

MEANINGFUL MATHS AND ENGLISH

**GUIDEBOOK FOR TEACHERS OF ENTRY AND PRE-ENTRY LEVEL MATHS
AND ENGLISH ON EFFECTIVE WAYS TO ENGAGE LEARNERS WITH SEND**

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This guidebook has been developed for the Education and Training Foundation by Natspec and four of its member colleges:

- Communication Specialist College Doncaster
- Derwen College
- Foxes Academy
- The Mount Camphill Community.



1. Introduction

Maths and English skills are vitally important to learners with special educational needs and disabilities (SEND) – because they help unlock opportunities to work and otherwise lead fulfilling adult lives.

However, many post-16 learners with SEND have had poor experiences of maths and English at school, leaving them with low levels of confidence and motivation. Often, they cannot see the relevance of these skills and can be reluctant to engage.

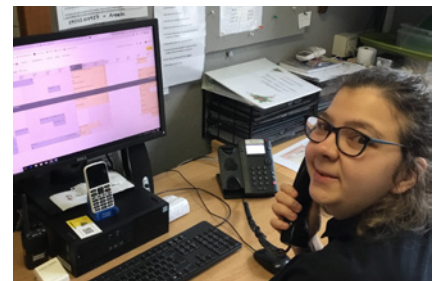
This guidance booklet is part of a resource pack designed to help you, as teachers, make English and maths come alive for learners - by linking these skills explicitly to their own individual ambitions for the future.



George, The Mount Camphill Community:
“Learning to read means I can follow instructions. It's given me the confidence to try new recipes.”

Nia, Foxes Academy:

“You need to be able to use a calendar if you're going to be taking bookings in a hotel.”



Fred, Foxes Academy:

“Now I can do subtraction, I can give customers the right change.”

2. Taking a person-centred approach

Whether your learners with SEND are entered for maths and English qualifications or following a non-accredited programme, the focus should always be on

- equipping learners with the skills that are most significant to them
- using teaching and learning strategies that make the skills relevant to learners' lives.

You can find more information on personalising the maths and English curriculum in non-accredited learning in section 2.2. However, it's just as important to build a curriculum around learners' interests, strengths and development needs, when you are using external qualifications.

For 16-19 year olds - and 19-25 year olds with an Education Health and Care (EHC) Plan - it is important to establish for each individual whether they should be entered for a GCSE, functional skill or stepping-stone qualification, in line with the ESFA condition of funding. Where you have assessed a learner with SEND as capable of working towards one of these qualifications, you may need to work extra hard to demonstrate the relevance and importance of some aspects of the syllabus which are less obviously critical in helping them achieve their goals.

This is where **contextualising** can be very helpful.



2.1. CONTEXTUALISING

Contextualising maths and English means putting abstract skills into a specific context that makes them meaningful for the learner. It can make discrete English and maths sessions seem an integral part of a vocational course. It is also a useful way to tackle skills that learners may see as pointless or too difficult to grasp!

The following are examples of English and maths skills that have been contextualised to a vocational area, work setting or life skills task.

EXAMPLES OF CONTEXTUALISATION

Maths/English skill	Contextualised learning
Use and compare measures of length and weight (E3 Maths)	Horse care Use given girth and body length measurements of different horses to calculate the weight of each horse. Use body weight to calculate correct amount of feed for different horses. Record amounts in ascending order.
Group objects into sets using a single criterion Identify the odd one out in a familiar collection (M7 Maths)	Horticulture/Animal Care Sort different items of PPE into boots and coats/jackets. Check each other's work to identify if any items have been wrongly placed.
Identify and extract information and detail from short explanations Use punctuation correctly Use the first and second letters to sequence words in alphabetical order (E2 English)	Music (adaptable to any other area of learner interest) Compile a short list of musical instruments. Research each instrument and write one or more short sentences about each. Order the instruments alphabetically to create a summary information sheet. (Encourage inclusion of instruments such as trumpet and tuba, cello and clarinet to enable first and second letter sequencing.)

TOP TIPS FOR CONTEXTUALISING

The following advice comes from English and maths tutors experienced in working with learners with SEND.

Contextualising advice

- Be clear about the maths or English skill you want the learners to develop. Then come up with a context that will make this abstract skill meaningful for a particular learner or group of learners.
- Don't contextualise in a tokenistic way, like asking construction learners to add 13 bricks and 18 bricks. Think of a work situation where it will be important for them to be able to do a simple addition and use that scenario.
- When you're using objects to support learning in your maths sessions, avoid counters or blocks and choose items such as plant pots for horticulture students or sugar sachets for your intern working in a cafe. Link their use to actual vocational tasks.
- Explain to learners why the aspect of maths or English is important to the vocational area they have chosen, e.g. ratios when preparing a baby's formula milk or making cocktails.
- Don't be afraid to get practical! Use tasks linked to areas of interest for your learners to introduce a new topic, e.g. for a group who enjoy art, have them mix paints of different colours in different proportions as a way of demonstrating what is meant by 'ratio'.

