

CASE STUDY

ENGAGING NEURODIVERGENT YOUNG PEOPLE IN INCLUSIVE CLIMATE ACTION

A CASE STUDY OF SENSORY TRUST'S WORK

SALLY FORT
MOOR IMPACT LTD.
MARCH 2026



ENGAGING NEURODIVERGENT YOUNG PEOPLE IN CLIMATE ACTION. A CASE STUDY OF SENSORY TRUST'S WORK

INTRODUCTION

This case study explores Sensory Trust's work with young neurodivergent people as part of the Collective Climate Repair project. The project aims to help deaf, disabled and neurodivergent people feel included in the climate conversation and feel empowered to take small actions which help water be in a better position to cool the planet. The information has been collected by interviews with 7 teachers and group leaders; conversations with 17 young people aged 13-16; and observations at two outdoor workshops.

ACTIVITY: WHAT HAPPENED?

Groups of young people – two different groups on separate occasions – met the Sensory Trust team outside for a leaf area index mapping activity on large open spaces roughly the size of a playing field, near a large old tree. Lynsey from the team welcomed the group, talked to them about the ground being wet or dirty so they could choose what kind of footwear or coverings they wanted, gave them a short recap on last time they'd met and what they'd been doing and thinking about, then introduced today's session.

Standing near the old tree Lynsey asked questions about why trees and leaves are important, and the ways they help keep temperatures cool. This revisited learning from past activities and set the foundations for this workshop. She reminded young people that leaves 'transpire' (breathe) through lots of tiny little mouth-like openings called 'stomata', releasing water to keep themselves cool - in the same way humans need to sweat to regulate their temperature. In turn this helps cool their surroundings. She moved round the group with a water spray bottle asking who would like to feel the evaporation effect, spraying a fine water mist on those who volunteered. The group discussed how it felt cold, and that if they shook their hands, like a leaf might shake on a tree, it would be even colder.

Lynsey then moved the group to a large mat on the ground, showing a big circle illustrated with hundreds of oak leaves. She invited the young people to look for leaves on the ground to bring back and add onto the mat to fill in the outline of the illustrated leaves. After a few minutes searching, the group placed their leaves on the mat then discussed and guessed how many leaves were in the circle.

As a next step, Lynsey asked the group to step out to a large circle (9m out from the mat, roughly the same as the canopy of the tree) to show the circumference of the area the leaves might fall. Lynsey, standing in the centre of the mat, held a 9m piece of rope, and colleague Rosie took the other end, walking out round the edge of the circle bringing the young people in line to form an accurate circumference. This shows the widest part of the tree. Lynsey then explained there are lots of leaves on the tree in multiple layers, so the group needed to walk further out, to cover the area it would need if every leaf from the tree was laid on the ground. Another length of rope was added and the circle moved out another 9m, showing the total area of leaf coverage.

The group was then brought back to the middle to discuss and estimate the size of the area and therefore number of leaves that one tree would have as its surface area, to illustrate the volume of water vapour and cooling happening from a single tree. Lynsey explained on a warm day when all the leaves are out, the tree can respire the equivalent of 8 bathtubs full of water.

As well as that workshop, previous sessions looked into measuring temperatures of different ground surfaces, seeing whether grass covered areas are cooler than bare earth, concrete or astroturf; and how soil and plants affect the quality and speed of flow of water, by pouring water through containers with soil, or soil with grass. Activities also included creating new areas for planting, and adding seeds, bulbs and plants to planters, the ground, and around structures, so students can put their learning into action.

RESULTS: WHAT DIFFERENCE DID THIS WORK MAKE?

Evaluator Sally Fort chatted with groups of young people in twos or threes to hear about what they'd been doing in this activity and in other sessions with the Sensory Trust. Conversations with teachers and group leaders also feed in. The conversations showed that:

- Different students absorbed different key messages. In order of most to least frequently described these were: learning about water's role in climate cooling, greater care for the environment, feeling empowered to take action to help cool the climate, and learning new skills.
- This kind of activity and learning was often new and only happening because of this project.
- The activities are enjoyable and help young people's wellbeing.
- Students who don't always look like they're engaged or participating can still be absorbing, understanding and remembering the learning.

