VERY LOCAL MATHS

A PILOT ON COMMUNITY MATHEMATICS

Prepared by:

Charlotte Mégrourèche
Laura Black
Andrea Nelson
Sky Herington
Keisha Thompson
Kate O'Brien
Alejandra Vincente Colmenares
www.verylocalmaths.org.uk

MANCHESTER 1824
The University of Manchester

1. INTRODUCTION : INVESTIGATING COMMUNITY MATHEMATICS

The *Very Local Maths* (https://verylocalmaths.org.uk) project was developed at the University of Manchester to explore how mathematics can be lived and shared within local communities. It arose from concerns about the exclusionary culture of mathematics, where success is often narrowly defined and opportunities for creative participation remain limited. In schools, mathematics has become shaped by high-stakes assessment and subject specialisation, leaving little space for collaboration, experimentation, or pleasure (Wearmouth, 2008; Singh et al., 2012). Many young people grow alienated from the subject, particularly in communities that have been historically underserved or under-represented within dominant mathematical cultures (Ladson-Billings, 1997; Watson et al, 2014).

The project asked how mathematical participation might be supported and reimagined by attending to and creating new possibilities for engagement outside of schools. By approaching mathematics "from the outside", the project sought to reflect on how young people take part in mathematics beyond the classroom and to consider how these experiences might inform more inclusive and creative ways of engaging with mathematics. It proposed the figure of the "community mathematician" to channel and give form to these alternative modes of participation, gesturing towards creative, social, locally rooted cultures of mathematics that often remain unrecognised but open possibilities for different ways of engaging with mathematics. The project was guided by a central set of questions: **What is community mathematics in the present UK context? Who can this figure be? and What kind of mathematics might they do?**

To better understand and situate this figure, the project developed two main strands of work. The first, which we called a "festival review", mapped spaces, events, and initiatives across the UK where young people are encouraged and supported to encounter and engage with mathematics outside school. Readers interested in this work can consult our **published report** in which we identified 46 platforms across the country. This mapping offered a first layer of response to our guiding questions, highlighting the range of organisations and cultural initiatives that currently shape the informal face of mathematics in the UK.

Alongside this mapping work, we also approached the figure of the community mathematician empirically. In collaboration with a community centre in Manchester, we formed a group of seven young people and met with them monthly throughout the 2024–2025 academic year.

Together we developed and tested a series of workshops designed to support collaborative and situated forms of mathematical inquiry. ***Section 2*** of this report describes the work carried out with the youth group over the course of the year. ***Section 3*** draws on the post-project interviews conducted with the participants and identifies key themes that illuminate what the figure of the community mathematician can be when seen through the experience of our young community mathematicians. ***Section 4*** draws on feedback from a SEND specialist who collaborated in the workshops and continued to work with the young people after the project ended, situating participation in the Very Local Maths within their wider educational and social trajectories and identifying concrete developments following the project. ***Section 5*** concludes with observations and questions that emerge from and point towards future community-based mathematical initiatives.

2. WHAT DID WE DO? OUR WORK WITH THE MOSS SIDE MILLENIUM POWERHOUSE

The part of *Very Local Maths* developed with young people took place in collaboration with the **Moss Side Millenium Powerhouse** in Manchester. Moss Side is a diverse neighbourhood with strong traditions of community organising and youth work. Over the past decades, it has been a space of both resilience and struggle, marked by social inequalities and sustained by local initiatives that bring people together through creativity, learning, and mutual support. The project found in the Powerhouse and its surrounding networks a rich environment in which to anchor its work. The centre brings together several organisations supporting youth education, wellbeing, and employment, and is a central meeting point in Moss Side's community life. For young people, it hosts youth clubs, after-school tutoring, music workshops, sports

programmes, SEND youth services and mentoring activities. Its rooms are often busy with different groups working side by side.

We invited young people who regularly attend the centre to take part in a first taster session held in November 2024. The invitation emphasised curiosity and openness, encouraging those interested in both mathematics and the arts to join. We wanted to invite potential participants to think about mathematics beyond academic achievement, as a field of exploration that can be creative, social, and interdisciplinary.

