excl in education

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Now more than ever black lives and marginalized youth are perfectly timed to Excl's objectives of delivering social impact to the forgotten students of inner cities with online supplemental learning.

excl in education

Contents

Introduction

Excl is an online educational framework leveraging open source tech providing 3 unique solutions.

An adaptive content rich learning environment that pairs students to the best teachers, offers incentivized learning, while tracking progress to steward mastery.

1 PROBLEM

Quality education in public schools is failing and the teacher-student relationships are not being fostered.

SOLUTION

Excl matches students to the best teachers in real-time. With a multi-factor analysis, Excl's inference engine weights preferences and input data resulting in a filtered set of teachers.

The student ultimately has the power of choice, by previewing lessons from the suggested set, then selecting the teacher that resonates best.

Students optimally find their teachers and vice versa.

2 PROBLEM

Poverty, trauma and absentee parents create stresses dampening motivation for academics. Teachers face rigid curriculum and poor salaries.

SOLUTION

Excl's patented method of incentivization aims to spark humans natural desire for self-determination by allowing control over learning. Students set a long-term goal to earn from a selection of prizes, while daily acknowledgments shape motivation with small rewards keeping them engaged. Teachers broadcast their unique teaching approach and gain royalties for views and student outcomes.

3 PROBLEM

Mastery is not being achieved. Unengaged teachers coupled with lost students are contributing to the current dilemma.

SOLUTION

Our pedagogy is embracing mastery-learning with a knowledge based expert system. Input data is analyzed from real-time lesson interactions, that reassess progress and enhances learning - making it an adaptive learning environment.

The goal is to unlock human potential with instructive strategies that match individual needs in the inner city.

Seeds of Change

Photo by Sam Balye on Unsplash

1 ANXIETY

Everybody fears Math!

93% of adult US-Americans have math anxiety
- THCB, Dove Press, 2018

82% Blacks & 83% of Latinos below proficiency in 4th grade Math
Anxiety blocks concentration, effects working memory & creates discomfort
- Measure of America, 2015

70+ careers gone Fear of math closes doors
- SIAM, 2020

I wanted to change that.

2 BROKEN

The education system seemed broken, rewarding mediocrity vs. quality

A "D" is now a passing grade at LAUSD for college prep
- 89.3 KPCC, 2015

90% of incoming students are unprepared to take college math, 75% for English (LACCD)
- Measure of America, 2015

Poor Students are Stuck with Worst Teachers
- ASSOCIATED PRESS, 2017

I wanted to change that.

3 DROPOUTS

Too many students were dropping out due to disengaged teachers.

1.2 million students drop out falling into a cycle of poverty, unemployment, and violence
- educationdata.org, 2020

Nearly 83% of incarcerated persons are also high school dropouts
- educationdata.org, 2020

US high school graduation rates are under investigation
- Brookings Institute, 2018

I wanted to change that.

4 MASTERY

And too many students were graduating without true mastery.

7% of African Americans, 12% of Latinos and 32% of White students proficient in Math
- Wall Street Journal, 2016

