

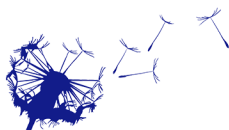
# <Teach, Play, Code/>

Reflecting on the little moments.  
Finding the Big Impacts.

Co-Created by:

Shai Moore, Stephanie T. Jones, Allen Moore

In collaboration with the Vossoughi research lab



## <The big ideas of this zine/>



//language



//tools



//changing  
support

> In this zine we offer perspectives on the pedagogical moves that supported learning within a portion of a STEAM summer camp focused on coding and app development. The learners and mentors worked together to create an environment where learning was joyful and expansive. We chose to use 'learner' rather than 'student's' throughout to represent how they conceptualized the space as school-like at first, but saw it by the end as a fun space that felt different from school.

> We include exercises that help with thinking about the use of language, supporting learners through cognitive and emotional dimensions of learning, and tools that support expansive learning.



//This Zine draws on a 6 week STEAM summer program. The goal was to support rising 6th grade Black and Latinx students in acclimating to life in middle school. As a part of the program students broke into teams and coded and developed apps that focused on community needs.



## <Hello, I am Shai/>

I am an educator and researcher with a passion for bringing my whole self to everything I do.

I am looking to understand the learning environments I create and facilitate by looking at how the micro-moments turn in to communities of practice.



## <Hello, I am Stephanie/>

I am a learner and researcher hoping to share insights from this summer program. I participated in the coding group both as ethnographer and as extra support for Shai.



## <Hello, I am Allen/>

Allen Moore is a Black American interdisciplinary artist, educator and curator. His educational and curatorial practices focus on building spaces for advocacy, creative representation and healing



# <Roadmap/>

- > Take this zine and use it as an exploratory **map** of activities and ideas. Just like with a physical map, you can chart different routes and stops along your way.
- > As your intergalactic tour guides, you can find us at various stops giving you hints along the way. Pick up a pencil, pen, pdf editor, and use the blank spaces to reflect on our big ideas (see page 2).
- > Treat this zine as a learning companion and tool as you travel through your own cognitive and emotional sensemaking. We want you to utilize this as a tool you mark up and edit. Come back to it in a few months - to see how your pedagogy has changed.

# <Welcome to the coding group/>



>Learners had an opportunity to explore the role of designer, coder, or marketer -- three aspects of making an app. In the coding group, Mentor Shai led the group to a room called the shop, which became a coders zone. While it was connected to the main space, this area hosted a group of thinkers and experimenters who entered the portal into a world where they could be supported in geeking out.

> The learners didn't take up the coder role in a day, or without experimenting with the term and its meanings. Some also took on multiple roles supported in their varying explorations. But we have to ask...

> **How do we become something new?**





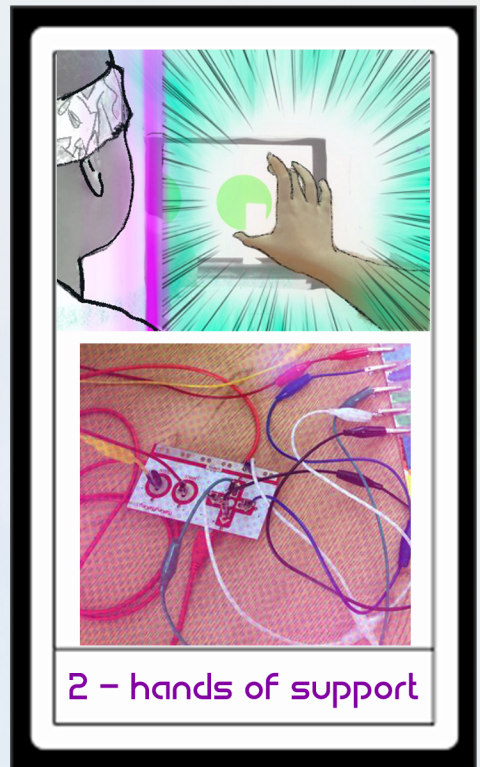
<Welcome, Let's get going  
on this journey!/>



## <Creating a Coding Space/>

- > In cultivating this space we found that the language we used and broader pedagogical practices could invite or push learners away.
- > Conversations around what learners wanted to do helped take away the pressure of “I need to know how to do this already” and moved them to “we can figure this out together.”
- > Over the next few pages you will find 1 page comics inspired by actual moments during this summer program. Students names throughout are self-selected pseudonyms. We invite you to see what you can notice in the language and the art.
- > Following this we share some of what we noticed as well as provide a space for you to write your first reflections.

