



KNEWTON

Adaptive Learning Platform

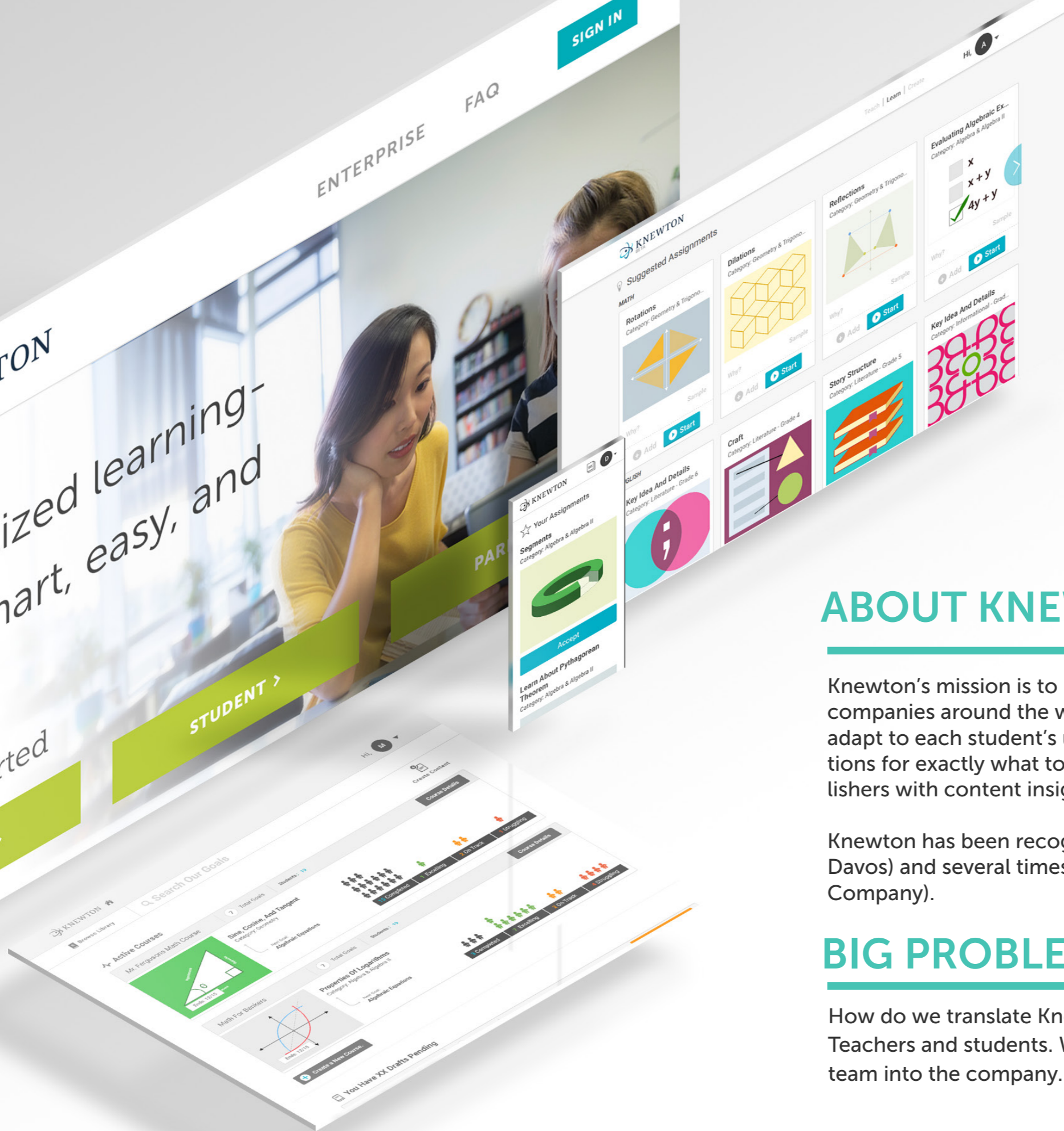


Personalized learning—
made smart, easy, and
free.

Let's get started

TEACHER >

STUDENT >



ABOUT KNEWTON (WWW.KNEWTON.COM)

Knewton's mission is to personalize learning for the world. Teachers, schools, and education companies around the world use Knewton to power digital course materials that dynamically adapt to each student's unique needs. Knewton provides students with tailored recommendations for exactly what to study, teachers with analytics to better support each student, and publishers with content insights to develop more effective digital products.

Knewton has been recognized globally as a "Technology Pioneer" (World Economic Forum in Davos) and several times as one of the top 10 most innovative companies in education (Fast Company).

BIG PROBLEM TRYING TO SOLVE

How do we translate Knewton's adaptive learning algorithm into an in-the-classroom tool for Teachers and students. While simultaneously, building-out and integrating a UX/Product Design team into the company.

Team Dynamic

No Product is Built by one individual and Knewton's Learning Platform was no exception. I had the pleasure of working hand in hand with a number of talented people across Product, Engineering, and Design teams (myself).

Individual Collaborators

DAN MCGORRY, ART DIRECTOR - VISUALS

MARK GEORGIEV, SENIOR PRODUCT MANAGER

MIKE NOBIL, SENIOR PRODUCT MANAGER

MEAGAN PALATINO, SENIOR PRODUCT MANAGER

MYSELF, MANAGER OF UX AND DESIGN

JOHN THORTON, ENGINEERING LEAD

Personal Contributions

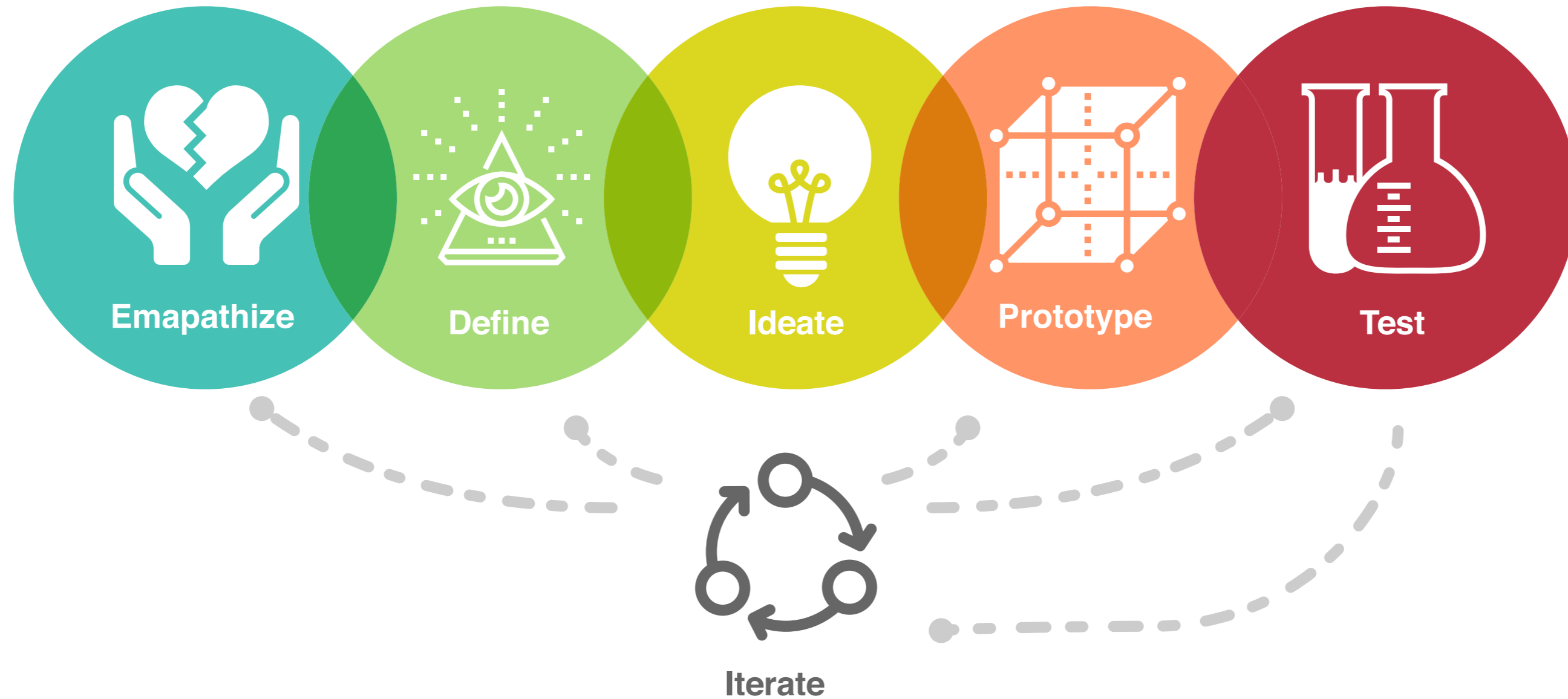
- Translate Product Manager requirements and goals into functionality
- Collaborate on Product Strategy
- Define the overall product architecture
- Establish the baseline approach to visual design
- Establish a lean process for working with Engineering and Product
- Define day to day tasks for designers
- Integrate design members into engineering and product team processes
- Advise on technical recommendations (React library, Integrated CSS HTML Pattern Library) with the purpose of enhancing the overall user experience.
- Plan and implement a user testing strategy
- Lead user interview and research program (Ambassadors program), from a design perspective.
- Managed communication with C-Level stakeholders including CEO, CTO, and Head of Product in regards to progress and direction of the products design.



APPROACH - DESIGN THINKING REVISITED

Disclaimer: There is no magic process, therefore every project and team is different. This is simply my general approach to problem solving.

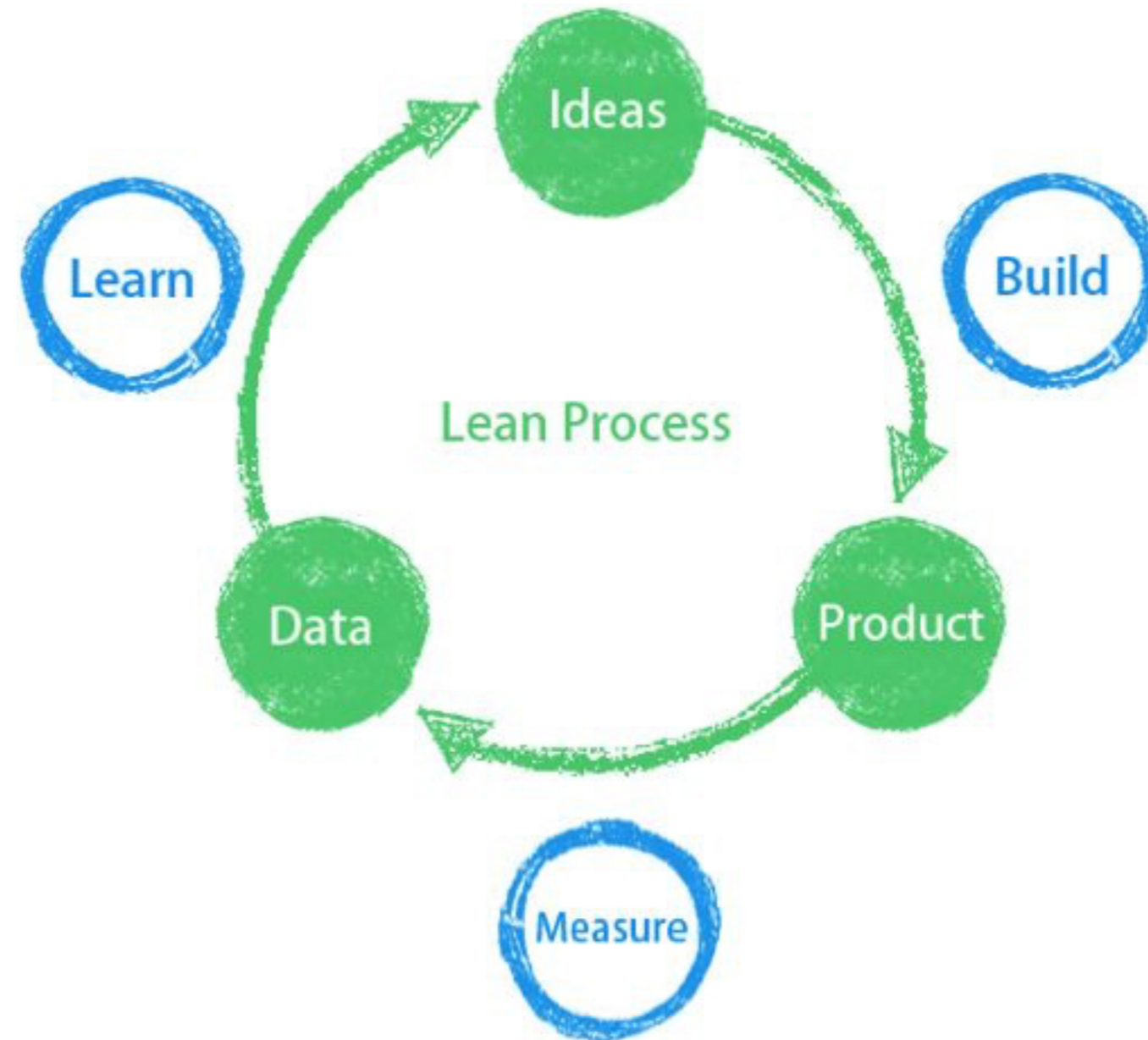
Note: Given the problem I'm trying to solve you could be anywhere the process when you start.



The Knewton team was talented from an engineering stand point but had no real experience integrating design process into their day to day. It was important to involve engineering in each step to help them to understand why what we trying to build and the importance of user input in the process.

