



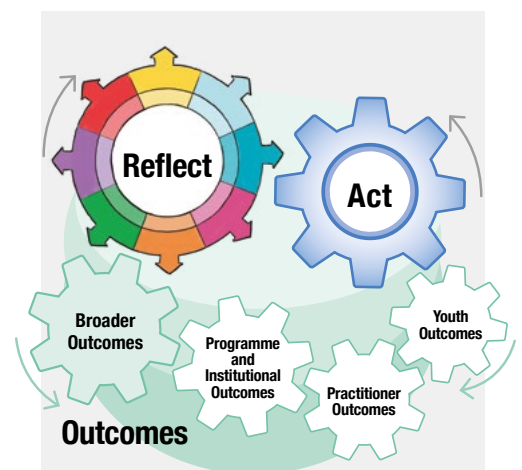
Reclaiming



YESTEM Insight #2.4

What is the issue?

- How young people see themselves in informal STEM learning (ISL) is related to the physical and material dimensions of their ISL experience (e.g., what materials are available, how a space is physically arranged, what artifacts hang on the wall, etc.). This is because how people relate with each other is shaped through what these physical and material dimensions reflect regarding whose knowledge matters and how people should interact.
- For example, the seating arrangements shape how people are able to relate to each other. Whose work is displayed, when and for what purposes reflects what is valued in a space.
- The challenge is that many ISL programs happen in spaces where young people's lives and ways of being are not reflected in the physical or social design of ISL experiences.
- ISL spaces tend to be organized, socially and physically, around White and patriarchal narratives. For example, **whose images and stories make up a space, the tools and materials made available in a space, all send messages around who belongs.** It also shares broader constraining messages about what STEM is, who does STEM and what that looks like.



YESTEM Model for equity in ISL

Please see yestem.org for the full model and related Insight documents detailing each component.

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What is the practice?

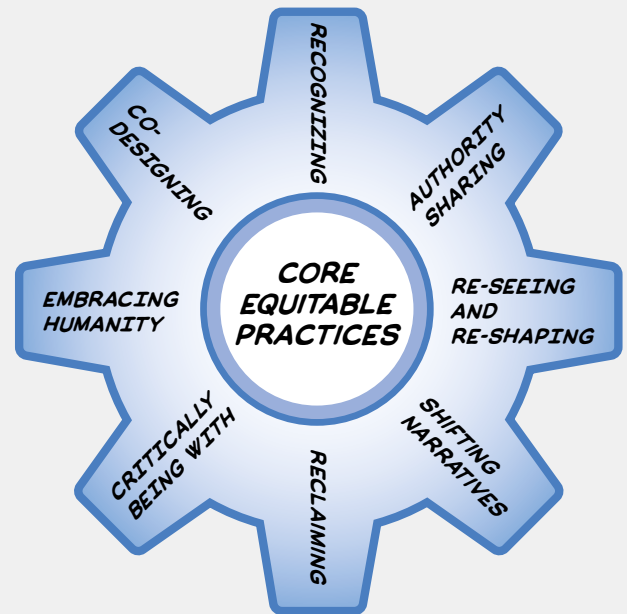
Reclaiming space and narratives works to restructure power relations and center **youth in shaping the social and physical spaces of STEM**. For example, Science Center staff worked with their Youth Action Council to investigate why their rooms were only named after men, and conducted research to rename their classrooms after women scientists of Color whom the youth admired, e.g., Katherine Johnson. This included changing signage (physical dimension), but also changing activities and images within those renamed rooms to reflect how each scientist inspired youth (social dimensions).

Programs open to Reclaiming space and narratives are more likely to meet youth needs and interests, by supporting youth ownership over the space and the learning within it. When youth share their imaginations for a space and educators support the realization of youth-reimagined spaces, youth can Reclaim ISL and STEM more broadly.

Reclaiming involves:

- Youth **'taking back' power** to claim who belongs in STEM or what it means to engage in science in their lives by shifting the allowable arrangements of materials and relationships in order to center youth lived lives and their pasts, presents and hoped-for futures with and in STEM.
- Educators recognizing and exposing what has maintained injustices, such as racism and classism, and then disrupting and transforming unjust visible and symbolic structures by critiquing and changing the space.

Act



The practice of Reclaiming involves working with youth to both identify how an ISL space may feel exclusive and modify the space to be more welcoming.

Visit **yestem.org** for more information and resources from our international research effort.



Spotlight on practice: Reclaiming through nameplates (US)

“Marble mazes are cool and kinda fun. I was having fun with all of the tools, and like try to make one. But I was thinking about what else I could do? Like, with all of the tools, and I saw this big piece of wood. We don’t have our own sign. I could make us a sign. . . I think when people see my sign they think ‘that’s cool. I want to do that too.’ It kinda **shows who we are and what we do.**”

Samuel, age 12.

“I think it was cool to see myself up there. It shows that you don’t need to be an accomplished adult. Like kids did that. We did that. Kids of color and girls and like all of the people who grew up in their science classes, they didn’t grow up seeing people like us. To have people see our names on the wall, on our nameplates, the projects we made, **permanently hanging on the wall.** That is inspiring!”

Ivy, age 12.