## <Comic One – Offering Support/>



// Shai was supporting campers Jeremiah and Ronaldo to think about the design for a Makey Makey controller. In these comics we see snippets of their interaction where she supported their thinking

# Tinkering June 2019

After Shai got Jeremiah started on the activity she was about to leave to help other kids. However she asked Jeremiah to get her if he got stuck.

She said, "If you struggle. I don't want you to struggle for too long. If you have an issue, find me right away".

After Shai came back and Jeremiah was stretching to understand the organization of the controller Shai suggested that they design it and draw it out together.

There was a moment when Jeremiah started talking out his idea for the design and then got a little stuck. Shai immediately said, "keep talking" and Jeremiah did.

## <What did we notice from Comic One/>



>Stephanie: In this interaction we notice how Shai was fostering opportunities for students to ask for help by explicitly stating they can come to her as needed. Further she spent time echoing and translating words from learners within the language

>Shai: Even though I told Jeremiah to find me if he ran into trouble, he didn't. As an adult, I have a hard time asking for assistance so it stands that middle schoolers would run into this as well. Coming back to the group I wanted to relieve any expectation of perfection by problem solving with the pair.



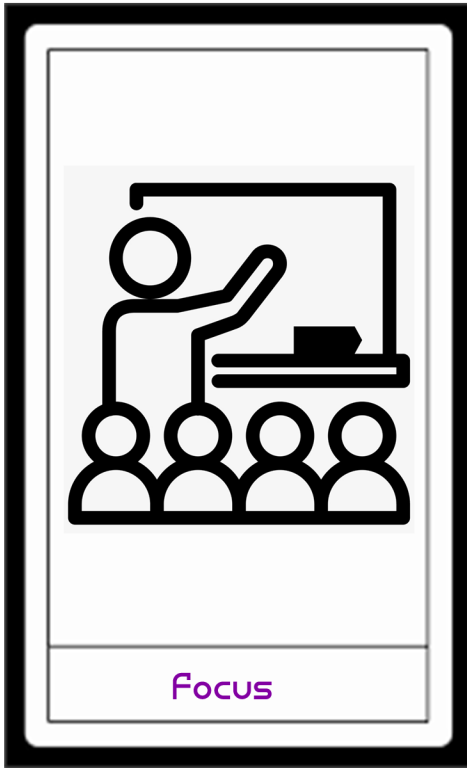
>Allen: Breaking down the idea to a basic sketch was a genius move. Allowing them to keep a consistent stream of thought.



.zine{ask-reader: What did you notice about the interaction?}



## <Comic Two – Clarifying the learner's goals/>



//Shai was recounting students' apps to connect them to the idea of features of an app. The learners were gathered around her and participating in the conversation. Following this interaction Shai wove in tiktok as a reference point to position the students as experts.

# Tinkering July 2019

Shai was talking with the group and said, "For the very very first step, we need to decide: what does our app do? That's the big question: what does it do?"

She went around the room and asked learners to talk about what their app does. The Black Beauty Group said that it was about hair and fashion. Shai asked questions to get them to clarify the purposes of their app, whether it is showing people examples or showing them how to do hair.

"When you say how to, are we looking at videos or images?" [images was implied]

She asked learner, Surgerylettuce48 the same question. Surgerylettuce48 said, 'My app is an app that helps people find local restaurants.' Shai reflected back: 'So your app is a map, and Alicia and Zahra yours is a gallery!'