A total of seven young people joined the project after the taster session to explore with us what it means to be a community mathematician and to begin sketching the contours of this idea. The photograph above shows a still from one of our workshops, in which two members of our team, Keisha and Sky, are present, and where the young people have been anonymised. They were aged 13 to 16 and are referred to as **M**, **J**, **D**, **L**, **R**, **A** and **K** in this report. Most of the participants identified as Black, neurodivergent and struggling with their participation in formal schooling. Several had experienced disrupted educational trajectories prior to the project, including prolonged absence from school and emotionally based school avoidance. They were identified as being at heightened risk of vulnerability, including risks linked to criminal exploitation and exposure to violence in the local area.

Each young person was paid £20 per hour, amounting to £40 for each of our 2h workshop. This decision was central to the project's design. We wanted them to take part not as people on whom activities would be tested, but as collaborators who would think with us about what a community mathematician is and can do. Their time, ideas, and presence were recognised as active contributions to the development and documentation of this pilot. Our reflections on paid participation were informed by *Power in the Room* (Gillen, 2022), which argues that education and economic life should be thought of as integrated together. This challenges the idea that learning is separate from the material conditions that make sustained participation in education possible. Gillen highlights the limits of seeing education as a first linear step towards equality, employment and social mobility. When education is imagined as something that must come first, existing racialised and classed inequalities tend to be reproduced rather than transformed. Learning always takes place within economic arrangements, and separating education from economic life obscures who is able to participate, for how long and under what conditions. In this light, we saw payment not as a symbolic or paternal gesture, but as a material condition for collaboration.

From November 2024 to April 2025, the group met once a month for 2-hour sessions held at the Powerhouse. Each meeting combined practical activities, discussion, and reflection, and aimed to explore mathematics through materials, movement, and everyday experiences. The sessions were designed collectively by the project team and adjusted in response to the group's interests as they developed over time. Several of these sessions were led by team member Keisha Thompson (see her **website**) , who brought her experience in education and her artistic practices to the project. We also welcomed and collaborated with guest artists and mathematics students who co-designed and facilitated sessions with us. The following lines offer a brief overview, with accompanying images, of the sessions carried out with the young participants.

WORKSHOP 1: EXPLORING GEOMETRIC FORMS

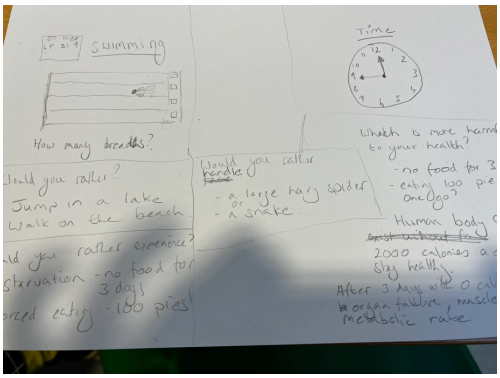
The first session was organised in collaboration with ***Leap Then Look***, an artist duo known for their participatory and material-based approach to learning. Together, we explored geometric forms using coloured tape on large tables. Participants created intersecting lines, identified the shapes produced at their crossings, and experimented with reproducing and assembling them in new configurations. The activity opened a collective conversation about how shapes emerge through gesture and relation, and how geometry can be experienced as something both playful and surprising.

WORKSHOP 2: MATHEMATICS AND PHOTOGRAPHY

Artist ***Simone Trumpet*** joined us for this session to explore the connections between mathematics and photography. She introduced some of the ways mathematical ideas find their way into her photographic practice and proposed a series of hands-on activities to prompt discussion and reflection. We were invited to take photographs of things that evoked mathematics within the room where the workshops took place, and to experiment with image composition through collage. Together we explored ideas such as the rule of thirds, proportion, and visual balance, discussing how these compositional choices can shape the ways we perceive pattern and structure in images.

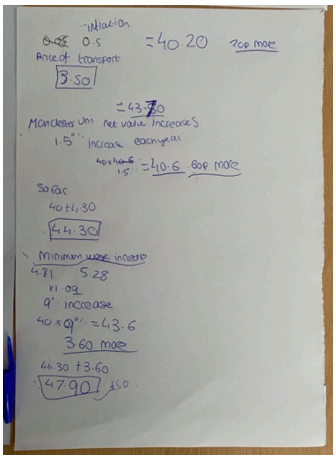
WORKSHOP 3: MATHEMATICS IN EVERYDAY LIFE

This workshop was designed and delivered by team member *Keisha Thompson* and centred on the question of whether we do more mathematics than we think, and how mathematical thinking appears in the everyday life of a young person outside the classroom. Together we discussed situations where mathematics might quietly take place, such as folding bed sheets, timing the journey to school, or planning purchases. These questions were explored through a series of group discussions and creative tasks, including composing mathematics-themed "would you rather" scenarios and building a collective **mathematical playlist**. The session encouraged us to recognise how mathematics is woven into ordinary actions and decisions.



