Team #187 – Lab Lesson

The group formerly known as Lewis Dots

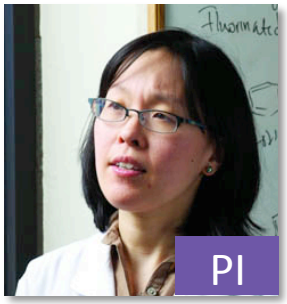
A source for relevant Chemistry lab activities for high school teachers

108

Interviews

Carlo Yuvienco

Dr. Jin Montclare

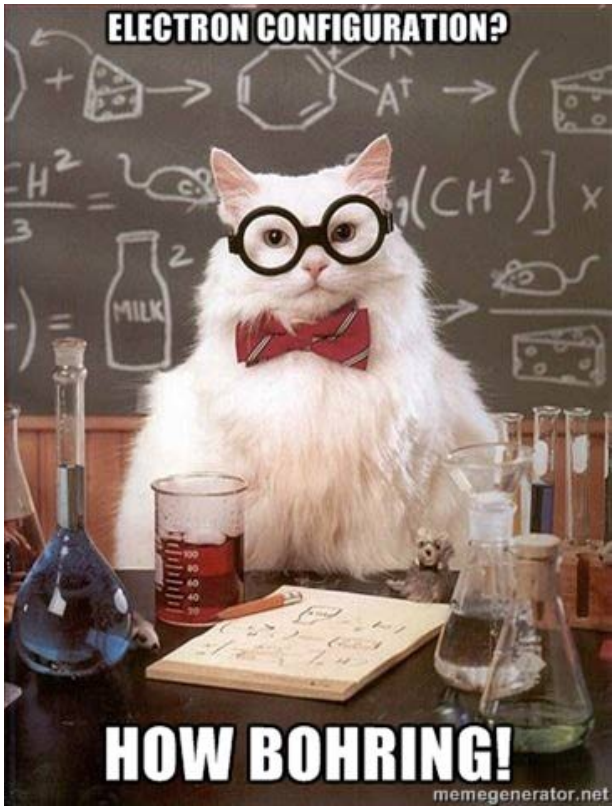


Andrew Cohen

NYU-poly NEW YORK UNIVERSITY Brainscape

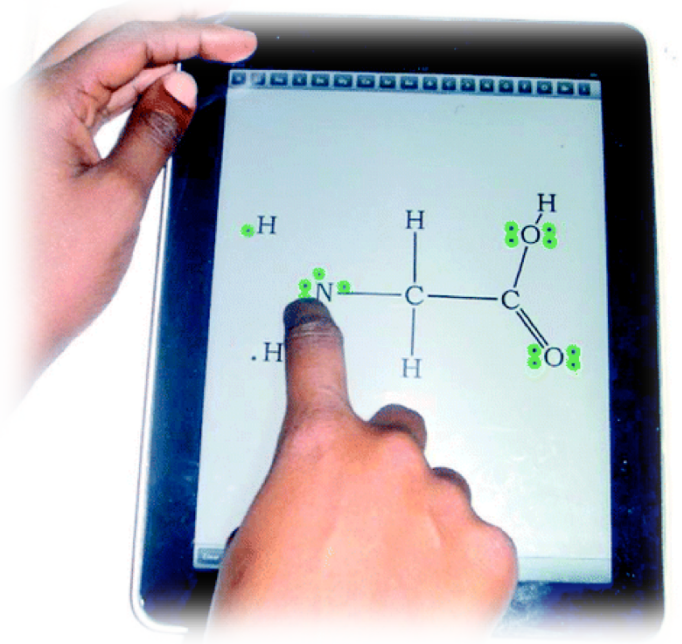
Mission

To improve interest in Chemistry among the next generation of American students



Initial Technology

We entered the I-CORPS program with an **iPad app** for exploring **molecular structures**



Hypotheses:

