-free composition space where students produce authentic work. No autocomplete, no generative assistance. AI lives only in the evaluation layer (MuggsOfMastery), never in the writing environment.

Social Data Science

A computer data science course satisfying Louisiana's 4th math credit • Positioned to satisfy the CS graduation requirement
(Class of 2031, entering 9th grade 2027–28 per Act 268) • CLEP Sociology & Information Systems pathways

Phase 1: Phenomenology *Observe & Notice*

Students identify social phenomena in their communities
and peer groups — patterns worth investigating. Research
begins with authentic curiosity, not textbook prompts.

Phase 2: Ask Questions *Survey Design via MuggsOfSurveys*

Students translate observations into researchable questions
and design original survey instruments, evaluated through
the MuggsOfSurveys pipeline for clarity, bias, scale design,
and research-question alignment.

Phase 3: Gather & Organize *Data Collection & Cleaning*

Students deploy surveys, collect responses, and clean raw
data — encountering real-world problems like missing
responses, inconsistent entries, and outliers.

Phase 4: Analyze & Model *Statistical Reasoning*

Students apply probability and statistics to data they
collected about questions they asked, making abstract
concepts concrete and personally meaningful.

Phase 5: Communicate *Data Science Futures Project*

The capstone. SDG-aligned research presentations assessed
through MuggsOfMastery with LEAP-calibrated constructed-
response rubrics.

What Students Walk Away With

- **CS graduation credit** positioned for Louisiana's
  requirement (Class of 2031, per Act 268)

- **Survey design** & statistical reasoning applied
  to self-collected data

- **CLEP preparation** Introductory Sociology, with
  Information Systems in development

- **Research communication** SDG-aligned capstone
  project with real-world implications

- **4th math credit** satisfied through Probability
  & Statistics pathway

*Framework drawn from Stanford's youcubed
and Jo Boaler's Mathish, adapted for a
computer lab with AI-assisted tools.*

Zero-Transfer Privacy: Built from Scratch, by the Teacher

The technical infrastructure that powers MuggsOfLearning — portable, vendor-independent, fully local

The Computer Lab

A purpose-built lab designed, configured, and maintained by the teacher. Individual student workstations running local AI inference. NextDNS hardware-level filtering creates a "clean room" more restrictive than standard student Wi-Fi. The lab is not a supplement — it is the classroom.

Built from scratch with $13K in funding.
Fox 8 / WDSU news coverage. BESE board visits.

Local AI Inference

All AI inference runs locally. No student data ever leaves the building. LM Studio serves as the inference platform with open-source models on local hardware.

TEACHER TIER	**Qwen3.5-35B-A3B** MoE on RTX 4090 + RTX 5070 Ti
STUDENT TIER	**Qwen3.5-9B Q4_K_M** Offline on individual workstations
DEVELOPMENT	**Claude Code CLI** Primary development tool (Claude Max)

Secure Edge Gateway

Dual-NIC Mini PC manages ICS and NextDNS filtering.
Router in AP mode distributes filtered connection.
Student traffic physically separated from district backbone.

Cloudflare Edge Stack

All web properties and tool backends run serverless on Cloudflare's global edge network. No traditional hosting, no servers to maintain — critical for a system built and operated by a single teacher.

COMPUTE	**Cloudflare Workers**	Serverless backend logic
DATA	**KV + D1 + R2**	Key-value, SQL, object storage
HOSTING	**Cloudflare Pages**	All MuggsOf web properties
NETWORK	**Cloudflare Tunnels**	Secure teacher dashboard access

Why This Stack Matters

This infrastructure is portable. It does not depend on a specific school's IT department, a particular LMS, or a vendor contract. It runs on commodity hardware, open-source models, and serverless edge computing. Every component can be rebuilt at a new school in days.

A school's investment in student workstations is a capital asset that persists far longer than a software subscription — and appreciates in capability as open-source models improve.

IT Governance

All hardware deployments and network configurations are subject to the review and approval of the District IT Director. MuggsOfLearning is designed as a collaborative pilot, not a workaround. The system defers to district leadership.

Designed for Grow. Achieve. Thrive.