WORKSHOP 4: MONEY SESSION

This session was designed and led by *Keisha Thompson*, following earlier conversations with the young participants about payment for the workshops. We wanted to clarify and open an explicit discussion about why they were being paid to take part in the project, and what it means to value their time and contribution. The session took the form of a collective exploration of value and labour. Together we worked through a practical exercise: if this project were to be repeated the following year, how much should they be paid? The discussion brought in considerations such as inflation, transport costs, the University of Manchester's net value increase, and changes to the minimum wage. The activity opened a broader reflection on fairness, recognition, and the different ways in which mathematical reasoning is part of social negotiation.

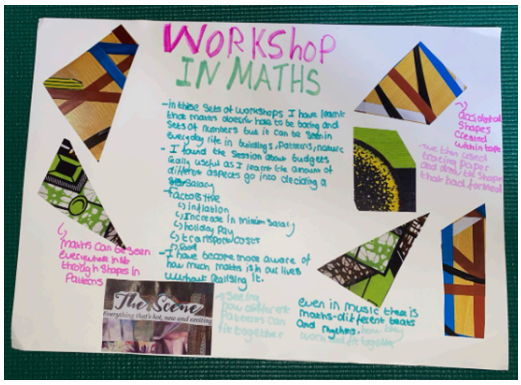


WORKSHOP 5: THINKING WITH MATHEMATICS STUDENTS

We were joined by three mathematics students from the University of Manchester, who each helped the group to explore connections between mathematics and the arts. Together we investigated the idea of tessellation through the making of shapes that could cover a plane without gaps or overlaps, experimenting with pattern and repetition as creative forms of reasoning. The session also turned to mathematics and music, as the group explored different beats per minute (BPM) ratios and discussed how some combinations work harmoniously while others create dissonance. The activities encouraged reflections on rhythm, pattern, and proportion as meeting points between mathematical and artistic thinking.

WORKSHOP 6: THE SHOWCASE

We created manifestos representing what the project had come to mean for all of us. These took the form of collages combining photographs from previous sessions with short written descriptions and keywords. We also organised a small public showcase, co-designed with the young participants, where they invited parents and friends to join. For this event, the young people selected activities that had stood out to them or that they wanted to share, revisiting moments from earlier workshops and adapting them for others to experience. The showcase offered a moment to celebrate the group's work.



FIELD TRIP: NATIONAL SCIENCE AND MEDIA MUSEUM IN BRADFORD

In March, we also organised a field trip to the *National Science and Media Museum* in Bradford, where our colleague Keisha Thompson was leading a public workshop on the possible links between poetic creation and the concept of exponentiation. The activity explored this idea through the making of *Kennings*, a poetic device that breaks a word into two parts to describe its qualities in a new way. For example, starting with the single word "refrigerator", one might decompose it into "cold" and "box", and then further expand each of these words in turns.

3. INTERVIEWS WITH OUR YOUNG COMMUNITY MATHEMATICIANS

In June 2025, after the end of the workshops, we met again with the young people who had taken part in the project for a series of post-project interviews. These meetings took place as informal video recorded conversations at the Powerhouse. Participation was entirely voluntary, and the group members had received the questions in advance so that they could reflect on their experience if they wished.

The conversations followed three open questions:
(1) How would you describe the project we did together in your own words?
(2) When you think back on the project, is there an activity, a conversation, or a moment that you still remember well? Why do you think this particular thing has stayed with you?
(3) What advice would you give us if we were to start the project again? Is there something we should do differently or something we did well?