- High schools have an iPad for *every* student in their Chemistry class
- Allowing students to build virtual molecules would **improve engagement**

Initial BMC

3x VALUE PROPOSITIONS

- ★ Easily available constructivist methods to learn chemistry other than rote memorization »
- ★ Sharing of chemistry structure creations will solve the problem of the lack of engagement »
- ★ Created content is needed as evidence for improvement in STEM-fields in addition to grades »

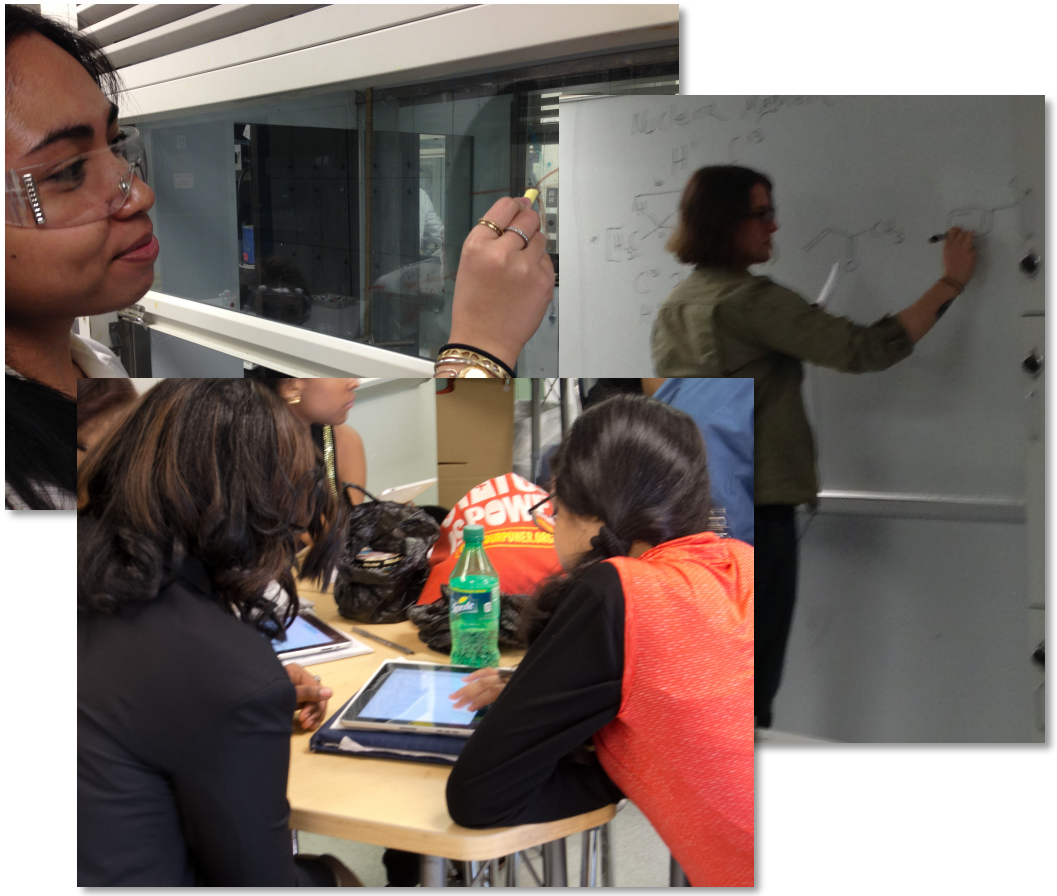
5x CUSTOMER SEGMENTS

- ★ Public High School Chemistry Teachers »
- ★ Public High School Chemistry Students »
- ★ College Chemistry Instructors »
- ★ College Chemistry Students »
- ★ Parents of Public High School Chemistry Students »

Customer Discovery

We interviewed **108** teachers, professors, students, and lab managers, and we got lots of great data

