

Strategies to Embed English and Maths

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LXPSkills
LXPTalent



Who am I?

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- Lover of creating spaces and resources for **all** teachers and students/apprentices to collaborate, learn & thrive!
- Teaching and Learning Excellence Manager at FE college
- Teacher Training lecturer (L3 AET/L5 DiT/PGCE)
- Education Quality and Standards board member for ETF

In this session we will ...



- Recognise the importance of embedding English and maths within apprenticeship learning.
- Identify opportunities to integrate English and maths within vocational teaching.
- Apply practical strategies that support apprentices to develop these essential skills.

Let's get started...



Look at these everyday apprenticeship tasks...

1. Completing a risk assessment
2. Reading manufacturer's instructions
3. Writing an email to a customer
4. Measuring materials
5. Completing timesheets
6. Ordering stock

Which ONE of these do you think uses the MOST English and maths?

Pop an answer in the chat



The answer...

All of them.

Embedding **isn't about teaching more** English
and maths.

It's about making the English and maths
already happening more explicit.

**Recognise the importance of
embedding English and maths**

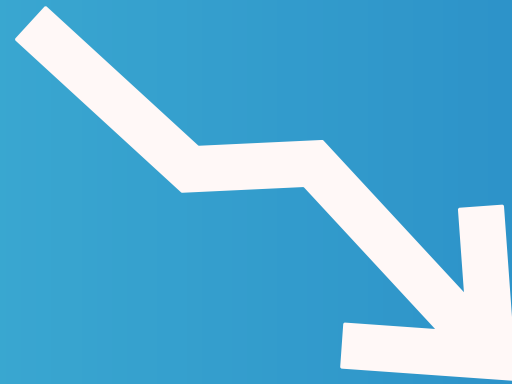


Why does embedding matter?

- apprentices see relevance
- develops confidence
- improves workplace competence
- prepares for EPA
- supports career progression



The country faces a persistent challenge: about 8.5 million adults in England are estimated to have low proficiency in English, maths, or both, posing a barrier to further training, employment, and social mobility.



In the most recent data for 2023/24, enrolments on “Essential Skills English and Maths” courses in FE declined by around 5.4%.



Funding and policy frameworks continue to emphasise GCSE-equivalent (or Functional Skills) English and Maths for post-16 learners: students who did not achieve a pass (roughly equivalent to grade 4 / level 2) are typically required to continue studying.

What does research tell us?

Learning is strengthened when knowledge is connected to meaningful tasks and applied in authentic contexts
- **EEF (2021)**

Learning is most effective when it takes place within authentic social and workplace contexts
- **Lave & Wenger (1991)**

Combining words with visuals, diagrams and practical examples improves understanding and memory
- **Paivio (1986)**

Over to you



Finish this sentence..

*Apprentices struggle with English and maths
because...*

Pop an answer in the chat box

It's more than English and maths...

"I'm not an English teacher."

"I don't teach maths."

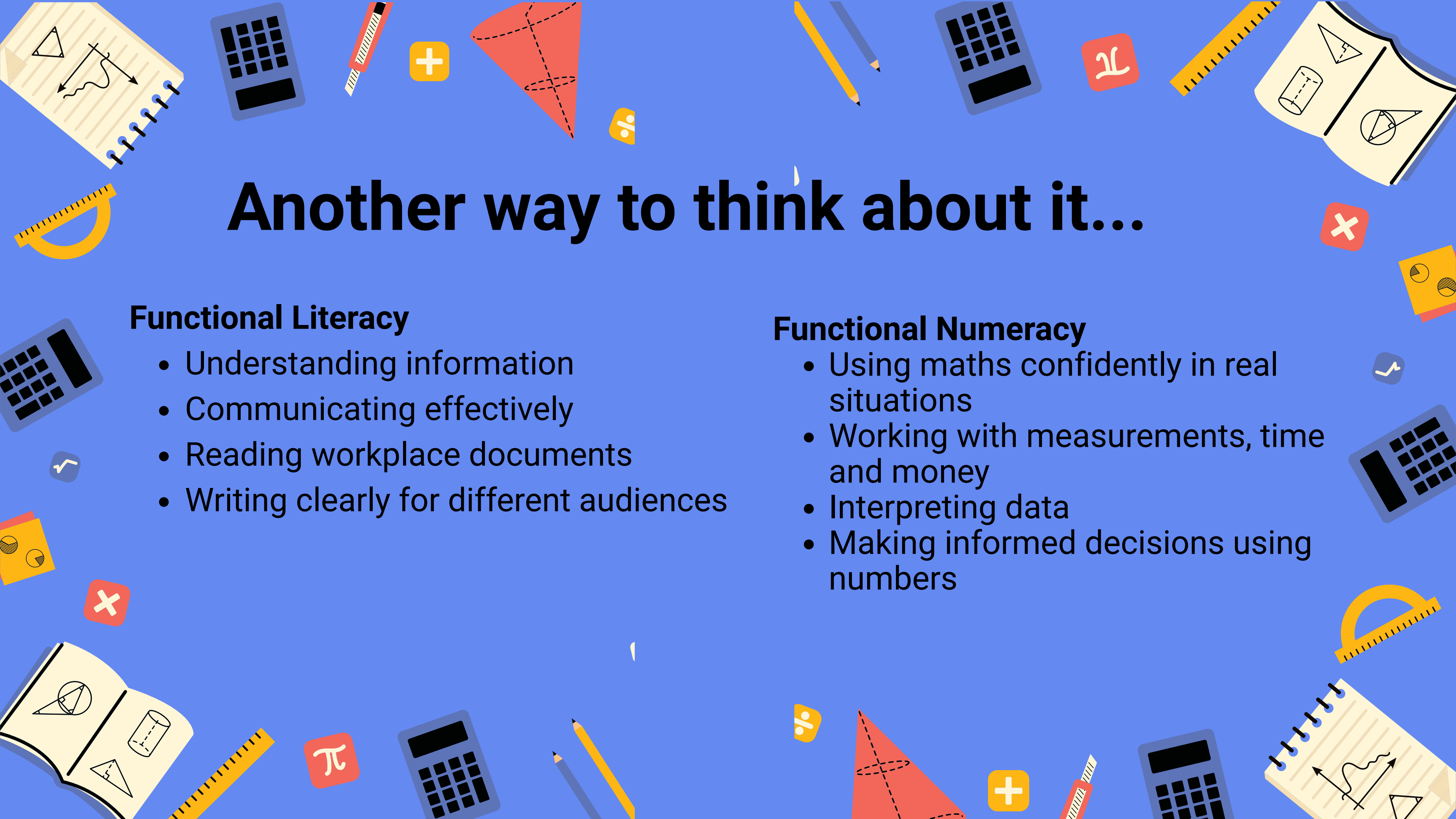
**Identify opportunities to integrate
English and maths**

