

The Code explores... designing inclusive programmes

Series Takeaway Pack

TOMORROW'S ENGINEERS | CODE

What is The Code explores...?

A fresh approach to delivering content for the Code community. Topics are explored more deeply through a series of different events over several weeks.

Each series features:

- ✓ a blend of live and pre-recorded content
- ✓ supporting comms with event summaries and links to recordings, slides, and relevant resources... plus, a dedicated webpage to revisit content whenever you choose
- ✓ opportunities to discuss topics in the Code LinkedIn group

The Code explores... is designed to be:

- **In-depth:** each series focuses on specific topics important to the Code community
- **Flexible:** a range of content formats so you can engage in a way that suits you
- **Community driven:** giving you the chance to connect with people from across the Code community, sharing ideas and gaining new perspectives



The Code explores... designing inclusive programmes

This series looks at strengthening your approach to inclusion, building confidence in inclusive programme design and supporting shared learning across the STEM outreach community.

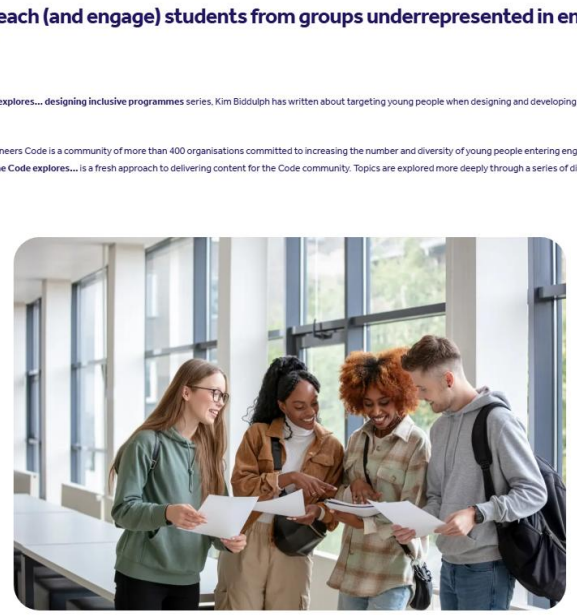
Episode 1 / Reaching and engaging students from groups underrepresented in engineering and technology
A blog by Kim Biddulph, Head of Engagement Projects at EngineeringUK, shares insights from the organisation's programmes, exploring how barriers can be reduced and opportunities are created to help more young people feel engineering is for them.
→ See summary

Episode 2 / Making careers and outreach experiences inclusive for neurodivergent young people
A video recording of a live webinar presented by Code Signatory, Lightyear Foundation, on making careers and outreach experiences inclusive for neurodivergent young people.
→ See summary

Episode 3 / How to involve young people in shaping the design and delivery of your programmes
A webinar, presented by EngineeringUK on how to involve young people in shaping the design and delivery of your programmes, with guest speakers from Girlguiding and Solutions for the Planet.
→ See summary

Helpful resources We've gathered all relevant resources from each episode of the series plus additional signposting.
→ Head to this section

Episode 1 **Reaching and engaging students from groups underrepresented in engineering and technology**



How we reach (and engage) students from groups underrepresented in engineering and tech

As part of **The Code explores... designing inclusive programmes** series, Kim Biddulph has written about targeting young people when designing and developing activities for schools.

The Tomorrow's Engineers Code is a community of more than 400 organisations committed to increasing the number and diversity of young people entering engineering careers. Launched in 2025, **The Code explores...** is a fresh approach to delivering content for the Code community. Topics are explored more deeply through a series of different events over several weeks.

→ **Read the blog**

Opening doors is only the first step.

Creating lasting engagement with young people from underrepresented backgrounds requires **inclusive design, meaningful connections** and **opportunities to build a sense of belonging.**

In this blog, Kim Biddulph, Head of Engagement Projects at EngineeringUK, shares insights from the organisation's programmes, exploring how barriers can be reduced and opportunities are created to help more young people feel engineering is for them.

Engaging students from groups underrepresented in engineering and technology

Key takeaways

Targeted universalism: EngineeringUK's activities are offered to all UK state-maintained secondary schools but prioritise schools which are likely to have a higher number of young people from groups underrepresented in the engineering profession. Activities are also designed to reach whole year groups.

Working with teachers: When activities can't reach a whole year group, EngineeringUK asks teachers to choose students from groups underrepresented in engineering and technology to take part. This includes providing a guiding statement to help them decide who to prioritise for their programmes and gives the background about why.