Through these discussions, the young people offered their own view of what the project had meant and what it had made possible. Certain themes emerged across these conversations, each offering a different way of understanding what being a community mathematician meant in our pilot. These themes reflect how the young people described their experiences and what they found significant about the project. They are not presented as fixed categories or answers, but as facets of an evolving picture of the community mathematician, shaped by their own words and reflections. Taken together, these facets invite us to see the community mathematician as someone who: (3.1) sees mathematics differently and plurally; (3.2) builds mathematical confidence; (3.3) connects with others and values relationships ; (3.4) works with forms of mathematics that differ from school mathematics (3.5) cultivates curiosity (3.6) works in and with pleasure. The following subsections (3.1 to 3.6) develop these facets through the voices of the young people.

3.1 SEEING MATHEMATICS DIFFERENTLY AND PLURALLY

Many of the young people spoke about their views of what mathematics is and how these had shifted through the project. Their reflections offered a more open sense of what mathematics can be, describing it as something that is or can be “everywhere”. They started noticing it in places and situations they had not connected to mathematics before.

When discussing what the project was about for her, **M** highlighted different places where she now sees mathematics. She said, “I think it’s showing like that maths is everywhere in life, and

it's seeing how it comes up, even in like the simplest of things, like in different fabrics, you see the different shapes and I think it just really sort of uncovers how maths is just literally everywhere." She also noted shapes in buildings and in nature: "Like the way trees will form their branches and stuff…are mathematical forms and shapes…and even though buildings have been purposely made to look architecturally like that…I think you can notice small details…like especially in Manchester with skyscrapers."

In a similar way, **A** shared a shift in how she perceived what mathematics could be, pointing towards its more mundane aspects: "It opened my eyes to maths and like maths is everywhere…like for example it's in your daily life and…I used to just think it was about just money and time and things like that but it's not." She explained that after the workshops, she realised how it could appear in ordinary moments of her life, and that this recognition had an impact on how she perceived herself in relation to the discipline: "I didn't really realise that maths was everywhere like daily routines and things like that…but then after I did the project, I realised that it is and then…yeah I thought I was better at maths." She also recalled the first session, where she gave a specific example that had surprised her : "The taster session where it was about like putting the tape on the table and then like looking and drawing the shapes after…cos it made me realise that lines can literally just make any shape."

D also took us back to the same activity: "The only rule was that all the lines had to be straight…but even then we broke that rule and made curved lines…that was quite cool you know…seeing how maths and art sometimes clash but also come together", pointing out how, for him, mathematics and arts interacted throughout the project. He also highlighted, with some surprise, that humour can be part of maths, which he described as a new dimension for him: "Maths is not just numbers and letters…the entertaining part was quite, how do you say, was quite new to me. I remember when we did the session with the nine-slice pizza…and we were shown a video of the guy talking about it and joking about it."

In general, this reflection on the nature of mathematics was the comment we heard most often across the interviews. The young people described gaining a broader view of what mathematics can be and where it can take place, seeing it not only as something to be studied in school, but as part of the world they live in. Could being a community mathematician mean celebrating the diverse and surprising forms mathematics can take, and working towards making its possibilities more plural?

3.2 BUILDING MATHEMATICAL CONFIDENCE

Several of the young people spoke about how the project helped them feel more confident and realise that they had something to offer. Their comments highlighted that the project gave them confidence to express themselves, not only in doing mathematics, but also more generally.

A described this change as "very empowering," explaining that "it actually made me feel like I'm good at maths…like people say that I'm good at maths but I don't really believe it…but it made me realise that also I've got good ideas and that it's ok to share them." She reflected on discovering new aspects of her own abilities, noting that if she were to describe the project to someone else, she would say: "I would just say that they can say whatever they want and it's a safe space…like even me I don't like to speak and I was giving ideas."

D also spoke about becoming more comfortable with expressing his thoughts. He said, "all these sessions they helped me to speak more…convey my ideas more…they've helped me to learn how to speak more…you know…I'd say I speak pretty good now…but I tell you what, one or two years ago I would not have been this confident you know…I feel like I can talk like a…I can talk like a politician…yeah…about any kind of thing now." For **K**, taking part in the workshops was also linked to a sense of doing well in his studies: "I feel like I did better in my GCSEs… I mean I get my results on the 21st of August so…we'll see."

Together, their comments suggest a gradual growth of confidence built through participation and exchange within the group. Do their words suggest that being a community mathematician might involve recognising oneself as capable and confident in mathematics, while also helping others to recognise themselves as such?

3.3 CONNECTING WITH OTHERS AND VALUING RELATIONSHIPS

Several of the young people highlighted in their interview that one of the main values of the project for them was connecting with others and spending time with friends. Their words emphasise the importance of doing something together with peers and developing new connections.