## <What did we notice from Comic Two/>



> Stephanie: When Shai asked questions, they often tried to help learners to go deeper in their descriptions. By removing technical language she opened an opportunity for present engagement as well as anticipated reintroducing that language later

> Shai: I wanted to guide them to close their eyes and think about it. I asked them to explain based on the app they used and since I hadn't been on TikTok it was something they would have to explain to me. This repositions them as the "experts" in the room. Sometimes when you're trying to explain a concept to somebody they are still trying to understand, but need to stretch to understand with less familiar topics, so grounding it in an experience that they knew, helped them understand. Further using familiar language like "this is where you start" could be transitioned to "that means your landing page" in stretching their understanding. If we would do this activity again



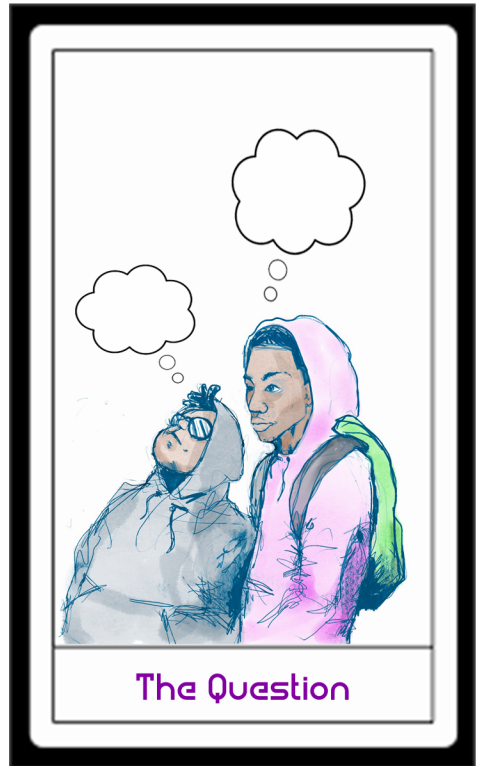
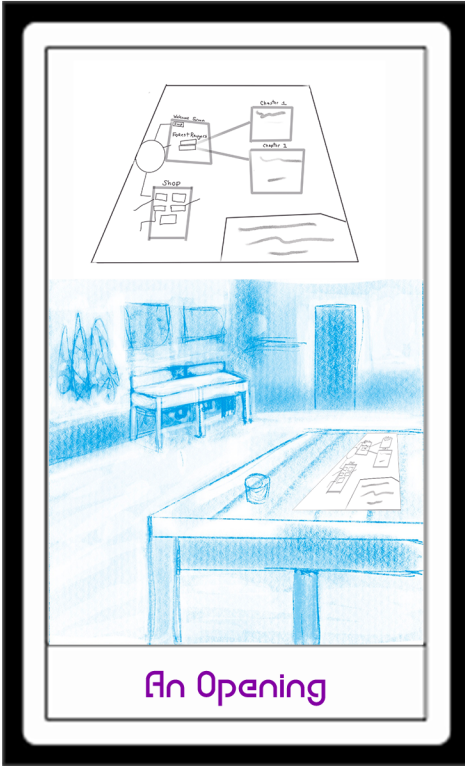
> Allen: The youth seemed far more confident when given space to explain tik tok. It enabled them to reference a popular app that they understood and could explain in detail



.zine{ask-reader: What did you notice about the interaction?}



# <Comic Three – Working through challenges/>



//Learners were invited to build app maps (more on these later). We saw that it was important to move around the space and provide moments of one on one assistance opening opportunities for questions and more chances to support learners in creating their maps.

# Tinkering July 2019

Shai paused for a moment and asked  
'What are your questions?'

Jeremiah: "I don't know what to do!"

Unicorn: "I'm confused!"

Pink: "Same"

Shai started walking them through the process.  
"We start off by saying what does our home  
screen look like?"

Jeremiah: 'What do you mean by home screen?'

Shai responded that the home screen is the  
very first thing you look at. She brought out  
her phone to show the home screen of an app.

# <What did we notice from Comic Three/>

>Stephanie: We would like to note this day occurred after a children's show actor recently passed away. Many learners' attention on this day, and in this activity, were affected by this. While a very short snippet of a longer interaction we saw Shai doing work to engage the whole group through eye contact and asking different members questions. She offered an opportunity for students to feel comfortable expressing confusion by asking "what are your questions?" When Jeremiah responded it was an opportunity to express trust in that vulnerability. Mentors are often stretched across many groups or people so it is important to consider how building an environment where students feel comfortable asking questions can aid in you giving real time support during the moments you can spend with them .