Designing for engagement: Guided by research evidence, hands-on activities, and real-world themes, such as climate change are particularly effective in engaging girls and students with lower prior interest in STEM. These are included in EUK programmes.

Listening to young people: EngineeringUK works directly with students, especially those from underrepresented groups to shape programme content, messaging and delivery.

Measuring impact: Feedback and evaluation data are used to understand outcomes across different student demographic groups and improve future programmes to help make them more impactful from young people from underrepresented groups.



Engaging students from groups underrepresented in engineering and technology

Questions for reflection

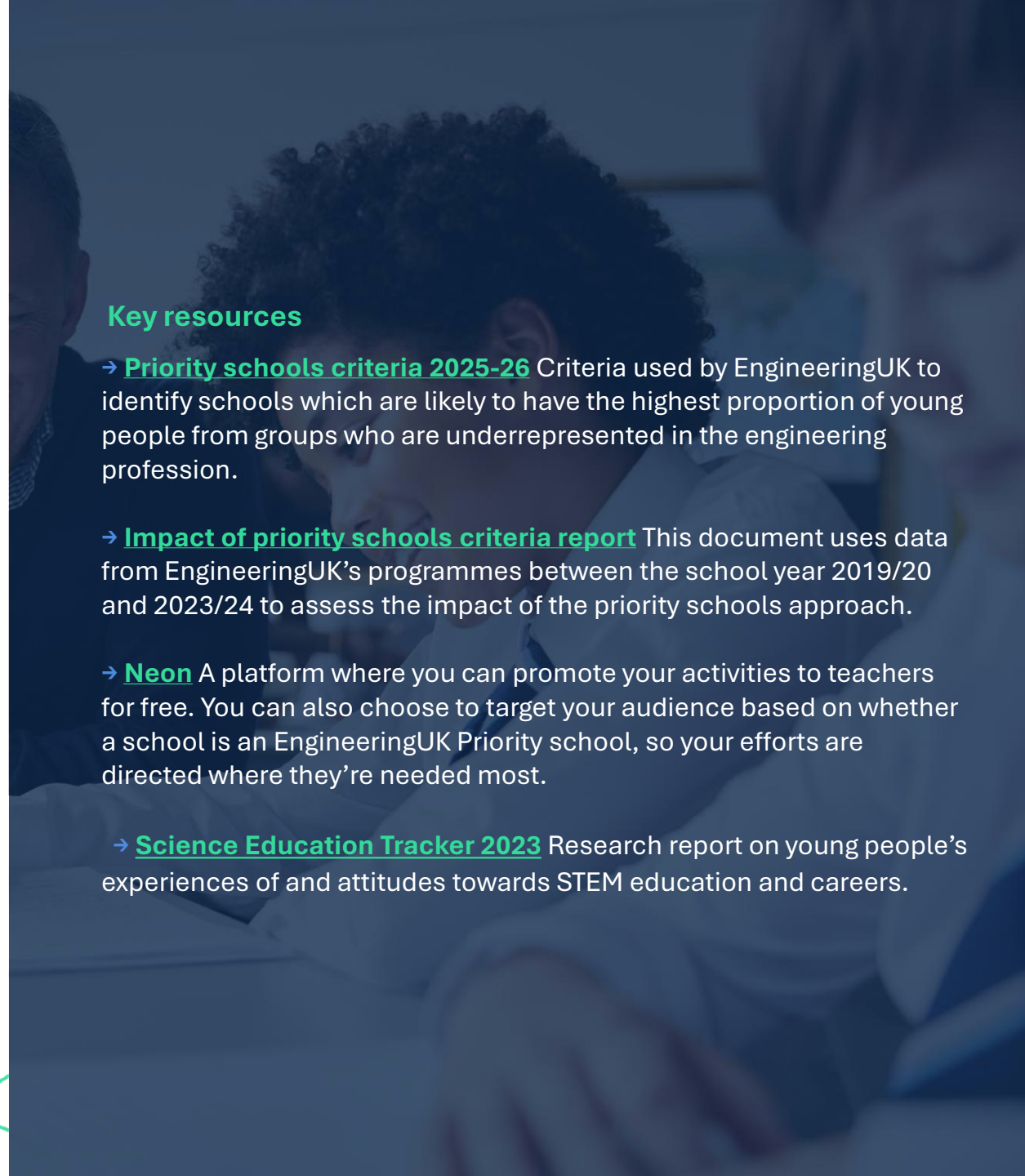
How are you identifying and reaching young people who are currently underrepresented in your programmes?

