

Beyond “Learning to Code”

How Tech Learning Collective merges IT training
with emancipatory political action



Why care about technology?

“Make the world
a better place.”

Individual Capability,
“Get a Job”

“Fun”/Hobbies/Curiosity



Why care about technology?

Techno-capitalism

What Silicon Valley/tech companies think they do.

“Make the world a better place.”

What Silicon Valley/tech companies actually do.

Individual Capability,
“Get a Job”

What most employed “techies” want to be doing.

“Fun”/Hobbies/Curiosity



Why care about technology?

“Crypto” Anarcha-Autonomism

“Make the world
a better place.”

What TLC aims to do.

Individual Capability,
“Get a Job”

What TLC makes possible
for individual students.

“Fun”/Hobbies/Curiosity

Why TLC teachers keep
teaching and mentoring.



TLC's Mission: Primary Objective

“Provide meaningful technology education to underserved communities”

- A humane society would be one where we are valued regardless of the output of our labor.
 - Abolish employment as a prerequisite for survival.
- Enable immediate, material improvements in students' lives and the lives of their communities.
 - Do not require or rely on the cooperation of existing capital or State-backed institutions (companies, governments, etc.)



TLC's Mission: Secondary Objective

“Fund existing community-owned technology projects for radical social good”

- Provide support for grassroots and community-lead projects:
 - Hardware for physical infrastructure installations
 - Operating costs for community-owned telecoms networks
 - TLC's own teachers and staff (marketing, partner operations, and special event staff) are all paid for their time.
 - No easily-exploitative volunteering arrangements.

