

5 Steps for Effective Education at Hackathons

Raymond Xu | raymondxu.io | raymond@adicu.com

I AM

Raymond

CS @ Columbia
ADI Committee Member

DevFest Director

Led 2016 Curriculum
Revamp

Pedagogical Thinker

How should teaching be
done?

Education
matters.

EDUCATION MATTERS

- Welcomes beginners
- Nurtures technical growth across the board
- Creates support structures in the community

WHY AT HACKATHONS?

- Tap the existing energy of the environment
- Immediate implementation and reward
- Abundance of resources

DEVFES✈️

DEVFEST

**A week of learning followed by a
hackathon**

2015 1 lecture each night

DEVFEST

A week of learning followed by a hackathon

2015 1 lecture each night

2016 Self-paced online projects

DEVFEST

A week of learning followed by a hackathon

2015	1 lecture each night
2016	Self-paced online projects
2017	???

Your hackathon
is not DevFest.

YOUR HACKATHON IS NOT DEVFEST

DevFest
4 evenings for learning
Values dedicated to education
Columbia audience

YOUR HACKATHON IS NOT DEVFEST

DevFest	Your Hackathon
4 evenings for learning	
Values dedicated to education	
Columbia audience	

YOUR HACKATHON IS NOT DEVFEST

DevFest	Your Hackathon
4 evenings for learning	18 to 48 hours for everything
Values dedicated to education	[your values]
Columbia audience	[your audience]

WHAT THIS MEANS

I can't tell you what is best for *your* hackathon.

It depends on your:

- values
- resources
- scale

2 Driving Points

2 DRIVING POINTS

Be thoughtful.

2 DRIVING POINTS

Be thoughtful.

and

Be intentional.

THE 5 STEPS

these should guide your educational model

THE 5 STEPS

THE 5 STEPS

1. Identify Audience

IDENTIFY AUDIENCE

**Who is your hackathon
targeted towards?**

and

**Who comes to your
hackathon?**

IDENTIFY AUDIENCE

Which subset of that is your educational audience?

educational audience \subseteq total audience

IDENTIFY AUDIENCE

Identifying your educational audience should also be informed by **your resources and scale.**

THE 5 STEPS

1. Identify Audience
2. Scope Content

SCOPE CONTENT

Now that you have identified
your educational audience,
what would be the most
valuable thing for them to
learn?

SCOPE CONTENT

How do you scope content?

1. Audience fit
2. Practicality

SCOPE CONTENT

1. Think about your audience.

SCOPE CONTENT

1. Think about your audience.

What do they already know?

What do they want to learn?

What can you teach them?

Themed hackathon?

SCOPE CONTENT

2. Practical first.

SCOPE CONTENT

2. Practical first.

App Dev (APIs, libraries)

vs.

**Computer Science (intro java,
algorithms)**

SCOPE CONTENT

For example, web development is practical, expansive, and flexible:

- Personal website
- Front-end
- Back-end
- APIs

THE 5 STEPS

1. Identify Audience
2. Scope Content
3. Determine Format

DETERMINE FORMAT

What educational format is best for the given audience and content scope?

e.g. lecture, self-paced, hybrid,
reverse classroom

DETERMINE FORMAT

Lecture

- + familiar
- + scalable
- too slow/fast
- too easy/hard

DETERMINE FORMAT

Self-paced

- + solves slow/fast problem
- + solves easy/hard problem
- not engaging
- requires a lot of TA support

DETERMINE FORMAT

Hybrid

> microlectures interspersed with self-paced time

- timing of chunks?

DETERMINE FORMAT

Reverse Classroom

> self-paced study followed by discussions with leaders

- how to scale discussions?

THE 5 STEPS

1. Identify Audience
2. Scope Content
3. Determine Format
4. Create Curriculum

CREATE CURRICULUM

Write or curate high-quality curriculum.

Curriculum should be **bug-free** and **unambiguous**.

CREATE CURRICULUM

Case Study:

DEVFES 

<http://learn.devfe.st>

CREATE CURRICULUM

Resources

Online Interactive (e.g. Codecademy)

Official Tutorials (e.g. Flask Tutorial)

Community Tutorials (e.g. DevFest Tracks)

Books (e.g. Eloquent JavaScript)

THE 5 STEPS

1. Identify Audience
2. Scope Content
3. Determine Format
4. Create Curriculum
5. Execute and Iterate

EXECUTE AND ITERATE

Do it.

EXECUTE AND ITERATE

**It won't be perfect the first
time.**

EXECUTE AND ITERATE

**It won't be perfect the first
time.**

In fact, it will never be perfect.

EXECUTE AND ITERATE

Learn from **what went well**,
what went wrong, and **what**
could have been better.

EXECUTE AND ITERATE

Incorporate data from
observations and **surveys** into
your planning process for next
year.

THE 5 STEPS

1. Identify Audience
2. Scope Content
3. Determine Format
4. Create Curriculum
5. Execute and Iterate

YOUR TURN

Take a few minutes to think about the 5 steps in the context of your hackathon. Write down your thoughts to build **version 0** of your educational model.

THE 5 STEPS

1. Identify Audience
2. Scope Content
3. Determine Format
4. Create Curriculum
5. Execute and Iterate

PEER REVIEW

Turn to a neighbor and present your educational models to each other. **Challenge** and **interrogate** each assumption and point.

ITERATE

Think about possible improvements to your educational model. Quickly jot down some questions you want to better answer. This will help you iterate to **version 1**.

TAKEAWAYS

summary and closing remarks

Education
matters.

Every
hackathon is
different.

THE 5 STEPS

1. Identify Audience
2. Scope Content
3. Determine Format
4. Create Curriculum
5. Execute and Iterate

Don't stop
thoughtfully and
intentionally
iterating.

HREFS AND RESOURCES

5 Steps for Effective Education at Hackathons

this()

raymondxu.io/hackcon16.pdf

Rethinking Education at DevFest: bit.ly/1OxPgFG

by Raymond Xu

Why We Do DevFest: bit.ly/1YBJ0Pp

by Matt Picollela

DevFest 2016 Curriculum: learn.devfe.st

6 original, self-paced online tutorials built at Columbia

Thanks!

Raymond Xu | raymondxu.io | raymond@adicu.com

5 Steps for Effective Education at Hackathons

Raymond Xu | raymondxu.io | raymond@adicu.com