How do you ensure your activities appeal to young people who don't already see STEM as 'for them'?

What role do young people's voices play in shaping your programmes and outreach activities?

We'd love to hear your thoughts, experiences and approaches in The Code community LinkedIn group.





Key resources

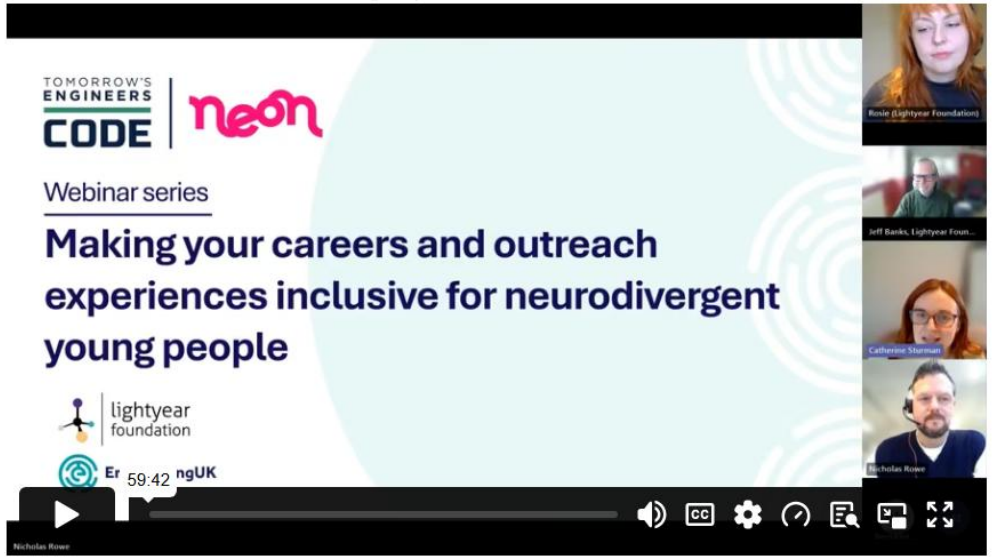
→ **Priority schools criteria 2025-26** Criteria used by EngineeringUK to identify schools which are likely to have the highest proportion of young people from groups who are underrepresented in the engineering profession.

→ **Impact of priority schools criteria report** This document uses data from EngineeringUK's programmes between the school year 2019/20 and 2023/24 to assess the impact of the priority schools approach.

→ **Neon** A platform where you can promote your activities to teachers for free. You can also choose to target your audience based on whether a school is an EngineeringUK Priority school, so your efforts are directed where they're needed most.

→ **Science Education Tracker 2023** Research report on young people's experiences of and attitudes towards STEM education and careers.

Episode 2 **Making careers and outreach experiences inclusive for neurodivergent young people**



→ Watch the video (60 minutes)
→ Access the presentation slides

For episode 2 of The Code explores... designing inclusive programmes, this webinar presented by Code Signatory, Lightyear Foundation, shares expertise on making careers and outreach experiences inclusive for neurodivergent young people.

We hope that this encourages you to look at your own programmes to identify where you can be more inclusive for different neurodivergent needs

Making careers and outreach experiences inclusive for neurodivergent young people

Key takeaways

Understanding neurodiversity: Neurodiversity describes the natural variation in how people's brain's function and includes everyone. **Neurodivergence** refers to cognitive differences from societal norms. Common neurotypes include autism, ADHD and dyslexia, alongside many others under the neurodivergent umbrella, which also includes some mental health and neurological conditions (slides 16-17).

Barriers for neurodivergent people: The social model of disability, (slides 8-9) recognises that challenges arise from societal barriers, not individual differences. In STEM, barriers such as limited accessible resources and accommodations, lack of role models, recruitment bias, inaccessible workplaces, and insufficient adjustments contribute to underrepresentation (slide 14). Transitions, particularly from education to work, can also be difficult without appropriate support.





Practical tips for inclusive outreach for neurodivergent students (slides 21–27):

- Don't make assumptions. Every neurodivergent person has unique and changing needs (slide 19).
- Build trust by speaking directly with students and creating a safe, non-judgmental environment.
- Use multimodal communication (e.g., Makaton, visual aids, videos, props, and tactile resources) to improve engagement.
- Work with teachers, caregivers, and support staff and allow flexibility to adapt activities and timings.
- Reflect after each session to identify improvements for the future.