How MuggsOfLearning positions a school to succeed under Louisiana's revised accountability system

Louisiana's Grow. Achieve. Thrive. (GAT) system takes effect in 2025–2026, replacing the legacy SPS formula. High schools are scored across three pillars: academic growth (42%), proficiency (33%), and post-graduation readiness (25%). Simultaneously, a Computer Science graduation requirement takes effect for students entering 9th grade in 2027–2028 (Class of 2031, per Act 268 HB 372). MuggsOfLearning is built to deliver on both fronts.

Grow — 42% of High School SPS

8th grade LEAP scores set the baseline. Schools earn points when students move up achievement levels.

MuggsOfMastery delivers individualized constructed-response feedback on every assignment, calibrated to LEAP rubrics. Students get targeted guidance on what to improve and how — not generic scores. The teacher override loop keeps feedback accurate and aligned to each student's growth trajectory.

Achieve — 33% of High School SPS

Measures the percentage of students scoring Mastery or above on LEAP assessments.

At the crossroads of humanities and STEM, MuggsOfDataSci is uniquely positioned to develop tools easily adapted to helping students attain mastery in all LEAP-assessed content areas. Social Data Science satisfies Louisiana's fourth math credit. Students master statistical reasoning through original research, not worksheets.

Thrive — 25% of High School SPS

Measures college credit, career credentials, and workforce readiness indicators.

Social Data Science prepares students for the CLEP Introductory Sociology exam, with a CLEP Information Systems pathway in development. Each passing CLEP score is college credit before graduation — exactly what Thrive measures. CLEP is a high-leverage, low-cost acceleration pathway most Louisiana high schools aren't yet using at scale.

What a School Gets

A teacher who built a computer lab from scratch, designed an original course, wrote custom AI tools, and aligned all of it to the accountability framework that determines the school's letter grade. The tools, the methodology, the infrastructure, and the clinical training to support the whole student — from one educator. Ready to deploy for a school of up to 400 students.

The Fabricated Source Problem

A real scenario that reveals the difference between edTech built for profit and edTech built by a teacher

A student at a high-rated Louisiana high school described an experience with a commercial US History LEAP writing prep platform. The student was practicing constructed responses — the kind of task that requires reading historical source documents and citing them in an analytical essay. On one activity, the student made up a source entirely. Fabricated the author, the title, the content. The platform gave full marks.

Why the platform missed it

The commercial platform almost certainly did not include the actual source documents in its AI evaluation pass. It evaluated whether the student's writing sounded like a competent constructed response — structure, argument, citation format — without any ability to verify whether the cited sources were real or accurately represented. This is what happens when a system is optimized for token efficiency.

Why MuggsOfMastery is designed to catch it

MuggsOfMastery loads the full source documents into every inference pass. The model doesn't just evaluate whether the student's writing is structurally sound — it is designed to check whether the student is accurately representing the sources they cite. A fabricated source is flagged, not rewarded. This is possible because the teacher controls the context window directly. There is no product manager deciding how many tokens the evaluation gets. The teacher decides.

The Consumable: Electricity, Not Tokens

Commercial platforms run massive models — GPT-4 at hundreds of billions of parameters — through cloud APIs, batching thousands of student interactions and paying per token at scale. Tokens are the consumable. Every student interaction costs money. Every token in the context window has a price. Source documents are the first thing to cut.

MuggsOfLearning runs a 40B parameter Mixture-of-Experts model that activates only 3B parameters per token — on hardware in the classroom. One piece of student work per pass. The consumable is electricity, not tokens.

That means the teacher can afford to:
- Load full source documents into every evaluation
- Build dense gauntlet prompts with rubrics, anchor papers, exemplars, and correction history
- Run longer inference passes that catch nuance

There is no product manager deciding how many tokens the evaluation gets. The teacher decides.

Find Room for This in Your Program

This isn't meant to compete with existing platforms. It's meant to do what those platforms aren't designed to do. Students participate in refining a model. Teachers mold the tools they use. The system meets real needs across the school.

Schools hire teachers first and keep them because they are good. If Sean moves on, the system stays to grow. The school keeps the tools, the prompts, and the trained judgment to run them.

The Question for Schools

Every school purchasing AI-powered assessment tools should ask: what is in the context window? If the vendor can't answer that, or won't, the tool is evaluating form, not substance. MuggsOfLearning is built by a teacher who can answer that question for every evaluation the system runs — because the teacher wrote the prompts, chose the models, and loaded the sources.

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