Proficiency is over exaggerated
- AIR, 2014

32% of poverty stricken youth pursue a 4yr program, but only 10% graduate
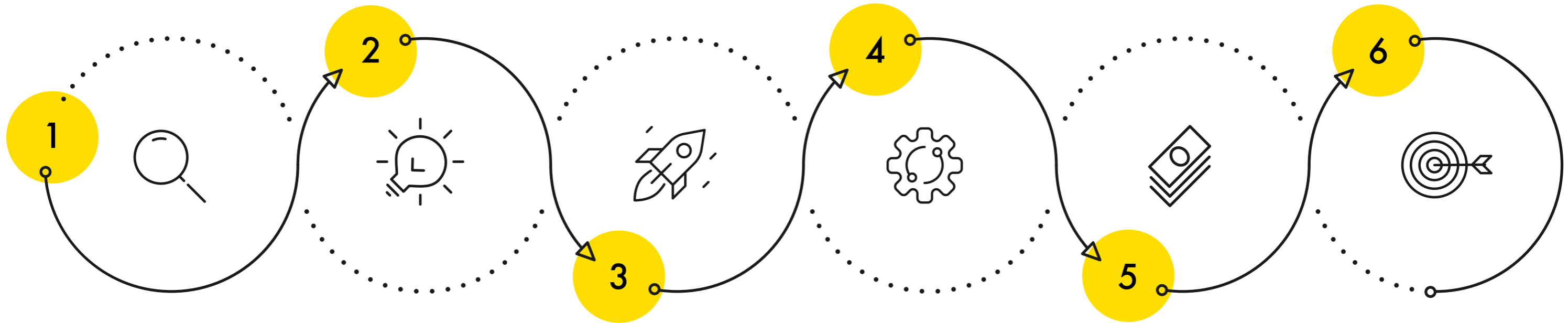- educationdata.org, 2017

I wanted to change that too!

Product Use Case

1

Juan wants to beat Math fear.
He logs into his dashboard.

Excl matches students to the best teachers in real-time

A User's background at registration will be taken into account, building for the supervised learning model.

With a multi-factor analysis of input data, Excl's inference engine weights preferences against multi-relational entities from existing data sets, resulting in a filtered set of teachers.

2

A placement test is taken.
An incentive is chosen.

A pre-test will be taken before any lectures are watched

Pending outcomes, the User will be asked to take catch-up courses and retake a test to join the current grade, or be allowed to advance.

After the assessment, a prize is chosen as a goal to earn.

All events occurring will be extending datasets.

3

Teachers are presented.
He selects Mr. Perez.

A filtered set of teachers are presented

The User ultimately has the power of choice by previewing lessons from the suggested set, then selecting the teacher that resonates best.

Excl keeps learning about each student. Collecting data, discovering correlations between entities, building a model that scales databases with stronger semantics.

4

Video course is watched.
Juan notes what he likes.

Short 4 min lecture is watched by student

All interactions and inputs will be listened for including Bookmarks, Pauses, "Got its" click actions.

Excl is researching a predictive analytic model that assesses each user's features and real-time actions to catch low-engagement. The goal being to boost lagging self-confidence and build perseverance through genuine positive messaging.

5

Practice problems load.
If he gets stuck, he can watch another teacher.

Quizzes will be taken to test mastery of concepts

Our pedagogy is embracing mastery-learning with a knowledge based expert system. It analyzes all input data from real-time lesson interactions, then reassesses progress that enhances learning, making it an adaptive learning environment.

Reminders of concepts mastered will be practiced

6

Juan passes all 3 quizzes!
He ranks Mr. Perez.

Rewards are earned when mastery is achieved

After students take a quiz or test and show mastery, they get visually rewarded and earn the equivalence of a real prize, points, or badge.

User ranks teacher after mastery is achieved

7

A post test is taken
Juan earns his prize!

A successful student points to a potentially good teacher - the system records who is connecting with the best.

Excl's Expert System

The rule-based system is made up of three core parts: a REST API, a Reinforcement Learning Engine, and a Knowledge base.

The Knowledge Base is a maturing system of data compiled from human experts, our teachers.

The Reinforcement Learning Engine is an adaptive combination of the rules in the Knowledge Base maturing over time from human experts.

Traction to Date

1 **2** **3** **4** **5** **6**

THE START	SECURING IDEA	TESTING IDEA	NETWORKING	PATENT GRANTED	ONGOING

STARTED RESEARCH
· · · · · · ·

Began researching
the fundamentals for the
Excl system.

Noticed an emerging
trend for remote learning,
started meeting with
edu. leaders in LAUSD
to introduce Excl.

PATENT PENDING
· · · · · · ·

Excl granted status of "Preferred
Provider" by CA Ed. Tech K-12
Voucher Program.

Worked on scoping and
modeling fundamentals of the
system to apply for patent
"Method of Teaching".