When asked about something we did well throughout the project, **K** responded " I mean from the project I think it was a good thing to do…obviously you learn all about savings and stuff and at school you're not quite there with the maths and stuff …and also like you've got your friends here and stuff like that…yeah…" His response places side by side the idea of learning something

useful and the value of sharing that experience with friends, suggesting that the two were closely connected. When asked about describing the project in his own words **L** answered " I'd say it's really fun and you meet new people"- suggesting that making new connections was something that stood out for him.

D described how the project helped him connect with others beyond the sessions themselves. He says "It helps us to socialise…it helped me socialise with other people in the sessions…in fact after the entire Bradford trip I went with some of the others…the other people and we had like…we had a bit of dinner at a local café…so that was nice…I got to socialise a bit…but I'd say that the Bradford trip did help to contribute to me you know…talking with other people more and getting involved with the Powerhouse more."

These reflections show that connection was not only a background feature of the project but one of its central outcomes. Through shared activities and time spent together, the young people built friendships and a sense of belonging that extended beyond the sessions. Could their words suggest that community mathematics is more than an enterprise that celebrates individual achievement, as it often does in textbooks or theorems where names of mathematicians are highlighted, and instead values the doing together and the weaving of relations?

3.4 WORKING WITH FORMS OF MATHEMATICS THAT DIFFER FROM SCHOOL MATHEMATICS

The conversations with the young people also brought forward certain contrasts with school mathematics. The contrasts they discussed were both affective, relating to how mathematics made them feel, and practical, concerning the contents and usefulness of what they were learning in their everyday lives.

When discussing school mathematics several of the young people described a clear difference between their experience and what they did in the project. **R** answered directly, "No," when asked if he liked school maths, but spoke positively about how the project made him feel. We return here to a comment from **K**, also cited earlier, where he draws an explicit contrast between what is done in school and what he learned in the project: "I mean from the project I think it was a good thing to do…obviously you learn all about savings and stuff and at school you're not quite there with the maths and stuff". His words point to a sense of learning something that has meaning and value in his life, while recognising that school mathematics does something different.

M articulated this contrast by bringing together creative and practical dimensions of mathematics that she did not associate with school learning. Reflecting on the project, she explained "we've also like done different budgets and things…like the cost of everyday life…so the more practical use of maths for that…just doing like your times tables or different equations". **M**'s comment highlights a form of mathematics grounded in everyday concerns and decision-making, which she experiences as different from a more school-based mathematical work.

A also pointed to this difference, emphasising the question of relevance: "It's also maths that you all need in the future…and textbooks is what you mainly do in school and book work and stuff like that so it's just like written maths…it's not really showing you how you're gonna use it in your average day." Her comment suggests that the mathematics she experienced in the project felt closer to her own concerns and everyday life.

These reflections point towards forms of mathematics that can exist and take shape outside of school, carrying different meanings and relations. They suggest that what happens in community settings might not simply be the same mathematics relocated beyond the classroom walls, but mathematics that changes through where and how it is lived. This might suggest that being a community mathematician involves engaging with, and even inventing, these transformed forms of mathematics, and rethinking one's relationship with the discipline?

3.5 CULTIVATING CURIOSITY

Across the interviews, curiosity emerged as an important feature of the project. **M** articulated this in relation to how the project shaped her attention to everyday situations. Reflecting on mathematics, she explained "you're constantly, not always thinking about it but it is actually happening". Her comment frames curiosity as an ongoing attentiveness to processes already taking place in everyday life, where mathematics becomes something to notice and recognise.

The trip to Bradford was also remembered by several of the young people as one of the highlights of the project. It stood out as an opportunity to spend time together in a different setting and engage with activities outside their usual routines in Manchester. Their words point to a sense of curiosity and to the value of stepping outside familiar surroundings and rediscovering certain aspects of themselves and of the world.

When asked about the most memorable thing we did **A** said, "The trip to the museum…we actually went out and did something and that made me remember it more." Her comment points to the break from routine that created lasting memories. **D** links this movement out of familiarity

to a renewal of his social confidence: “Going to a new city helped me socialise…I’ve only seen Manchester and Birmingham before…we got to see a whole different city…I got to see a whole different culture…but in general just travelling is quite good…it helps us to socialise.” When asked the same question, **R** highlighted the excitement and sense of adventure of our collective journey to Bradford: “I liked going Bradford…going somewhere new…I like going like…on an adventure.” And **L** mentioned the feeling of novelty: “Going to Bradford and experiencing new things.”