- **5** pizzas purchased
- **3,000** minutes of conversation
- **200** follow-up surveys
- **1000** page visits
- **17,000** steps walked to meetings

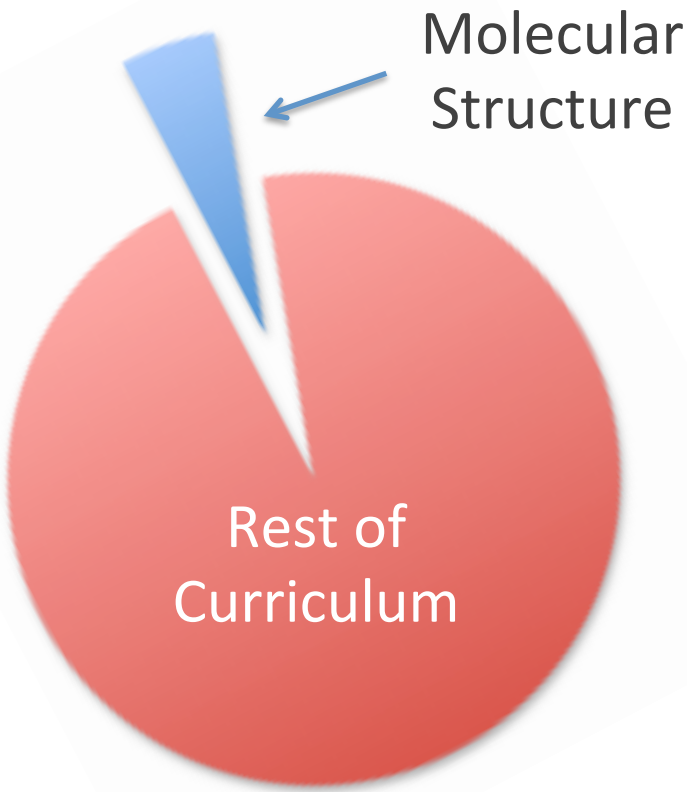


Who cares?!

Teaching simple molecular structures via iPad turns out to be **too small of an opportunity** to pursue

Discouraging Findings

- There is usually only *one* iPad per classroom
- A max of 50k teachers in U.S. would pay $1.99 for this presentation tool
- **TAM: $100k/yr ←MEH**



A Hidden Gem

After about **40 interviews**, we realized that teachers were begging for **a better way to find lab activities**