Promoting inclusion, representation and change:

- Adopt the social model of disability by removing physical, social and attitudinal barriers to inclusion.
- Improve accessibility through tailored resources, adaptive teaching, and strong transition support.
- Increase representation by amplifying neurodivergent voices and role models.
- Address recruitment bias and create inclusive workplaces.
- Co-produce initiatives with neurodivergent people through collaboration and partnerships, while raising awareness, challenging stereotypes, advocating for equitable resources, and fostering open, ongoing dialogue.

Making careers and outreach experiences inclusive for neurodivergent young people

Questions for reflection

What examples can you share about how you have made your programmes or outreach activities inclusive for different neurodivergent needs?

Can you share a specific example where an adjustment or inclusive approach had a positive impact on a neurodivergent participant's experience?

How has your approach to supporting neurodivergent young people evolved, and what have been your key learnings along the way?

We'd love to hear your thoughts, experiences and approaches in The Code community LinkedIn group.



Key resources

→ **Lightyear Foundation role models** Real-life stories from disabled and neurodivergent people in STEM, helping young people see themselves in STEM careers.

→ **Squar3roots podcast** A youth-led podcast where disabled and neurodivergent young people share their perspectives on STEM.

→ **ND Connection resource library** A neurodiversity-affirming library of resources, guides, and research for neurodivergent people and those who support them.

→ **When I say ... neurodiversity paradigm** This article promotes the neurodiversity paradigm, recognising neurodivergent thinking as a valuable part of human diversity and advocating for more inclusive learning and working environments.

→ **Lightyear Foundation's training and consultancy** Lightyear Foundation helps organisations make STEM activities, workplaces and learning environments more accessible and inclusive for disabled and neurodivergent people.

Episode 3 **How to involve young people in shaping the design and delivery of your programmes**



→ Watch the video (1hr 2 minutes)
→ Access the presentation slides

For episode 3 of The Code explores... designing inclusive programmes, this webinar presented by Susi Farnworth, Head of EDI & Rebecca Hale, Senior Content Manager at Engineering UK, explores how to place youth insights at the forefront of your programmes.

They are joined by guest speakers Laura Ewell, Service Designer from Girlguiding, Jen Muranda, CEO and two young speakers, Freya and Iyanu from Solutions for the Planet.

We hope that this encourages you to look at your own programmes to identify how you can incorporate youth insights effectively.

How to involve young people in shaping the design and delivery of your programmes