MINDSET - LEAN METHODOLOGY

Continuous development rather than large infrequent releases. - When working on product or feature from scratch, I'm generally most comfortable working in a Lean environment. The main objective was to get something into the hands of our user so we could gather feedback, rather than trying to get things perfect before release based on assumptions or information we just didn't have.-





Differentiation

Lesson Resources

Practice

Concept

Assess Students
Demonstrate their understanding

② Assessments

Pre Assessment

Basic Understanding Questions

Summative Assessment

Remediation

Remediation

Fills in the gaps

Review

Jeopardy

Differentiation station

Activities

Student lesson Module
→ Get ready Review (prior knowledge)
→ New lesson (Video)
→ practice
→ assessment

WMC Stations

Station work

One-on-one

use individual laptop
1-2 times each chapter

Group WMC

Levelled Station work

Whole group instruction

Small group instruction

Homework Task
Homework

Homework strategies
Extract
use

Study Guide

② Independent Practice

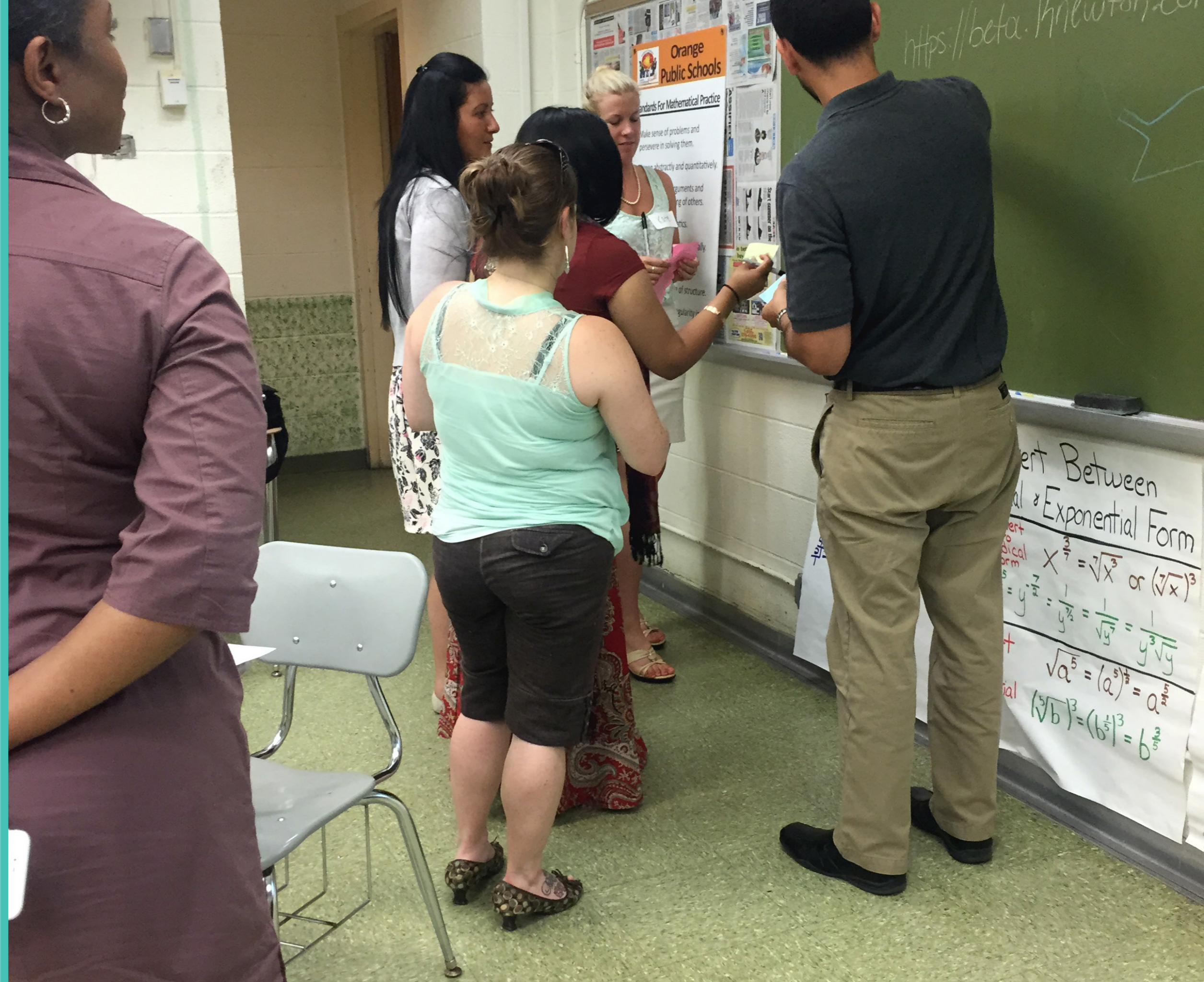
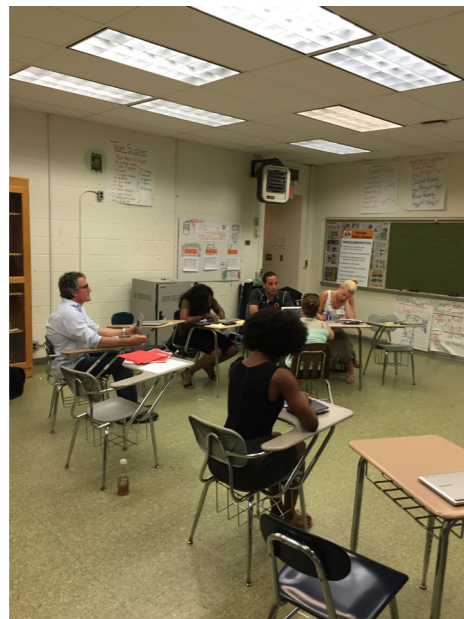
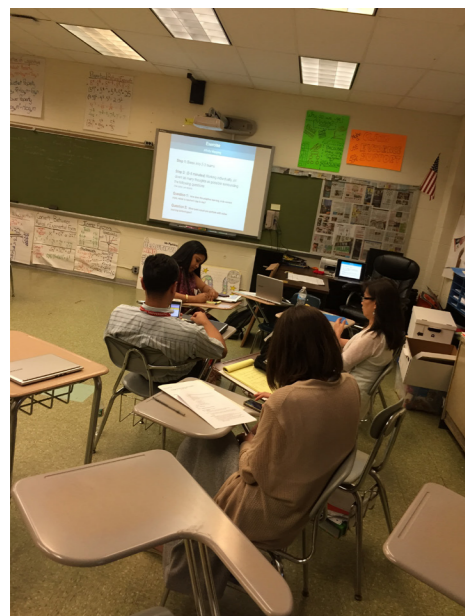
Extensions/Challenge tasks

Concept
develop
manipulate
represent



Empathize

First thing we did was work to establish a partnership with teachers in the New York City Area. We integrated ourselves into their developmental training programs to establish a reoccurring feedback loop. We used these sessions to help understand their personal frustrations and guide our feature direction.





Define

New Goal +

6

Goals completed

total recs sent / avg recs sent.

benchmark

student activity (7 days)

138,48



time spent in 50min

real-time data

watching

New Goal +

* Recommend +

see all

* New Course +

recs

top learners

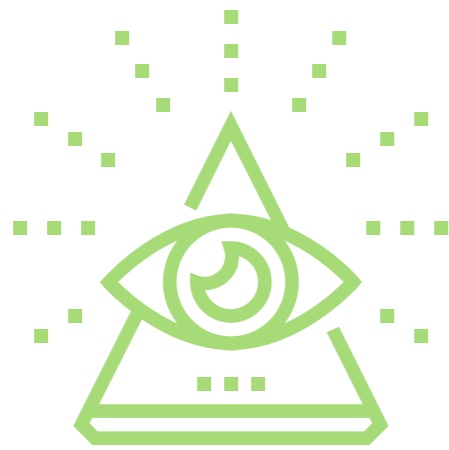
total reach? (recs sent)

"achievement?"

reach = $\frac{\text{Avg. Recs/my recs served}}{\text{level}}$

achievement = goal completed

Proficiency level = total prof levels



Define

We continuously synthesized that feedback throughout design and development. Early on we used the user feedback to help define both what **problems** we were going to focus on for teachers first, and also what **features** were going to help us achieve our immediate goals.

With an emphasis on collaboration (not just within teams but across disciplines), we set out to define a starting point. One of the early stages included looping in our Teach Team - former teachers who wrote the learning content. We needed to fully understand how the content was created and organized, before we could experiment with ideas on how to organize and present it to users. (And lots and lots of white-boarding sessions).



Questions (Learner)

- 1) Am I learning? (proficiency)
- 2) Am I progressing? (mastery/time)
- 3) Am I more efficient? (time)
- 4) Why am I doing this? (motivation)

Questions (Us)

- 1) Justification
- Why am I getting this?
- 2) technical network effect
- computations used to deliver
- compared w/ 3000 pieces of data

Learn Page

- Question FR TEXT BOX
- Response FR WIZIS
- answer explanation
- evaluate the answer
- instructional content (canvas) → VID
- multiscreen sequences (video/question) → TEX
- video time stamp control
- full screen video
- metrics / in tab now
- correct / incorrect } global?
- time per question } global?
- levels } global?
- recs for you } global data?
- (global data?)
- calculator
- scratch pad
- Hide video recommendations
- CHANGE THUMBNAILS
- disable rec'd videos
- hide Controlbar
- Video → Content Experience
- Privacy settings
- Only aggregate Group data / comparison

Home Page



Learn experience
(non-registered user)

Assumptions



Define Before coming on-board the Engineering and Product Team had already been on the project for 18 months, mostly concentrating on migrating the content and integrating the learning algorithms on to the platform. The immediate goal was just to get something out and in front of user to start gathering feedback on (MVP beta).

- non registered user is a teacher

- kicking tires - "Zohar says"

- home page does not ask user on how it works

Teachers Need A Way To:

- Assign Students Learning Material
- Create Custom Courses
- Assign due dates
- Preview and approve Course material
- Track student progress
- See student progress in relationship to other students

Students Need A Way To:

- Gain access to the material (COPPA Compliance)
- Complete assigned lessons
- See Proficiency Level as it changes
- Explore content and take lessons voluntarily

The result of changing approaches was going from no major released in the first 18 months to 4 releases including Beta and V1 releases with 10 months.

ideally 1024px

Launch

Select

Silly Animations

• real learn flow
• interactive
• And fully explained



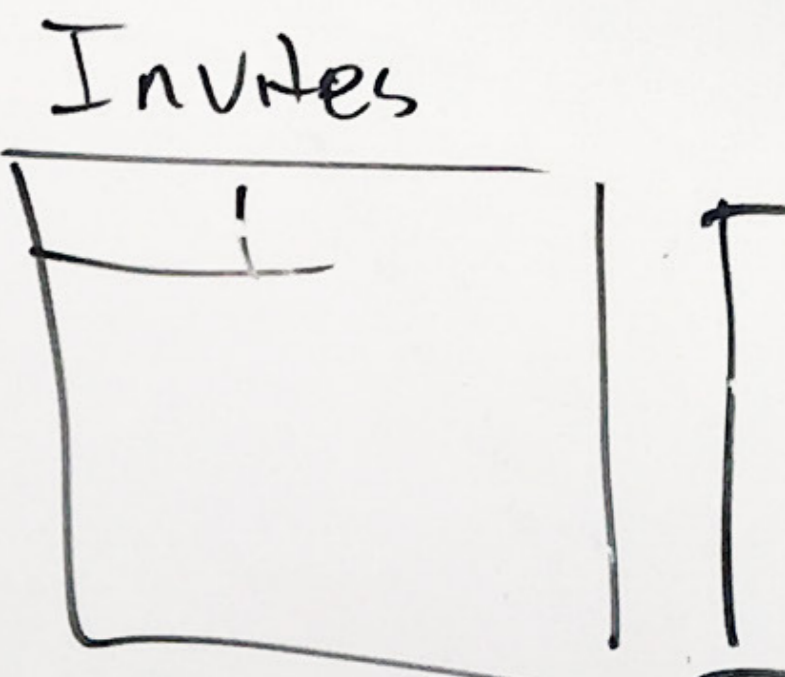
Personalizable Items



header { KNEWTON

Search {

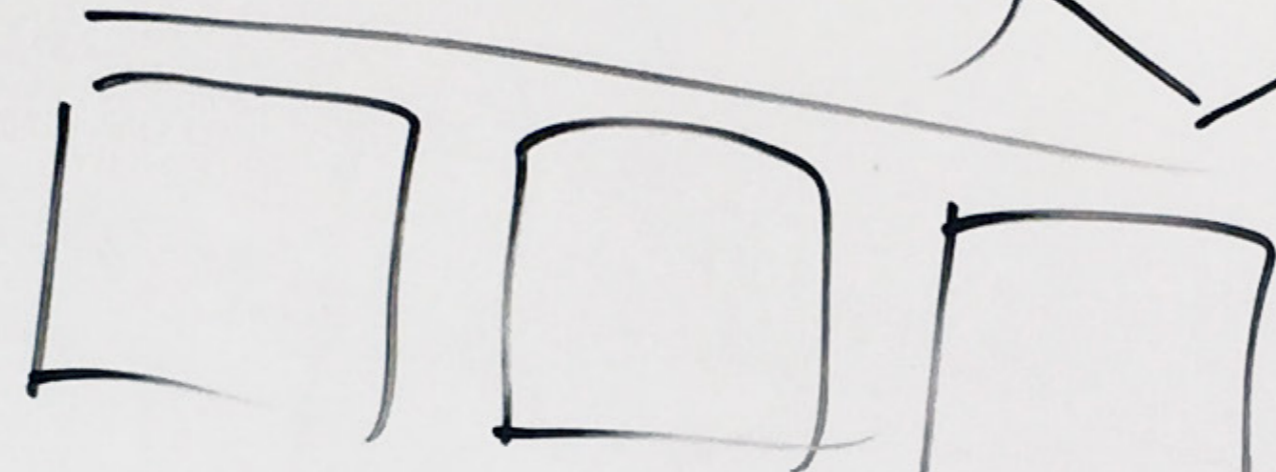
invite
d/or msg



Q1

messaging

Active Goals





Ideate

Ideation is integrated into each phase of design but early on we were focused specifically on a few areas.

- 1) **"What are we going to make?"** - Translating the technology into a tangible product. - *The Feature Set*
- 2.) **"How is it going to function?"** - Design the functionality. The parts, the flow. What does a user click on, what happens next. - *The Flow*
- 3) **"What is it going to look like?"** - Presentation Layout. How do we communicate to the user what's happening. - *The Architecture and language*

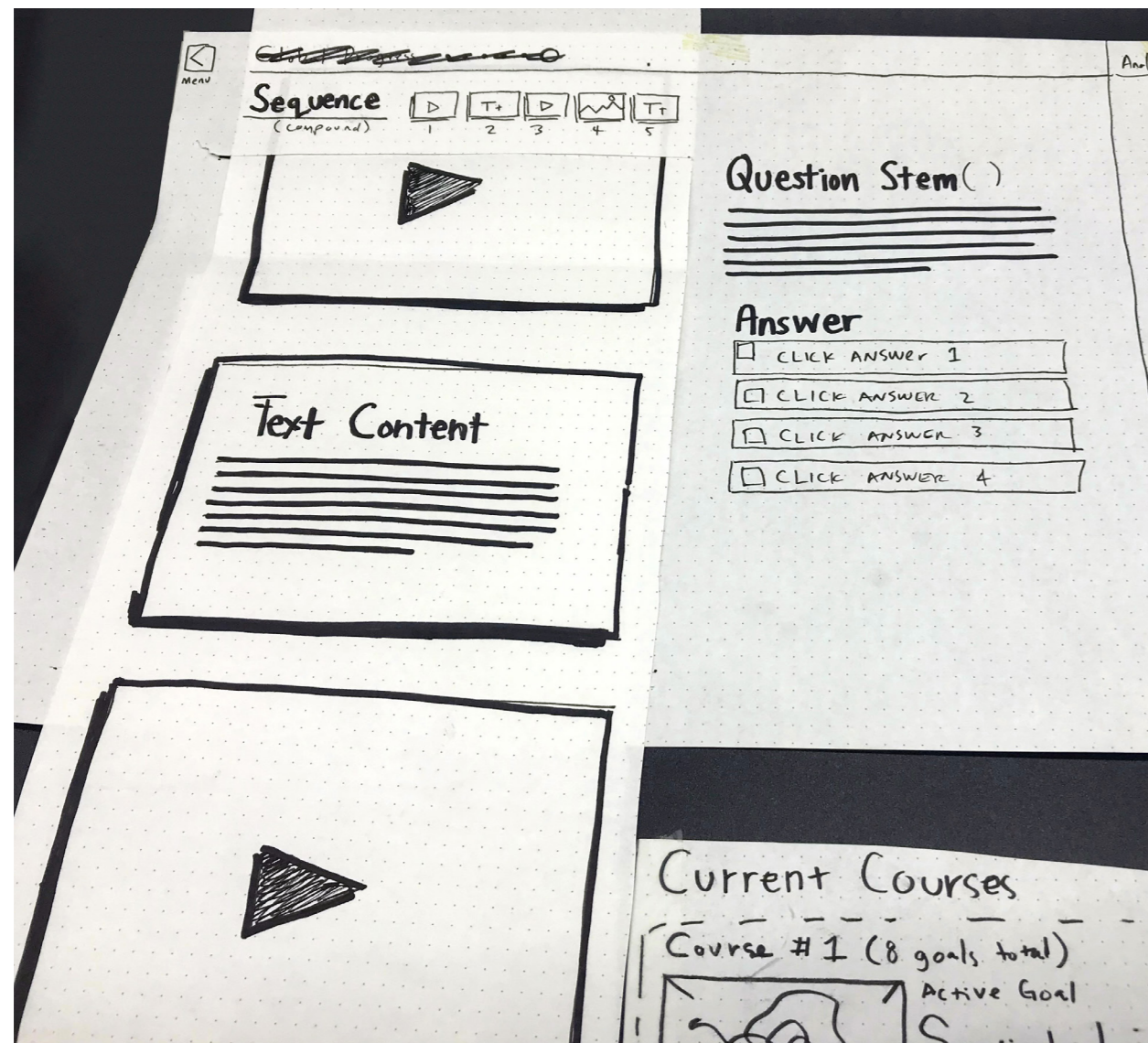


LEARN FLOW

The Learn Flow was defined as the core feature of the application. We needed to take the adaptive learning algorithm (a complex web of learning content and their relationships) and translate that into an interface where students could progress through the content. It was a simple question with a complex answer, **“How is the user is going to consume the content and answer questions”**.

