



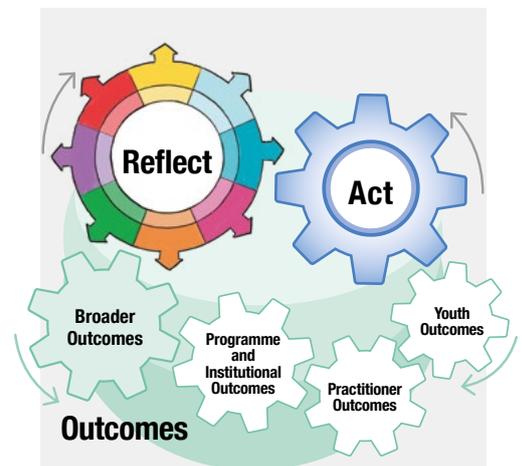
Recognizing



YESTEM Insight #2.1

What is the issue?

- Youth use powerful ideas, experiences, and practices to make sense of the world, but not all youth have their ideas, experiences, and practices valued in STEM learning.
- Because many STEM learning materials and spaces were designed in alignment with White, male, and Western perspectives, youth of Color and girls are often unjustly positioned as STEM outsiders. This results in racial and gender inequalities in who has a rightful presence in their Informal STEM Learning (ISL) community.
- **Recognizing** is an anti-racist practice. Recognizing values youth identities, cultural practices, community wisdom, personal experiences, and racial histories as central to STEM engagement, instead of something unrelated. Scientists are people first, and valuing youth as whole people supports youth-positive STEM learning.
- Valuing such knowledge and practices as relevant to STEM positions youth as legitimate experts rightfully present in STEM.



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?

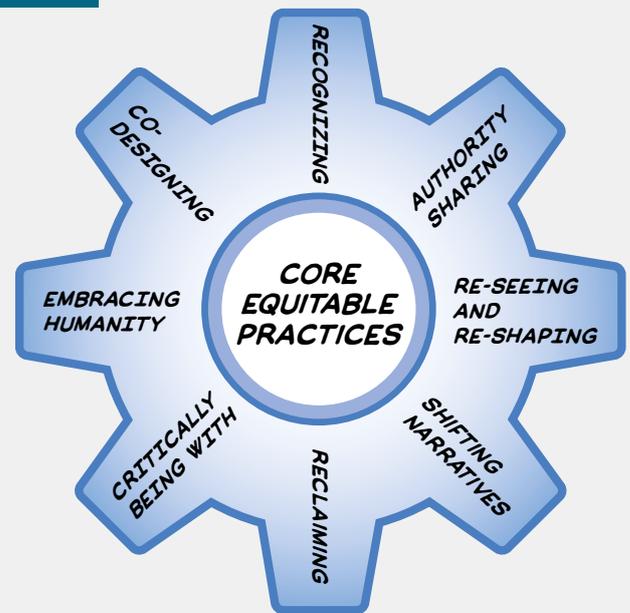
Recognizing is **when educators engage in purposeful strategies to notice the lived lives and community wisdom** that youth bring to STEM learning, **and then to leverage these resources** towards powerful learning opportunities for youth. Oftentimes, the resources that minoritized youth bring to STEM learning are not legitimized in learning environments. These resources include the interests, identities, and knowledge that youth develop in their families and communities.

The practice of Recognizing seeks to reverse this trend of marginalization with the goal of ensuring that youths' whole lives matter in learning and doing STEM. Recognizing de-centers Whiteness in STEM and STEM education.

Recognizing looks like:

- Noticing or eliciting and then publicly validating youth ideas, practices, and life experiences,
- Encouraging youth to learn from each other's expertise.

Act



By Recognizing youth ideas, experiences, and practices as relevant to STEM learning, educators can help youth see themselves as connected to STEM content, practices, and possible future professions.

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



Spotlight on practice: Louise on recognizing in STEM (US)



At the start of one of their after-school sessions, 12-year-old Louise answered a group reflection prompt of “what helps you to feel included here?” She volunteered that she felt included when people noticed her in “good ways” saying, “I feel included in STEM lessons **when people notice good things** about me. I know how to do some [things], and helping others know how to make and do stuff helps me to feel included. Sometimes y’all be like ‘**Who is a pro at this?**’ or ‘Look, Louise is pro!’ When you talk about one specific person, that helps.