Key takeaways

Engineering UK's insight approach and strategy process

Susi Farnworth and Rebecca Hale

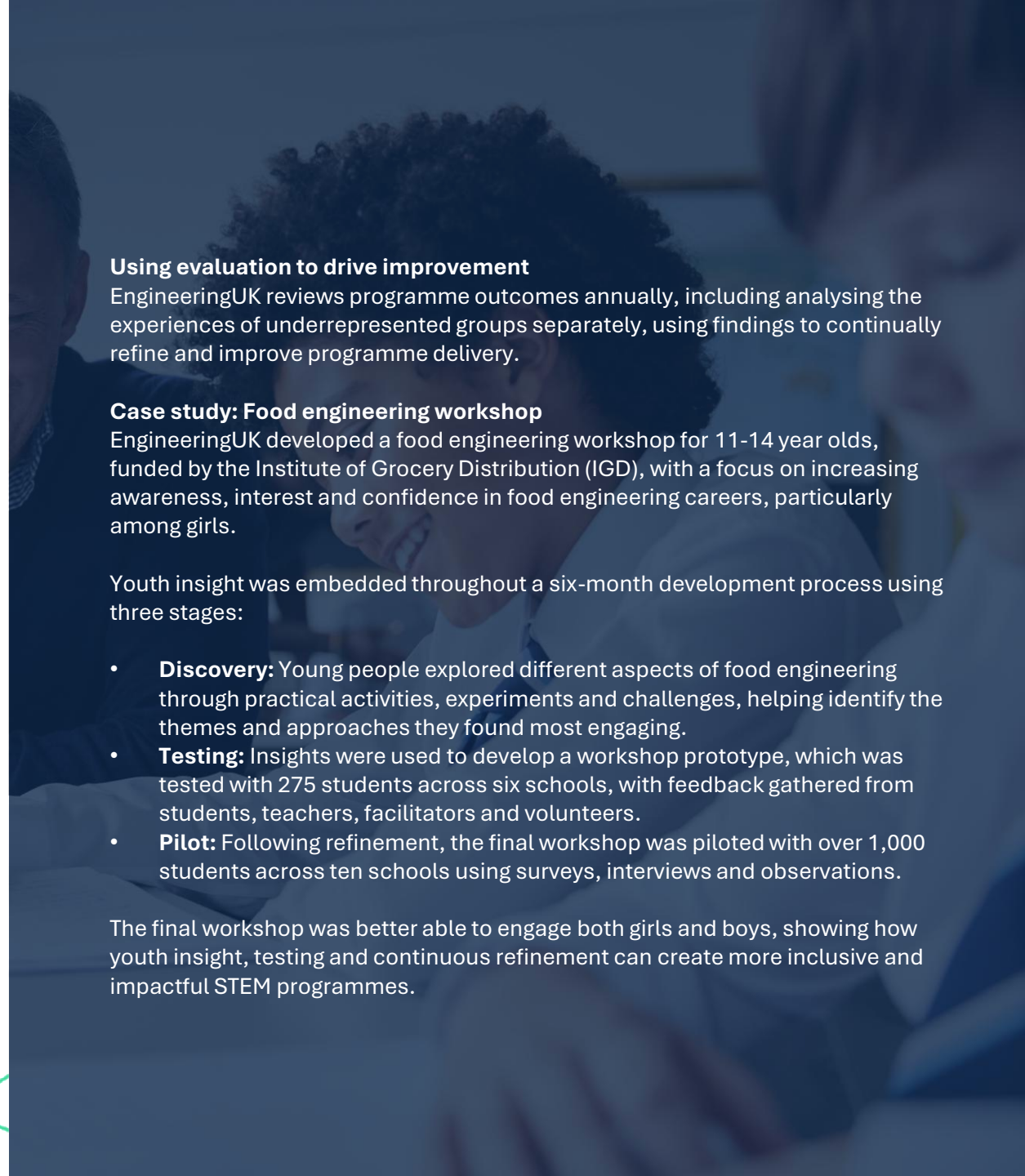
Embedding youth voice in STEM programmes
EngineeringUK believes programmes are more inclusive and impactful when young people are involved throughout design, development and delivery, particularly when aiming to engage groups currently underrepresented in engineering and technology.

A strategic approach to youth insight
EngineeringUK introduced a Youth Insight Strategy in 2024 focused on:

- Opening decision-making through co-creation and co-delivery with young people
- Amplifying young people's experiences and stories of STEM engagement
- Encouraging the wider engineering and technology sector to embed youth voice into their own work

Using research to understand young people
EngineeringUK uses research such as the **Science Education Tracker** and **Youth Voice Census** to identify themes that resonate with young people, particularly underrepresented groups, before testing ideas directly with young people through focus groups and consultation activities.





Using evaluation to drive improvement
EngineeringUK reviews programme outcomes annually, including analysing the experiences of underrepresented groups separately, using findings to continually refine and improve programme delivery.

Case study: Food engineering workshop
EngineeringUK developed a food engineering workshop for 11-14 year olds, funded by the Institute of Grocery Distribution (IGD), with a focus on increasing awareness, interest and confidence in food engineering careers, particularly among girls.

Youth insight was embedded throughout a six-month development process using three stages:

- **Discovery:** Young people explored different aspects of food engineering through practical activities, experiments and challenges, helping identify the themes and approaches they found most engaging.
- **Testing:** Insights were used to develop a workshop prototype, which was tested with 275 students across six schools, with feedback gathered from students, teachers, facilitators and volunteers.
- **Pilot:** Following refinement, the final workshop was piloted with over 1,000 students across ten schools using surveys, interviews and observations.

The final workshop was better able to engage both girls and boys, showing how youth insight, testing and continuous refinement can create more inclusive and impactful STEM programmes.

How to involve young people in shaping the design and delivery of your programmes

Key takeaways

Meaningful User Involvement in Service Design

Laura Ewell, Girlguiding

Service users
People who use a service are experts in their own experiences. Meaningful involvement means designing services with users rather than for them, ensuring their perspectives shape decisions and improvements.

The ladder of co-production
This highlights different levels of participation, from informing and consulting people to genuinely sharing power through co-design and co-production. While not every project can operate at the highest level, organisations should be transparent about how much influence participants have and seek opportunities to move beyond tokenistic engagement. (Slide 11)

Embedding engagement throughout the process
Effective engagement goes beyond simply listening to people. Organisations should involve users throughout a project, gathering evidence, testing ideas, and using feedback to influence real decisions.