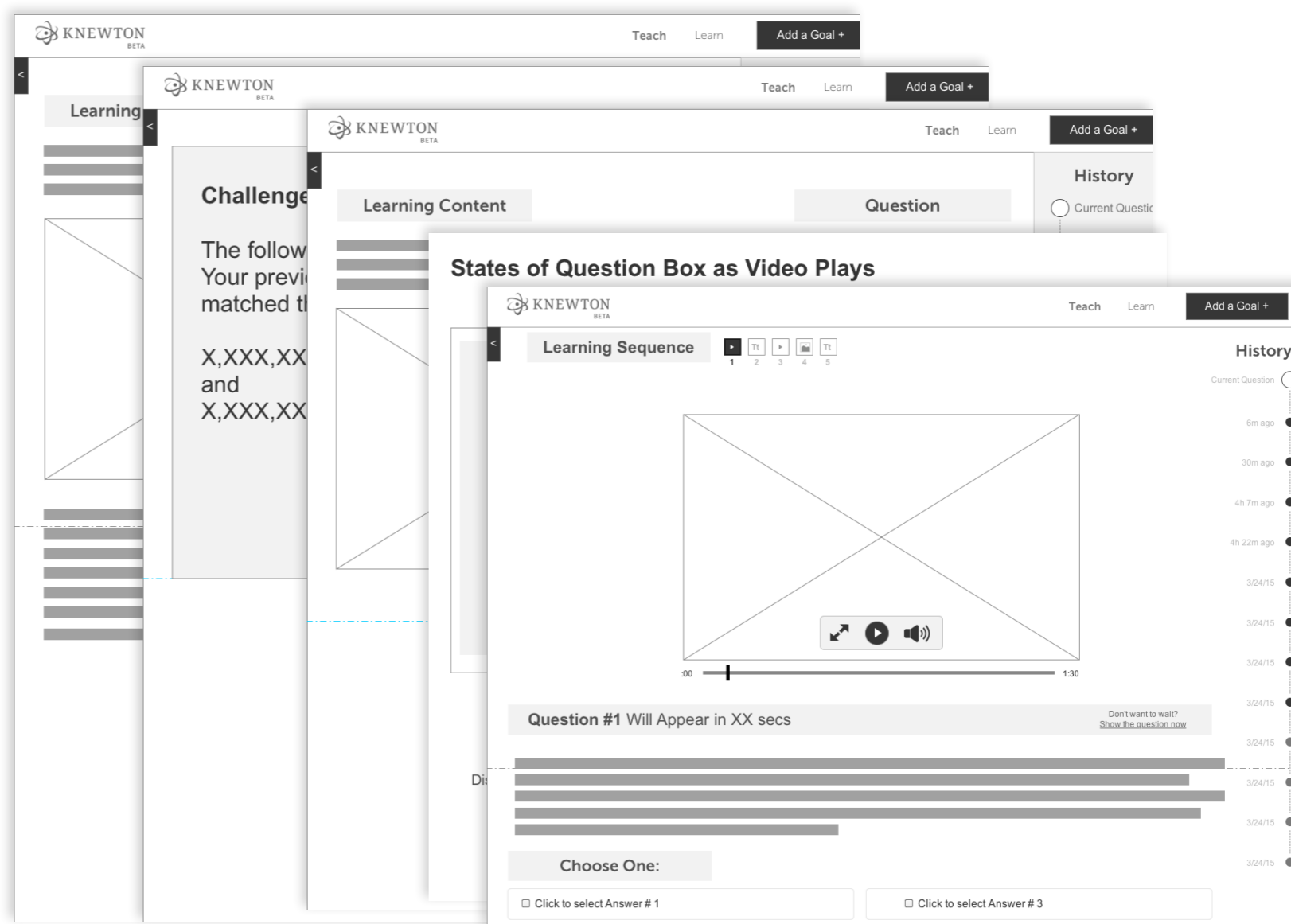
Learn Flow Paper Prototype

Exploring basic work flow using quick lo-fi versions that we could circulate and test amongst our team while quickly changing on the fly. It also helped to generate complex dialogue around the capabilities of the platform.



Mid-fidelity versions created for internal circulation

After the basic approach was decided on we'd move on to another layer of fidelity for sharing with other internal stakeholders for feedback. In parallel, they could be used for visual design and engineering template help to work off of.



LEARN FLOW cont ...

Our mobile approach was based on feedback and statistics. We designed the platform to be "mobile-web ready" (based on a flexible grid, but did not solve all mobile use cases in the early phases). It was a controversial decision. On one hand we want to meet the modern user expectation of mobile accessible products, at the same time we didn't have meaningful data to back up optimizing everything for mobile. The Quiz taking feature was the compromise. Students were more likely to access the platform via mobile, therefore their core touchpoint

Get ahead of your class

Find an interesting Assignment, start learning, let Knewton adaptivity deliver the material you need to advance your knowledge!

Start learning

Suggested Assignments

Exponential Equations And ...
Category: Algebra & Algebra II

Get Started

Your Assignments

Segments
Category: Algebra & Algebra II

Accept

Learn About Pythagorean Theorem
Category: Algebra & Algebra II

Student Home -
Teachers have provides assignments.

Proficiency Time Left

Learn About Pythagorean Theorem Lesson

Question
Divide $\frac{16r + 8s^2}{-8}$

Answer
Keep it up!
The correct answer was $-2r - s^2$.

Video Learning content

a radius
 a chord
 a semicircle

Question
Using synthetic division, find the quotient of $(3x^2+7x-6)\div(x+3)$

Answer

Skip **Submit**

Free-form Answer

Congrats!

You've finished your Learning Goal.

Students who completed this Learning Goal also completed:

Triangles

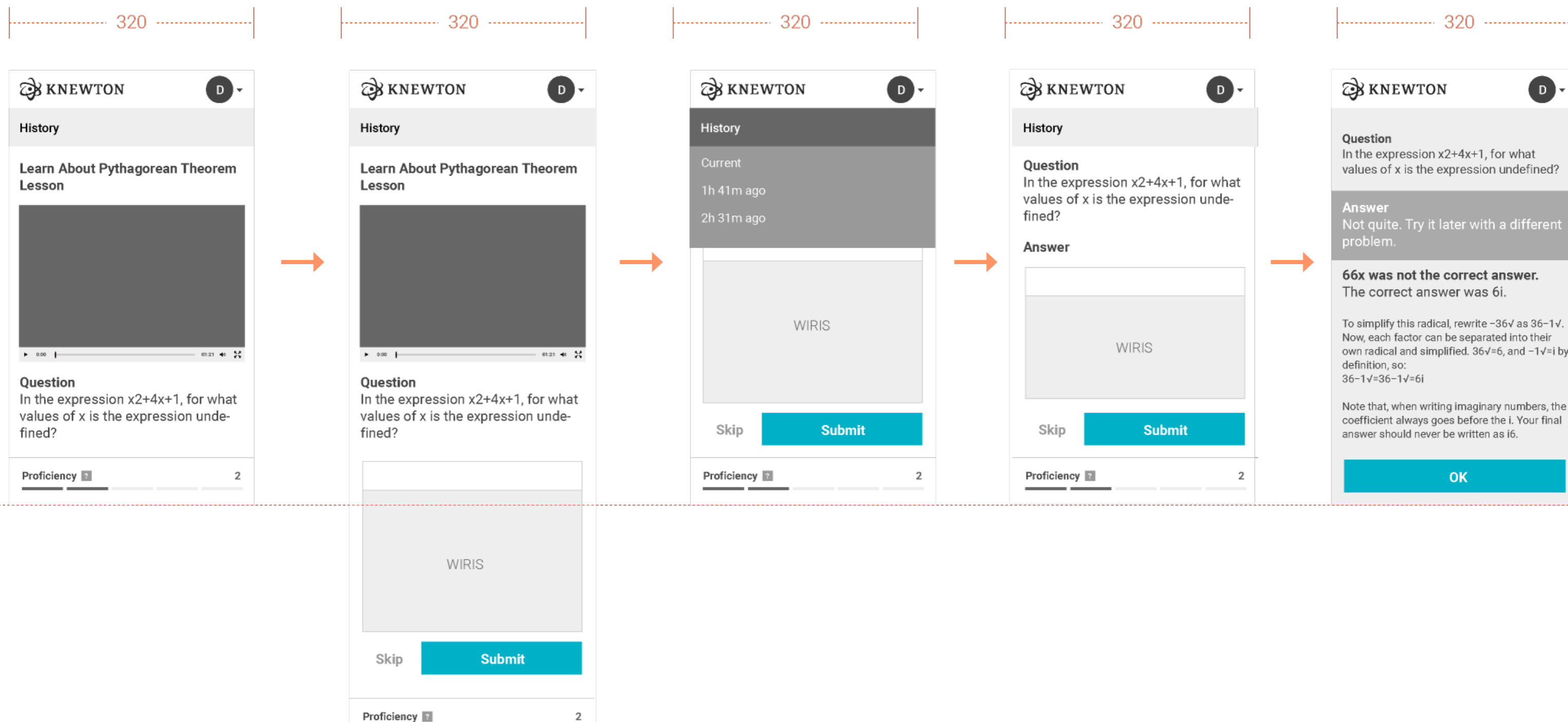
Course Completion

Flow experimentation.

“How does a user understand their current proficiency?”

“How does a user access history on mobile?”

“What happens when after a user answers a free-form question?”



COURSE CREATION

Before a user could take a course, teachers needed a way to create a course and assign it to a student. We needed to work within certain parameters including Common Core curriculum standards as well as COPPA compliance.

The screenshot displays the Knewton Teach dashboard. At the top left is the Knewton logo and a home icon. The top right navigation bar includes links for 'Teach', 'Learn', 'Create', and 'Content', along with a user profile icon and the text 'Hi,'. A prominent teal button labeled '+ New Course' is located in the upper right area. The main content is organized into two sections for 'Your Active Courses'. The first section, 'Math Ratios 101', shows 11 students and lists two units: 'Simplifying Exponents' and 'Using the Discriminant'. The second section, 'Math 102', also shows 11 students and lists two units: 'Real Numbers' and 'Absolute Value'. Each unit entry includes a progress bar and a breakdown of student performance: 3 Completed, 2 Excelling, 1 On Track, 4 Struggling, and 1 Calculating. Each course header has a 'Course Details' button and a trash icon.

Course	Students	Unit	Completed	Excelling	On Track	Struggling	Calculating
Math Ratios 101	11	Simplifying Exponents	3	2	1	4	1
		Using the Discriminant	3	2	1	4	1
Math 102	11	Real Numbers	3	2	1	4	1
		Absolute Value	3	2	1	4	1

COURSE CREATION

Teachers need to be able to 3 core tasks in order to create a course:

- 1 Name a course** - Assign a custom differentiator for courses
- 2 Add assignments** - Defined as multiple assignments in sequence with due dates.
- 3 Invite students** - Teachers needed a way to notify students that there are assignments available to them.

The screenshot shows the KNEWTON course creation interface. At the top, there is a navigation bar with the KNEWTON logo, a home icon, the word "Admin", a "Create Content" button, and a user profile dropdown showing "Hi, D". Below the navigation bar, there is a "Go Back" link. The main content area is divided into three sections, each with an orange dot and a line pointing to the corresponding task in the list on the left:

- 1 Name Your Course**: This section contains two text input fields. The first is labeled "Name Your Course" and the second is labeled "Description (Optional, this will be publicly displayed)".
- 2 Add Assignment(s)**: This section contains a light gray box with the text "Please add assignments to your course" and a teal button labeled "+ Assignment".
- 3 Invite Students**: This section contains two text input fields labeled "Enter Student Email" and "Enter Name", followed by a gray button labeled "Add".

At the bottom of the interface, there are two buttons: "Save for Later" and "Finish".

COURSE CREATION



Add Assignment

When the user clicks the "+Assignment" button, a slide drawer would come out on with our list of available assignments.

User needed to choose several criteria to filter content:

- Subject (we started with Math Content and later expanded to Biology, and English)
- Grade Level
- Topic
- Assignment Title

KNEWTON Admin

[Go Back](#)

1 Name Your Course

Name Your Course

Description (Optional, this will be publicly displayed)

2 Add Assignment(s)

Please add assignments to your course

[+ Assignment](#)

3 Invite Students

Enter Student Email

Enter Name

Add

Save for Later Finish

Add Assignment(s)

Instruction here, instruction here

Subject: Math

Select Grade Level

Select Topic

Add Assignment(s)

COURSE CREATION



Inviting Multiple Assignments

- Check boxes were used to allow teachers to select multiple assignments
- User could quickly deselect assignments by either unchecking the assignment or clicking on the trash icon in the auto-populated assignment list.
- For sorting, we used an arrow system for the MVP to move assignments up or down. To avoid over engineering we did not user drag-and-drop in the first version.

KNEWTON Admin

Go Back

1 Name Your Course

Name Your Course

Description (Optional, this will be publicly displayed)

2 Add Assignment(s)

Radicals With Index > 2 Start: 05/07/2015 End: 05/28/2015 Edit

Exponential Equations And Functions Start: 05/29/2015 End: 06/04/2015 Edit

Absolute Value Equations And Inequalities Start: 06/05/2015 End: 06/19/2015 Edit

Assignment

3 Invite Students

Enter Student Email

Enter Name

Add

Save for Later Finish

Add Assignment(s)

Instructions here, instruction here

Subject: Math

Grade8; Algebra I

Algebra I and Algebra II

Add Assignment(s)

Exponents, Radicals and Logarithmic Equations...

Logarithms

- Properties Of Logarithms
- Solving Logarithmic Equations

Radicals

- Operations With Radical Expressions
- Radicals With Index > 2
- Rationalizing Radicals In The Denominator
- Simplifying Radical Expressions
- Solving And Analyzing Radical Functions

Exponential Equations And Functions

- Imaginary And Complex Numbers
- Pythagorean Theorem
- Simplifying Exponents

Linear Equations, Expressions, Inequalities...

- Absolute Value Equations And Inequalities
- Domain And Range
- Equation Of A Line
- Evaluating Functions
- Evaluating Algebraic Expressions

INVITING STUDENTS

- Initial approach

3 Invite Students

Import List

Unsure about .csv file?
[Download a template.](#)

3 Invite Students

Import List

Unsure about .csv file?
[Download a template.](#)

Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com
Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com	Khanh rand_183@yahoo.com



Various Source Lists

A separate challenge was deciding how to handle inviting students. The teaching world is a fragmented space in regards to how each school handles student information. Some schools, it is collected and stored in a central terminal, others it's as simple as a spreadsheet managed by individual teachers.

Note: By this point the team had grown, individual designers were tasked with each feature. My role was delegation, feedback, and advising on certain design directions.

Initial Approach

- Teachers could manually enter an individual student name and contact email (emails provide their own unique challenges for students under 13 years old).
- Support for importing .csv files.
 - After upload the file would auto-populate results
- Teachers could then save that list for future recall.

INVITING STUDENTS

3 Invite Students

Enter Student Email Enter Name

Saved List
Math TTH2
Math WF3

Unsure about .csv file?
[Download a template.](#)

3 Invite Students

Enter Student Email Enter Name

Saved List

Unsure about .csv file?
[Download a template.](#)

Khanh rand_183@yahoo.com <input type="button" value="✕"/>	Khanh rand_183@yahoo.com <input type="button" value="✕"/>	Khanh rand_183@yahoo.com <input type="button" value="✕"/>	Khanh rand_183@yahoo.com <input type="button" value="✕"/>	Khanh rand_183@yahoo.com <input type="button" value="✕"/>	Khanh rand_183@yahoo.com <input type="button" value="✕"/>	Khanh rand_183@yahoo.com <input type="button" value="✕"/>
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Editing Saved Lists

- User could then edit those list in a separate feature.
- The list would populate students
- Teachers add or delete users by clicking "x's" or entering new students using the input fields.