These quotes drew from a ‘nameplate’ project led by a Science Center’s Youth Action Council (YAC). During a YAC session in which youth were asked to build marble mazes, Samuel instead wanted to “make us a sign that shows who we are and what we do” in the Science Center. Inspired by Samuel’s use of STEM artifacts to make his life and community more visible, the YAC educators planned a ‘nameplate’ activity and supported every youth in making their own nameplate. They also displayed the youths’ nameplates on the makerspace wall, providing visitors with a visual reminder of the youths who helped make that space a reality. As Ivy notes, presenting the youth-authored nameplates in the Center’s space made youths’ presence and expertise visible “permanently hung on the wall.” Furthermore, the nameplate activity expanded to many of the Center’s outreach programs. For example, the Center educators worked with youth from the local refugee community to construct their own nameplates and stories of home, which later were exhibited in the Center and attracted many visitors.



Spotlight on practice:

Young people Reclaiming physical and social space in a community-based digital arts center (UK)

A community-based digital arts center had a number of rooms that it used both for young people's programs and other activities serving the surrounding community. The center supported young people to **Reclaim physical space** by showcasing their work on the walls of all their rooms. For instance, as part of a photography summer program, **young people contributed their favourite images to be hung permanently on the walls** of one of the rooms – therefore claiming physical space in the center as their own and building a sense of the center as somewhere that welcomes and belongs to the young people. Young people were proud to have their work displayed – Spuggs, a regular participant at the center said, “I like showing people what I do”, whilst pointing at his photograph on the wall. The practice of Reclaiming extended beyond the young people's programs, with the center frequently exhibiting STEM-related work created by members of the local community, such as female gamers.

The center also supported young people to **Reclaim social space**. Erin, one of the educators, facilitated the development of a '**contract of participation**' for the weekly STEM club, which the young people co-constructed and agreed to follow (including points such as 'play nicely' and 'be respectful'), as denoted by the public display of their signatures on the contract. Erin explained that the agreement was deliberately called a contract and not a set of rules “because they come from the young people”, allowing young people to Reclaim the social space and ways of participating in the STEM club.



How to use this practice: Reflect

Reflection questions

1. What would it mean to Reclaim your institution, programs, and rooms in which you enact everyday practice?
2. How do you want to integrate the practice of Reclaiming in your institution, programs, rooms, and daily routine? Who would need to be invited to that planning session?
3. How can you recognize and support youths' bids for Reclaiming?
4. What obstacles could be addressed to support Reclaiming more broadly at your institution?

How to use this practice: Act

Things to do

1. Youth as designers

The educator does not have to be the only expert in the room. Youth bring their own knowledge and experiences to spaces. Find ways to include youth in designing programs and activities. The educator may bring a framework for eliciting youth ideas and ways to support the realization of youth ideas. When do you take opportunities to include youth in designing activities and programs?

2. Providing protected brainstorming space/time

Circle time (regular, whole group discussion) is used for students to share projects, and educators encourage youth to share input on project development. Supporting youth in sharing and providing feedback on peer ideas creates an environment in which youth are experts shaping their learning experience. How might you build in time for youth to hear from each other?

3. Youth Action Council (YAC)

One way to involve youth in Reclaiming space through co-creating spaces and programs is to form a group of youth who collaborate with program administrators. This group of youth would meet regularly with educators/administrators in an environment where youth ideas are listened to and used to shape programs and spaces. How might your organization benefit from forming a YAC?

4. Supporting youths' investigation, documentation, and reflection of their Reclaiming project practices

Support youth in documenting and sharing their own thoughts about Reclaiming (e.g., sketch out ideas for a makerspace, interview each other on ideas for Reclaiming, critique the design of other spaces). How might you include youth in designing and shaping your organization's physical spaces?

5. Creating a visible and enduring presence

Having a physical indicator that a space is made for and by youth can support youth ownership of these spaces. One way to do this is to support youth in making nameplates to display in the room. Were youth involved in designing educational spaces? In addition to nameplates, how can you demonstrate that these spaces belong to youth?

6. Asking youths' advice on adults' ideas

Test out initial activities provided by adult facilitators, and modify them according to youths' interests and vision. When and how do you elicit and respond to youth feedback on program activities?

Additional tools and resources

Try out some “Talk Moves”

Talk moves can help to create spaces for transformative discourses and practices.

Ask youth for their vision of the space

- Draft a mission statement together. This can start with a single question: “What is our room a space for?”
- “In which spaces do you feel you belong?”
- “What would you want to change in this space?”

Support youth investigation of the space

- “What kinds of STEM learning spaces do you want to make?”

Support youth imagination of what the space could be

- “We are planning our [program name]. These are the programs we did last year. What kind of activities would you suggest?” (And then, you can engage youth in designing and proposing potential activity, and testing out their proposed activity).
- “What needs to be hung on the wall to make this space to feel the way you imagined this room to be?”

Example tools from educators

- Secure multi-purpose space within the room so that youth can create and change how to use the space.
- Use walls and corners of the room as spaces to represent youths’ presence.
- Exit surveys can help to elicit ideas even from quiet or shy youth.

About our project

- Over four years, our project involved researchers, ISL educators and young people working in partnership to develop new understandings and insights about how ISL might better support equitable outcomes for young people aged 11-14 from minoritized communities.
- Our project partnership involved data collection in the UK and the USA with partners in two science centres, two community STEM clubs, a zoo and a digital arts centre.
- Overall, 260 young people and 30 practitioners took part.
- In the wider project we also conducted surveys with 2,783 young people.

For the full range of Insights documents summarizing the project’s tools and resources, including Core Equitable Practices and Equitable Youth Outcomes Model, please see yestem.org

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Disclaimer

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