An Entrepreneur's Journey:
It all began with a CS/Engineering Degree

Smita Bakshi
President, co-founder zyBooks

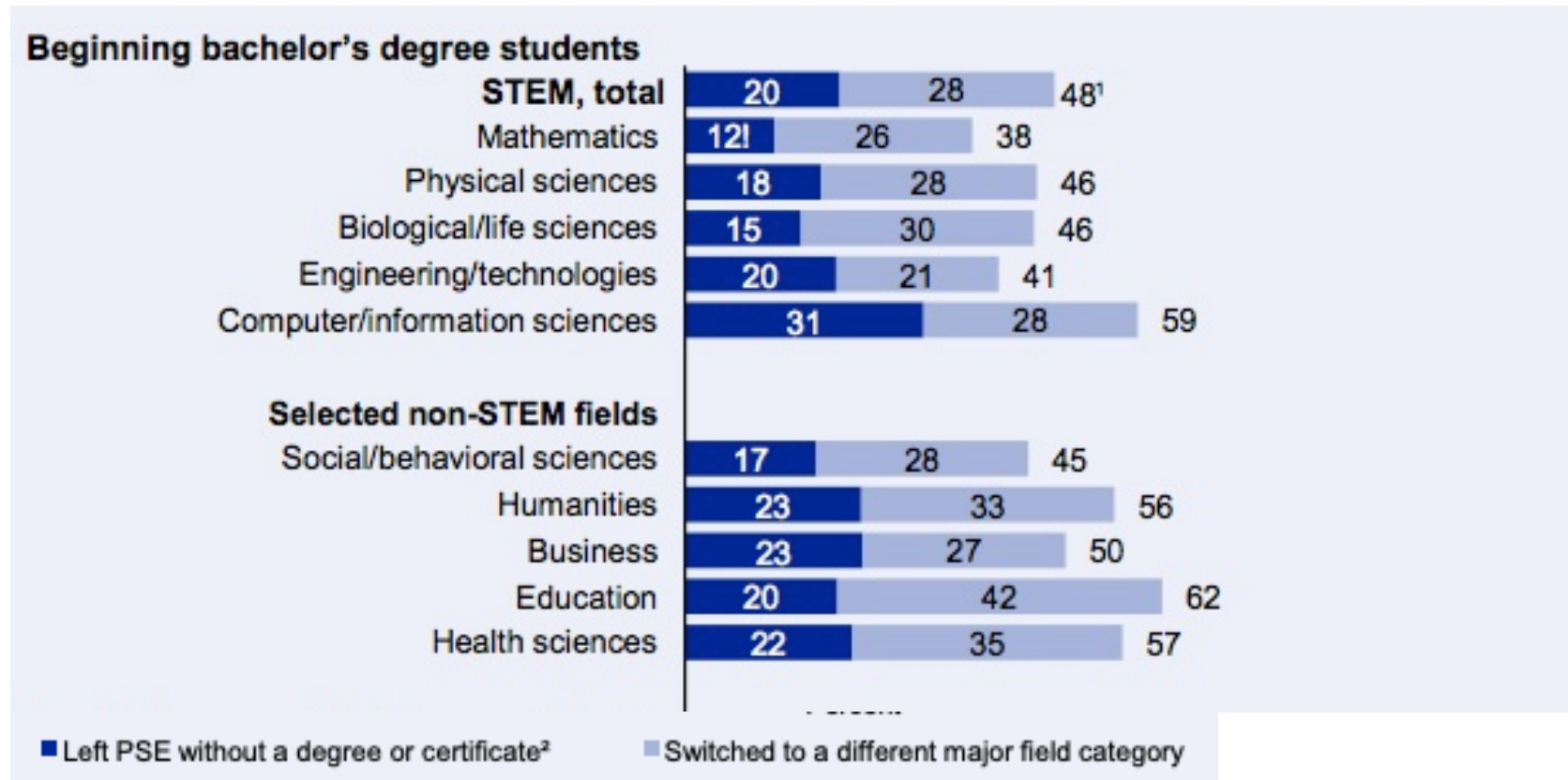PhD in Computer Science   Assistant Professor, ECE

The zyBooks Story

Reducing STEM Attrition

"…. performing poorly in STEM classes relative to non-STEM classes were associated with an increased probability of switching majors for STEM entrants …"