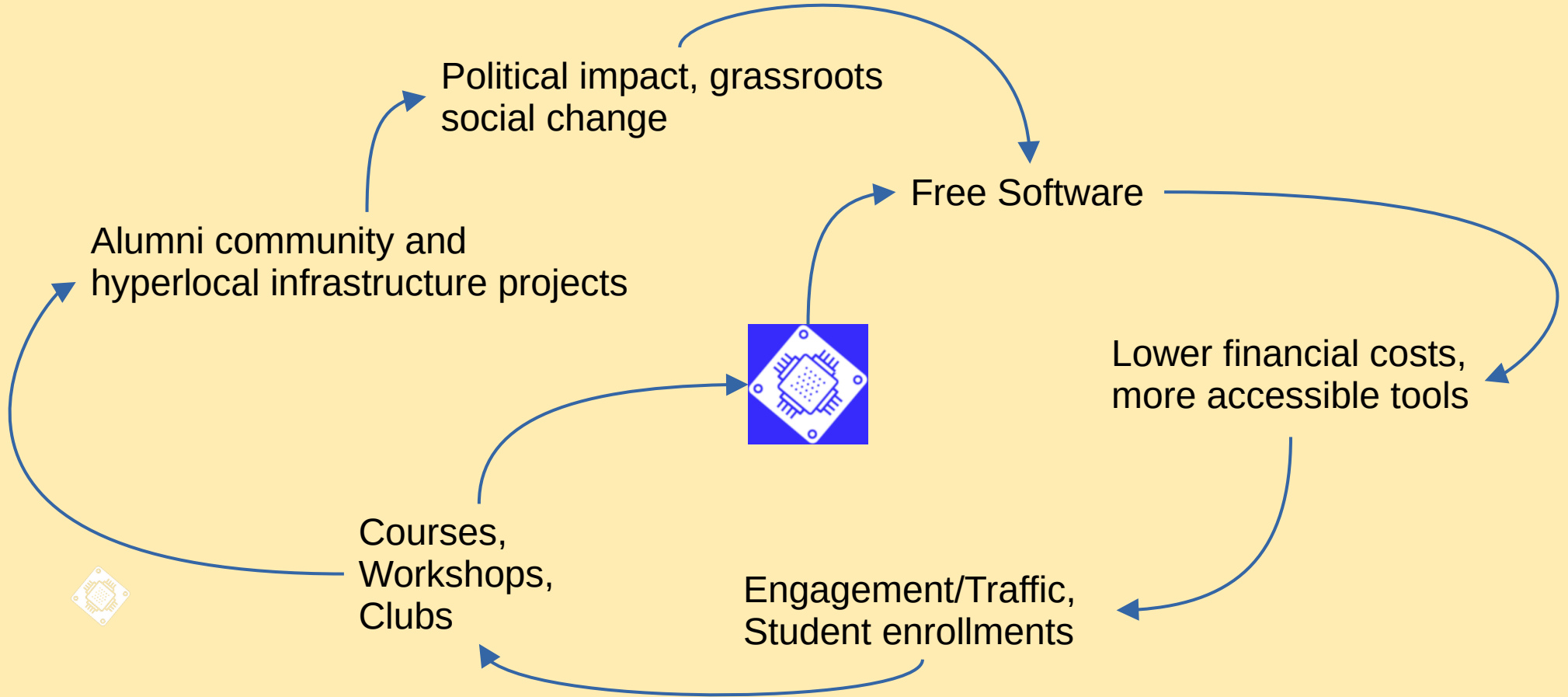


There is much Work to do.

Most of that Work *cannot* be done “at work.”



Tech Learning Collective “Flywheel”



TLC “Flywheel” components

Downloadable “practice labs” for students
built on GNU/Linux, automated using:

- Oracle VirtualBox
- HashiCorp Vagrant



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- Ansible, Terraform (Infrastructure-as-Code)
- Tor Onion services avoids public exposure and DNS/domain costs