>Shai: I like to think of assignments in two phases: (1) What are we thinking and (2) What are we producing. Here, we have another example where I made an attempt to separate the thinking from the artifact produced. Situating the concept of a Home Screen in applications they were familiar with served to concretize their thinking.

>Allen: This is a great example of "pivoting". Responding to the emotional needs of the students, identifying a tragic moment and taking time/space to support the students





.zine{ask-reader:  
What did you  
notice about the  
interaction?}



# <Reflecting on your pedagogical practices/>

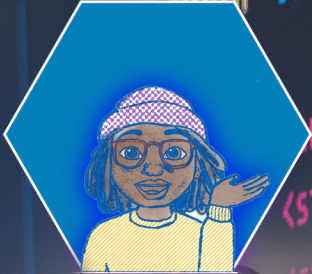
- >What kinds of phrases have you used to invite learners into learning spaces?
- >How do you cultivate the space to help youth feel safe asking questions or asking for help?
- >What were moments when you wished you said something different and why?
- >What have you learned from learners about inviting peoples' participation?

# .zine

{ask-reader: Jot some notes}



# <Welcome, to Tool Creation/>





## <Developing a tool/>

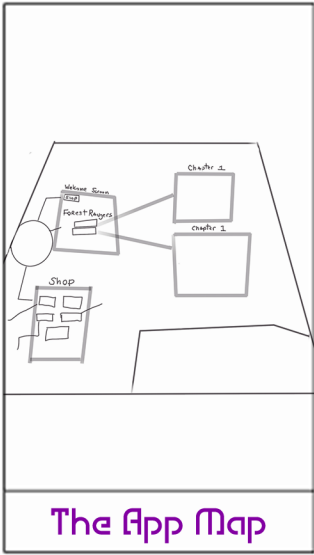
>Every tool is a bridge and every bridge has a designated destination. For the App Map Tool, I (Shai) wanted to help learners bridge their understanding from sketching to the interface of the coding program. App Maps mimicked the layout for coding using the Xcode application.

>As I learned to code apps I participated in an official training for Xcode. Here, we were given lots of tool to ideate and mock up an app as an idea before coding. This is a method for developers across platforms and languages. When i thought about our learners, I would have had to teach them both Keynote AND xcode to use the "official" method. (Not Ideal for rising 6th graders in a time constraint) Instead, I chose to call on my prior knowledge in troubleshooting app development and used transitional objects, pen and paper, to build this coding bridge.

*It was cool at the end seeing  
how many learners  
apps looked similar to  
their app maps!*



# <Developing a tool/>



>App maps became a central tool in learners' development of their apps. An app map displays all pages of an app, the buttons that might need to be clicked, and where those buttons lead to.

>Whenever learners felt lost they were able to return to their app maps for directions.