Beginning bachelor's degree students

	Left PSE without a degree or certificate[2]	Switched to a different major field category	Total
STEM, total	20	28	48[1]
Mathematics	12	26	38
Physical sciences	18	28	46
Biological/life sciences	15	30	46
Engineering/technologies	20	21	41
Computer/information sciences	31	28	59
Selected non-STEM fields			
Social/behavioral sciences	17	28	45
Humanities	23	33	56
Business	23	27	50
Education	20	42	62
Health sciences	22	35	57

■ Left PSE without a degree or certificate[2]   ■ Switched to a different major field category

STEM Attrition: *College Students' Paths Into and Out of STEM Fields,* Statistical Analysis Report, November 2013, National Center for Education Statistics, U.S. Department of Education

zyBooks for Computer Science / Engineering

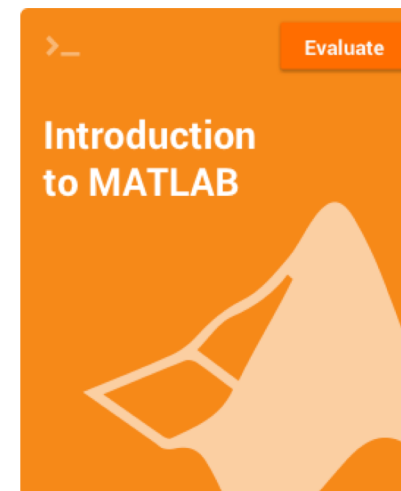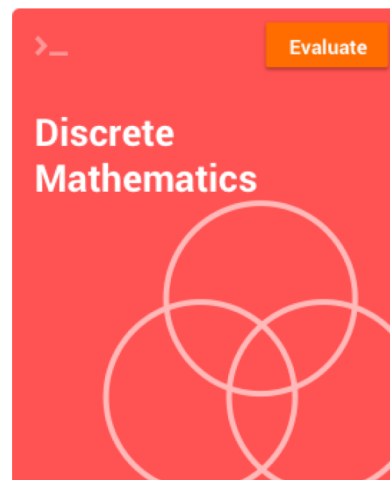Animations & simulations

Interactive tools, Coding windows

Learning questions with feedback

Auto-graded labs

Examples:

Evaluate

Data Structures Essentials

Evaluate

Programming in Java

with zyLabs

Evaluate

Computer Organization and Design (5e) - Interactive Version (MIPS)