INVITING STUDENTS

3 Invite Students

Type or copy and paste Email addresses and Student names.

Example:

1. johnsmith@knewton.edu John Smith,
2. johnsmith@knewton.edu John Smith, etc...

Add



3 Invite Students

1. johnsmith@knewton.edu John Smith,
2. johnsmith@knewton.edu John Smith,
3. johnsmith@knewton.edu John Smith,
4. johnsmith@knewton.edu John Smith,
5. johnsmith@knewton.edu John Smith,
6. johnsmith@knewton.edu John Smith,

Add

***MVP Approach

After several back-and-forths with engineering and product to discuss the complexity of this proposal, I made the decision to go with a more simplified MVP approach.

- Have users manually enter each email
- Use ghost type to instruct users on how they can enter information to help guide users and mitigate errors.
- The list of students auto-populate on clicking "Add"

The decision process: The engineering complexity far outweighed the unknown value at the time. We were better off quickly releasing a basic, functional version and gather feedback on how it would be used than solve for all unknown possibilities.

INVITING STUDENTS

3 Invite Students

Email	Name
1. johnsmith@knewton.edu	John Smith
2. johnsmith@knewton.edu	John Smith
3. johnsmith@knewton.edu	John Smith
4. johnsmith@knewton.edu	John Smith
5. johnsmith@knewton.edu	John Smith
6. johnsmith@knewton.edu	John Smith

Type or Copy and Paste Email add...

Example:

- 1. johnsmith@knewton.edu John Smith,
 - 2. johnsmith@knewton.edu John Smith, etc...
- Add

3 Invite Students

Email	Name
1. johnsmith@knewton.edu	John Smith
2. johnsmith@knewton.edu	John Smith
3. johnsmith@knewton.edu	John Smith
4. johnsmith@knewton.edu	John Smith
5. johnsmith@knewton.edu	John Smith
6. johnsmith@knewton.edu	John Smith

Type or Copy and Paste Email addresses and Student names.

Example:

- 1. johnsmith@knewton.edu John Smith,
- 2. johnsmith@knewton.edu John Smith, etc...

Add

Editing Student info

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MICRO-INTERACTIONS

Each feature had it's own set of micro-interaction that had to be thought through. There are too many to go through each one in this case study. To the right are some examples of what they looked like.

- Example of dropdown list for Subjects
- Search "Autocomplete" functionality
- Clicking on text activates it as an input field

Drop-down Views

Subject: Math

Select Grade Level

Select Topic

Dates-Hover state and calendar

2 Add Assignment(s)

Radicals With Index > 2

Exponential Equations And Functions

Absolute Value Equations And Inequalities

+ Assignment

June

- User hovers over the date and the box appears
- On select, a calendar picker appears and the date becomes editable inline

You can add a search input by passing `data-live-search="true"` attr

Example

Hot Dog, Fries and a Soda

Hot Dog, Fries and a Soda

Burger, Shake and a Smile

Sugar, Spice and all things nice

Using the `title` attribute on a `multiple select` will show the default work on single `select` elements as they must have a selected value):

Example

BRAND AND TONE

MASCOT

One approach was to build our identity around an anchor like a mascot. Something that could be used to show different emotions as well as be used as a first person “guide” throughout the product.

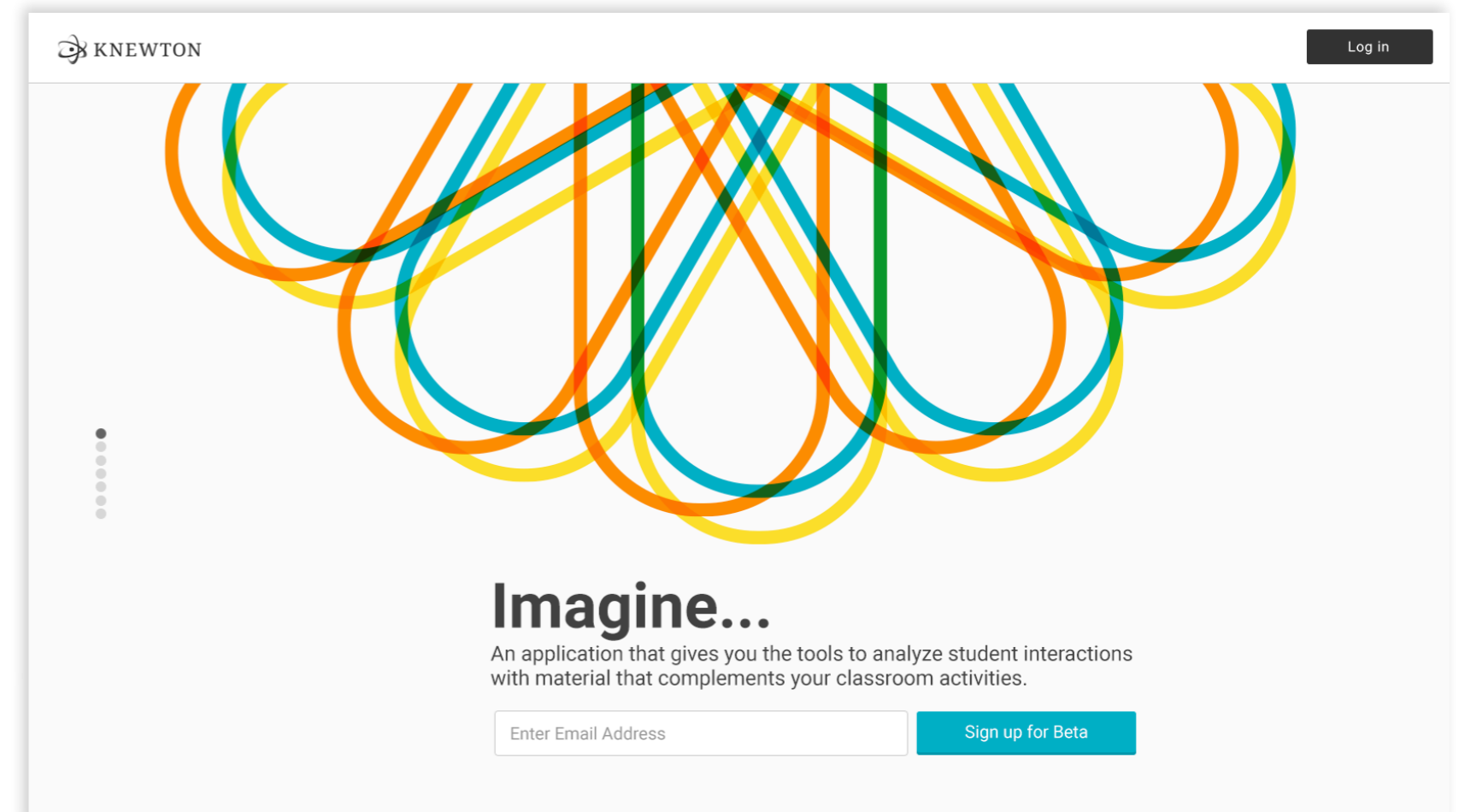
The version on the left was meant to invoke a serious tone. The sleeping owl would “wake” when certain achievements were met by the student. The origami reflected the flexible way students learn as well as the Knewton technology.

The version on the right was a friendly “Knerd” octopus based on the internal nickname we gave ourselves internally as Knewton employees. The octopus’s many arms represent the myriad of ways users can utilize the content.



NO MASCOT

Ultimately we decided to leverage the content already on the platform. We created unique vector graphics for each learning topic. The images were kept simple but also needed provide visual reinforcement for users to understand what type of content to expect when they interact with given lessons.

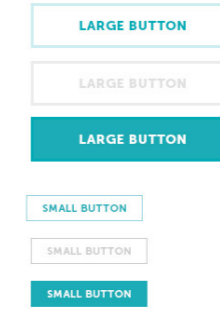
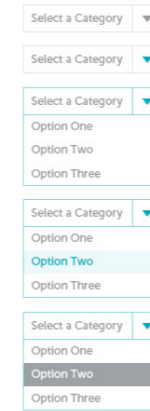


BRAND AND TONE- PATTERN LIBRARY

Early version of a Design Pattern Library

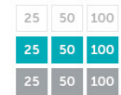


0 1 2 3 4 5 6 7 8 9



- Correct
- Incorrect
- Empty
- Current

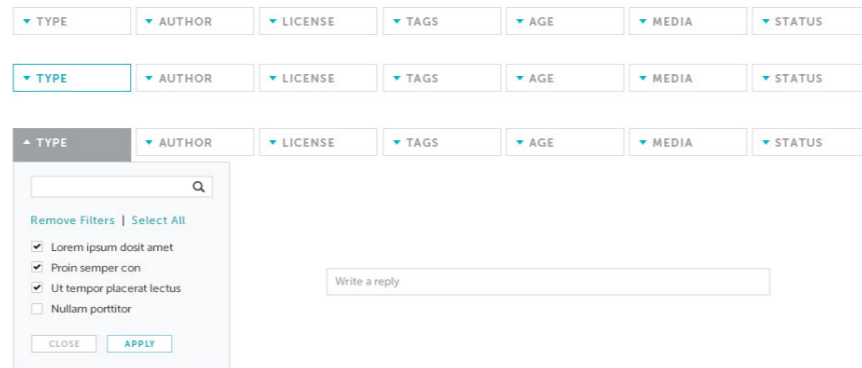
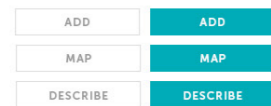
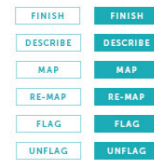
- EDIT
- MAP
- DESCRIBE
- DELETE



- EDIT
- MAP
- DESCRIBE
- DELETE

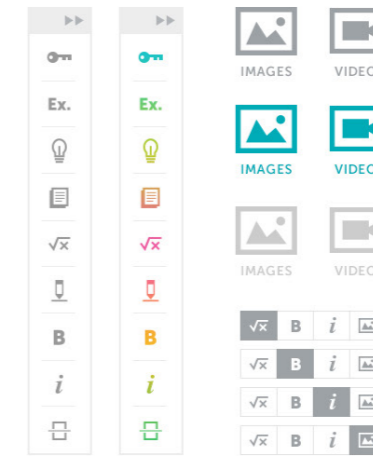
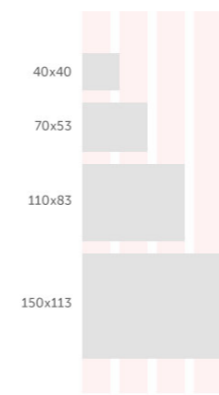
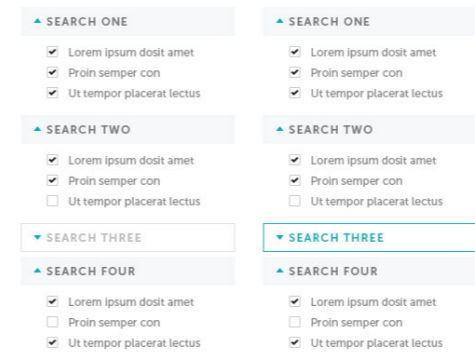
- EDIT
- MAP
- DESCRIBE
- DELETE

- In progress
- Under revision
- Submitted
- Published



USAGE COMMENTS CHANGES DESCRIPTIONS

< Previous 1 2 3 4 5 6 7 8 9 10 Next >



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin semper consectetur lectus vitae dignissim. faucibus sem blandit non.



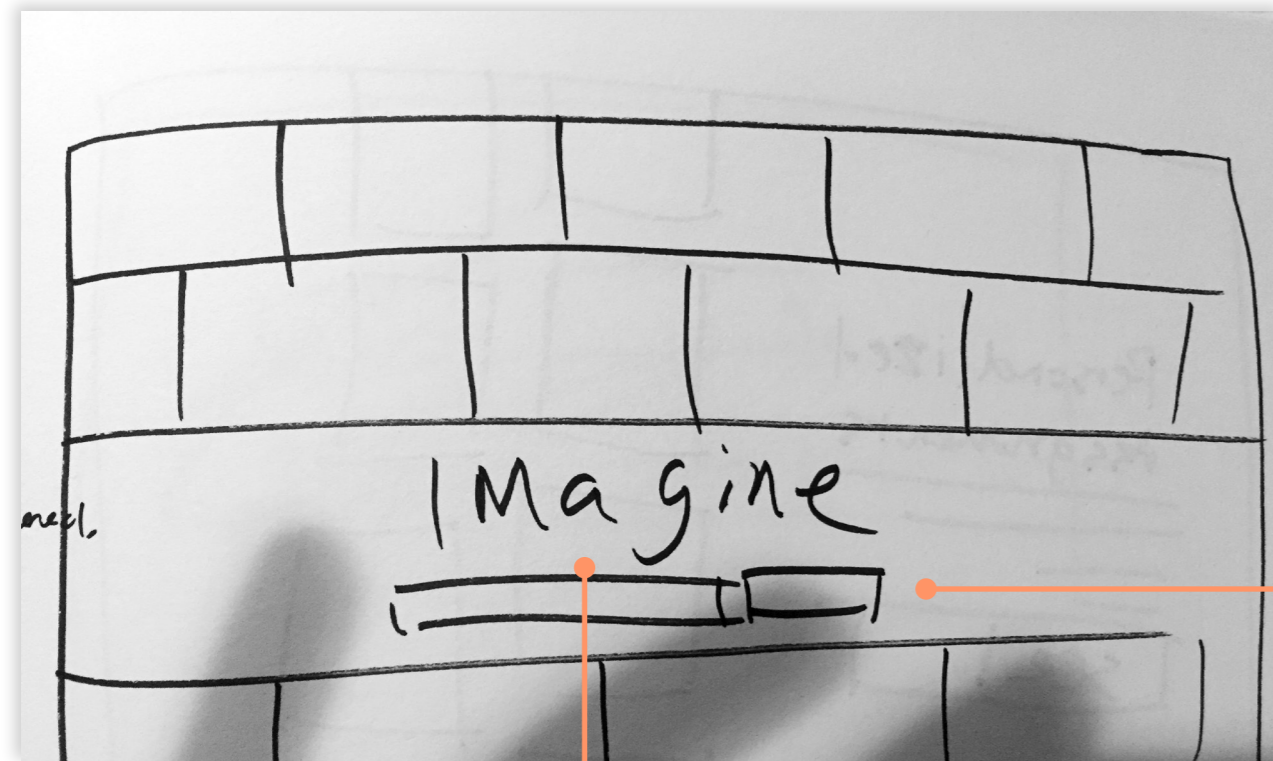
IDEATE

WALK-THROUGH

The web portal was still a major conversion channel for us. When a lead or unregistered user hit the site we need to inform them on the product. The Walk-through needed communicate the following:

- 1) Show the product value to the user
- 2) Communicate what the user can do with platform
- 3) Demonstrate the type and breadth of content available
- 4) provide a way for users to register.