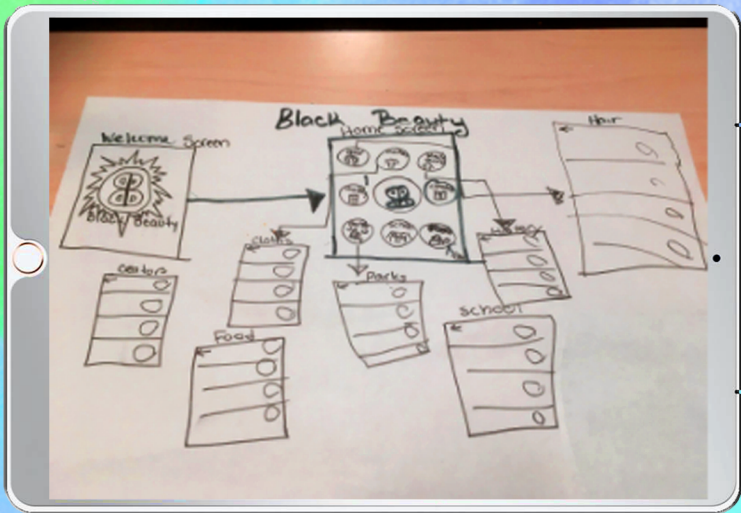
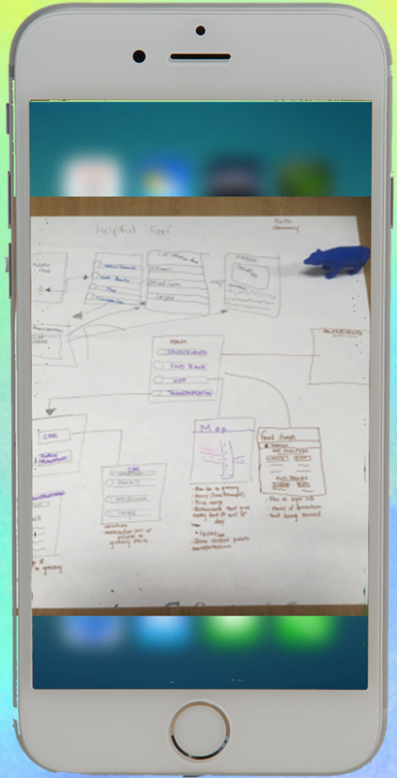
> Shai helped learners shift their broader app ideas into the concretized formats of pages, buttons and screens. She asked questions about what components might be included, and learners asked questions about the ranges of possibilities for Xcode.

> App maps became central through the collaboration of both educators and learners. This created a tangible and visual context for providing support.





Here are two examples of the app maps learners created



# <What kinds of tools have you created?/>

>Recount a time you helped a person learn in a new way using a tool. You can also take time to sketch out an idea of a tool you want to use.

>If you are thinking of an interaction, it doesn't just have to be in a classroom or after school club. The interaction could be at the park with your cousin, in the store with your sister, or watching a tv show with a parent or friend

> You could also use this space to reflect on the story of a time someone helped you learn using a tool.

> Example tools:

- \* Word Map
- \* Paper Writing Template
- \* Calculator
- \* Post it note collage
- \* Videos, photos
- \* Clay, Sticks, rocks



.zine{display: Space for Notes}

## <Welcome to parts of the learning process/>

> As we invite you to reflect on your own experiences of learning, we wanted to model our perspectives and experiences with learning. Let's get ready to dig in!

Vulnerability and learning can not and should not be seperated.



When something resonates with me I feel it in my body. When is the last time you had a lesson that reverberated throughout you?

Who was the lesson from?

I often wonder -  
how would my work  
make my grandmother feel?

Try to be present in your body/mind. Think about your frame/perspective while observing.



# <Emotions and Learning/>

> As newer learners in coding, learning the tools did not come without challenges. As learners iterated on their projects their emotions also shifted where they experienced frustration at times related to current news, and at times to a new obstacle.

> Challenging moments come with their own sets of emotions. We highlight these varied feelings, mediated by relational bonds, as essential to deeper engagement with a subject. On the otherside of confusion might be a new discovery.

> The upcoming graphic illustrates some of the emotions that we witnessed as a teaching team in the young learners we worked with.



//The interconnected turning wheels represent different emotional stops of the learning process.

// Stop and imagine what they might be for your learners before turning the page to read more on this image.





// When we were working with learners we noticed them experiencing different emotions alongside the deep cognitive work they were engaging in, fully building out their learning experiences. We share a few of the words that came to mind for these gears with brief examples



**Curiosity** - Asking if they can code to make letters move, or move or change colors.



**Excitement** - One student shouted "I want to make more apps."



**Frustration** - Sometimes we saw and mediated partner disputes.



**Joy** - Shai received a beautiful card from a student.



**Confusion** - A student asked for help "Wait you're going too fast."



**Nerding Out** - Students having fun coding and not wanting to get up for break.

## <What happens when you're learning something new?/>

> During the STEAM program, a child star passed away, and many learners were upset. On top of the mental stretching students were doing to learn new subjects, they were processing their grief. How can we as educators hold personal experiences and learning challenges together?