Evaluate

Discrete Mathematics

Evaluate

Introduction to MATLAB

Evaluate

Programming in Python 3

with zyLabs

3

zyBooks Today

650 UNIVERSITIES

3,000 INSTRUCTORS
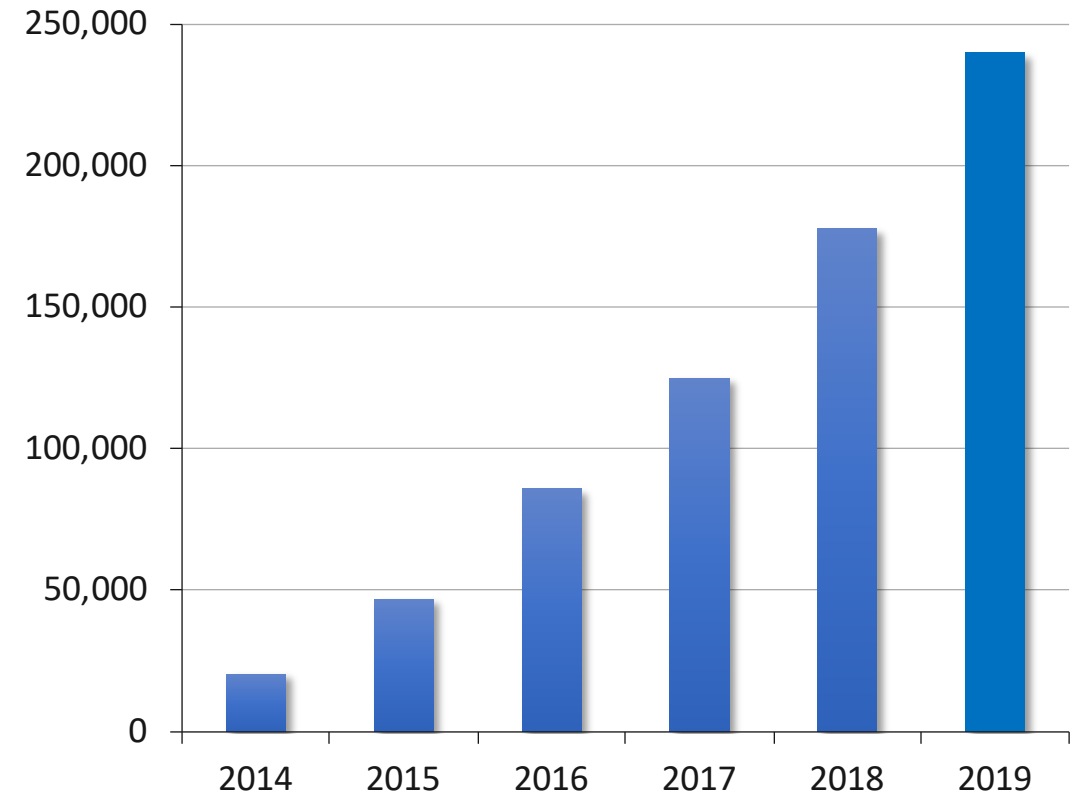
750,000+ STUDENTS

- NSF and Dept of Ed SBIR grants
- 18 peer-reviewed research papers
- 80 employees
  - ~10 with PhDs, 50% women
- Los Gatos, CA based
- Now a Wiley Company