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Hyperlocal infrastructure projects include:

- Funnel to existing community telecoms projects like NYCMesh
- Projects championed by alumni like the Shift-CTRL Space “Library”



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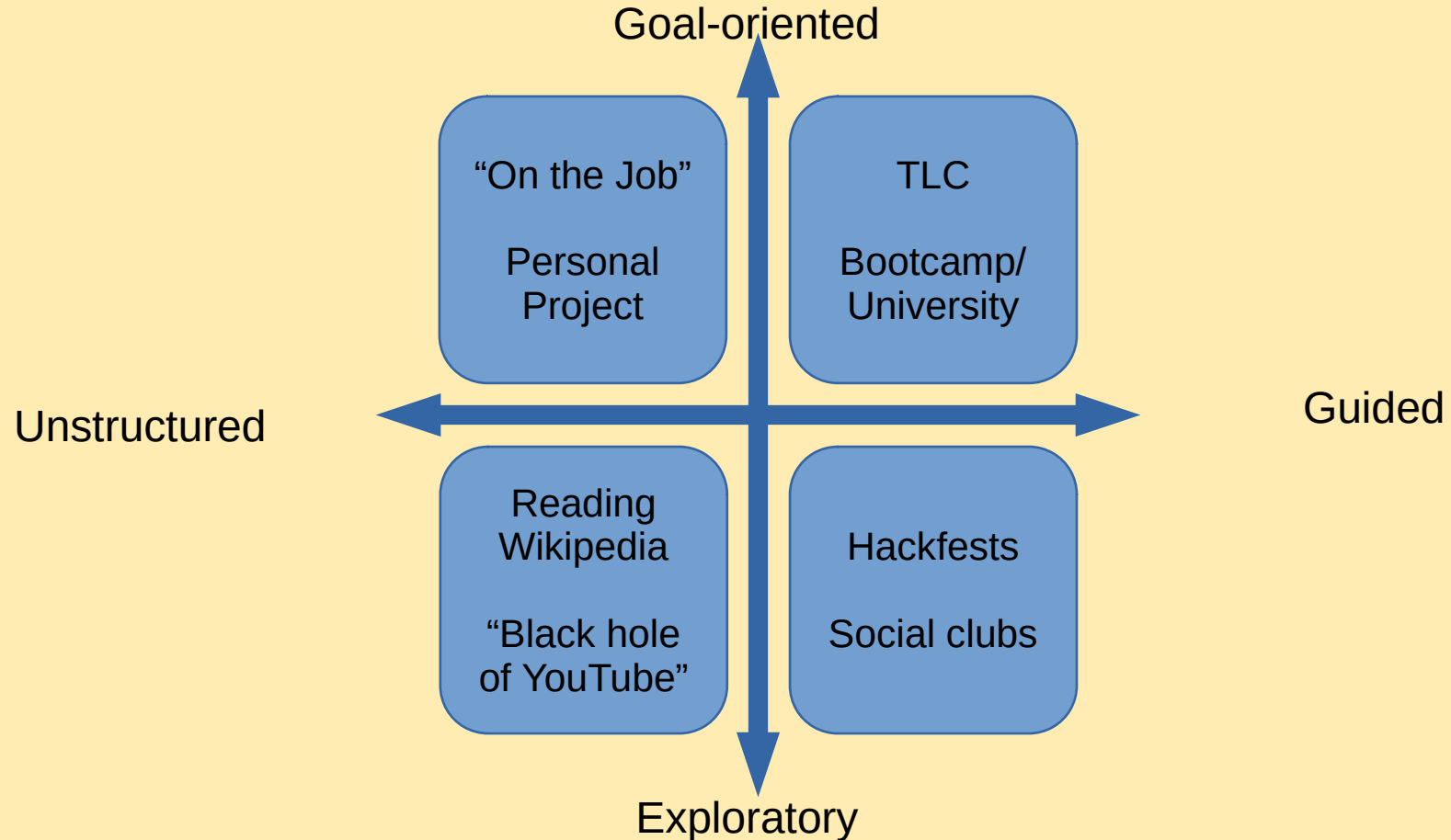
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Political impacts/grassroots social changes:

- Alumni share visions with one another
- Diversity initiatives, cultural norms seep into existing workplaces/hackerspaces/etc.
- “Pay-it-forward” educational opportunities



Different Ways to Learn



Different Ways to Learn: Spotlight

Goal-oriented

TLC

vs.

Bootcamp/
University

Guided

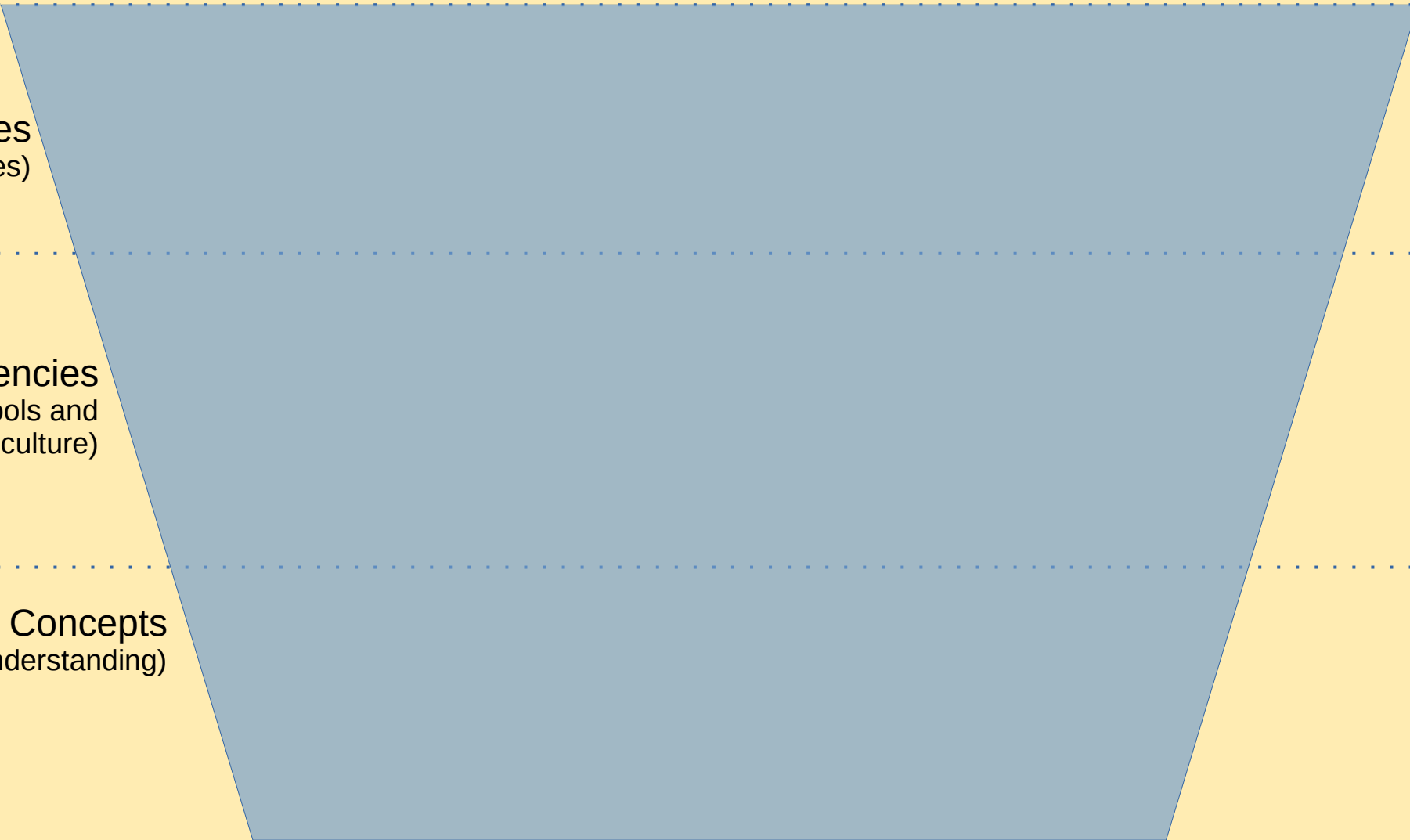


Goals:

“Fun”/Hobbies

Employment

Mutual Aid/Political Impact



Capabilities
(High-level abilities)

Competencies
(Skill with tools and
shared culture)

Concepts
(Foundational understanding)



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Let's fill this blue area with things we learn at TLC.

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Version Control Privacy Censorship
Hypermedia and non-linear writing Proxies Anonymity Integrity
History of Computing Physical Networking (OSI Layer 1) Safety Ethics Identity

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"Hacker" movies and games Cloud APIs Blockchains Hash cracking Web exploitation

Web scraping Infrastructure-as-Code Signal

Web frameworks Git HTML/CSS/JavaScript Tor/OnionShare

OpenStreetMap Web servers DNS GPG Password managers

GNU/Linux Command line Virtualization Containers BitTorrent

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History of Computing Physical Networking (OSI Layer 1) Safety Ethics Identity

Goals: "Fun"/Hobbies Employment Mutual Aid/Political Impact

Capabilities (High-level abilities)

| | | | |
|-------------|----------------|---------------|-------------------|
| Sharing | Publishing | Collaborating | Advocating |
| Exploration | Self-direction | Leadership | Collective Action |

Competencies (Skill with tools and shared culture)