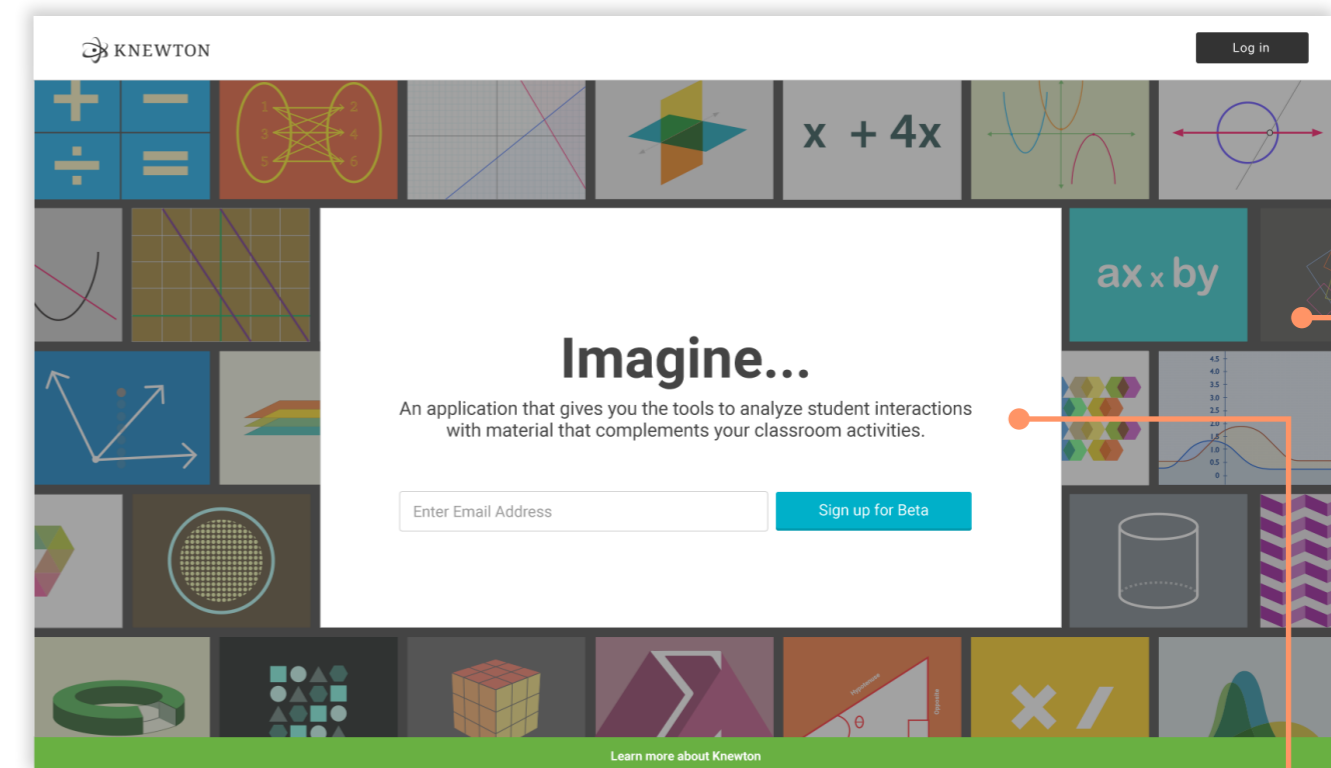
Sketch



"Imagine" was meant to grab the user into the possibilities of Knewton's adaptive learning platform

After entering an email the user would receive an email with activation code and password

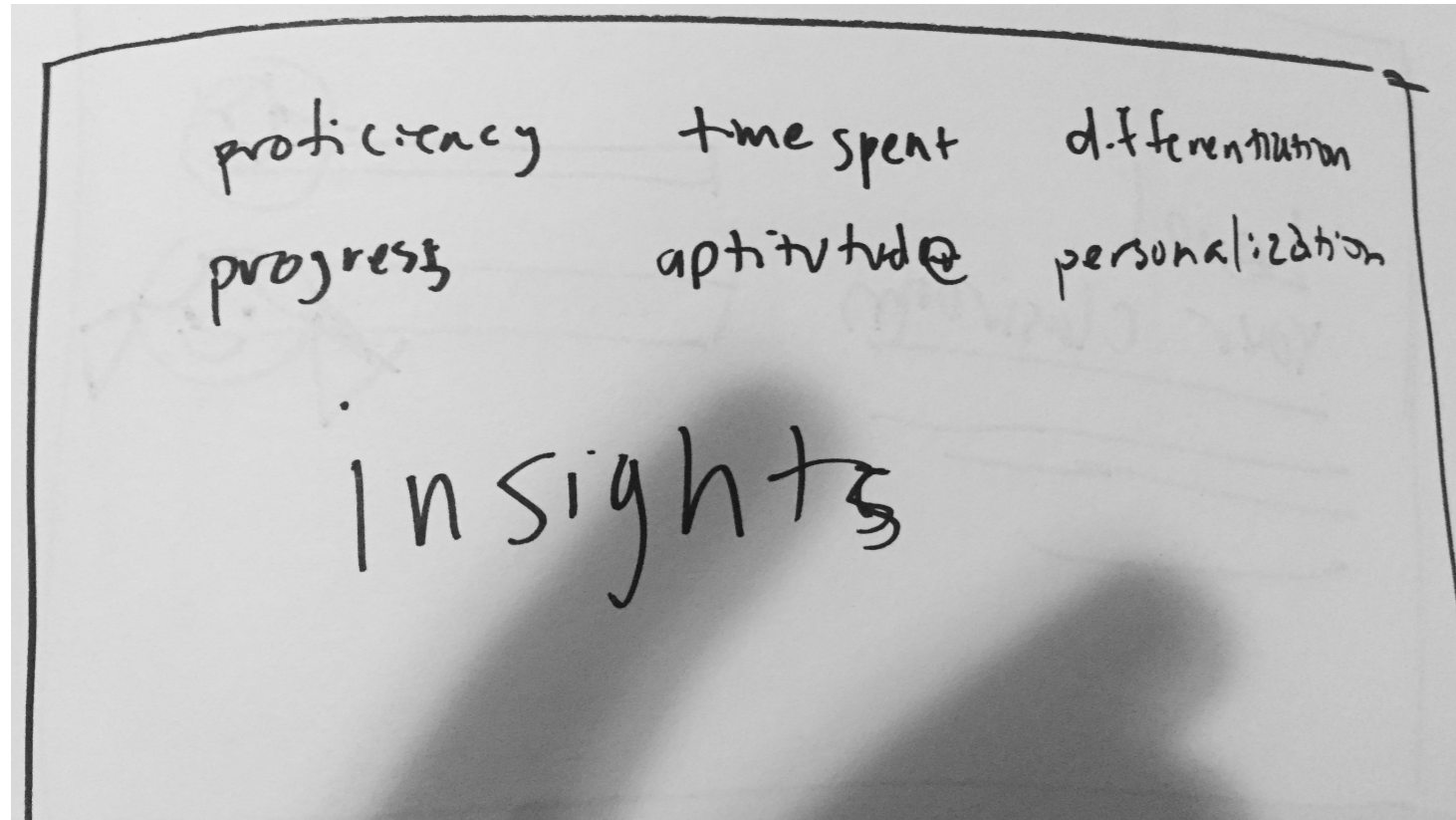
Interpretation



We A/B Tested messaging throughout the walk-through steps to see if conversion was affected (no discernible differences were found).

The background animates a random display of tiles of subjects available on the platform. The layout reflects the sheer volume of content.

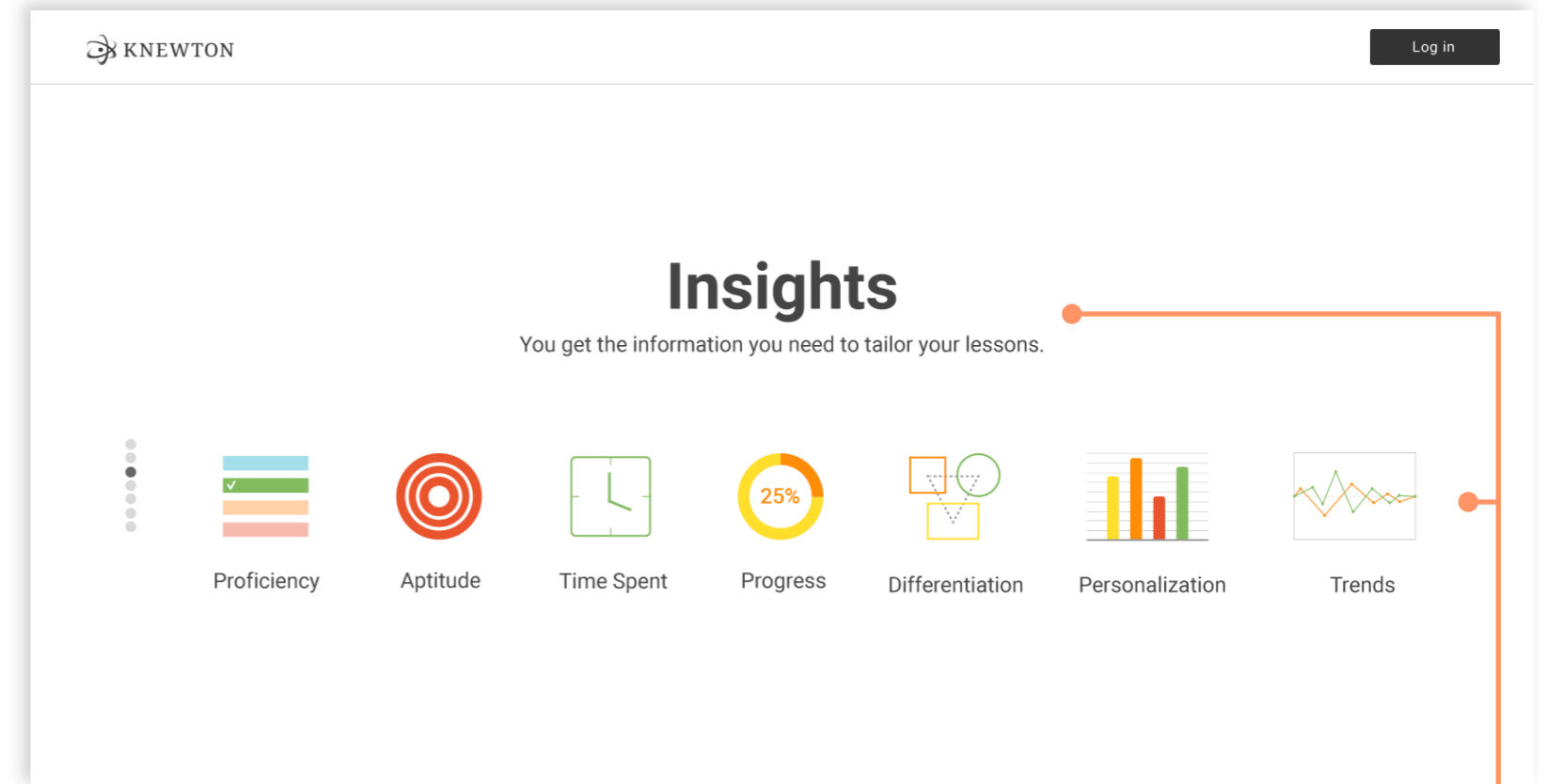
Sketch



On Scroll is an intuitive behavior. As the user scrolled the page the user would navigate to the next full page message.

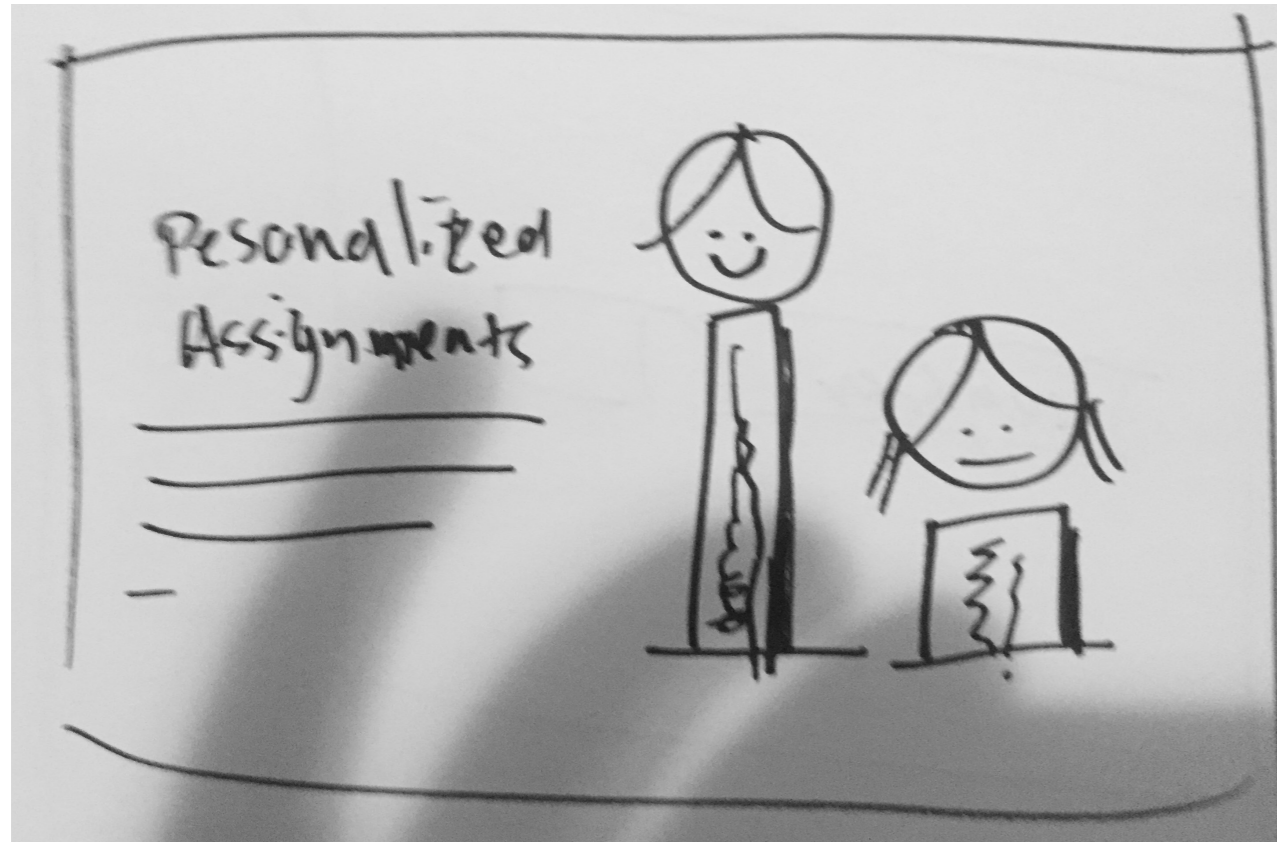
We defined "insights" as a trigger word for educators. A common problem with teachers was transparency into students progress, individual learning habits and effort.