Growth: Institutions & Students
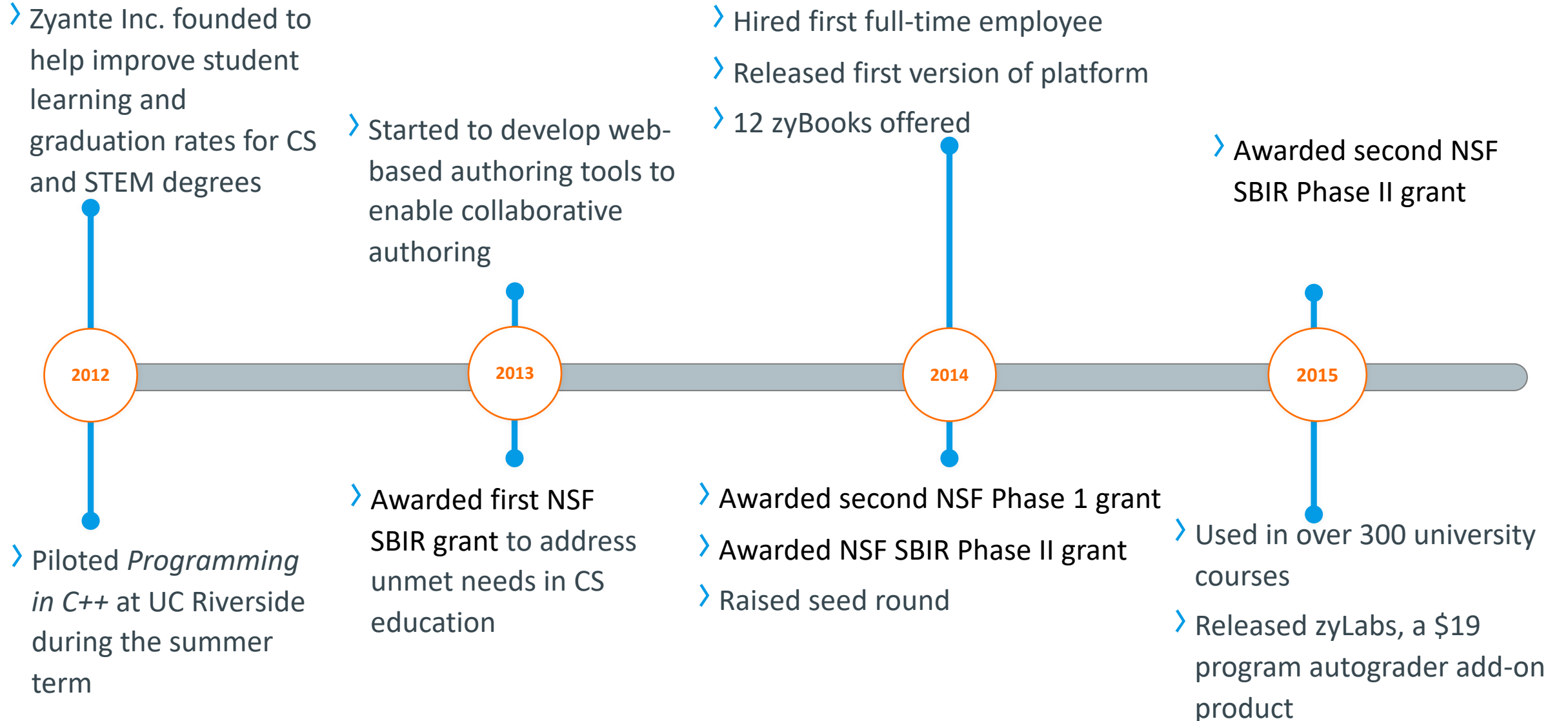
 # Universities/Colleges
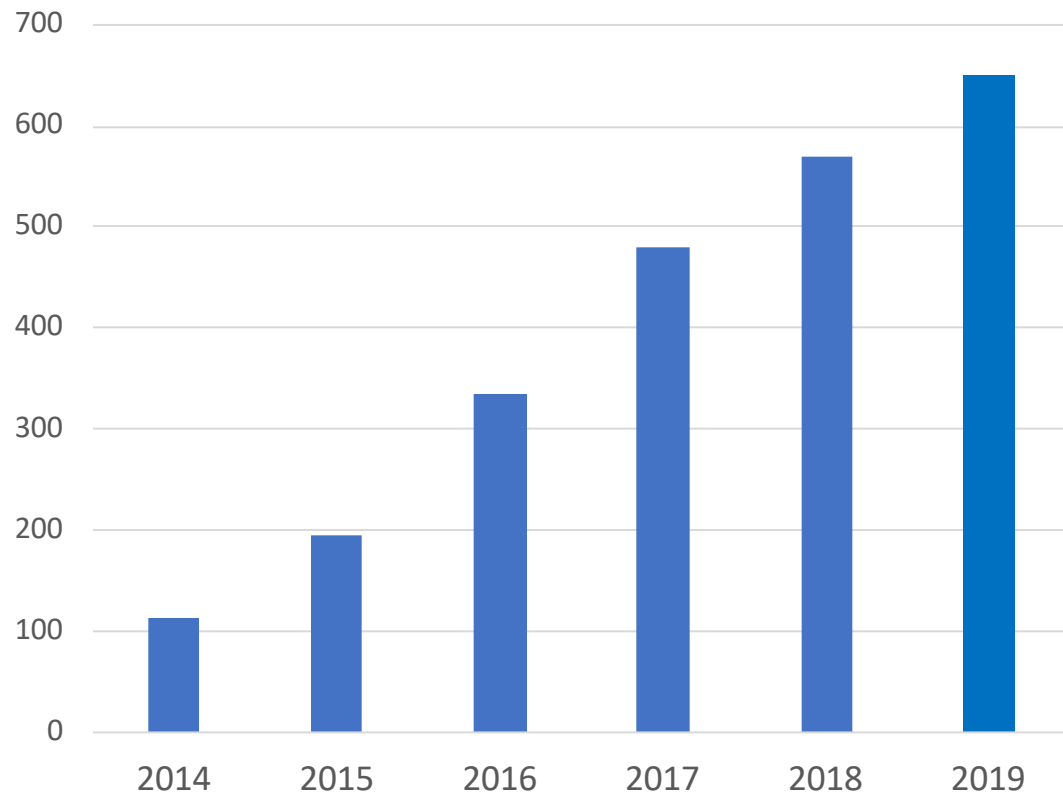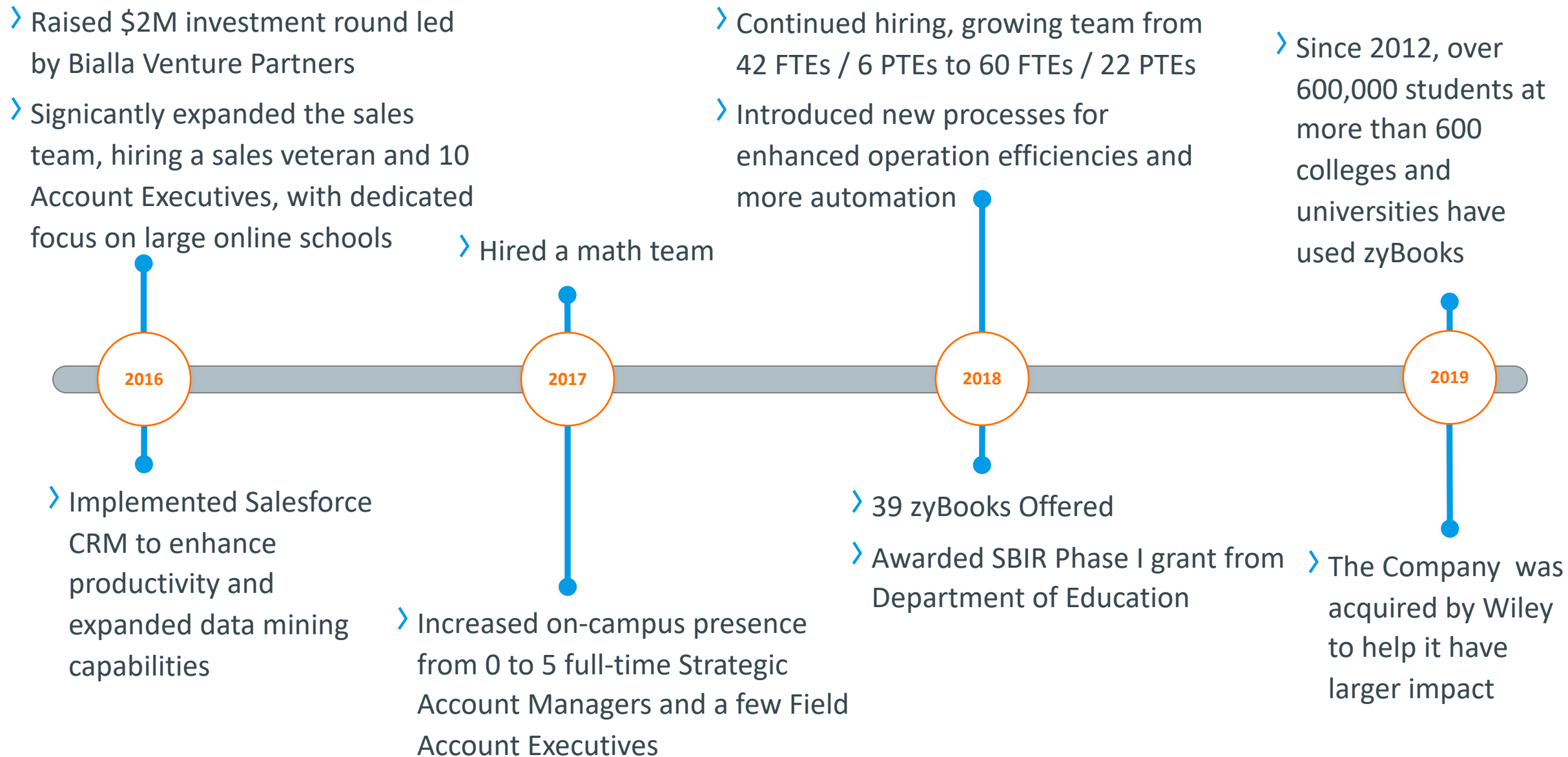