LEARNING: Increased understanding of water-based climate action and biodiversity repair.

Young people consistently demonstrated growing knowledge of how water, plants and climate including heating, cooling and flooding are connected. They used accurate scientific language and showed curiosity about what they had discovered.

- *"I learned trees can have 160,000 leaves"*
- *"There was one [experiment] where there were containers with mud and the water came out slow but muddy; and one with plants where it came slow but clean."*
- *"Transpiration is when leaves are breathing out."*
- *"Leaves are important to cool things down"*
- *"Q: What do you remember about this from before? 'Nothing I don't pay attention. Trees are good.' Q. Why are they good? 'They soak up water.' Q: Why's that important? 'Because it stops flooding.'"*
- *"Plants block the water" [i.e. to slow the flow]*
- *"Plants keep cooling at night."*
- *"They [trees] are breathing out 8 bathtubs of water? EIGHT BATHTUBS??"*
- *"The concrete area can't soak in the water, so it floods."*

LEARNING: Greater care for the environment via climate action and connection to nature.

A strong sense of caring about the environment comes through across the quotes. Young people spoke about the needs of the planet, the importance of protecting it, and personal motivation to act. Their responses came through with a sense of empathy.

- *“Nature needs more water.”*
- *“There aren't enough trees, we need to plant more.”*
- *“We've been making mulch from leaves to help the planet.”*
- *“We're growing climbers, that's what the sails are there for, it cools it down, it's too hot, the planet is heating up.”*
- *“It's important to say, ‘stop climate change’.”*

ACTION: More empowered to take climate action.

Young people spoke with confidence about being ready and willing to make a difference. They described actions they have, will, and are taking. Some talk about directly caring for the planet, others about being able to influence others to do the same. One boy described how his new interest has spilled over independently into his home life.

- *“I've been collecting seeds from flowers at home, so I can replant them.”*
- *“I'd like to do planting flowers again.”*
- *“We're making podcasts and posters to tell people climate change is bad, try and help where you can, turn off power, plant more.”*
- *“We're doing a performance to a primary school. It's about Ellie who lives in a forest and people want to chop it down and Ellie says no because of deforestation and heat.”*
- *“We made a display board to show the head teacher and ask if we can plant more plants at school.”*
- *“I already do planting with granddad and now I want to do some more.”*

ACTION: Increased skills in implementing climate action.

Hands-on practical skills were less acknowledged but still evident. Some young people were easily able to describe what they'd done, even if they hadn't processed the new skills involved. Others were more able to talk explicitly about skills, where planting clearly had the biggest impact.

- *“We've been planting flowers.”*
- *“We've been making mulch from leaves to help the planet.”*
- *“We used trowels to plant”*
- *“We put leaves in [mulch] to take care of the earth”*
- *“We dug a massive hole, we used shovels. We've done it twice now; we're planting trees and flowers.”*

WELLBEING: Demonstrated enjoyment and positive mood.

Whilst wellbeing isn't a specific planned outcome for the work, it is a vital ingredient for good quality engagement and therefore learning. It also speaks to the quality of inclusion neurodivergent people experience whilst in the company of Sensory Trust. Wellbeing comments were completely unprompted - just enthusiastically volunteered by participants. Across the quotes, a genuine enjoyment of the activities comes through, including among young people who did not expect to be interested, or who described barriers to this kind of experience in their everyday lives.

- *"I found it really interesting."*
- *"It was easy to do."*
- *"It's good to be outside and seeing it in real life."*
- *"Thanks for coming back I've been waiting since 2025."*
- *"Thanks for replacing PE with something fun!"*

RESULTS: ATTRIBUTION OR CONTRIBUTION?

For a few young people, contribution was evident – meaning this project is one of several factors influencing the results for them, especially in the cases of learning, feeling empowered to act, and wellbeing. For most though, attribution was clear – meaning this project explicitly created the results.