Hi fidelity Interpretation



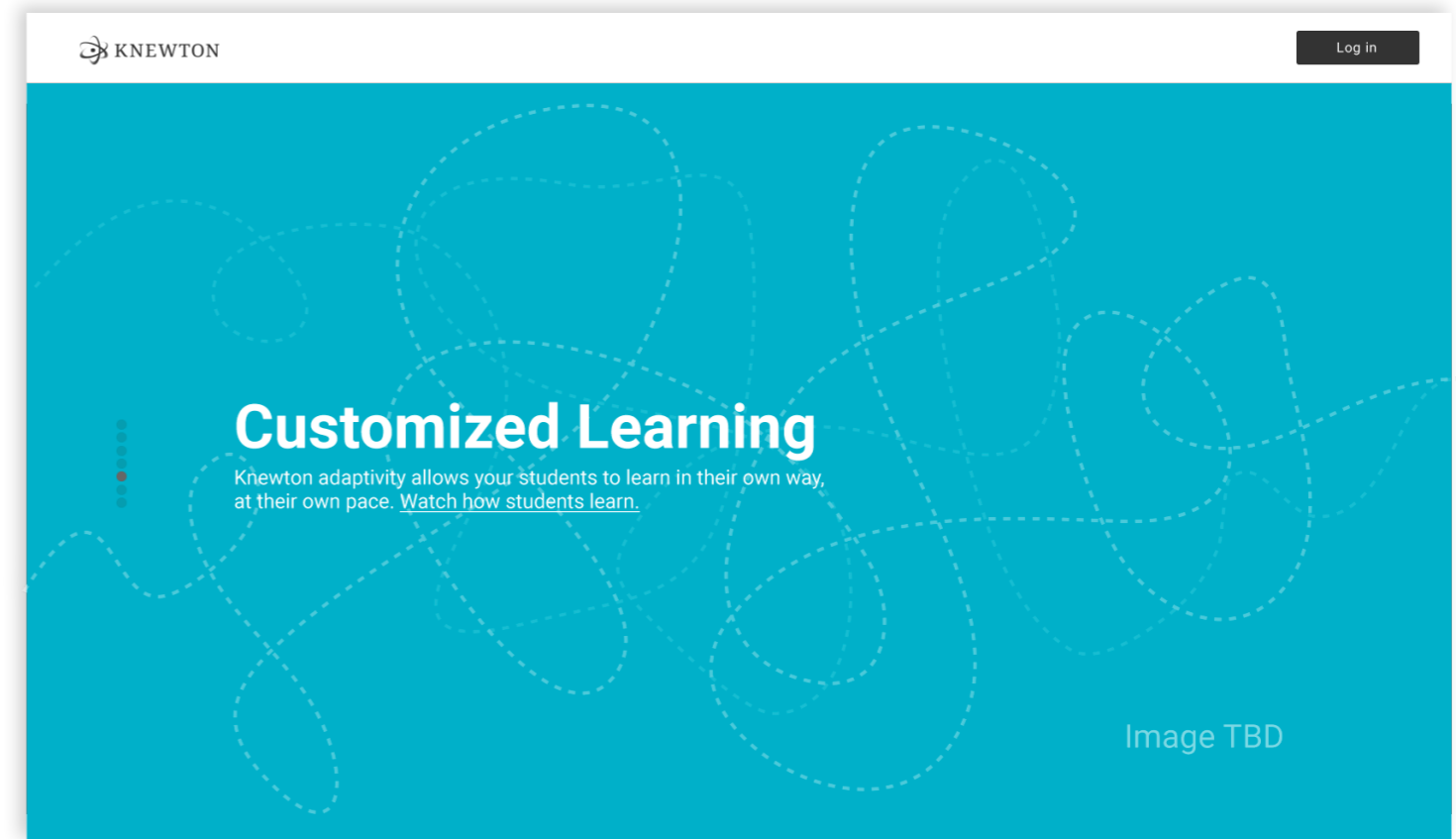
Explains to users exactly what they are getting (data). And a breakdown of which types of insights they can expect.

Sketch



Focus on one of the core benefits of Adaptive Learning, and Knewton's key differentiator. Being able to assign individual students personalized assignments and testing material.

Hi fidelity Interpretation

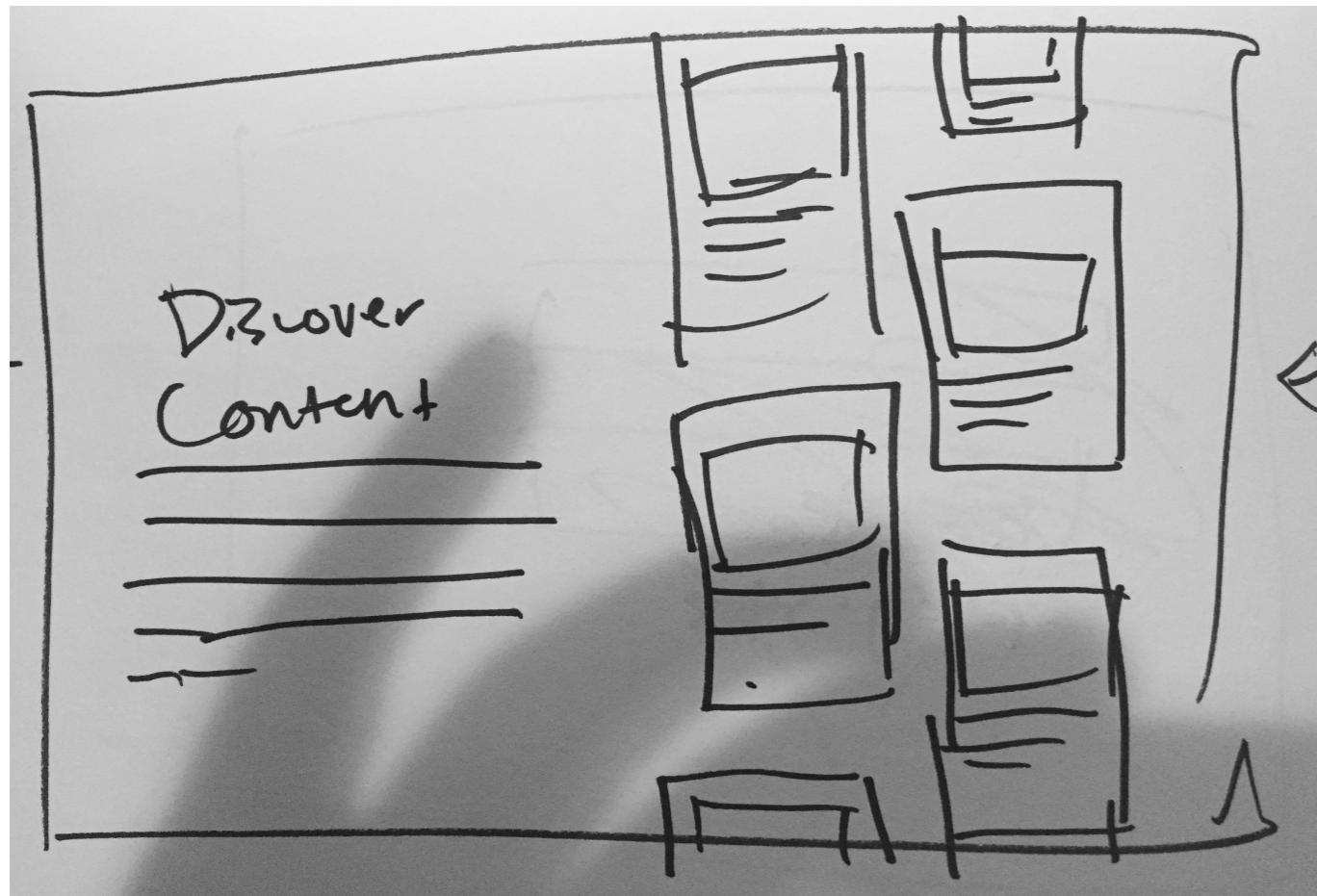


Teacher need the flexibility and access to content to customize lessons.

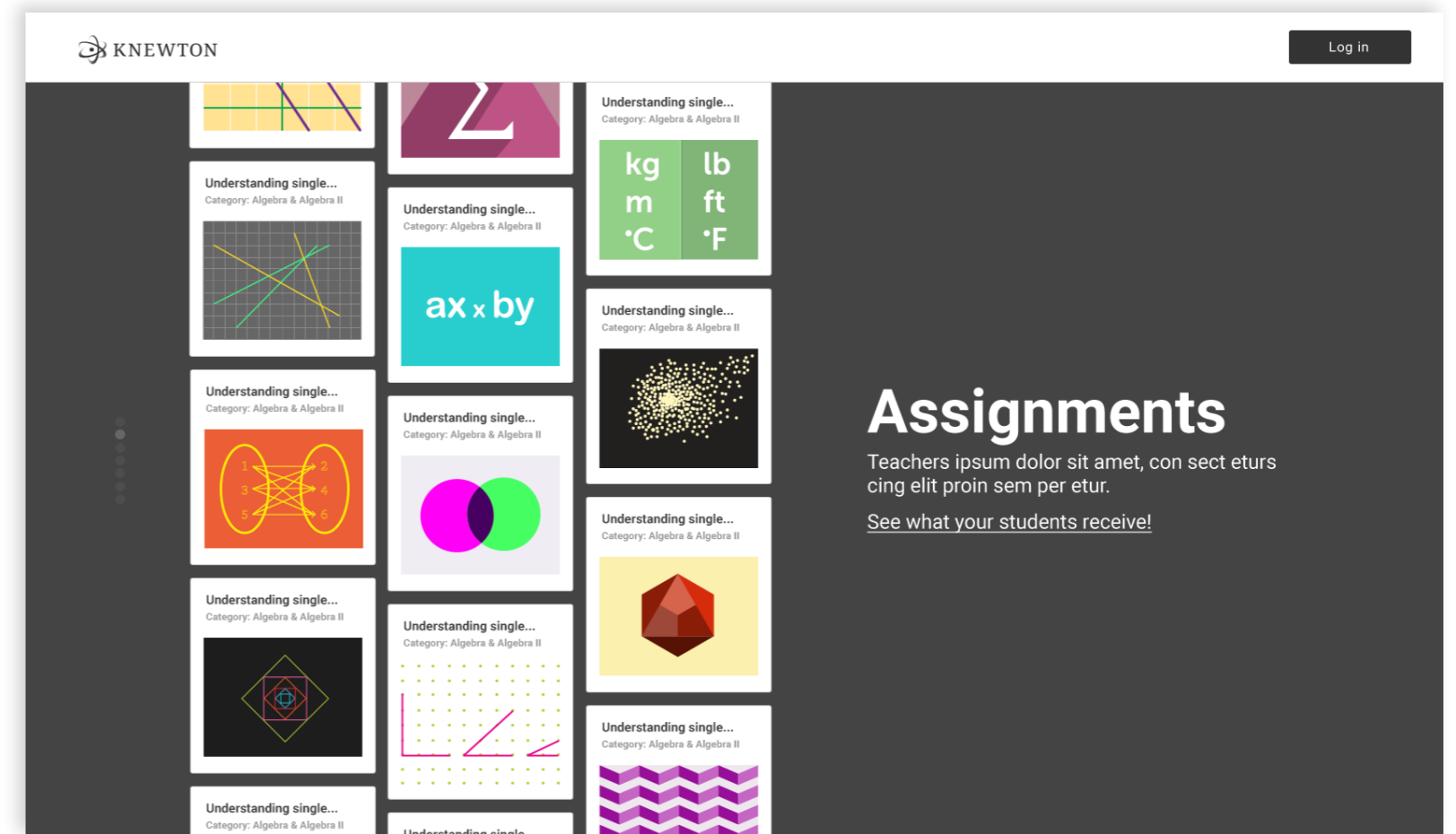
"Dots" were used on each page to help users understand where they are, how many steps they've gone through, and how many they have left.

WALKTHROUGH Step 3.

Sketch



Interpretation

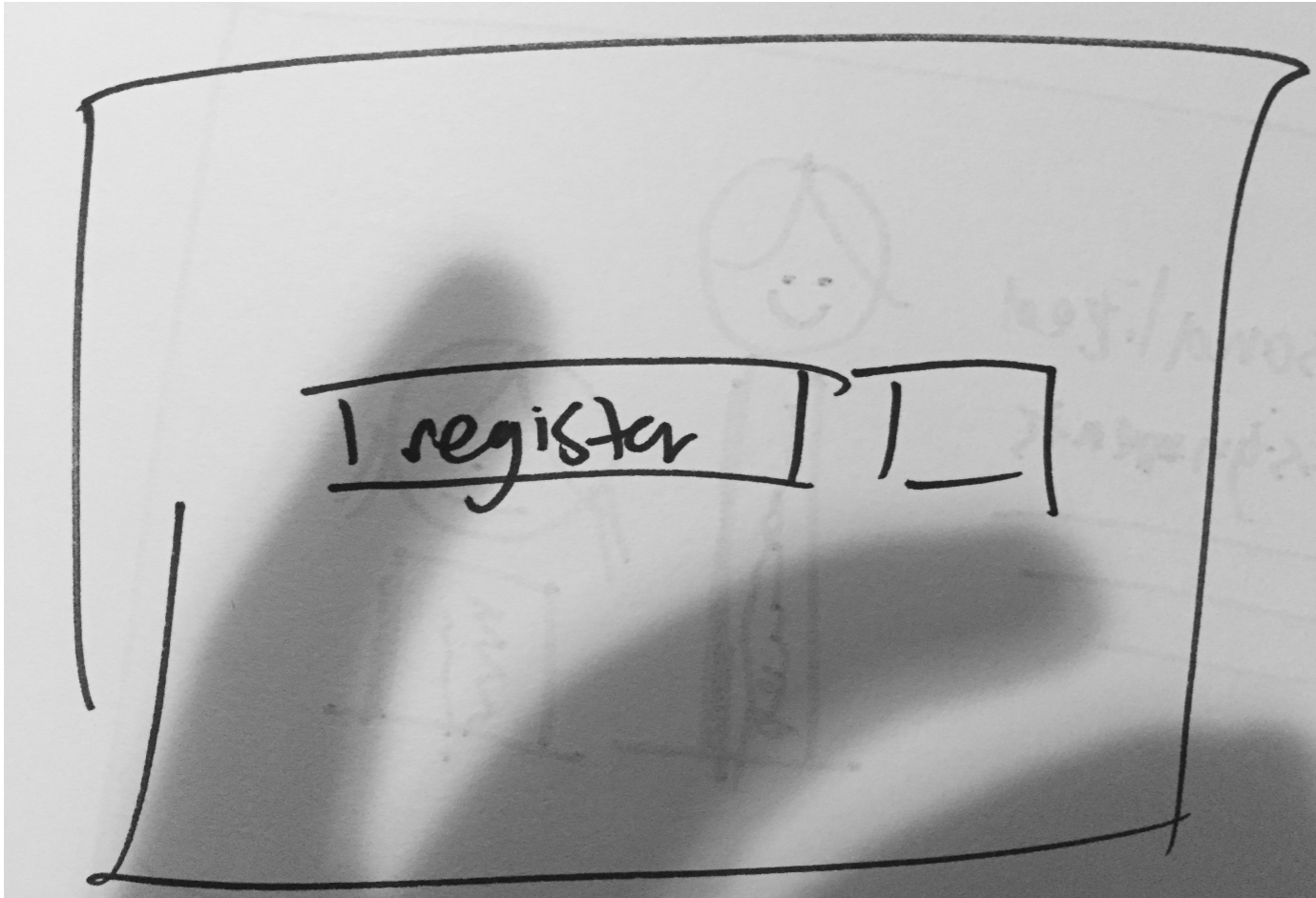


We re-used assignment images again, this time the actual "cards" from each assignment with text. Each assignment is named in line with Common Core Standards.

