MULTIPLY CAPABILITY SUPPORT PROGRAMME

Teaching and Learning

ABOUT THIS RESOURCE

This resource is aimed to provide some top tips and guidance to address the common challenges within Multiply. The content included in this resource has been drawn from discussions with providers, surveys, and learning from the Teaching and Learning webinar. We hope you will use the resource to promote discussion, support your planning and encourage creative approaches.

The Multiply Programme is delivered differently in each local area. The delivery framework is dependent on what your Local Authority/Combined Authority has agreed with you. If you are unsure of how your framework is delivered within your area, please do contact your local authority/combined authority.

Your local leads can support you. Click here to email.

Find more resources and links to join webinars and forums

WHAT IS MULTIPLY?

Multiply is an initiative instigated by the previous government which aimed to support adults to develop their maths skills. DfE funded the Multiply Capability Support Programme to encourage providers to share best practice, network, overcome challenges and develop strategies to increase reach and engagement throughout the programme. This resource concentrates on Teaching and Learning. It is worth noting that there are overlaps with the other resources produced e.g. *Learner Progression* so we suggest looking across the resources.

Find out more about the programme

Engaging the previously unengaged – ideas to generate interest

Focus on 'a new beginning' for learners and potential learners. The message being that it is never too late to learn and everything is possible.

Using word of mouth. Success breeds success and providers have commented on the importance of spreading the news about their offer through existing learners.

Maths cafés and other drop in opportunities for learners.

Informal classes and relaxed atmospheres – this is about making learners feel comfortable and willing to return to future sessions. This might include finding out what the learners want and need.

Consider the links to digital and literacy/English skills.

Fun activities will encourage learners to stay in class and want to come along next time. Learning through play.

Mathematical discussions should be central to all sessions. This is about natural discussion, which requires planning by the practitioner. Education Endowment Foundation (EEF) use the acronym TOLD. Take part, Opportunities, Links and Debate.

- Take part: we need to ensure that our learners engage. This might need some encouragement. Interesting and fun activities can support this.
- Opportunities: e.g. using naturally occurring moments to work on shared activities. Practitioners can encourage this through questions and using contexts that learners are familiar with.
- Links: building on what others have said and sharing experiences. Getting the conversation going.
- Debate: allowing learners to explain their thinking and the approaches they use. Encouraging discussion.

Much of the research on mathematical discussion/ dialogue has been carried out in schools. But it can still be informative for practitioners. For example NCETM suggest that eavesdropping on mathematical conversations can give the practitioner insight into conceptual understanding and pick up misconceptions.

Breakfast clubs. This might be linking to other activities e.g. dropping the children off at school. A cup of tea and some toast, encouraging informal chats can bring in hard to reach audiences.

Help your child with learning/homework.

Challenges

Capacity, in terms of staffing, to support learners through Multiply has proved to be a challenge. Providers have reported that initially a key concern was the shortage of qualified and competent maths teachers.

Short lead in times making planning challenging including impacts on capacity to deliver quality programmes.

Need to change plans when things are not working. For many providers their initial plans did not bear fruit. Analysis suggested that the naming of courses and some approaches were not attractive to potential learners. We have seen providers change their approaches throughout the Multiply programme to tackle this issue. This has resulted in many learnings which will add to the legacy of the Multiply programme.

> *"It's about more than the maths*

Positives

- Working in partnership by building strong relationships with other organisations and internal departments within councils.
- Staff are used to community delivery e.g. family learning.
- Encourage local community organisations to promote the support available.
- Using existing Hubs and facilities: building on established relationships and expertise within communities has proved successful across many authorities in gaining the trust of hard to reach audiences. Potential learners have responded due to the established trust and the routine of using familiar locations.
- Multiply offer linked to council vision.
- Targeting where there is need e.g. care leavers (money mindset), prison leavers, nurseries and schools (teaching assistants).
- Sharing good practice across teams and partners.
- The shortage of maths practitioners has resulted in a range of creative approaches to tackle this issue. Non maths specialists have used their skills to support learners to engage with maths in specific contexts.
- Increased staff confidence to deliver maths. This has resulted in non maths specialists asking to do more to support their learners' maths and a willingness to develop their own skills further.
- Use MIS to follow progression of learners.

> *"Walking taller, head held high, leaning in*

Case studies

CASE STUDY 1

Luton Council Multiply Programme

Being open to unexpected connections across the council resulted in hearing from the Licensing Department that taxi drivers were failing parts of their private hire and Hackney Carriage driver knowledge tests. This led to a large waiting list for the tests.

The response was to use internal expertise to ascertain what skills were needed to tackle the multiple-choice maths questions which formed part of the knowledge test (an 80% pass mark).

Multiply support concentrated on planning maths sessions to support drivers taking the test.

Over 40 drivers have passed the test and this has allowed the Licensing Department to return to their normal practice. A referral system continues.

> *Maths through the back door*

CASE STUDY 2

Newcastle and Stafford College Group

Attracted and retained learners with engaging activities which initially masked and then revealed the maths

Using fun hands-on activities and discussion practitioners supported learners to consider: tally charts; positional language; 2D and 3D shapes and lines of symmetry. But the overall objective was to promote a relaxed atmosphere and get them talking. This brought out rich mathematical language. By observing and listening this activity was also used as a diagnostic tool.