2.2. DEVELOPING A CURRICULUM FOR NON-ACCREDITED MATHS AND ENGLISH

Where learners are on non-accredited programmes, you are free to define the maths and English content yourselves. You should aim to include the maths and English skills that are important to the individual, particularly in terms of enabling them to achieve the medium and longer-term outcomes they want to achieve. Remember it's still a requirement that you include 'appropriate literacy and numeracy' in study programmes for learners aged 16-19 (and 19-25 with an EHC Plan), even where they are exempt from external accreditation.

The following questions can be useful in helping define a maths and English curriculum for learners following a more personalised, non-accredited programme. You may also find them helpful in ensuring that learners working towards qualifications enjoy an equally meaningful experience!

Curriculum-building questions

- What ambitions for the future do my learners have - in terms of work, leisure, housing, personal lives? What broad areas of maths and English are going to be most useful to my learners in achieving these ambitions?
- What are my learners' annual goals and/or termly targets? Which specific aspects of maths and English will help them achieve these goals/targets?
- What can my learners already do in terms of maths and English? How can I consolidate/generalise those skills, so they are able to transfer them to different aspects of their lives?
- What are their strengths in relation to maths and English? Could I build on these to help them extend these skills further?
- Is a lack of particular maths or English skills holding my learners back from doing something they want to do? Could I help them address this barrier with some English or maths input?
- Could I help them find ways around a lack of maths and English skills that - even with the best will in the world - they are never going to gain (e.g. create and use visual prompts instead of trying to retain multi-step oral instructions)?



2.3. WHAT DO MATHS AND ENGLISH LOOK LIKE AT PRE-ENTRY?

The [Pre-Entry Curriculum Framework](#) sets out literacy and numeracy skills relevant to learners at the very earliest stages of development through to those working just below Entry 1. Literacy includes contexts for communication; speaking and listening; reading and writing. Numeracy includes context for number; number; measure, shape and space; handling data.

The content is organised as a series of eight milestones which mark significant points in the development of literacy and numeracy skills. You can use these to establish your learners' starting points and track their progress, whether that is lateral, vertical or more about maintaining existing skills. The first three milestones, relevant to learners at the earliest stages of development, are almost identical across literacy and numeracy and focus on

- encountering experiences
- responding with reflex
- engaging in communication (literacy) and with objects and environment (numeracy).

All of this means that pre-Entry maths and English, particularly at the earlier milestones, is likely to look very different from what happens at Entry 1 and above, where learners are expected, for example, to be able to read short sentences or carry out simple calculations. While the terminology in the Pre-Entry curriculum framework may be similar to that in the functional skills standards, the learning activities will be quite different.

For example, at pre-Entry:

- **Using common measures** may involve learners choosing a big pan and a small pan and finding the matching lids for each.
- **Handling data** might mean sorting coat hangers by the colour of their tabs ready for hanging clothes by size in a charity shop.
- **Speaking or using other means to communicate** could involve learners using an object of reference to indicate a choice between two activities.
- **Reading** might include learners following picture-based instructions to set a table.

Further examples can be found in the online [Pre-Entry Curriculum Framework](#).

At pre-Entry level, teaching of maths and English will almost always be integrated into a broader programme of learning and led by the learners' individual needs.



3. Embedding maths and English

Embedding maths and English means giving learners opportunities to develop, apply and improve these skills while they are busy undertaking vocational or other learning, whether in the classroom, workshop, workplace or community.

Taking an embedded approach is sometimes described as a way to 'smuggle in maths and English' without learners noticing. This can be very helpful for learners with SEND who often lack confidence or have convinced themselves that they can't do maths or English. But it can also be important to help learners recognise that they **are** capable of doing maths and English. Realising that they have successfully applied a range of maths and English skills when they thought they were just completing a vocational task can give learners the confidence to try out these skills in other situations.

Embedding is often about seizing naturally occurring opportunities for maths and English development. When learners are being introduced to new skills, you may need to put a special focus on them by:

- making repeated use of maths or English terminology
- pausing the vocational task to speak to the whole group about the maths or English element
- encouraging learners to repeat the maths or English element to gain confidence and/or competence
- reflecting on where else in their learning or lives these skills might be useful.

For example, when learners are weighing out ingredients in a catering class, you might: refer to grams and kilograms; look at different types of scale (balance, mechanical, digital) to see which they find easiest to read/use; show learners how to weigh out the first ingredient, then have them do the next two increasingly independently; discuss why it's important to weigh accurately when you're cooking; identify other circumstances in which they might need to weigh something.

When learners are practising skills with which they are already familiar such as counting, e.g. when putting the right number of chairs around tables for a conference, you may decide to make no reference to maths at all.