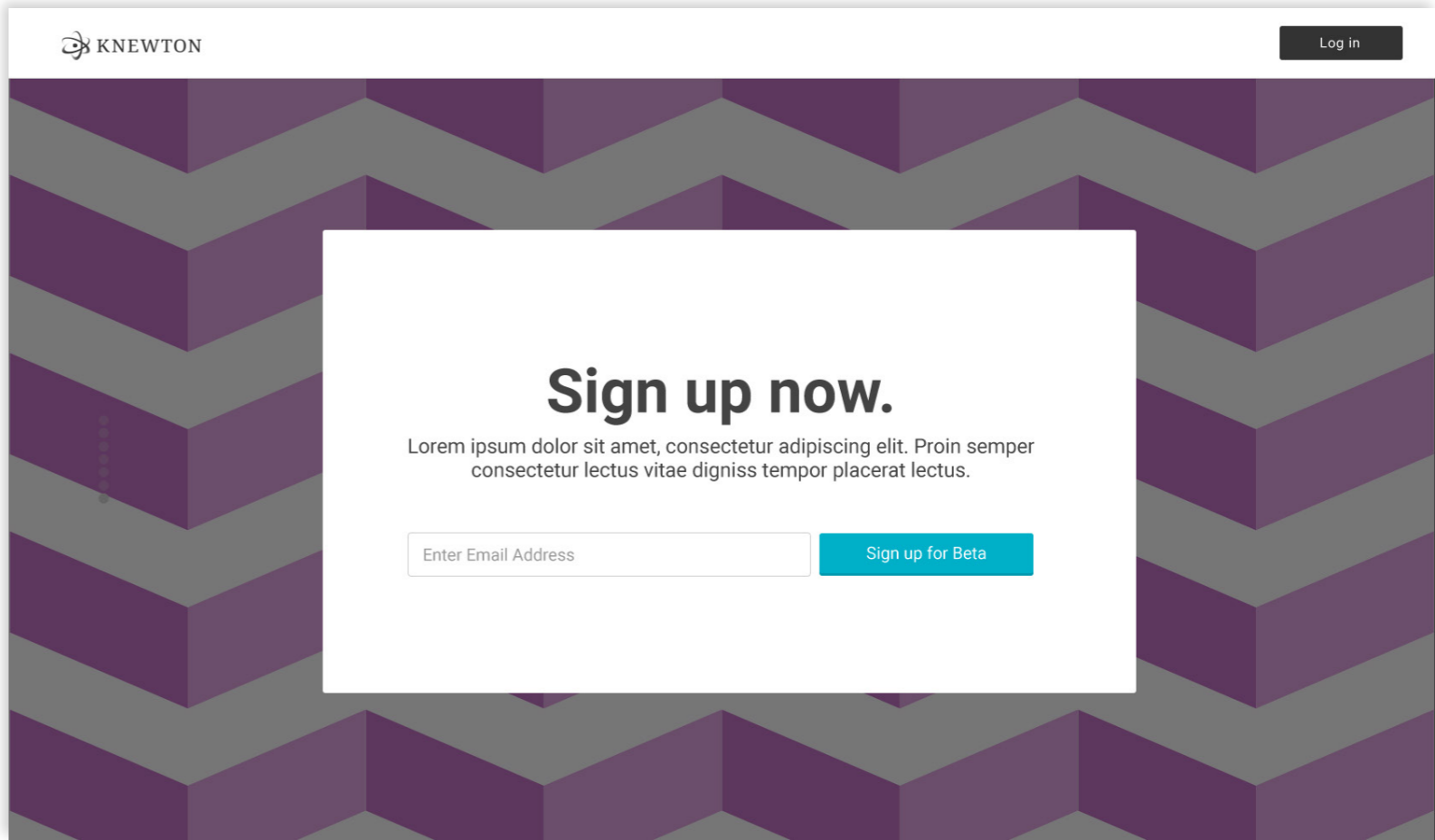
Users can preview a sample assignment before registering. The preview assignment was not working as desired so the beta launched a preview video of how the platform worked.

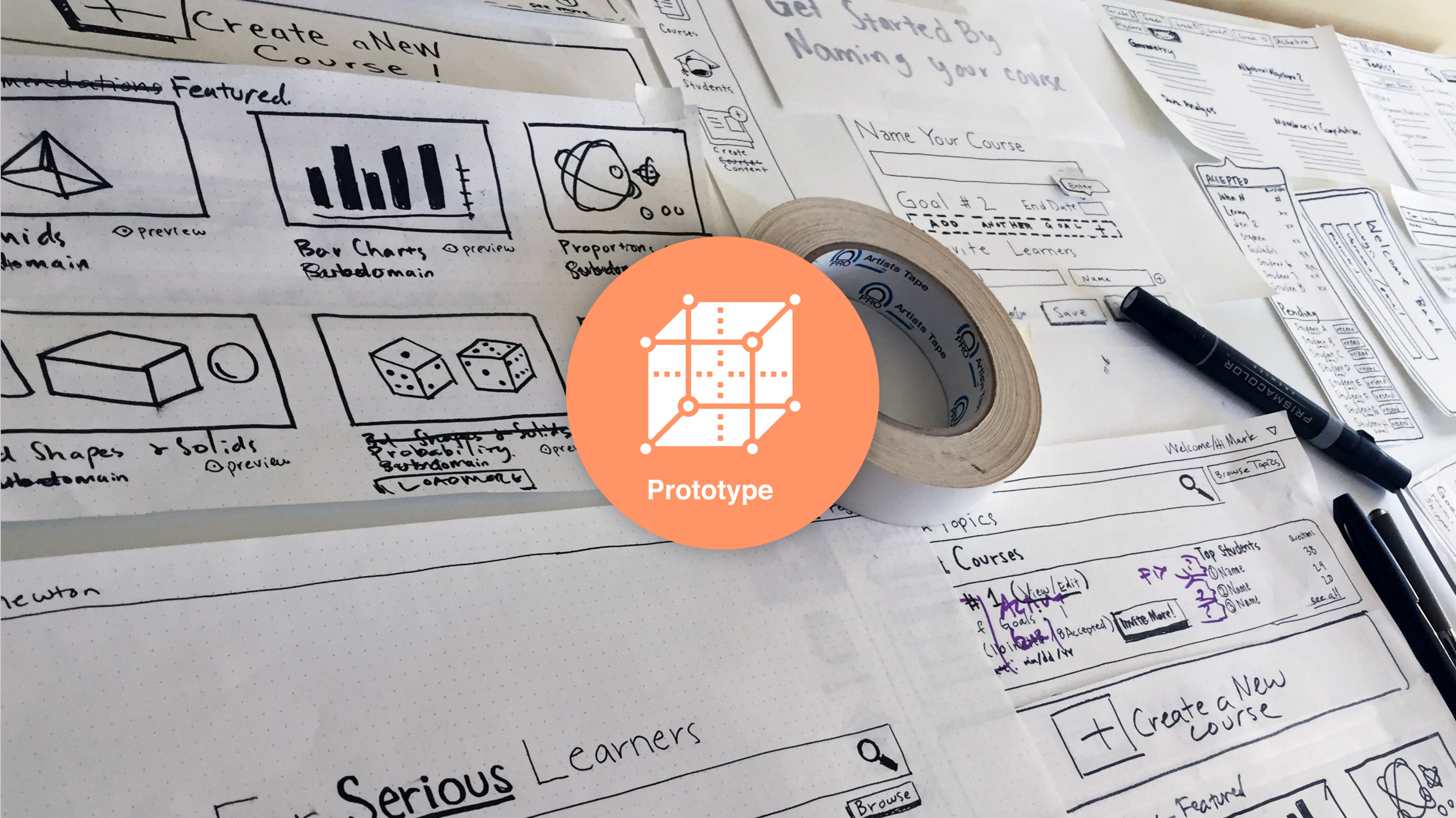
WALKTHROUGH Step 3..

Sketch



Interpretation

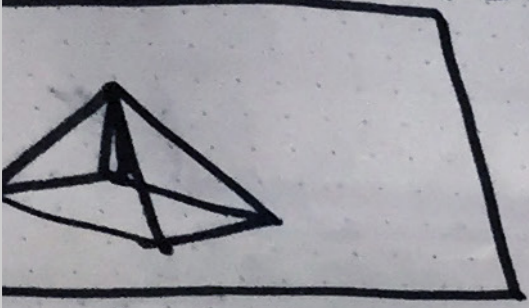




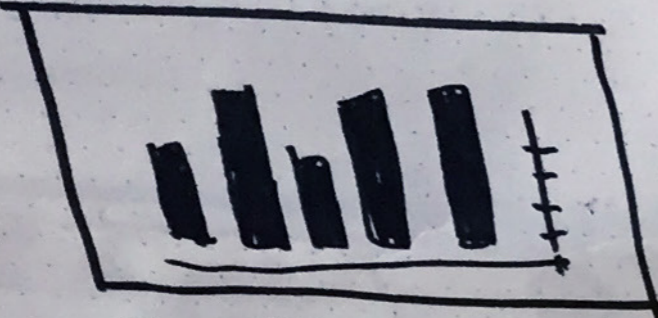
Create a New Course!

Get Started By Naming your course

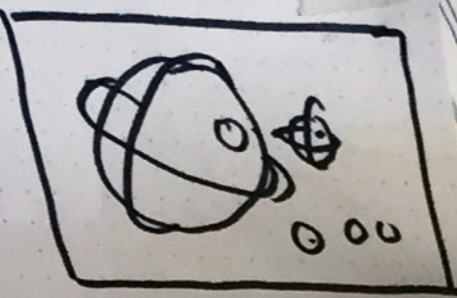
Recommendations Featured.



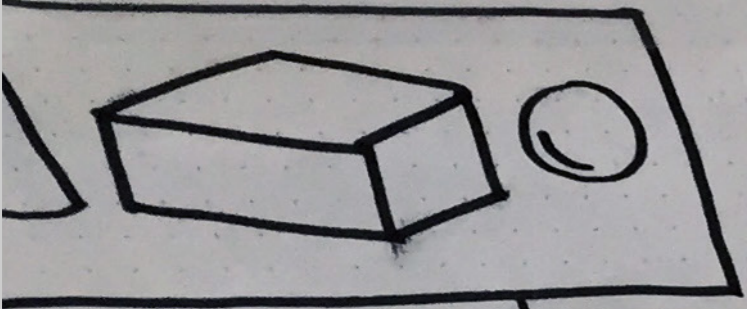
Shapes & Solids Subdomain



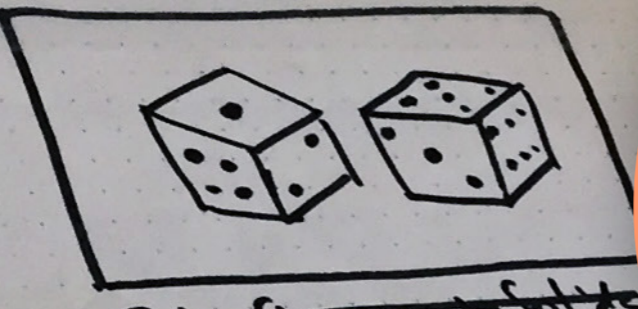
Bar Charts Subdomain



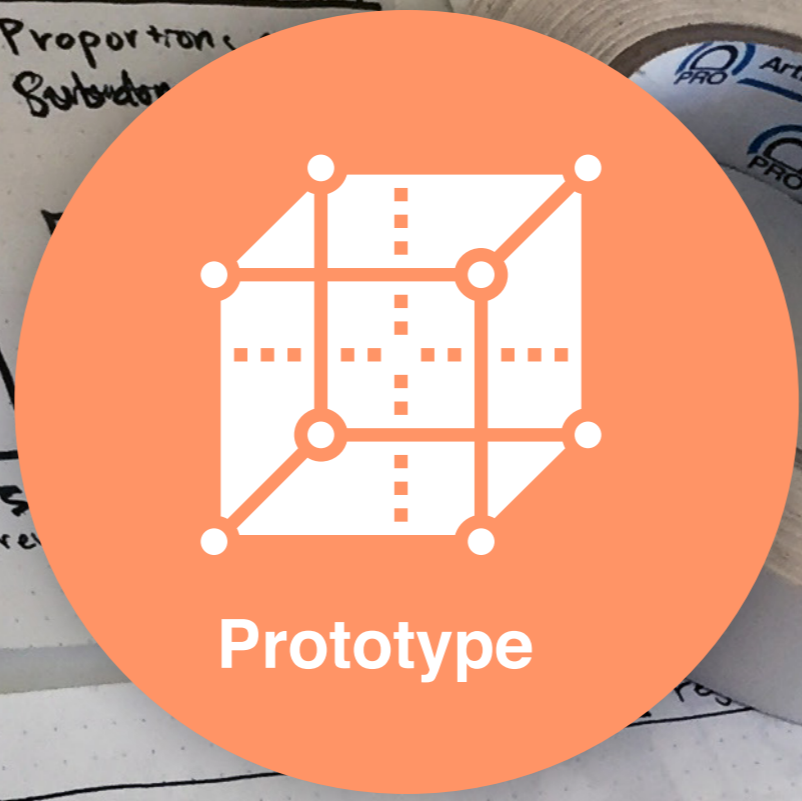
Proportions Subdomain



Shapes & Solids Subdomain



Shapes & Solids Probability Subdomain



Prototype

Name Your Course

Goal # 2 End Date

ADD ANOTHER GOAL

Invite Learners

Name

Save

ACCEPTED

John N	Erion #
Lerny	xx
Jan 2	xx
Srejan	xx
Evelin	xx
Student 6	xx
Student 7	xx
Student 8	xx

Pending

Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H
read	read	read	read	read	read	read	read

Welcome/Hi Mark

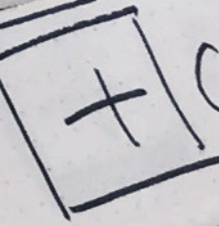
Browse Topics

Topics

Courses

1 (View/Edit) Goals (10 in total) (Accepted) Write More!

Top Students Name 35 Name 29 Name 20 see all

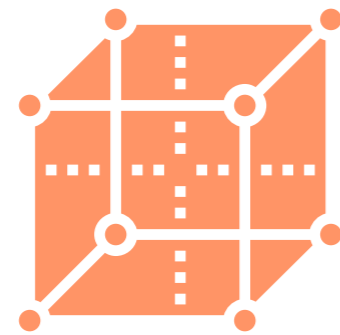


Create a New course

Serious Learners

Browse

Featured

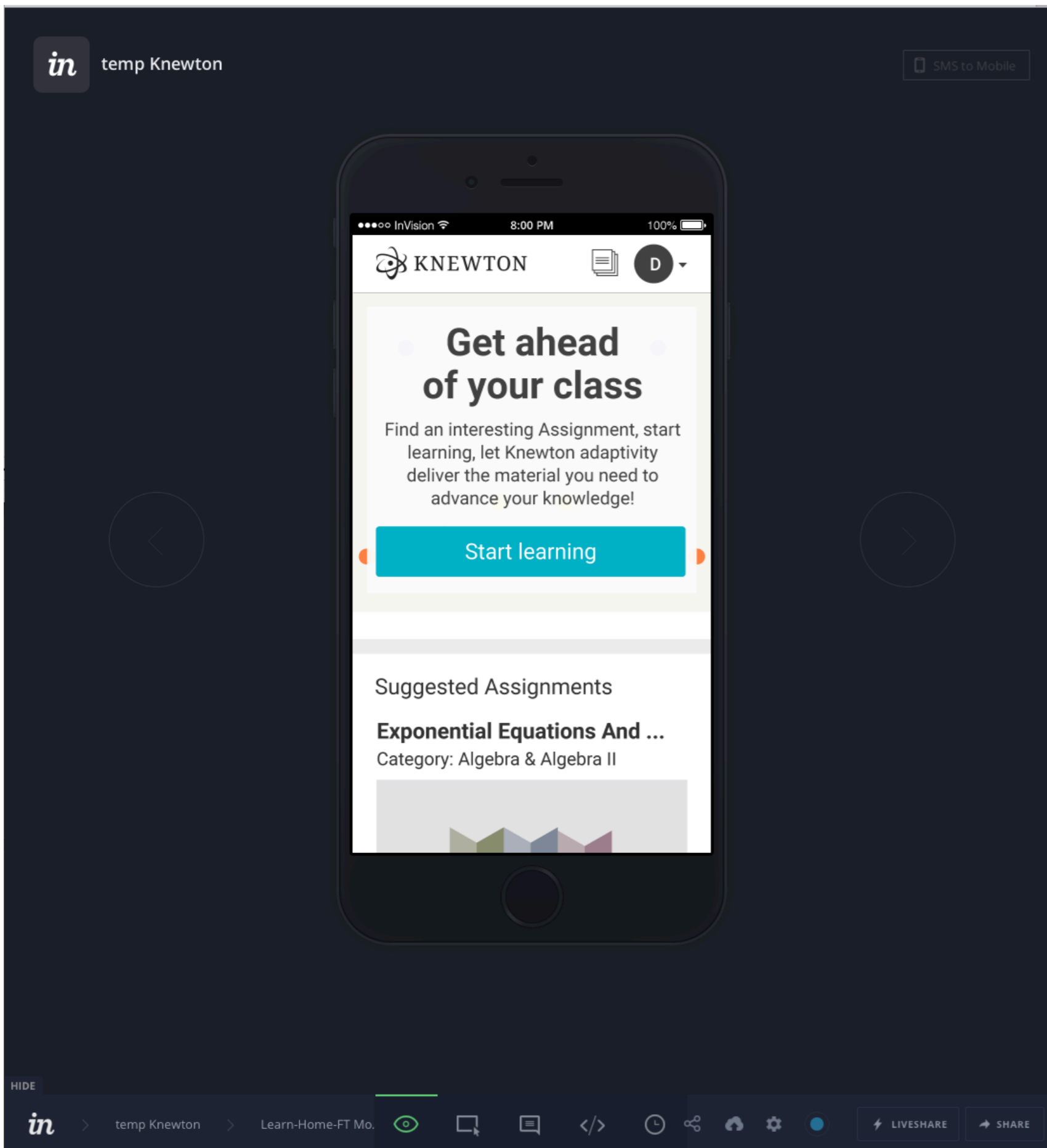


Prototype

Paper Prototyping

The entire first version of Knewton was built as a paper prototype. We could quickly change pages and sit down with engineering to go through different scenarios. This allowed Engineering to start to work on fundamental back tasks. In parallel we could then refine define decisions, functionality and explore visual approaches.