Student Subscriptions

zyBooks Timeline

> Zyante Inc. founded to help improve student learning and graduation rates for CS and STEM degrees

> Started to develop web-based authoring tools to enable collaborative authoring

> Hired first full-time employee

> Released first version of platform

> 12 zyBooks offered

> Awarded second NSF SBIR Phase II grant

2012   **2013**   **2014**   **2015**

> Piloted *Programming in C++* at UC Riverside during the summer term

> Awarded first NSF SBIR grant to address unmet needs in CS education

> Awarded second NSF Phase 1 grant

> Awarded NSF SBIR Phase II grant

> Raised seed round

> Used in over 300 university courses

> Released zyLabs, a $19 program autograder add-on product

zyBooks Timeline

› Raised $2M investment round led by Bialla Venture Partners

› Signicantly expanded the sales team, hiring a sales veteran and 10 Account Executives, with dedicated focus on large online schools

› Hired a math team

› Continued hiring, growing team from 42 FTEs / 6 PTEs to 60 FTEs / 22 PTEs

› Introduced new processes for enhanced operation efficiencies and more automation

› Since 2012, over 600,000 students at more than 600 colleges and universities have used zyBooks

2016 **2017** **2018** **2019**

› Implemented Salesforce CRM to enhance productivity and expanded data mining capabilities

› Increased on-campus presence from 0 to 5 full-time Strategic Account Managers and a few Field Account Executives