Sample Quotes

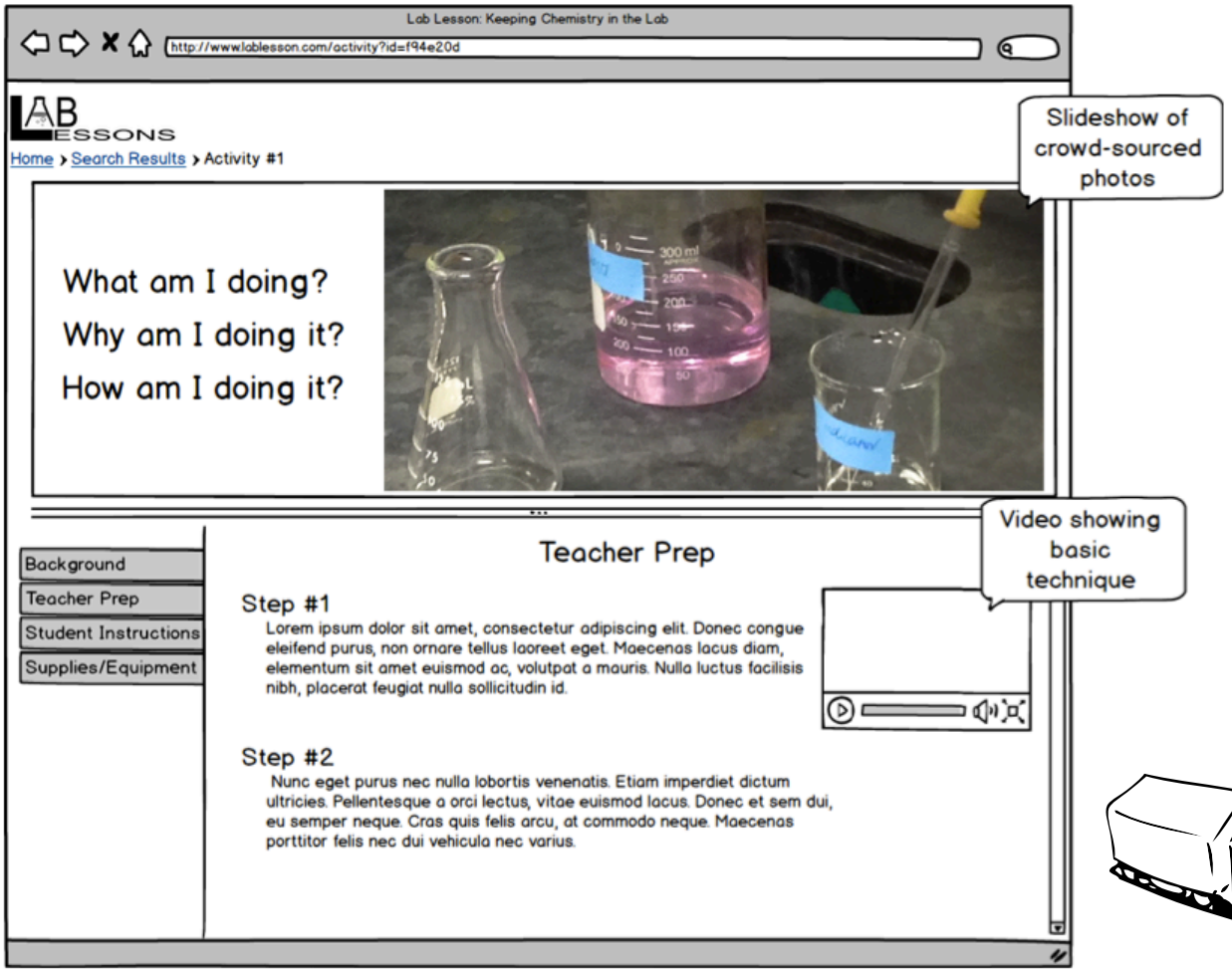
- "My Chemistry students **do not see the relevance** of our existing lab experiments"
- "Teachers are constantly **emailing each other Word docs** with ideas for activities"

Pivot to a New Product & Business Model

HS teachers confirm that they would pay an **annual subscription** for access to these activities on the web