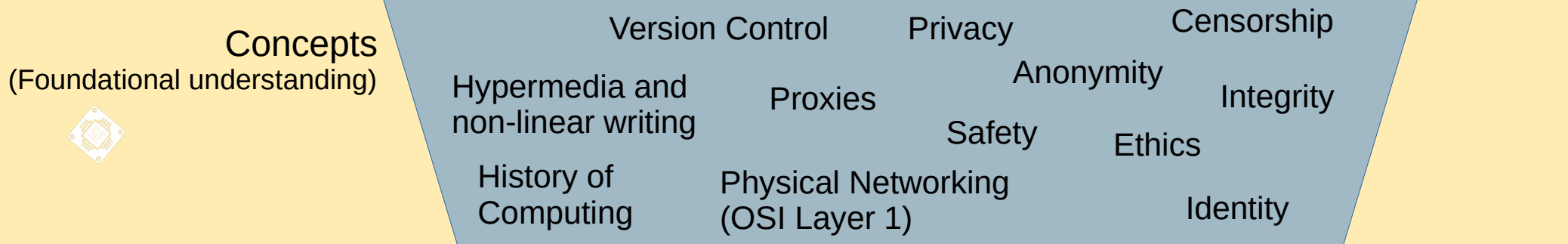
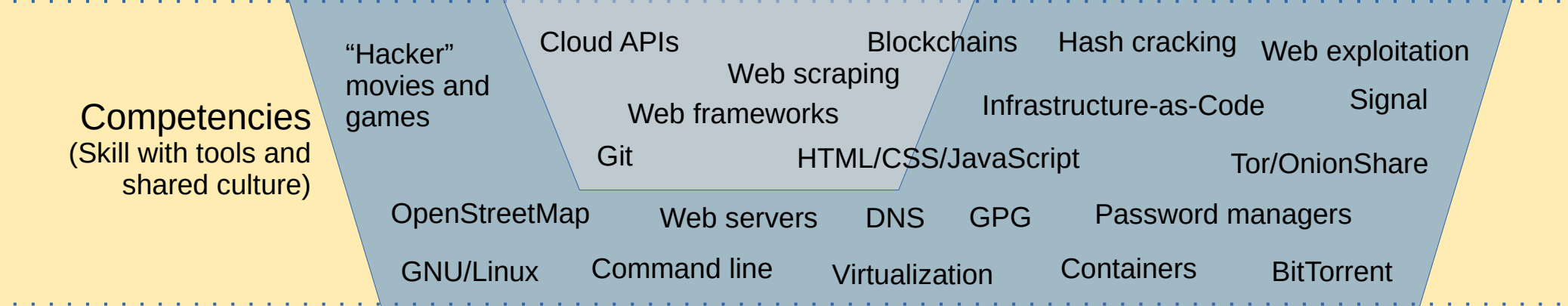
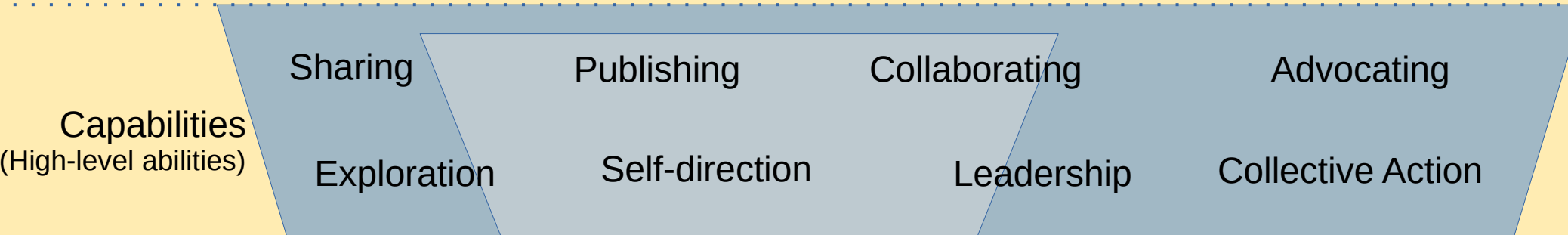
| | | | | | |
|---------------------------|----------------|---------------------|------------------------|-------------------|------------------|
| "Hacker" movies and games | Cloud APIs | Web scraping | Blockchains | Hash cracking | Web exploitation |
| | Web frameworks | | Infrastructure-as-Code | | Signal |
| | Git | HTML/CSS/JavaScript | | | Tor/OnionShare |
| OpenStreetMap | Web servers | DNS | GPG | Password managers | |
| GNU/Linux | Command line | Virtualization | Containers | BitTorrent | |

Concepts (Foundational understanding)

| | | | | |
|-----------------------------------|-----------------------------------|-----------|------------|-----------|
| | Version Control | Privacy | Censorship | |
| Hypermedia and non-linear writing | Proxies | Anonymity | | Integrity |
| History of Computing | Physical Networking (OSI Layer 1) | Safety | Ethics | Identity |



Goals: "Fun"/Hobbies Employment Mutual Aid/Political Impact



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Code Bootcamp

“Hacker”
movies and
games

Cloud APIs

Web scraping

Blockchains

Hash cracking

Web exploitation

Web frameworks

Infrastructure-as-Code

Signal

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HTML/CSS/JavaScript

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Tech Learning Collective

Proxies

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TLC vs Bootcamp: Price (\$)

Typical Bootcamp

Tuition..... ~\$13,900

Tuition fee..... ~\$125



Data is based on sampling of CourseReport.com's "Best Bootcamps" for 2020.