RESEDA H.S.
SURVEY
· · · · · · ·

Inner city ethnically diverse
9th graders tested at 48%
proficiency for pre-algebra

After watching a series
of Excl videos on Algebra,
a 30% increase in proficiency
was achieved - with no loss
of learning after a 4 month
follow up.

Statistical significance
exceeded 99.9% effective.

PUBLIC & PRIVATE
SECTORS CONTACTED
· · · · · · ·

Met with educators
& union officials but simply
too disruptive & innovative!

Met with VP of Marketing,
Magic Johnson Enterprises,
had deep interest in Excl.
Requested a Beta.

Met with VP of Education,
Apple Inc. Very interested,
requested a Beta.

PATENT & TRADEMARK
GRANTED
· · · · · · ·

Continued to garner support
from edu. world:
former CA Supt. of Public Ed,
and learning Specialists of
all levels. Ready to be activated.

WENT TO WASHINGTON, D.C.
· · · · · · ·

Pitched Excl in Wash. D.C. to
Tom Borck, Legislative Dir, and
Brad Thomas, Sr. Ed Policy
Advisor, authors of the 2013
Student Success Act.

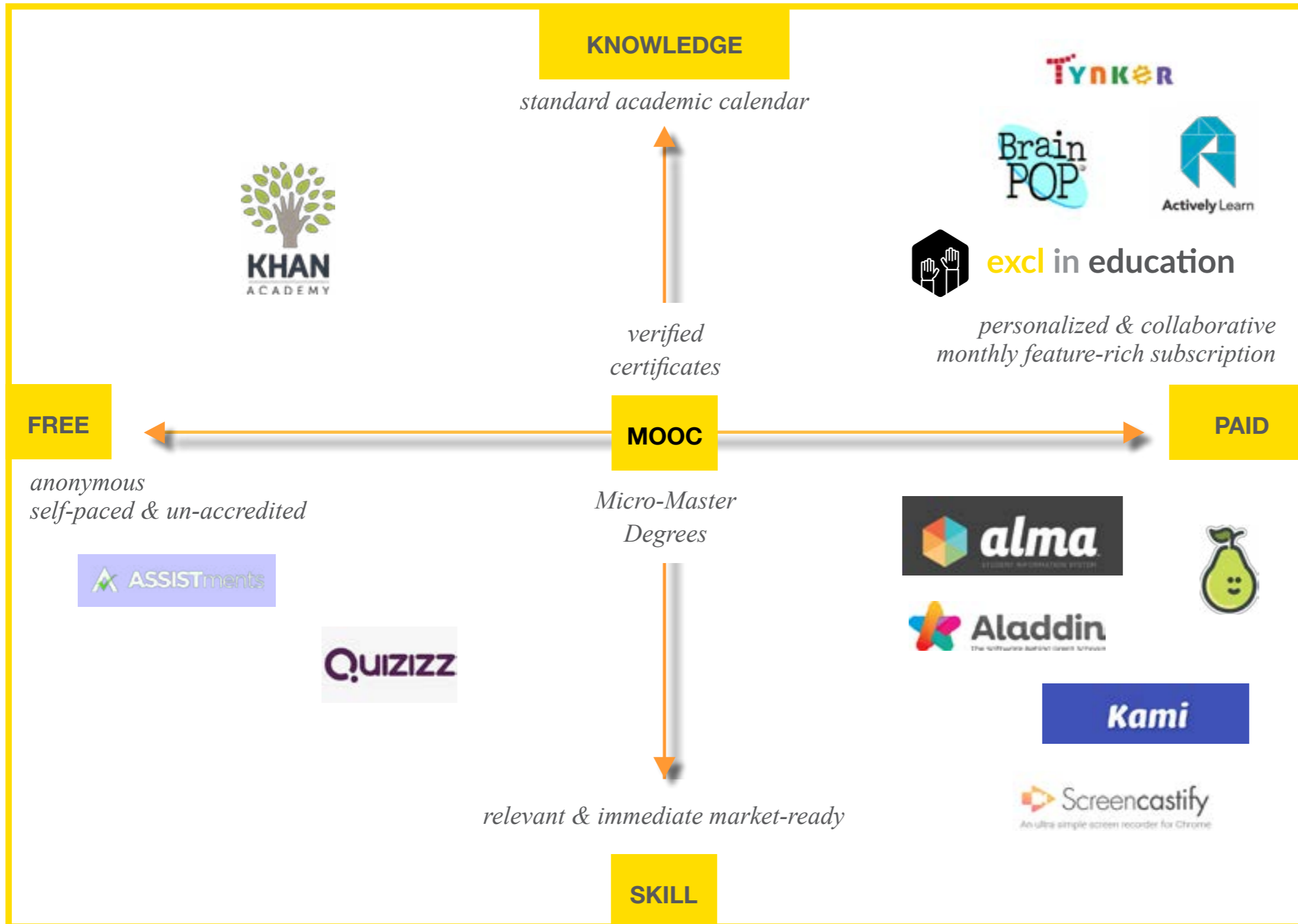**TOM:** *"I like everything about your
system, I've never seen anything
as comprehensive and 'outside the
box'..."*
BRAD: *"Excl in Education is the
future of education ... definitely worth
pursuing on a large scale".*