Free to search

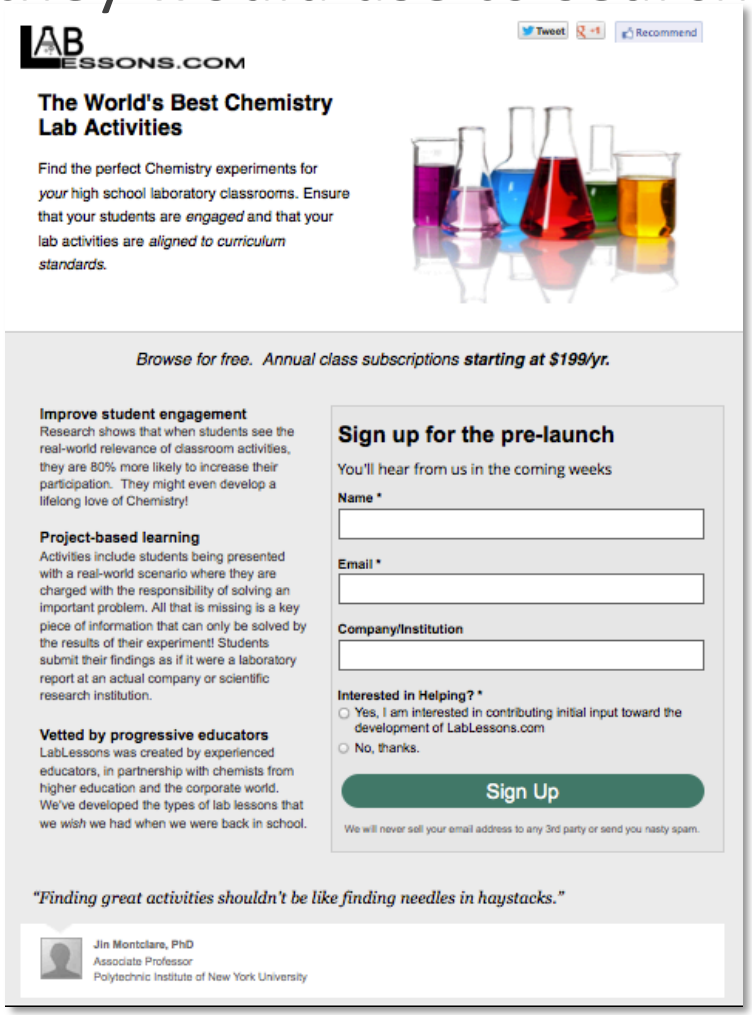
Subscribe to view



Customer Relationship Validation

Acquisition and Activation

We marketed to teachers using the same channel that they would use to search in the real world: **Google ads**



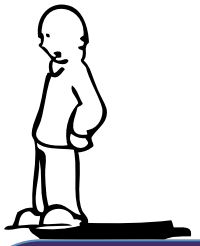
Landing Page results

- 1000 page views
- 1.2% signed up at $200/yr
- 0.6% signed up at $100/yr
- **Max CAC: $154**
- **Expected LTV: $600**
  - ➢ $200/yr x 3yrs as customer

Total Addressable Market

Because our main distribution channel is the web, we can equally reach both public and private schools

Metric	Value
# of U.S. High School Chemistry Teachers	40,000
# of U.S. High School Science Teachers	120,000
Annual Website Subscription Price	$200/yr
Addressable Market	$24M/yr



Huge Opportunity

It's a GO

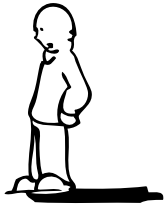
Final BMC

VALUE PROPOSITIONS

- A source for high-quality, relevant, ready-to-deploy lab activities »
- A source for high-quality, relevant, ready-to-deploy lab activities »
- A way for science department heads to justify spending on lab equipment »

CUSTOMER RELATIONSHIPS

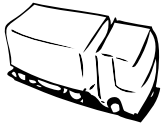
- Google AdWords »
- Trade Conference Demos »
- Training and Professional Development »
- LISTSERV »



CUSTOMER SEGMENTS

- High School Chemistry Teachers »
- College course coordinators »
- Chemistry Department Heads »

CHANNELS



- Web »
- Organization Subscription Bundling »
- Textbook Publishers »

COST STRUCTURE

- Software Development »
- Curriculum Development and Integration »

REVENUE STREAMS

- Freemium Subscriptions »
- Pay Per Lesson »

Next Steps

- Continue validating:
  - Product Wireframes
  - Distribution Channels
- Form strategic partnerships
  - Chemistry teacher orgs
  - Textbook publishers
  - Lab supplies distributors
- Secure funding to build the product!

Competitor Analysis

How do people solve this pain right now?

Benefits	Lab Activities	Materials & Supplies	Shareable & Modifiable	Non-lab Lessons
Lablessons.com	✔	✔	✔	
Khan Academy				✔
Better Lesson			✔	✔
Teacherssource.com	✔	✔		
Sciencepage.org	✔			✔
Stevenspanglerscience.com	✔	✔		
J. Chem. Ed.	✔			