English

Communication
Reading
Writing
Listening
Speaking
Technical vocabulary
Explaining ideas

Maths

Measuring
Estimating
Calculating
Comparing
Interpreting data
Problem solving
Using numbers confidently

A decorative border of various mathematical and educational icons surrounds the central text. The icons include a spiral notebook with a triangle and wavy line, a blue calculator, a red pencil, a yellow plus sign, a red cone with dashed lines, a yellow percent sign, a yellow pencil, a blue calculator, a red pi symbol, a yellow ruler, a spiral notebook with a cylinder and triangle, a red plus sign, a yellow square with a circle and line, a blue checkmark, a blue calculator, a yellow square with a circle and line, a red plus sign, a spiral notebook with a triangle and cylinder, a yellow ruler, a red pi symbol, a blue calculator, a yellow pencil, a red cone with dashed lines, a yellow percent sign, a yellow plus sign, a red pencil, and a blue calculator.

Another way to think about it...

Functional Literacy

- Understanding information
- Communicating effectively
- Reading workplace documents
- Writing clearly for different audiences

Functional Numeracy

- Using maths confidently in real situations
- Working with measurements, time and money
- Interpreting data
- Making informed decisions using numbers

Over to you



Where could English or maths naturally appear in your vocation?

Pop an answer in the chat box

Tolerances

Technical Vocab

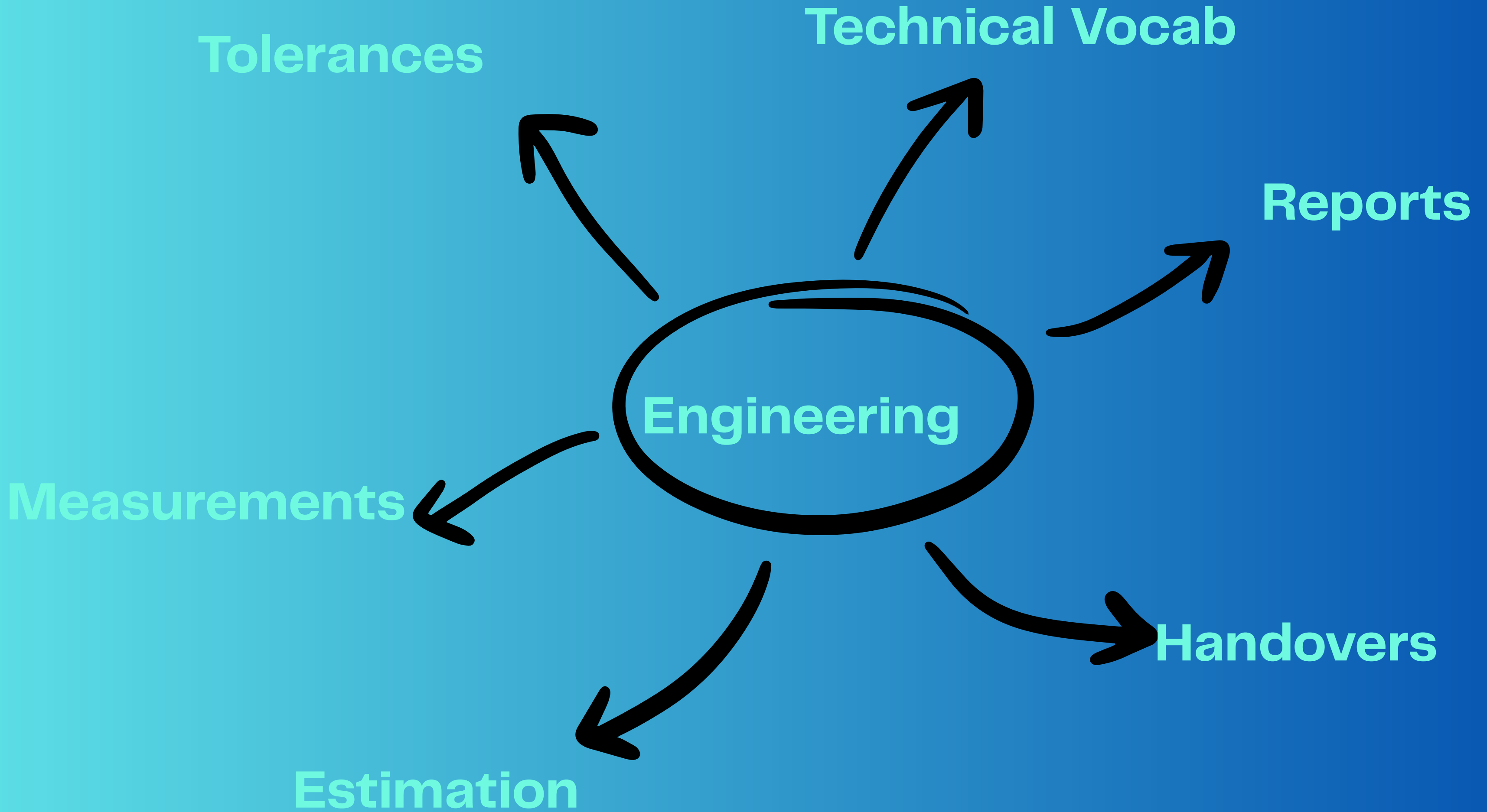
Reports

Engineering

Measurements

Handovers

Estimation



Listen to your own instructions...

Whenever you hear yourself say...

- **Read...**
- **Write...**
- **Explain...**
- **Describe...**
- **Measure...**
- **Calculate...**
- **Estimate...**
- **Compare...**
- **Record...**
- **Interpret...**

...you're probably embedding English or maths already.

Challenge: Which of these verbs do you use most often?



During planning...

- Training plans – What literacy and numeracy skills are needed for each topic?
- Schemes of work – Highlight where learners will read, write, measure, calculate or problem solve.
- Learning outcomes – Could an English or maths skill be made more explicit?
- Teaching resources – Manuals, diagrams, forms, graphs, emails and worksheets all present opportunities.



Practical strategies

Language Choices – when is when?

*“You'll need English **when** you communicate with parents, record children's observations or read safeguarding policies”*

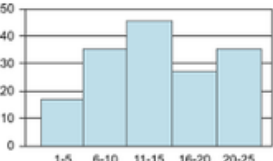