Click-able Prototypes

We also used click-able, higher definition prototyping for different stakeholders and testing the flow of the application.

The on-line Invision link allowed us to share and gather feedback remotely from different stakeholders.

To the left is a screen shot of our mobile prototype for the learn flow.



[Go back](#)

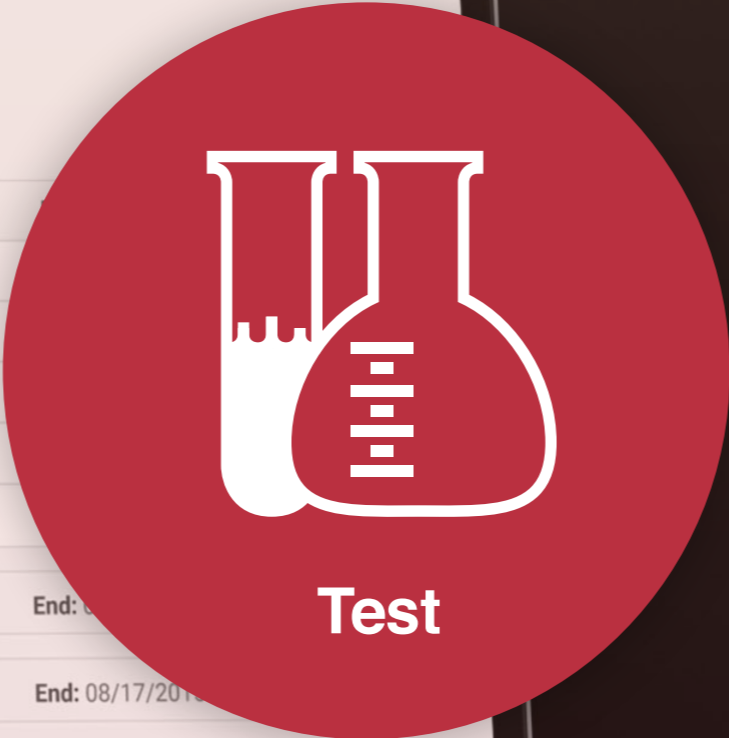
Learn About Pythagorean Theorem Lesson

Assignments in this course

Pythagorean Theorem		Start: 07/06/2015		
Student Name	Status	Active Time	Progress	Proficiency Level
Jannette McKenny	On Track	4h 32m	<div style="width: 25%;"></div>	2
Leo Cipriani	Struggling	6h 11m	<div style="width: 10%;"></div>	1
Dani Reynosa	Excelling	3h 44m	<div style="width: 40%;"></div>	3
Rex Saenger	Completed	3h 28m	<div style="width: 100%;"></div>	4

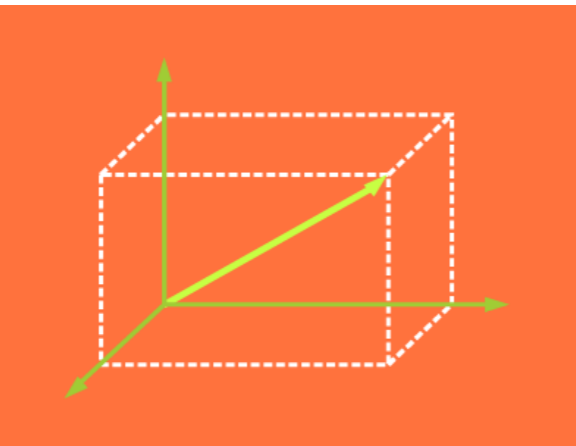
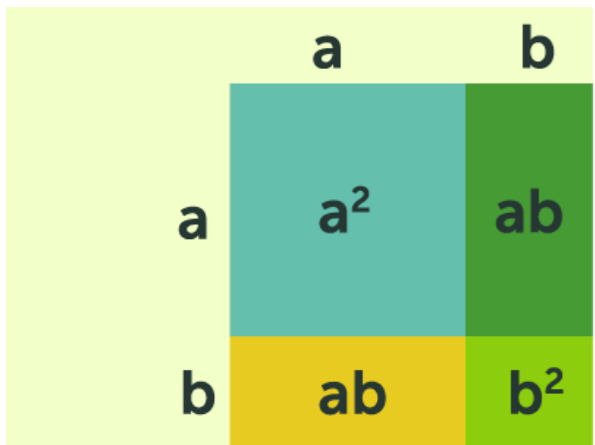
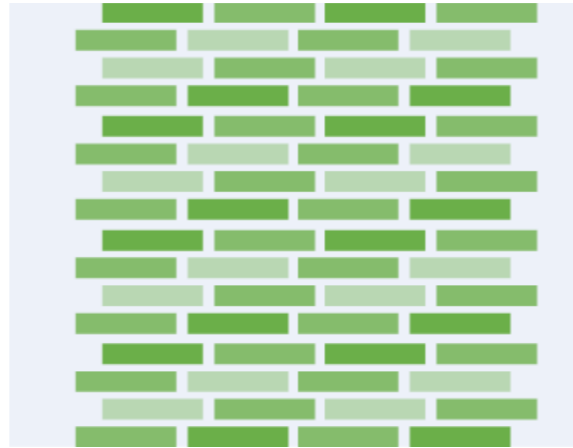
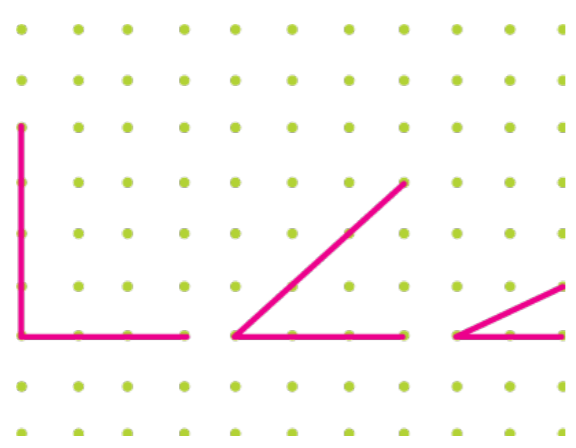
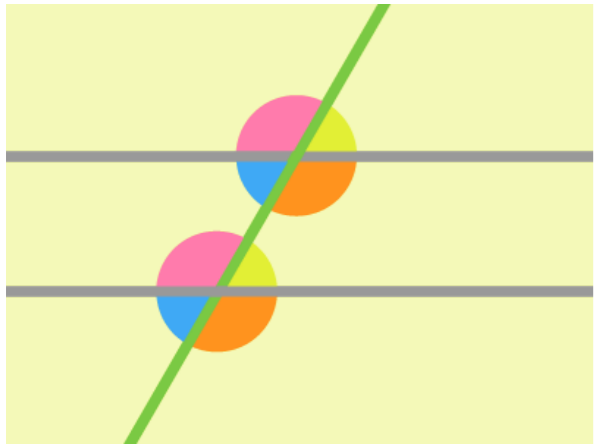
> Area Start: 07/20/2015 End: ...

> Triangles Start: 08/03/2015 End: 08/17/2015



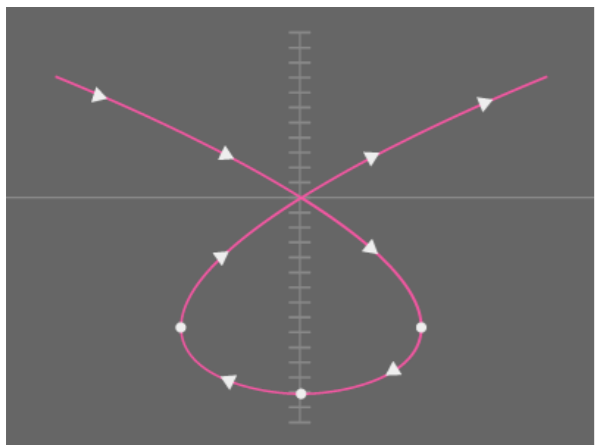
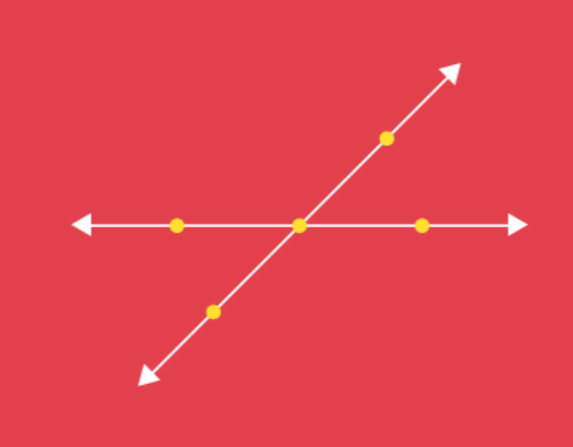
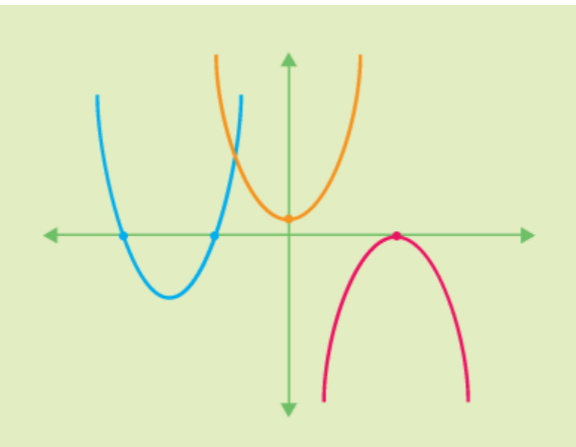
Integration of continuous user testing was a major milestone in our process.

Both regularly scheduled usability testing as well as in-person interviews and in-class visits through our Ambassadors program, helped guide our decision making. It was used as supplemental data along with analytics, to help decide where and what functions to focus on.



$$\bar{x} = \frac{\sum x}{n}$$

$$\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

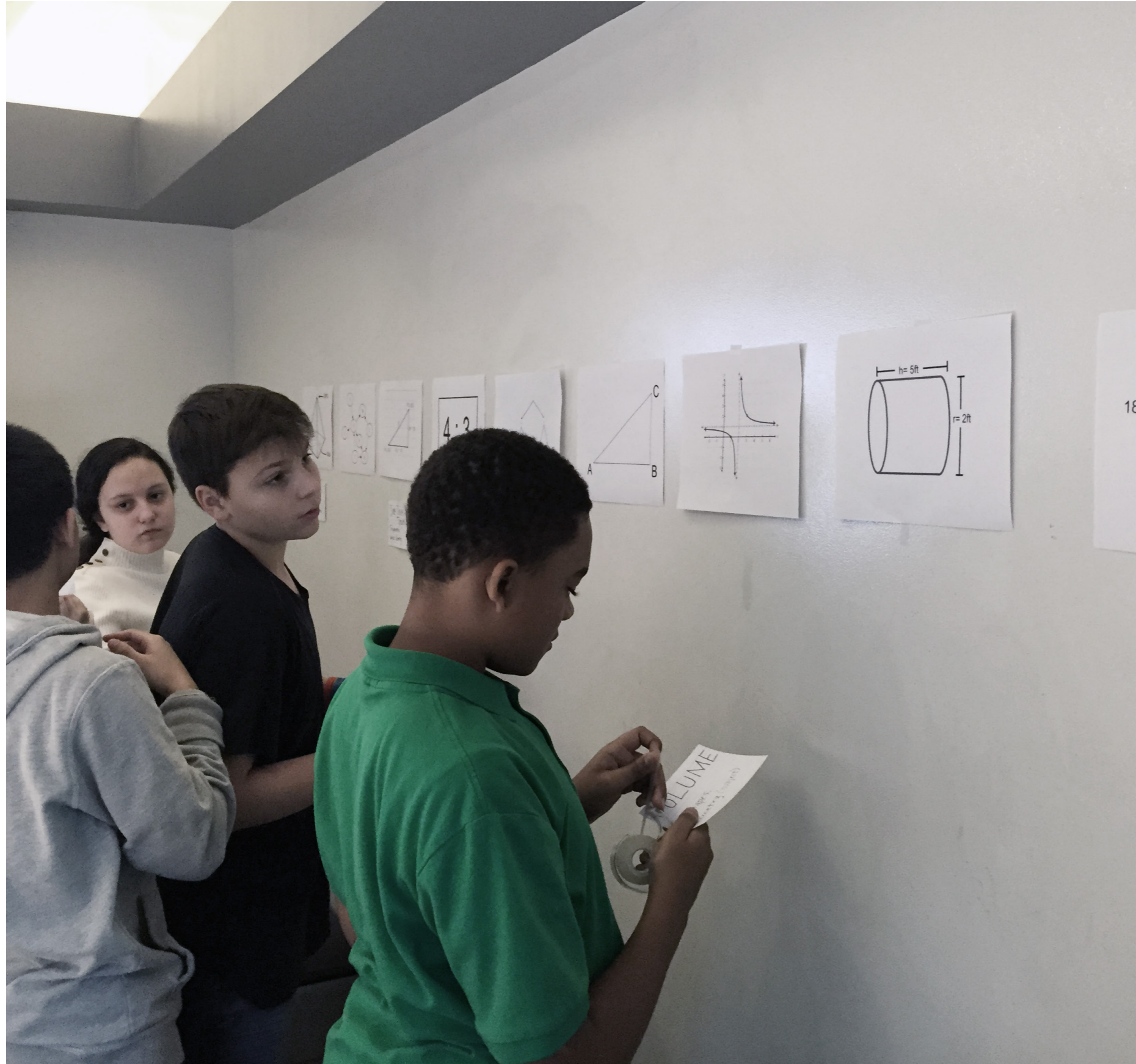


Test

“Would 10-13 year old students find value in the images we were creating?”

One example of in person testing was with our early decision to use vector images as reference images. It was major time investment, and one of the questions we raised was would it supply sufficient reference information to students about the content it was meant to represent.

TEST



We brought in prospective student users for various exercises. One was a simple twist on card sorting. Students were asked to take a group of assignment names and topics and best match them with variety of images we provided. The images were black and white representations of our vector graphics.

82%

Success



Setup

The process was inclusive and cross discipline. Each team had a role, and feedback was synthesized and distributed back to each team

Design Team acted as Moderator, prepared the testing scripts, and **Product** Scribe and synthesize feedback

Engineering was able to view via hangout and see how users were actually using their creation

Marketing sourced users

Customer support did outreach, setup and scheduling

Background Photo: Product team members who were not in testing, viewing via hangout.

Users could not see spectators, but they were instructed that the usability tests were being simulcast.

“We seek out feedback from analytics on the regular, why wouldn't we do the same with real user testing feedback.”

Time Table

Every other week for 3 hours we would have users come and participate in usability tests on our platform or test specific feature designs we were working on.

The dependable visits allowed us to integrate user feedback on a continuous basis rather than waiting sourcing on an as needed basis.

Another advantage was being able to include different teams remotely so that everyone could see their work in hands of users.