It is also worth noting that this was the only activity for which the young people were not paid. The Bradford trip was optional. We covered the transport and food costs, and despite the variety of things we did together throughout the project, this trip was remembered by many as the most memorable. Could their words suggest that being a community mathematician also involve cultivating curiosity and stepping out of familiarity?

3.6 WORKING IN AND WITH PLEASURE

Finally, one last theme that emerged from the interviews relates to the sense of pleasure that young people expressed when talking about their experience. Both in the words and in their tone of voice, they conveyed a clear sense of enjoyment in sharing what they had done and in recalling a positive experience.

For example, **L** used the words “really fun” several times during his interview, whether to describe the project as a whole or to refer to what he thought we did well. And **D** when asked how he would describe the project began by saying: “Well it was quite entertaining first of all, and educating also” linking entertainment and learning.

These comments suggest that the playful and entertaining aspects of the project were not separated from what they might have gained through it or from the learning that took place. They were part of what made their participation meaningful. Could their words suggest that community mathematics involves cultivating the pleasure of doing and learning mathematics not out of obligation or for a test, but through genuine enjoyment?

4. WIDER IMPACT AND SIGNIFICANCE

This section situates participation in the *Very Local Maths* project within the broader picture of young people's educational trajectories, drawing on feedback received after the project from Andrea Nelson, the SEND specialist, who collaborated on the workshops. Within her SEND youth work, she continued to incorporate the work undertaken in the project with the young people in the year that followed. This feedback makes it possible to identify three interconnected areas of impact: (1) progression in education; (2) volunteering, work experience, and community contribution; and (3) gains in confidence and communication skills. Together, these areas provide a grounded account of how participation in the project connected to concrete development beyond the duration of the workshops.

4.1 PROGRESSION IN EDUCATION

Feedback from Andrea highlights several concrete developments in young people's educational trajectories following their participation in the project:

A, a 16-year-old female with complex special educational needs, including Autism and ADHD, had been out of education for 18 months due to emotionally based school avoidance. After the project, she re-engaged with education and is preparing to take her GCSEs in June 2026. She has been entered for the higher mathematics paper, an outcome she had not previously considered possible. The project supported a shift in **A**'s confidence and self-perception. Prior to the project, **A** described herself as "thick" and believed that learning was not for her. Following the project, she began to recognise her own potential and now aspires to study A levels and law at university.

K, a 16-year-old Looked After Child who had previously been repeatedly excluded from youth provision, applied to college following the project. Since September 2025, he has started his college course and has secured his first paid job. The project encouraged him to pursue securing a part-time job, as he began to recognise his value and the importance of quantifying his time. **K** now applies mathematical skills developed during the project to managing money and saving.

D, a 16-year-old with a hearing impairment whose family migrated to the UK three years ago, achieved a GCSE mathematics grade 6 following the project. His previous experience with maths in his "home country" was negative, as he was not regarded as having potential, which impacted on his confidence. Since attending the project, he has

progressed to T Level in Mechanical Engineering at college and plans to study mechanical engineering at university. **D** shows increased confidence in mathematics linked to his participation in the project.

L, a 16-year-old with complex SEND identified as being at risk of criminal exploitation. Following participation in the project, he has progressed to college and is undertaking a work experience placement in car mechanics. **L** now demonstrates greater awareness of the value of money and saving and is looking forward to obtaining his first paid employment.

R, a 13-year-old with learning difficulties and ADHD engaged strongly with the project through links between mathematics, music and arts. Following participation, there has been improvements in **R**'s behaviour at school and the development of saving habits. **R** now aspires to attend college, an outcome he had not previously considered possible.

4.2 VOLUNTEERING, WORK EXPERIENCE AND COMMUNITY CONTRIBUTION

Andrea Nelson reports that all young people involved in the project became active volunteers at the Moss Side Millenium Powerhouse.