Our Niche **in the** Marketplace

Excl will be focusing on the under-served of the inner city

KNOWLEDGE

standard academic calendar

excl in education

personalized & collaborative monthly feature-rich subscription

verified certificates

FREE

MOOC

PAID

anonymous self-paced & un-accredited

Micro-Master Degrees

relevant & immediate market-ready

SKILL

We're disruptors of bad education
Excl is NOT replacing teachers. We assist teachers with time-consuming tasks of remediation.

We holistically match students to teachers
Lost students don't know where to start. We provide real-time assessment & match them with the best teachers.

We provide higher quality for this niche market
Students finally get properly placed and learn mastery, not just earn a grade.

We're math anxiety experts
40+ yrs teaching this market. We intuitively know how to reach this demographic.

We're experts in remediation

CA AB-705 has defunded remediation past grade 12, despite the bill's own acknowledgment that **75% are under prepared, creating an immediate need.**

Our Target Market

HOME LIFE
(PARENTS & FAMILY)

SINGLE PARENT HOME

LACK OF TECH SAVVY

33% POVERTY RATE

96% SUFFER ANXIETY & DEPRESSION

95% HAVE FELT INFERIOR

LOW SELF ESTEEM

70% GIRLS FEEL INFERIOR

NO ACCESS TO COMPUTERS

NO DISCIPLINE

STUDENT LIFE
(TEACHERS & STUDENTS)

BURNED OUT TEACHERS

98% STUDENTS CLAIM BOREDOM

LOW EXPECTATIONS FROM TEACHERS

STUDENTS ARE MARGINALIZED

LACK OF TRUST & LOYALTY

61% SCHOOLS LACK COMPUTER SCIENCE COURSES

SCHOOL IS NOT TAKEN SERIOUSLY

49% DISSATISFIED TEACHERS

RESOURCES ARE OFTEN MISSING

UNDER-QUALIFIED TEACHERS

WHAT AT-RISK YOUTH FACE

90% SUFFER BULLYING

UNSAFE 'HOODS

LACK OF SUPPORT AT HOME

UNAWARE OF TRUE POTENTIAL

UNFOCUSED

NOT THINKING OF THE FUTURE

BRAIN WASHED TO JOIN GANGS

LACKS VISION

CONFUSING IDENTITY ISSUES

CRIME BECOMES NORMALIZED

36% LEARNING DISABLED

32% PARENT(S) SERVING TIME

HIGHLY DISTRACTED

UNAWARE OF POSSIBLE CAREERS

71% FEAR GANGS

FEAR

LACK OF STABILTY

SELF SERVING

82% IN EXTREME POVERTY FAIL COURSES

4 ATTENTION-LAPSES IN FIRST 10 MINUTES

OFFSITE COMMUNITY
(CULTURE, FRIENDS & NEIGHBORS)

ONSITE COMMUNITY
(CULTURE, FRIENDS)

OUR TARGET MARKET

"AT-RISK YOUTH" 55% of US

An at-risk youth is a child who is less likely to transition successfully into adulthood. Success can include academic success & job readiness, as well as the ability to be financially independent.