Understanding the wider service ecosystem
The play analogy illustrates how services operate within a wider ecosystem. Users experience the service on the "front stage", while staff, volunteers, systems and organisational processes work "backstage" to support delivery. Improving user experiences therefore requires understanding and improving the connections across the whole system, not just the visible parts of the service. (Slide 13)

Learning through volunteer co-design
Through Girlguiding's volunteer experience transformation programme, volunteers were involved at every stage, helping the organisation uncover deeper challenges that went beyond technology and highlighted wider organisational processes and ways of working.

Reflective Questions

- **Where could the people you're trying to reach have more influence over the decisions you're making?**
- **What would need to change in the way that your organisation works to make that possible?**

How to involve young people in shaping the design and delivery of your programmes

Key takeaways

From Youth Voice, to Youth Influence

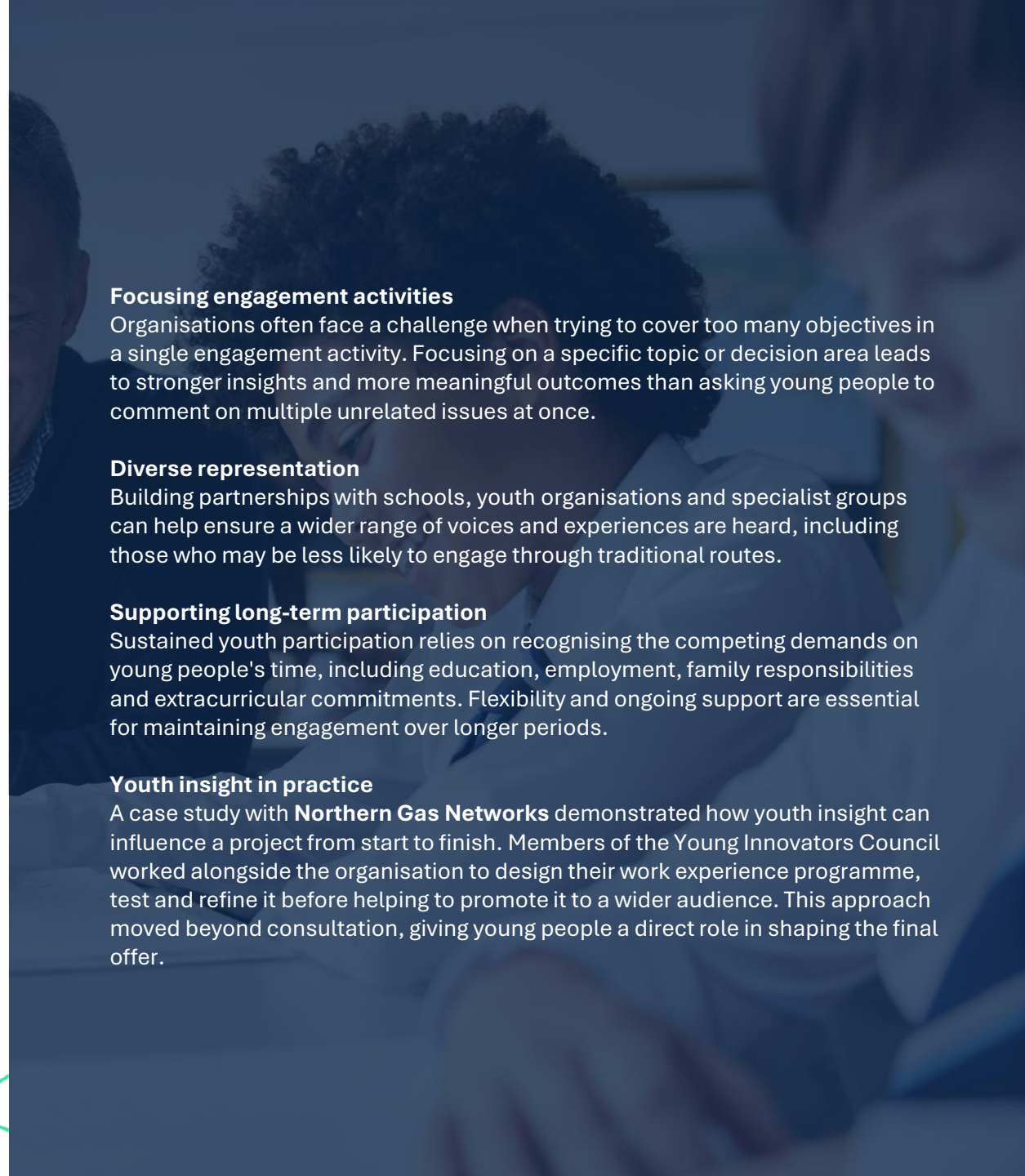
Jen Muranda, Solutions for the Planet

Meaningful youth involvement
The starting point should always be asking: **"How can young people meaningfully shape this?"** The answer may vary depending on the project and could involve consultation, co-creation, decision-making or paid advisory work. Being transparent about the level of influence available is key to building trust and avoiding tokenistic engagement.