EMBEDDING EXAMPLES

Task	Embedded maths and/or English skills
<p>Plant a range of summer-flowering plants in a container</p> <ul style="list-style-type: none"> • Select appropriate number of plants, including plants of different heights and colours to create a pleasing display • Select a suitable pot to ensure that it allows compost to be added to an appropriate depth • Space plants evenly • Create planting holes of an appropriate depth 	<p>Entry level 2 – using common measures, shape and space</p> <p>14. Use metric measures of length including millimetres, centimetres, metres and kilometres</p> <p>Learners working at lower levels could:</p> <ul style="list-style-type: none"> • compare size (choose the bigger pot; pick the tallest plant) • count (select given number of plants needed) • sort by one property (choose one with red flowers and one with yellow) <p>Learners working at higher levels could also:</p> <ul style="list-style-type: none"> • work out the capacity of different containers and check how many containers could be filled from a given bag of compost • calculate costings, including how to sell the container at a profit.
<p>Check and record temperature of retail refrigerators, identifying whether temperature is within permitted range</p> <ul style="list-style-type: none"> • Select correct form for recording temperatures • Add correct date in appropriate place • Check each refrigerator temperature display and record results • Compare temperatures to the recommended standard to ensure they are within the permitted range (2-5 degrees C) 	<p>Entry level 1 – using numbers and the number system – whole numbers</p> <p>1. Read, write, order and compare numbers up to 20</p> <p>Learners working at lower levels could:</p> <ul style="list-style-type: none"> • recognise/read out numbers on the temperature displays for someone else to record <p>Learners working at higher levels could also:</p> <ul style="list-style-type: none"> • identify how far out of the permitted temperature range any non-compliant fridges are, and record the time taken to bring the temperature back to an appropriate level • compare today's temperatures with those across previous weeks to check general reliability of each fridge • produce a bar chart to show any variances in temperature
<p>Find out about possible careers, search and apply for a job</p> <ul style="list-style-type: none"> • Prepare for and take part in an interview with National Careers service adviser • Find and read job descriptions to select a suitable job • Fill in an application form 	<p>Entry level 3 – speaking and listening</p> <p>4. Respond appropriately to questions on a range of straightforward topics</p> <p>Entry level 3 – reading</p> <p>9. Identify, understand and extract the main points and ideas in and from texts</p> <p>Entry level 3 – writing</p> <p>19. Write text of an appropriate level of detail and of appropriate length (including where this is specified)</p> <p>22. Use language appropriate for purpose and audience</p>

TOP TIPS ON EMBEDDING

The following advice is for non-specialist maths and English teachers. It comes from tutors (specialist and non-specialist) who are experienced in supporting learners with SEND to develop their maths and English skills.

Embedding advice

- Think of maths and English as part of your job – it's one aspect of getting your learners ready for work in your sector.
- Even when maths and English are mainly delivered by specialist tutors, you still have a part to play - learners can practise what they are learning in the discrete sessions in your classes.
- Make yourself aware of any specific maths and English targets your learners are working towards – could you help with these?
- Plan how you'll address maths and English in your sessions; don't just expect it to happen or you'll miss good opportunities.
- For English skills, start with two simple questions:
 - will learners be doing any reading, writing, speaking or listening in this session?
 - could I help them improve in any of these areas as part of the vocational task?
- For maths, make yourself a prompt card with the words 'Numbers, measure, shape, space, data' on it and keep it to hand when you are planning sessions.
- Don't 'ram' in the maths and English where it doesn't really fit. Learners find it a turn-off.
- Don't overload your vocational task with maths or English skills. It has to remain primarily vocational.
- Be aware that a single group task often allows you to embed different maths and English skills at different levels, as appropriate to each individual in the group.



4. Cross-departmental approaches to maths and English

In many settings, specialist maths and English teachers and vocational teachers will be sharing responsibility for developing learners' maths and English skills, often through a combination of discrete and embedded approaches. It is important that staff from the different departments work together to plan the learning, considering which maths and English skills must be covered, and how, when and by whom the different skills will be addressed. Finding time for this kind of joint-working is not easy, but it is essential if your learners are to have a positive experience of maths and English.

The following tips are for vocational tutors and should help you combine your expertise with that of your maths and English colleagues to the benefit of your learners with SEND.

TOP TIPS ON CROSS-DEPARTMENTAL WORKING

- Make the time for joint planning between vocational and maths and English colleagues.
- Have a shared understanding of the maths and English skills to be covered between you and who will lead on what.
- Identify the maths and English skills particularly important in your sector – and be prepared to take a lead on these.
- Explain to your specialist maths and English colleagues how you plan to build these into the vocational programme.
- Seek their advice on effective ways to help learners develop and master the maths and English skills you are leading on, including how a learner's SEND might affect the way you need to go about things.
- Provide advice to your specialist colleagues on vocational scenarios that they can use to keep the learners engaged in discrete maths and English sessions.
- Be aware of what each other is doing so that you can reinforce each other's approaches and give learners the opportunity to practise skills across the curriculum.
- Share feedback on learner progress and be prepared to adjust your original plans if learners are struggling with a particular aspect of the learning.
- Consider doing some team-teaching if timetables allow
- Value each other and your distinct specialisms – but think of yourselves as a team

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