Four participants each completed 97 hours of work experience with children and young people, resulting in a combined total of 388 hours. This work took place primarily during the summer playscheme, which ran for 16 days at four hours per day and supported activities for approximatively 50 children. In addition, participants contribute regularly to a weekly youth club session lasting 1.5 hours, working with around 20 children. These roles involve supporting activities, working alongside staff, and taking responsibility within group settings. This sustained level of volunteering represents a significant change for several young people who had previously experienced exclusion from youth provision.

4.3 GAINS IN CONFIDENCE AND COMMUNICATION SKILLS

Beyond formal educational progression, Andrea Nelson reports an observable change in confidence and communication skills. Young people were described as speaking more openly, participating more actively in group discussion, and conveying ideas with greater clarity. These observations align with the post-project interviews discussed in the previous section where young people described increased confidence. The SEND

specialist reports that these skills have transferred into other contexts, including education, volunteering and employment, supporting participation across settings.

Alongside these observed developments, Andrea also reported comments made by the young people in the months following the project. Presented together below, they offer insights into how the young people describe and understand the longer-term significance of their participation:

“It was a chance to see how important maths is and how it is involved in everything” - **A**

“Since attending the project, I have started to save and I am now buying nice stuff, rather than wasting my money” - **K**

“The project opened my eyes to the fact that later in life if I build a platform in mechanical engineering, then I could potentially have a say and represent people. - **D**

“I have learnt the value of money and I have started to save.” - **L**

“I always thought that someone like me could not go to college, because I was not clever enough, but I see that this was not true. Working with Manchester University helped me to see that someone like me can achieve.” – **R**

5. CONCLUSIONS

This report has presented the Very Local Maths project as an attempt to reimagine how young people might encounter and participate in mathematics outside formal schooling. The post-project interviews presented in Section 3 highlighted a shift in how young people perceived mathematics and their place in relation to it. Across their accounts, mathematics came to be described less as a narrow school subject and connected to increased confidence, relationships, curiosity, and pleasure emerged, which emerged as central features of what the project made possible.

Section 4 situated these experiences within the wider educational and social trajectories of our young community mathematicians, drawing on follow-up feedback from Andrea Nelson, who continued to work with them after the project ended. Her perspective showed how participation in the project connected, over time, to concrete developments beyond the workshops themselves, including re-engagement with education, progression to post-16 pathways, sustained involvement in volunteering and community roles, and increased confidence and communication across settings. Together they indicate how regular and relational engagement around mathematics can become part of broader processes through which young people (re)build relationships with learning, work and their futures.

Taken together, the outcomes presented in this report suggest that questions of inclusion in mathematics can be productively reworked by investing energy in informal environments. Attending to, documenting, and creating such community mathematics spaces offers ways to support how young people come to engage with mathematics and imagine themselves differently in relation to it, in ways that complement forms of participation that formal structures often struggle to sustain on their own. What might become possible if greater attention, time and resources were directed towards developing and sustaining these kinds of environments alongside formal education?

5. REFERENCES

Ladson-Billings, G. (1997). It doesn't add up: African American students' mathematics achievement. *Journal for Research in Mathematics Education*, *28*(6), 697–708. https://doi.org/10.2307/749638

Gillen, J. (2019). *The power in the room: Radical education through youth organizing and employment*. Beacon press.

Singh, A., Uijtdewilligen, L., Twisk, J. W., van Mechelen, W., & Chinapaw, M. J. (2012). Physical activity and performance at school: A systematic review of the literature including a methodological quality assessment. *Archives of pediatrics & adolescent medicine*, *166*(1), 49–55. https://doi.org/10.1001/archpediatrics.2011.716

Watson, C.E., Johanson, M., Loder, M., & Dankiw, J. (2014). Effects of high-stakes testing on third through fifth grade students: Student voices and concerns for educational leaders. *Journal of Organizational Learning and Leadership*, *12*(1), 1-11.

Wearmouth, J. (2008). Testing, assessment and literacy learning in schools: A view from England. *Curriculum Perspectives*, *28*(3), 77-81. http://hdl.handle.net/10547/224189

More information about the Very Local Maths project can be found at:
www.verylocalmaths.org.uk

Acknowledgements
The Very Local Maths Project has been funded by The University of Manchester Research Institute (UMRI)

Andrea Nelson, who runs SENSE S.E.N.D Services Ltd, an organisation that provides opportunities for SEND children, young people and their families, through working in partnership with the Moss Side Millennium Powerhouse.