It also can refer to the ability to become a positive member of society by avoiding a life of crime.

excl's FOCUS

We're concentrating our efforts with laser focus. Click on the highlighted items to discover!

Provided stats citations:
1, 2, 3, 4

Financial Discipline

The pendulum of spending is changing

Government is hearing the demands of the people and will be redirecting funds to youth jobs, health initiatives and community 'peace centers' to communities at risk.

Excl will join the effort to steward children to these centers for safe and effective learning. The cost savings to Excl will be increased brand awareness.

The removal of remediation by CA AB-705 has created an immediate need, which CA AB-1935 has filled. This creates a financial opportunity for Excl.

Curricula & Content

Our staff of seasoned Math experts will construct course content and curriculum at a cost savings to school districts. District experts will determine their specific curriculum from our provided library.

This allows for easy integration into any education system in the United States.

Leveraging Open Source

Leveraging open source software (e.g. Canvas LMS) our application facilitates development and controls costs from the start.

Existing libraries of machine learning algorithms will also be utilized for faster development and integration.

A Test of Time

I LOVE TEACHING MATH

GOT HOOKED W/ 2 INCREDIBLE CALCULUS PROFS & CHANGED MAJORS
1967 - A.A. in Mathematics, East LA College, Recipient of best Math Student Award

KEPT GOING, EARNING A BS & MS
1969 - B.S. in Mathematics, Cal State LA
1973 - M.S. in Mathematics, Cal State Northridge

HELPED PEOPLE OVERCOME MATH ANXIETY
1978 - Papers published: 'Overcoming Math Anxiety'
1978, **1979**, **1980** and **1981**: Began Speaking Engagements

STARTED TEACHING COLLEGE MATH
1976 - '**99** - Professor of Mathematics, West LA College

GOT TEACHER OF THE YEAR AWARD
1984 - '**85** - West L.A. College

BECAME VICE CHAIR, MANAGED 40+ TEACHERS
1986 - '**92** - Math/Science Division West L.A. College

BEGAN TEACHING AT PIERCE COLLEGE
1999 - '**15** - Prof. of Mathematics
1999 - '**03** - Dir. Distance Learning
2003 - '**04** - Chair of Mathematics

STARTED WORKING IN PRIVATE SECTOR
1999 - '**00** - Lead Educator for OmniKron Software Corp.

STARTED MY OWN GIG
2008 - PRESENT
excl in education

I became great because of two outstanding math professors. It was amazing to be in their presence. That experience taught me the difference between average teachers and those that give their subject's soul.

Founder Statement

> *As an educator for over 40 years, there are few events that inspire me more than to see the "lights" go on in a student's mind."*
>
> **- Allen Epstein**

I am firmly convinced that culture is the greatest motivator of learning

As a child of immigrants with limited education, my family encouraged me to be the first to go to college and achieve great success. That became my mantra.

As an educator for over 40 years, there are few events that inspire me more than to see the "lights" go on in a student's mind. Especially when you know of their trials and tribulations. All it takes are the right words to establish a foundation on which to build.

I've been lucky to witness those "lights" go on thousands of times - an exceedingly rewarding experience.

Now, through Excl, I wish to leverage new technology and innovate change to teaching, delivering that same "knowing" feeling to the under-served of the inner city.

A group whose praise I value most.

Allen Epstein
Founder

Our Team

A collective with more than 100+ yrs of teaching experience.