Designing effective youth engagement opportunities
Meaningful youth engagement requires clarity from the start. Six key areas should be considered when designing opportunities for young people: (Slide 27)

- **Purpose** – what young people are being asked to influence and why
- **Power** – what decisions are genuinely open to change and who has final responsibility
- **Commitment** – the expectations and time required for both young people and the organisation
- **Relationship** – whether the activity involves consultation, testing, co-creation, decision-making or governance
- **Recognition** – how contributions will be recognised, rewarded or compensated
- **Feedback** – how young people will learn what changed as a result of their input





Focusing engagement activities
Organisations often face a challenge when trying to cover too many objectives in a single engagement activity. Focusing on a specific topic or decision area leads to stronger insights and more meaningful outcomes than asking young people to comment on multiple unrelated issues at once.

Diverse representation
Building partnerships with schools, youth organisations and specialist groups can help ensure a wider range of voices and experiences are heard, including those who may be less likely to engage through traditional routes.

Supporting long-term participation
Sustained youth participation relies on recognising the competing demands on young people's time, including education, employment, family responsibilities and extracurricular commitments. Flexibility and ongoing support are essential for maintaining engagement over longer periods.

Youth insight in practice
A case study with **Northern Gas Networks** demonstrated how youth insight can influence a project from start to finish. Members of the Young Innovators Council worked alongside the organisation to design their work experience programme, test and refine it before helping to promote it to a wider audience. This approach moved beyond consultation, giving young people a direct role in shaping the final offer.

How to involve young people in shaping the design and delivery of your programmes

Key takeaways

Young People's Perspectives
Freya and Iyanu, Solutions for the Planet

Building confidence through experience
Young people often need to take the first step by applying for opportunities, building experience, and developing confidence through internships, STEM programmes, leadership roles, and community projects. Each experience can help build skills and open doors to future opportunities.

The importance of responsiveness
Simple actions such as responding to emails, answering questions, or introducing young people to the right contact can have a significant impact on the success of youth-led projects.

Removing barriers to participation
Organisations should recognise that a lack of response can create barriers for young people who are trying to take initiative, build partnerships, or develop social impact projects.

Creating open and inclusive access
Access should not depend on being part of a well-connected institution. Online networks, newsletters, and open application opportunities can help reach a much wider and more diverse range of young people.





Making opportunities more accessible
Young people can be discouraged by application processes that appear intended only for highly experienced candidates. Clear, welcoming communication can help more young people see that opportunities are relevant to them.

Meaningful youth participation
Involving young people in decision-making processes, such as recruitment and programme design, helps them feel heard and demonstrates that their views genuinely influence outcomes.

Developing skills through participation
Providing opportunities for young people to contribute to interviews, feedback sessions, and discussions can help them develop valuable employability and leadership skills.

Supporting youth-led action
Access to funding and practical support can empower young people to turn ideas into real-world projects that address challenges in their communities.

Creating a culture of youth leadership
Empowering young people to lead initiatives can inspire others and encourage wider participation, creating a positive cycle of youth leadership and community impact.

How to involve young people in shaping the design and delivery of your programmes

Questions for reflection

How can you involve young people as partners in decision-making, rather than simply asking for feedback once plans have already been developed?

What practical changes could you make to ensure young people's ideas directly influence the design, delivery and evaluation of your programmes?

What barriers might prevent young people from participating meaningfully, and how can your organisation create more inclusive opportunities for their voices to be heard?

We'd love to hear your thoughts, experiences and approaches in The Code community LinkedIn group.



Key resources

→ **Science Education Tracker 2023** Research report on young people's experiences of and attitudes towards STEM education and careers.

→ **The Youth Voice Census** Research report covering the findings of an annual temperature check on how young people in the UK feel about life, study, work and general prospects.

→ **Girlguiding** UK's largest youth organisation for girls and young women that helps them to develop confidence, leadership and STEM skills through hands-on activities, challenges and opportunities.

→ **Solutions for the Planet** Brings young people and businesses together to tackle real-world sustainability challenges, helping students develop STEM, employability and innovation skills through hands-on projects.