The activities were supported using positive images and messages to promote the belief in success and a recognition that everyone's journey is different.

Learner Journey Case Study

Luton Adult Learning, July 2024

Naiya Jaward

Good News Story from Entry level to Functional Skills L1, with the intention to achieve L2

Naiya describes herself as 'an eager learner'. Currently, she is a health care assistant, but her dream is to become a nurse. For this she needs to acquire some qualifications. When I met Naiya to ask her if we could hear about her learning journey, she was delighted to share her story with us.

She told me she had been wanting to pursue her career in nursing and for that she knew she had to achieve Level 2 Functional Skills qualifications. When I asked her why she wanted to start learning with Luton Adult Learning, she told me she was looking for a Functional Skills course where she 'didn't have to pay a lot' and 'not one that was online' as she claimed she wouldn't 'learn anything from it'. She discovered our website, searched our courses and was confident that the offer at Luton Adult Learning would 'tick all her boxes.'

Following success in Entry Level courses, Naiya said she wanted to continue in her studies to Level 1 and Level 2 which Luton Adult Learning was offering.

I asked Naiya how Luton Adult Learning had helped her. She told me she had been helped to 'grow as an individual' and that 'the teachers are so great in boosting the confidence I have lost throughout my life.'

Naiya says she has been helped to understand the pathways she could take to improve her skills and about other opportunities.

Naiya is a happy learner who is continuing her studies to achieve her goal. She has recommended Luton Adult Learning to her friend who is now also studying with us.

Update October 2024:

Naiya began with a 5 hour 'increasing confidence' Multiply course which led to a FS Maths L1 course and successful pass at Level 1 in July 2024.

Naiya has requested to be invited to enrol on the next Maths Level 2 Functional Skills course in January 2025. (Due to work commitments, she was unable to make the day/time of the course which commenced in September.)

Information gathered by Meriel Ascott, Engagement & Project Support Officer,
Luton Adult Learning, Summer 2024

Luton Adult Learning

Learner Journey Case Study

Luton Adult Learning, August 2024

Poli Mohamed

Good News Story from Entry 3 Maths, September 2023, to Functional Skills Level 2

Poli was born in Bangladesh but moved to Italy, aged 11, and lived there for over 7 years in three different cities. During this time, she became fluent in Italian and learnt a little bit of English.

In 2021, Poli moved to Luton with her family as her father came for work.

Poli found out about Luton Adult Learning through one of her mother's friends and was interested but then COVID disrupted life, so it wasn't until last year that she emailed, having remembered us.

Poli began her learning journey with Luton Adult Learning with a 5 hour 'increasing confidence' Multiply course that then led to Entry 3 Maths in September 2023. Within 10 months, she had achieved Functional Skills Level 1. She has been fast tracked onto Level 2 and enrolled at the end of August 2024.

Poli had a 4-year gap in learning due to moving country and COVID but says Luton Adult Learning helped her 'achieve (her) certificates.'

Luton Adult Learning is enabling Poli to develop her skills and gain her qualifications. She is extremely diligent, juggling full-time employment working as Duty Manager at Burger King at the airport, with learning. She is hopeful that she will be able to gain better paid employment in IT once she has gained her Maths (and English) qualifications. It is exciting to see Poli make the most of the opportunities that the Multiply project/fund has provided. She knows her future employment prospects are improved as a result, and she is working hard to realise them.

Poli enjoys coming to learn at Luton Adult Learning because of 'the people – (her) teachers and classmates' and because 'it is nice and clean.' She is impressed with Luton Adult Learning and has recommended it to colleagues at work, especially to 'someone who has failed GCSEs 3 times'.

Information gathered by Meriel Ascott, Engagement & Project Support Officer, Luton Adult Learning, Summer 2024

Luton Adult Learning

How to engage and support non-maths specialists

Non maths specialists have proved to be crucial in the support of learners in many of the Multiply programmes. They can bring a different perspective to maths learning particularly when working with hard-to-reach learners many of whom have anxiety and low confidence, others don't see the value of maths. This has not been about non maths specialists becoming maths specialists, but instead using their skills to overcome barriers and engage learners in learning. This is about practitioners working together and sharing their complementary skills.

A maths glossary for non-maths specialists

Helping non maths specialists to unpick the terms used can support their understanding and develop their confidence. This is not to suggest that they are to become maths specialists but might encourage them to feel comfortable to ask what a term means – welcoming them into the maths community. The language of maths can be a barrier to engagement for learners and practitioners.

These are a few terms which were used in the teaching and learning webinar.

Subitizing - Instantly recognizing the number of objects in a small group, without counting. Conceptual subitising is the ability to recognise small amounts within a larger amount to find the overall total. This is an important part of developing understanding about composition.

CPA – concrete/pictorial/abstract - This is a maths mastery strategy used in schools and colleges. It involves using concrete materials and pictorial/representational diagrams. Abstract is the 'symbolic' stage e.g. using mathematical symbols. Skilled teachers move back and forth between these stages reinforcing concepts.

