



Title

Mike Barnett, Helen Zhang, Larry Halverson, David Blustein, Belle Liang

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Project type: Strategies

Project URL: <https://sites.google.com/bc.edu/leafs-project/home>

Project Overview: In this project we have focused on training youth around how to use emerging technologies from transparent soil, to coding, to physical computing, to hydroponics to engage with their peers and families around how to conduct scientific investigations and explore future career options involving automation and novel technologies.

We have found that youth who have opted out of science require two to three of years of time and engagement to re-engage and rebuild their confidence with STEM.

Lessons Learned & Insights Gained

Utilizing and training high school to serve as leaders in the youth programs is a critical feature for sustaining the youth programming

Teachers that work in our program focused initially on the coding and only after 2-3 of experience did science and scientific research begin to rise to the forefront. For even our very experienced instructors learning coding and physical computing was a challenge.

Equity

Recruitment and retention of youth from historically excluded populations in STEM.

A central aspect of the work is that youth can explore (e.g. grow crops of interest) what is of interest to them and engage in discussions with mentors from the same cultural backgrounds as themselves who are now in college who participated in similar programs to learn how to navigate STEM fields in college.

New Challenges & Next Steps

On a technical front, we have drawn upon the science of molecular recipes in that we can use calcium lactate, sodium alginate which are readily available and then can be infused with nutrient solution. This approach does not require heating nor does it require any special chemicals yet it generates the same results as the more complicated transparent soil protocols but is 1/10 the price and can be more easily utilized, particularly as a part of “to be sent home kit”