› 39 zyBooks Offered

› Awarded SBIR Phase I grant from Department of Education

› The Company was acquired by Wiley to help it have larger impact

Key elements of our story

The founding team

Frank Vahid

Smita Bakshi

The leadership team: functional excellence

Roman Lysecky
Content

Bailey Miller
Engineering

Alex von Rosenberg
Sales & Marketing

Kallee Noel
Finance/Ops

Claudia Amendt
HR

William Hendee
Sales

The timing
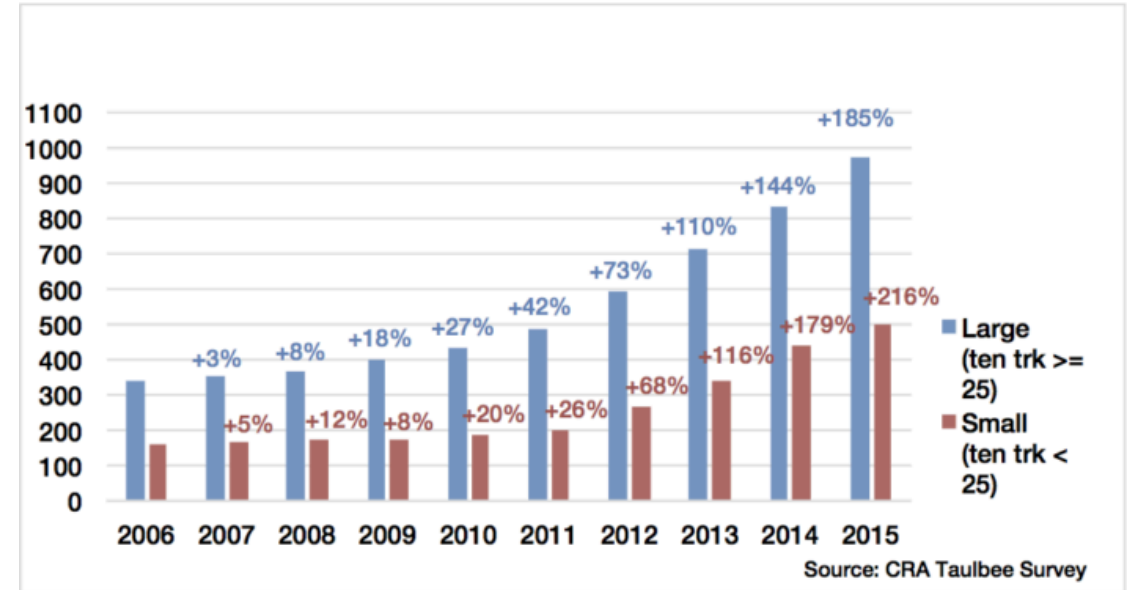
EDUCATION LIFE

The Year of the MOOC

By LAURA PAPPANO   NOV. 2, 2012

The New York Times

The Hard Part of Computer Science? Getting Into Class

Finding product-market fit

Spring 2012   *Summer/Fall 2012*   *Spring 2013*

20-years of experience

Prototype

$35 / student
3 schools, 500 students
$19,000 in sales

~350 Leads
If you build this, I will come

The business case

What's in it for me?
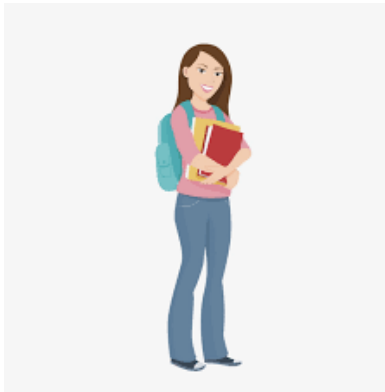
Student	Instructor/TA	Department/University
Helps me learn	Students prepare before class	Affordability Initiatives
More fun	Less grading	STEM retention
Lower cost	More fun	Consistency