→ **Opportunities for Young People** The Solutions for the Planet's Youth Insights panel is an opportunity for young people to have their voice heard by business, effect change and gain excellent experience.

Helpful resources

Targeting and reach:

→ **Priority schools criteria 2025-26** Criteria used by EngineeringUK to identify schools which are likely to have the highest proportion of young people from groups who are underrepresented in the engineering profession.

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Research showing who is underrepresented in the sector:

→**Engineering and technology infographic dashboard**
This dashboard focuses on the current engineering and technology workforce, and the diversity within it.

→**Women in engineering and tech infographic dashboard**
This dashboard looks at the gender split of STEM education pathways into engineering and technology, and the breakdown of the workforce.

Inclusive outreach and careers for neurodivergent young people:

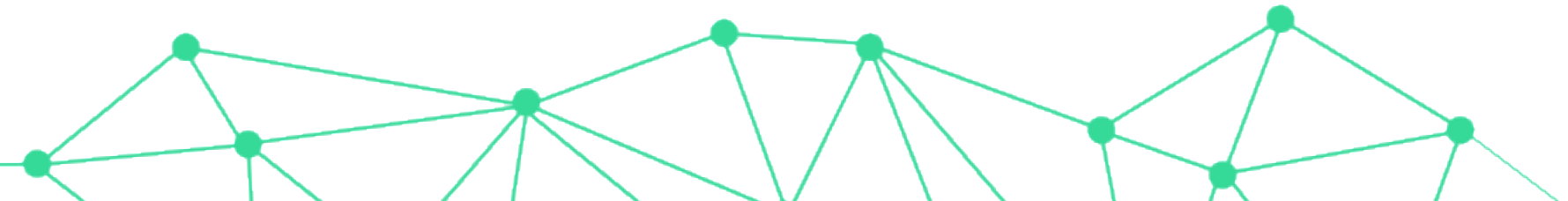
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Helpful Resources

Involving young people in programme design and delivery:

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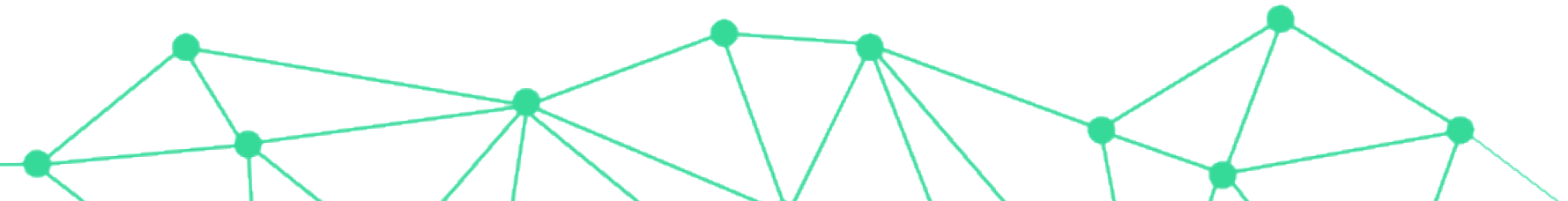
→ **Opportunities for Young People** The Solutions for the Planet's Youth Insights panel is an opportunity for young people to have their voice heard by business, effect change and gain excellent experience.

Other useful resources:

→ **EngineeringUK's evaluation tool, measures bank**
This measures bank offers STEM engagement providers example questions that can be included in, or provide inspiration for, their research and evaluation. It has been developed from EngineeringUK's own research and evaluation.

→ **Engaging young people: Key messages and top tips from EngineeringUK**
A webinar led by the EngineeringUK Programme Content and Careers teams. They share best practice, ideas, and resources from our programmes and engagement with young people. Access presentation slides **here.**

→ **Making outreach more accessible to disabled young people**
A recorded webinar and slide deck that provides top tips in addressing special needs and tangible ideas for setting up the venue, presenting, and adapting content.



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Join the conversation!

Ready to share reflections or questions around evaluation with fellow Code members

The Code community LinkedIn group is the perfect place to chat about **The Code explores... designing inclusive programmes.** As a Code member, the group is open to all employees at your organisation, so why not send them the link today.

→ Join the LinkedIn group here

Invite your colleagues!

As a Code member, **The Code explores...** is open to all employees from your organisation. Do you know a colleague who'd be interested in accessing **Code explores...** content, plus updates and news of future explorations? Just send them the link to the mailing list registration form to receive our monthly newsletter and invites to our events.

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