How do we know this project created these outcomes, compared to what might have happened anyway? Students were asked questions based on their responses to check whether there were things they would have done or learned anyway. Examples included questions like: Is this something you do anyway? Do you learn this with your teachers? Were you already interested in this? Did you know any of this before? What made you want to do that?

They said,

- *"I didn't have an interest before. After Rosie (Sensory Trust) came, our drama teacher said we can do a speech or presentation or performance and so it was because of that."*
- *"I didn't know about this before."*
- *"I don't get to do this at home."*
- *"I already planting with grandad and now I want to do some more."*
- *"I was interested already but I've learned about some more plant species."*

In addition, where young people have talked about what they learned, only answers relevant to these specific sessions and activities were included. It's clear many of them do enjoy planting and gardening in general, but other answers described plants and gardening skills not related to this project so those were omitted from the results. While other unrelated answers talked about how to look after plants, what was noticeably different in their answers about this project, is the science element – the relationship between plants and how they contribute to cooling the climate, or flooding.

VALUES & MECHANISMS: WHAT ARE THE MAGIC INGREDIENTS FOR SUCCESS?

The list below is a combination of what looked to be helpful and supported neurodivergent needs, especially executive function and sensory needs, during the workshops observed; and elements that made a difference according to teachers and group leaders.

The neurodivergences specifically affected are shown in brackets and relate to this key.

- ADHD – attention deficit hyper (or hypo) active disorder.
- Autism – autism spectrum condition.
- PDA – pathological demand avoidance.
- SPD – Sensory processing disorder (high in autistic people and those with ADHD).
- All – includes above and any other differences including but not limited to dyslexia, dyscalculia, dysgraphia, dyspraxia, learning disabilities, and other developmental differences.

1. Inclusive Preparation

- ✓ Advance information – social story type information via photographs, and quick introductory visits for students to get to know Sensory Trust staff.
 - Reduces anxiety of unknown activities, places and people (autism).

2. Being Person-centred

- ✓ Names are learned and used in conversation.
 - People are explicitly included and valued no matter how they are physically or mentally showing up that day.
- ✓ Constantly ‘reading the room’ and adapting delivery. Changing the scale or order of what’s going on, noticing who is engaged or not and thinking about what’s needed in the moment.
 - Good for all – supporting and tailoring to fit focus, attention, movement and participation levels. Supporting physical and mental changes to encourage (but never force) engagement.

3. Inclusive language and communication

- ✓ Adapting language to tailor to students levels, including using signing.
 - Helps accommodate different conditions (all) and supports sensory needs (PSD, autism, ADHD).
- ✓ Clear, short instructions.
 - Easier to absorb (all neurodivergence), less chance for distraction (ADHD), no room for error / misunderstanding (autism).
 - So more likely to be processed into learning (all); risk of anxiety is reduced (autism).
- ✓ Clear, simple, visually strong worksheets and information resources, not overloaded.
 - Helps cognitive and visual processing, reduces literacy barriers (all).

4. Inclusive learning methods

- ✓ Recapping on previous activity and key messages.
 - Helps recall and focus (all), reduces anxiety about not understanding or getting things wrong (autism).
- ✓ Explaining why something is being done, not just what to do.
 - Helps develop learning and increases motivation (PDA, all).
- ✓ Allowing for different levels of attention or focus – participation is encouraged and invited rather than demanded.
 - Good for PDA.
 - So, people are more likely to feel joining in is their choice i.e. more likely to participate.
- ✓ Finding different ways for everyone to participate – using conversation, gross and fine motor skills / movement, attention to detail, small facts, visual stimulus, sign language, no reading or writing required.
 - Good for all – accommodating different sensory, communication and learning preferences. Increases likelihood of people staying engaged and absorbing information.
- ✓ Providing special tools – thermometer guns, specialist tanks and containers.
 - Helps students feel valued, adds resources schools don't normally access – novelty increases engagement, higher level tech can engage specialist interests. (All, autism).