Clear company differentiators

For Professors, by Professors

10 PhDs on staff

NSF Funded

Rigorous, scientific approach

Data is the third pillar

Evidence-based

20+ peer-reviewed papers

zyBooks.com/research

Focus on Innovation

Browser-based tools

Adaptive auto-graded HW

Automated hints

Continual improvement
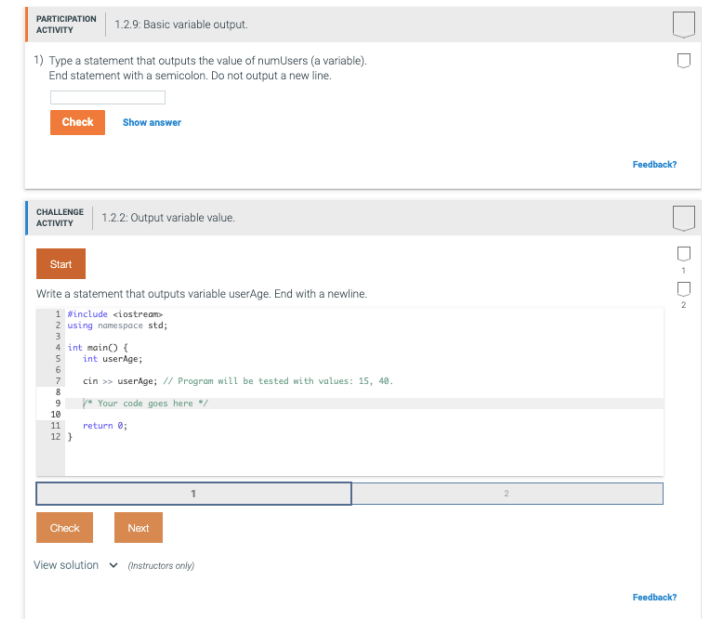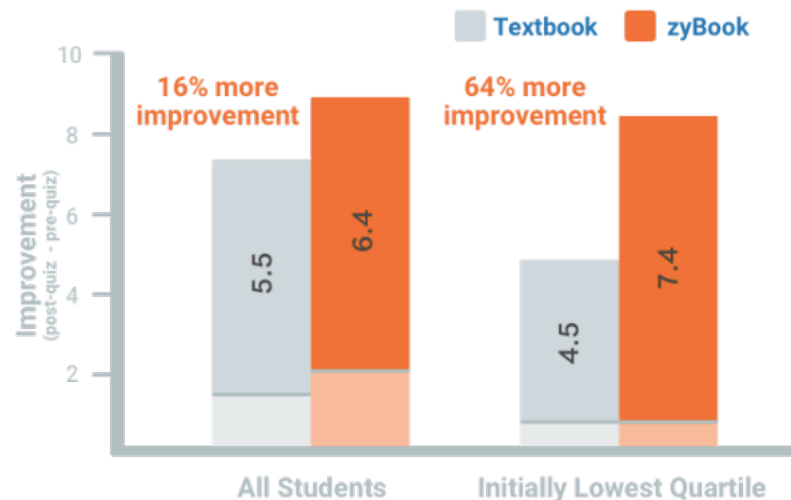
Clear product differentiators

Interactive, Feedback-rich experience

Integrated Learning & Assessments

Continuous, Data-driven "Publishing"

- Feedback buttons throughout

- Top-10 lists

- Support sits with engineering

Company values: celebrate student success

- Students first, instructors a close second

- United

- Positive

- Own & Excel

- Responsive

Focus

Computer Science/Engr

Higher Education

Engineering

K-12

Maths

Corporate Training

Statistics

Direct-to-Learner

Physics

Library

Our future

Desire for greater impact

I Foster my Growth Mindset

"Failure is an opportunity to grow"
GROWTH MINDSET
"I can learn to do anything I want"
"Challenges help me to grow"
"My effort and attitude determine my abilities"
"Feedback is constructive"
"I am inspired by the success of others"
"I like to try new things"

"Failure is the limit of my abilities"
FIXED MINDSET
"I'm either good at it or I'm not"
"My abilities are unchanging"
"I don't like to be challenged"
"I can either do it, or I can't"
"My potential is predetermined"
"When I'm frustrated, I give up"
"Feedback and criticism are personal"
"I stick to what I know"

I Take Risks, Embrace Change

The unknown is scary, but I ask "what is the worst that can happen"