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Tech Learning Collective

Tuition..... \$1,350

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TLC vs Bootcamp: Price (\$)

| Typical Bootcamp | Tech Learning Collective |
|-------------------------|--------------------------|
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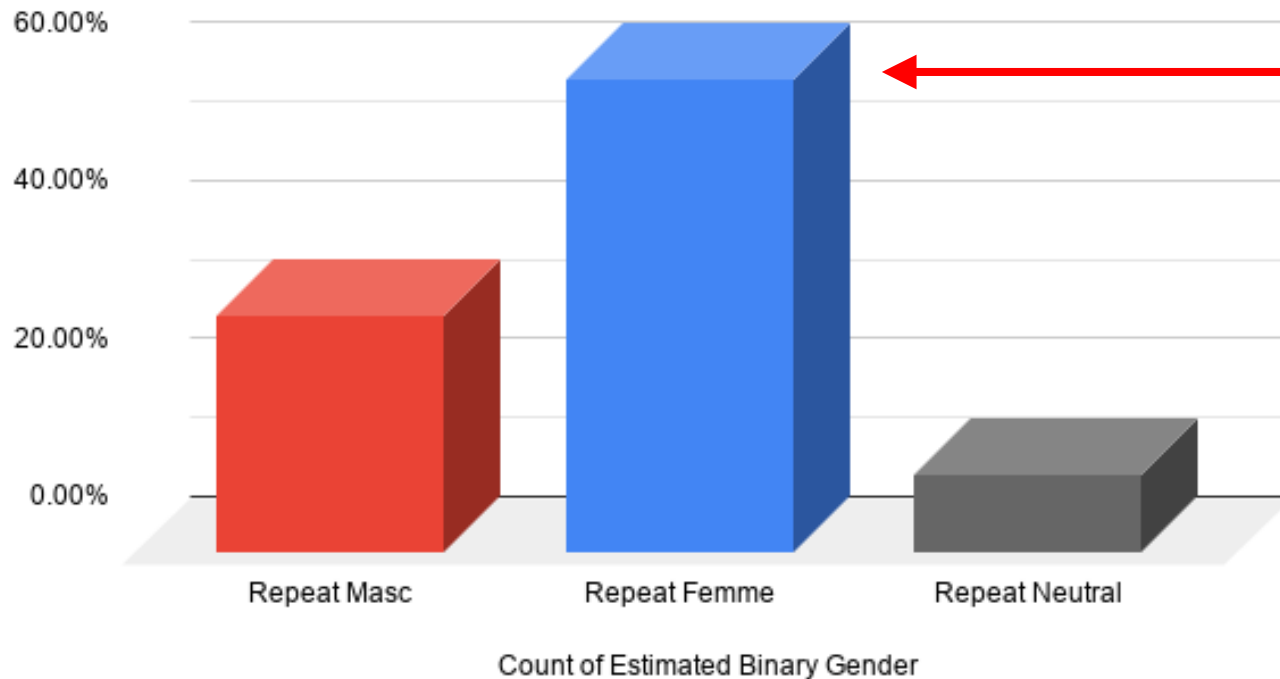
TLC is literally *an order of magnitude* less expensive for an equivalent educational investment. (Stand-alone TLC workshops are even less expensive.)



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TLC: Retention/Demographics

Estimated Binary Gender Breakdown by Recurring Students



At TLC, femme-of-center students return twice as often as masc-of-center students do.

This is a rate that is virtually unheard of at any other technical education program.

Data current as of May, 2020.



Our Learning Model, Part 1

- Apprenticeship-based (“learn from experts”)
 - Mentors are not only subject matter experts, but are also specifically expert *teachers*
 - Every TLC instructor was a TLC student in the past
 - Every TLC instructor is actively involved in TLC sister organization projects
 - Teachers are trained in Socratic pedagogical style
 - No lectures, no slideshows, no pre-recorded videos
 - Classes are composed of discussions (challenge-response), and high-engagement live demos (“keyboard time”)



Our Learning Model, Part 2

- Collective activities (“learn together”)
 - Structured courses in small, private, repeat groups called “cohorts”
 - Access to private virtual infrastructure (chat rooms, forums, etc.) per course and per cohort
 - Ongoing learning activities among alumni called “clubs”
 - Capture the Flag (CTF) security competition teams, “tilde.club” servers, more
 - One-off classes and events open to the public called “workshops”
 - Sliding scale pricing model offsets systemic biases prevalent in tech industry



What are students saying about Tech Learning Collective?