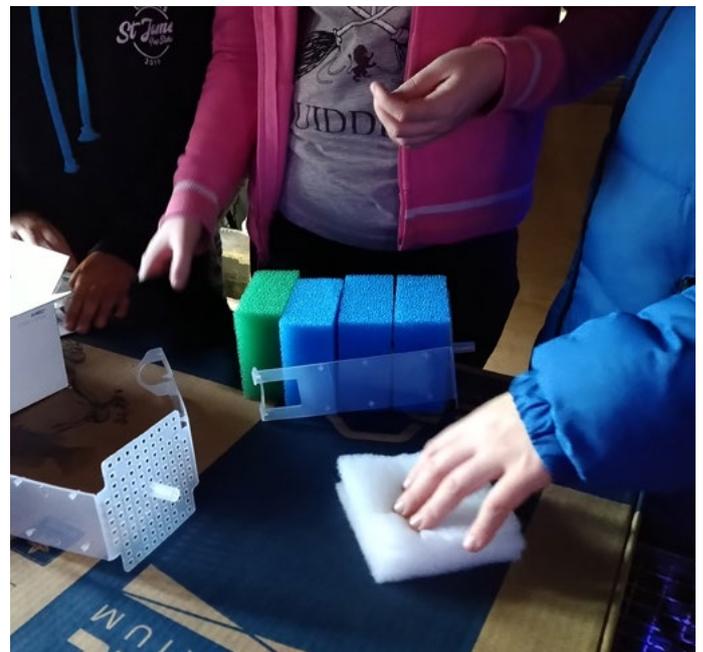
Like when we made e-textiles **you asked if anyone knew how to sew**. I raised my hand and other kids did, too. You said, ‘Look around. See who has their hands up? They are experts at sewing and can help us today.’ This made me feel included.” Louise further said it was important for kids to feel “like experts.”

Spotlight on practice: Tiddlybot experts (UK)

One of the YESTEM sites is a community based digital arts center in a major UK City. The center runs an after school tech club. The sessions invite open ended exploration of robotics, software programming and media design. In this context, recognition of young people’s emerging expertise has an energy of its own and is built from many private and public validating interactions by the practitioners.

For instance, we observed Erin introducing Tiddlybots by saying “**BnW [one of the participants] in the corner is our tiddlybot expert**”. Other club members are also regularly celebrated for their expertise e.g. “**just look towards Ginger**” for Scratch, Minecraft, Roblox. The young people named turned and grinned as they received recognition as experts from staff and peers.

Erin explains: “**during a session, I try really hard to get to know every individual person.....like BnW, ... he’s like our little tech wizard. I say ‘BnW you’re really good at tech’.**” Describing her own practice, Erin reflects, “**I don’t know everything, but it does not matter, because you let them explore and learn.**” Erin’s consistent and empathetic practice helped normalize an assets-based approach for all club members.



How to use this practice: Reflect

Reflection questions

1. How are youth currently being recognized in your learning space?
2. How can you use or convert youth work to be materials for a public “showcase of expertise” in your learning space?
3. What obstacles to supporting youth recognition more broadly at your institution could be addressed?

How to use this practice: Act

Things to do

1. Questions help to create opportunities

At a lesson’s start, publicly inquire who might already be familiar with relevant skills of the day. Publicly name as “experts” those who indicate familiarity. Ask your new experts if they’d be willing to share that expertise if peers need help.

2. Honor how youth share their resources

Youth bring ideas, knowledge, innovative critiques, experiences, leadership, and care for their community. By paying attention to the assets youth bring to a space, educators can support youth by publicly recognizing them as active and important contributors to a shared learning community.

3. Redirecting requests helps everyone

Recognizing brings multiple benefits. When youth request assistance with a particular skill during an activity, you can publicly redirect them to peers with that skill. This gives you more flexibility in where you direct your time and energy and publicizes your recognition of youth as experts and leaders.

4. Publicly display evidence of youth efforts

Put youth-created work materials (ones that matter to youth and represent them well) in well-lit, well-seen places. Consider planning to keep these visible for long periods of time. Making their work a more permanent part of your shared learning space supports youth in feeling recognized and valued.

5. Embody authenticity in recognizing

Make sure you actually mean it when you vocalize what forms of youth expertise you notice. Young people are more perceptive than they get credit for. They notice subtleties and can tell when adults are patronizing them.

6. Artifacts can mediate recognition

There are many ways to recognize experience, ideas, and practices. Some youth may not like to speak in front of others or receive verbal public praise, but you can offer specific praise on a post-it note, or ask if they’d welcome displaying their work anonymously. Showing you noticed doesn’t have to be loud.

Additional tools and resources

Try out some “Talk Moves”

Talk moves are simple verbal mini-reminders to elicit, identify, publicly recognize, and build upon youth contributions in group discussion. Talk moves can be helpful first-step tools and daily-habit supports.

Publicize youth ideas, actions, and expertise

- “Mary, that is a tough, but necessary question to ask. Let’s think further about Mary’s question...”
- “That is powerful. So you mean that [revoice youth’s idea]?”

Use questions to create opportunities for recognition

- “What you just said sounds really important. Would you tell us a bit more about it?”
- “Does anyone here know how to [insert relevant skill for the day’s activities]? That is so great. Would you help us [skill] today?”

Remember and draw on youth interests and expertise over time

- “I remember you saying that you enjoy reading. Is there a book you are currently reading? What’s it about?”
- “I noticed that you really like [a particular activity]. How can we incorporate that into our [program activity]?”
- “You said that this activity could be better. What changes would you recommend?”

Example tools from educators

- **Publicize youth ideas and work in verbal and visual ways:** Set up a weekly sharing time for youth to share their project updates, new ideas, and questions with peers and adults. Create a showcase wall where youth work is displayed.
- **Embodied recognition:** Use your facial and body expression as ways to make your recognition visible to youth (pausing to listen, walking with youth to continue to listen and recognize their contributions).

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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