> **Prompt:** Reflect on a time you struggled to understand something. What emotions came up for you? Can you identify what the histories are to these emotions?

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.zine{ask-reader: Jot some notes}
```

## <Building Healthy Emotional Environments/>

> **Prompt:** In the previous moment, what were the supports you had that kept you going?

What supports do you wish you had?

> **Prompt:** How do you want the people you work with to feel in the process of learning?

What are the real time supports that you have given to learners through challenging moments?

.zine{ask-reader: Jot some notes}





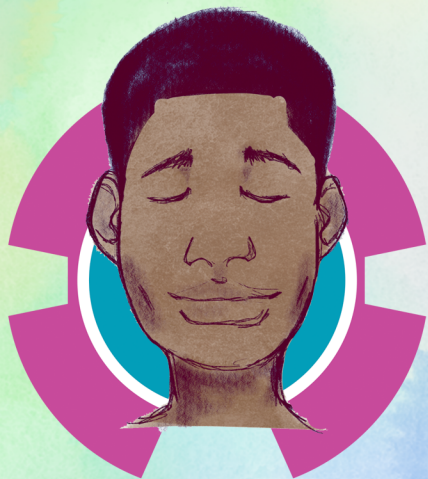
## <Taking Kids Seriously/>

> At the end of the program we had several learners mention that they wanted to continue with coding. We also had learners mention they wanted to draw more on their ipads, visit the space to craft, and/or to hang out. All of these learners expressed a level of interest in continuing with practices developed in the space.

> As a part of a carefully constructed space, with real time supports by mentors and peers, coding became a fun and rewarding experience even through challenging moments.

> During moment to moment decisions we make youth are paying attention. Further, with intentional care, mentors protected learners' sense of dignity as they were grasping challenging concepts. This care made learning fun and learners felt they had the opportunity to make things their own while knowing mentors would support them.

In this zine we are reflecting on mentor pedagogy but it is also important to notice what youth have to say about their own experiences so we as teachers can grow as learners...



"The mentors know how to be nice and also help you learn things at the same time... it shouldn't be like 'learning can't be fun..' 'Learning should be fun.'"

- Jeremiah



"The thing about coding. I just love making something of my own. Sometimes I don't like starting off of somebody else's stuff. I like to make my own thing... Everything else is a template. But this is you starting off from scratch. You make it how you want to make it."

- Spring

# <Reflections and Takeaways/>

**Finally we want to highlight 3 key takeaways.**

> 1) When practicing your pedagogy, language, positioning and gesture matter when supporting learners (Visit the Hands and Eyes Zine for more on this). 2) Be intentional and creative about tools offered to mediate support. 3) Practice thinking about both emotional and cognitive dimensions of learning when cultivating a space.

> We saw these practices as leading to students feeling like the program created a more expansive learning experience than what they often encounter in school and finding a sense of capability, joy, and relationship within a computing environment

> We hope the reflective activities in this zine support you on your journey.



$\cdot zine\langle display: \text{Additional Reflection Space} \rangle$

# <Additional Resources/>

## Some Readings

- [1] Benjamin - Race after Technology
- [2] Jones and melo - 'Anti-blackness is no glitch': the need for critical conversations within computer science education
- [3] Love - We want to do more than survive: Abolitionist teaching and the pursuit of educational freedom
- [4] Noble - Algorithms of Oppression: How Search Engines Reinforce racism
- [5] Project Nia - Against Punishment Curriculum
- [6] Shange - Progressive dystopia: Abolition, antiblackness, and schooling in San Francisco
- [7] Vossough & Vakil - Towards what Ends? A critical Analysis of Militarism, Equity, and STEM education.
- [8] Papert - Mindstorms
- [9] Vygotsky - Mind in Society
- [10] McKinney De Royston et. al - "He's more like a 'brother' than a teacher": Politicized caring in a program for African American Males
- [11] Espinoza et. al - Matters of participation: notes on the study of dignity and learning

## CS and Abolition

[12] <http://linktr.ee/CSabolition>

## More of Allen's Artwork:

[13] <http://allenmooreart.net/>

<Thanks for Joining Us!/>