Mastery teaching - The mastery approach is based in 5 key principles which are mirrored by many of the approaches seen across Multiply support programmes.

Find out more about Mastery Teaching

Support staff with teaching tools

This can give practitioners a framework to support adult learners e.g.

- Coaching and mentoring skills e.g Grow model (see the links to further support).
- Shared resources, developed across teams which share expertise. This can open up time for teachers to do more fun additional activities rather than developing lesson plans.

Open opportunities for teaching staff to incorporate more maths into their practice

- Communication and other skills are central to supporting maths learning. These should be celebrated.
- Ensure that practitioners are being asked to teach appropriate levels of maths, not beyond their present capabilities. Doing so can have a negative impact on both the practitioner and their learners.
- Digital, literacy and maths – making the links as appropriate.

Maths anxiety in teachers webinar

Supporting maths specialists

This can also be a challenge! Maths specialist may be used to a different pace and different learner needs. Working as a team across all areas of expertise will develop all practitioner skills.

“ Reignite the passion

Ideas as to how to support adult learners with their maths

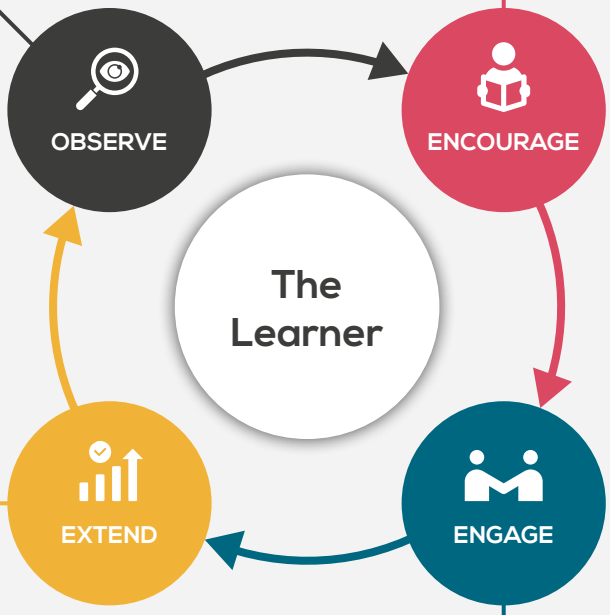
> *"Engage, engage, engage... Teach*

Encourage

- Value learner's skills and their contributions. Highlight good experiences and the skills they already have – use these to counteract (and 'offload') the negative.
- Develop a positive learning atmosphere 'not like school'. Unpicking negative mindsets and encouraging positive language.
- Build confidence and give learners tools to tackle their anxiety.
- Ensure a flexible pace of learning – no one left behind.
- Share our mathematical journeys.

Observe

- Recognise, and acknowledge the learner's existing skills.



Extend

- Acknowledge achievement.
- Highlight next steps. Consider developing pathways of short practical courses.
- Breaking down barriers between learning contexts.
- Signpost.
- Collect learner feedback to inform next steps and planning. Encouraging learners to tell you what they would like to do next.

Engage

- Provide an interesting learning environment.
- Linking mathematical concepts to everyday life.
- Use activities and contexts relevant to the learner and their goals and their 'imagined futures'.
- Be a provider of accessible information.
- Consider anxiety at every stage of the learning journey.
- Help learners recognise maths anxiety.

Hints and tips

Good teaching and learning is central to success. Whether practitioners are maths specialists or not they need to bring their teaching experience and skills to bear. Developing these skills takes time and practitioners need to be supported via CPD and working in partnership with their colleagues.

Work with partners. This might include: prisons; schools; community projects; and charities. It is also crucial to consider internal partners within local and combined authorities.

Setting realistic goals with your learners. This can only be done by getting to know your adult learners and working with them to visualise their learning journey.

Use images to support confidence building and positive mindsets. Jumping into using abstract maths concepts is not supportive of many learners. Using the maths that is all around us can engage and support our learners.

Embed learnings and experience from previous projects. Just as we are considering the legacy of Multiply we should also consider earlier programmes.

Align what is done/planned to the LA/Combined Authority vision.

Confidence is key – learners need to be in the right frame of mind to learn.

Supply learners with revision guides, calculators, books and maths kits if appropriate.

Be prepared to change when your plan isn't working (be light on your feet).

Useful resources and links

Associate Professor Sue Johnston Wilder – The Maths Anxiety Trust

Curriculum without borders "virtually everyone can think mathematically"

Outstanding T&L research projects

WEA, 2018. Barriers to learning for disadvantaged groups.

"You wouldn't expect a maths teacher to teach plastering"

Centres for Excellence in Maths (CfEM) was a five-year DfE-funded national improvement programme aimed at delivering sustained improvements in maths outcomes for 16-19-year-olds, up to Level 2. The project ended in March 2023.

Centres for Excellence in Maths project resources

Open University - 'Using the GROW coaching model '

This is part of a free course from the OU on workplace learning with coaching and mentoring.