<https://TechLearningCollective.com/testimonials>

“The amount I’m learning in Tech Learning Collective workshops is way more than what I was learning in my college classroom.”

—Chantelle, Computer Science Undergrad (5+ TLC workshops)

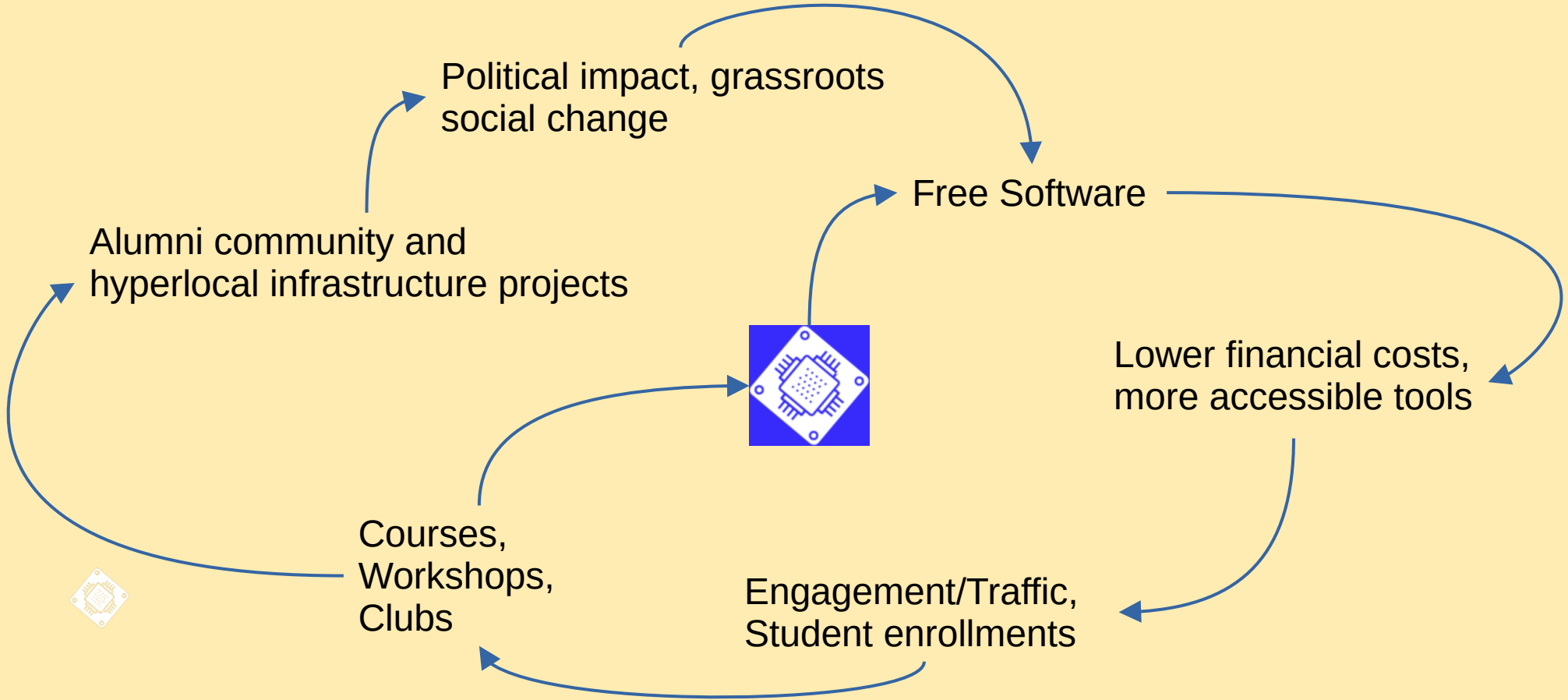


“This class was immensely valuable, and *changed my core beliefs about my technological proficiency and potential.*”

—Snow, TLC workshop student (10+ workshops)



This is how we change the world.



<https://TechLearningCollective.com>