Photo by Priscilla Du Preez on Unsplash

Allen Epstein
President

- Mathematics Professor & Pedagogy Architect
- Innovator & Entrepreneur
- Math Anxiety Expert, focused on foundational confidence

Holly Epstein
Chief People Officer

- Excellent correspondence & coordination support
- Solves complex technical problems judiciously
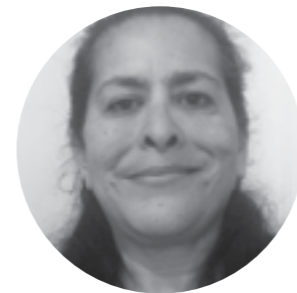- Hands on operational day-to-day support

Larry Diehl
CTO

- Seasoned technical & business strategist
- Successfully developed & executed profitable SASS to market
- 38+ yrs with C, C++

Bob Hart
Senior Back-End Dev

- Computer Science Prof
- Solves and executes complex problems
- 20+ yrs with C++, SQL and Python

Anna Mendoza
Product Owner, Dev

- Strong creative & branding storytelling
- Focused on human centered design
- 15+ yrs Full-Stack Dev JS, React, Ruby, RonRails

Michele Kohse
Sr. Designer, Video Prod

- Strategic problem solver
- 20+ years in advertising, & film production
- Research & concept driven for creative results on-time and on-budget

Data Scientist
Positions Open

- Looking: Statistical Programmer
- Looking: Well-rounded Software Engineer in OOP
- Looking for: Machine Learning Specialist

WE ARE:

Tenacious **/** Tons of Grit **/** Shaping the Future of Children **/** Full-Stack Developers Strategists **/** Disruptors of Bad Ideas in Education **/** Passionate to Empower 1st Generation Americans **/** Creative Technologists **/** Connected to the 2nd largest educational network in the country **/** Transforming Education

Parting Thoughts

By 2030, 46% of our current workforce could be replaced by machines, says Kurt Snibbe*.*

Machines will take the jobs from the least prepared.
Only a strong foundation in the 3 Rs could avert these losses.
Together, we can deliver a strong and positive response to help restore the culture of learning to our society.

We look forward to a partnership that, based on our financial estimates, would be advantageous for us all.
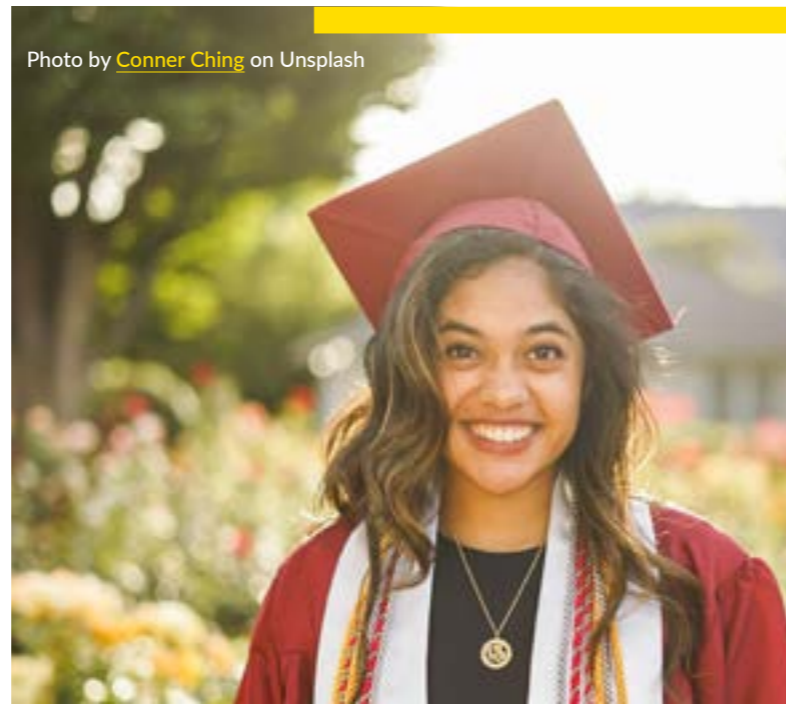
Photo by Laika Notebooks on Unsplash

Photo by Zach Vessels on Unsplash

Photo by Conner Ching on Unsplash

THANK YOU