A Technical background is a great launchpad

Keep the boundaries blurred … look beyond

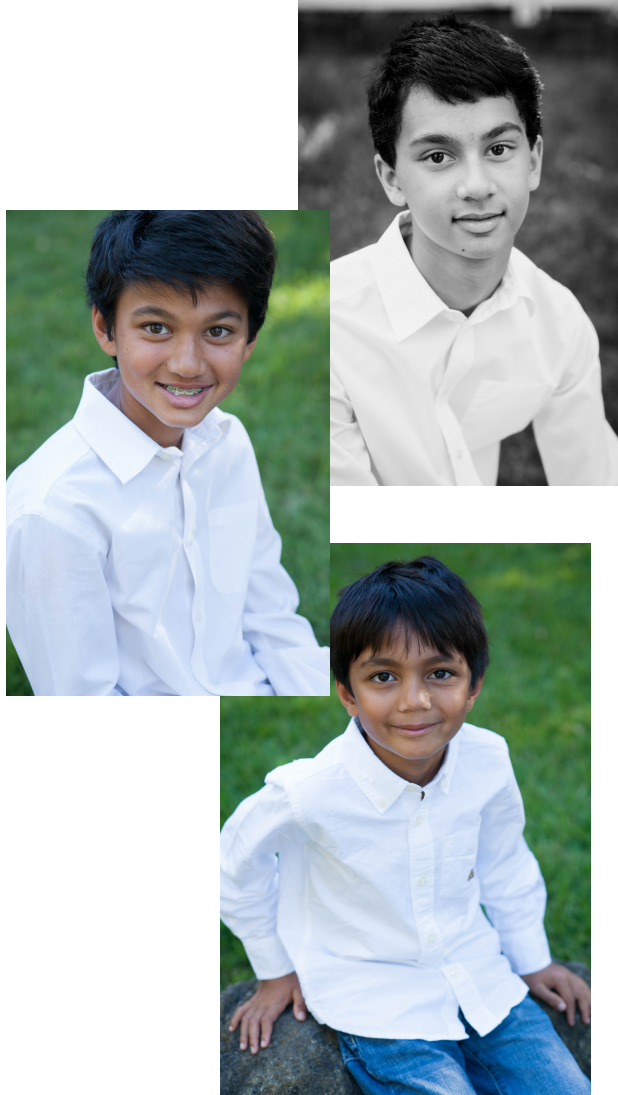Go with my gut … experiment

I Own my Future
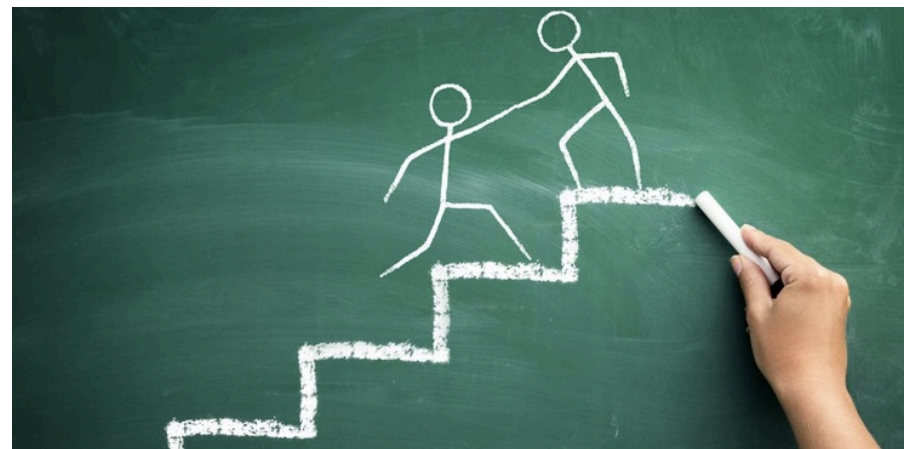
SPEAK UP

PERSEVERE

FOCUS, HEADS-DOWN

Relationships: THE most important thing

At work: Connections & Friendships

I Found Mentors

Why get a STEM degree?

Impact the World

Image: REUTERS/Rupak De Chowdhuri - GF10000326885

Dynamic career .... Forever Learning

15 BEST-PAYING JOBS
For Recent Graduates

	JOB TITLE	MEDIAN PAY
1.	Electrical Engineer	$61,400
2.	Software Developer	$59,800
3.	Mechanical Engineer	$58,000
4.	Business Analyst, IT	$54,400
5.	Supply Chain Analyst	$51,300
6.	Civil Engineer	$51,000
7.	Financial Analyst	$50,600
8.	Auditor	$50,000
9.	Operations Manager	$47,200
10.	Data Analyst	$47,000
11.	Web Developer	$45,900
12.	Assistant Project Manager, Construction	$45,300
13.	Insurance Underwriter	$44,600
14.	Buyer	$43,800
15.	Technical Writer	$43,500

PayScale   BUSINESS INSIDER

Economic Independence

Freedom

Choice

Gender equality matters
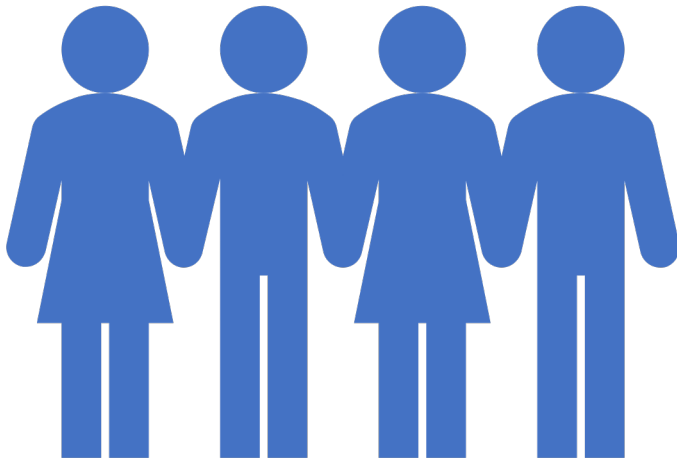
Women are half the population, and are equally capable ... but, represent only 20% in tech

Diversity leads to superior products, superior teams, superior organizations

Thank You