4. Sensory Inclusion

- ✓ Ready for sensory issues – e.g. shoe covers, always checking if people want their hands sprayed with water or not – no judgement, genuine options.
 - Reduces anxiety or possible pain from unwelcome sensory input (SPD, autism, ADHD).
 - Therefore, helps stay more relaxed and able to pay attention.
- ✓ Lots of big body (gross motor) movement.
 - Great for ADHD, and space for stimming (autism).
 - So, people can self-regulate, i.e. more likely to feel calm and able to engage.
- ✓ Being outdoors.
 - Allows space to move around – good for ADHD movement, dyspraxia co-ordination, and autistic stimming.
 - Reduces sensory build up – especially noise which can dissolve rather than bounce, build or echo; good for autism (sensory) and ADHD (distractions).
 - Proven to support wellbeing and nature connection.

FUTURE DEVELOPMENT: COULD ANYTHING BE IMPROVED?

The only aspect during the observation when young people seemed consistently more likely to lose focus, was when moving out into 9m and 18m circles. It was harder to hear Lynsey from a distance, the group became more separated, and people stopped paying attention so successfully. This was the only time instruction rather than guidance / encouragement was needed e.g. 'name - you stand here'. Forming the circles either: made young people so focussed on being in the right place they could no longer think about learning about leaves, trees and ground cover; *or* the separation and space gave them opportunities to wander off (physically or mentally). As a result, there was no evidence they followed the connection between what they were doing and how it was relevant.

None the less, it created opportunities for more movement, space and sometimes laughter, so there were benefits. But it may not be the best method of getting the learning content across as the potential for people to lose track became noticeably higher. Perhaps future developments could include something like:

Go no larger than the 9m circle and just explain why this is only half as big really

Use more visual aids when moving outwards to form the 9m circle

- e.g. could everyone take a small leaf map with them so there are hundreds / thousands of tiny leaves moving out into the space? And explain e.g. 'we have 10 maps today. We would need 200 people to join us in this circle and all of their leaves added together. That's like saying all the young people and all the staff in your school' (or whatever equivalent examples are correct).
- Or using a larger central mat which shows concentric circles with a tree in the middle, a scaled version of a 9m circle and 18m circle, which could all be illustrated with hundreds / thousands of tiny leaves, and then pick a couple of people to stand at 9m and 18m in reality to bring the scale to life.

One other observation was that some people may prefer quiet or introverted responses rather than talking or movement. If there is a way to build in invitations to create small individual doodles and drawings as a response, that could extend inclusion even further.

- Paper with frames or dot grids on can help rather than a fully blank sheet, which can be overwhelming.
- Another option is an A4 sketch book (piece of A4 folded into a tiny booklet they can fit in their hand - do this in advance, don't try and do it as part of the activity as it would create a lot of distraction!) See example instructions: Example 2 - Zine booklet - <https://savannah-storm.com/blog/3-ways-to-make-a-sketchbook> They could take this away and do more with it e.g. draw their own leaf map circle; press a leaf from the ground in it; doodle stomata; recreate concentric circles of a tree, 9m and 18m rings; and so on.
- Taking this even further, with support from a partner / funder, some small seed paper booklets could be created for this purpose, or 1 small seed paper sheet included in each A4 paper booklet, which they can plant at a later date.

Thank You

For more information about the project, visit

<https://www.sensorytrust.org.uk/projects/collective-climate-repair> and

https://youtu.be/UNhAs0hVnwQ?si=SyM3AhJ_6hp9wseL

Thanks to all the young people and staff who gave feedback at: Kelhelland Trust Cornwall, Liskeard School & Community College Cornwall, Mountjoy School Dorset, Pencalenick School Cornwall, Redcatch School Bristol, Redmoor School Cornwall.

To the team at the Sensory Trust especially Jane, Vicky, Lynsey and Rosie.

And to funders: National Lottery Community Fund and The Daniell Trust.

Moor Impact evaluators: Director - Sally Fort, Researcher - Charlie Booth.

© 2026 by Sally Fort, Moor Impact Ltd. Licensed under CC BY-NC-ND 4.0.

To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/>



Moor Impact Ltd. Company 15679922.

c/o Suite 207, Business First Centre, Empire Way, Burnley BB12 6HH