*“You'll need Maths **when** you measure materials, calculate quantities or work out angles and levels”*

Shared Common Frameworks

Business Administration Glossary

Word	Definition
Administration	The process of planning, organizing, directing, and controlling an organization's resources to achieve objectives efficiently and effectively.
Company	An economic and social unit dedicated to producing or providing goods and services to meet market needs.
Management	A set of actions aimed at coordinating and optimizing an organization's resources to achieve goals.
Planning	The stage of management that defines objectives, strategies, and actions to achieve them.
Organization	The process of structuring resources and activities to ensure efficiency and order in operations.
Directing	The managerial function that guides, motivates, and leads personnel in achieving organizational goals.
Control	The activity of measuring and evaluating results to correct deviations and ensure plans are fulfilled.
Leadership	The ability to positively influence people by motivating and guiding them toward achieving common objectives.
Efficiency	The optimal use of available resources to obtain the best possible results.
Effectiveness	The ability to achieve proposed goals regardless of the resources used.
Productivity	The relationship between the resources employed and the results obtained in a production process.
Human Resources	The area of a company responsible for managing talent: recruitment, selection, training, and employee well-being.
Finance	Activities related to obtaining, managing, and investing an organization's economic resources.
Marketing	The process of identifying, anticipating, and satisfying customer needs through products and commercial strategies.

National Centre
for Excellence in the
Teaching of Mathematics

grid (KS2)	A lattice created with two sets of parallel lines. Lines in each set are usually equally spaced. If the sets of lines are at right angles and lines in both sets are equally spaced, a square grid is created.
grouped (discrete data) (KS3)	Observed data arising from counts and grouped into non-overlapping intervals. Example: score in test / number of children obtaining the score scores 1 – 10, 11 – 20, 21 – 30, 31 – 40, 41 – 50 etc. In this example there are equal class intervals.
heptagon (KS2)	A polygon with seven sides and seven edges.
hexagon (KS2)	A polygon with six sides and six edges. Adjective: hexagonal, having the form of a hexagon
highest common factor (HCF) (KS3)	The common factor of two or more numbers which has the highest value. Example: 16 has factors 1, 2, 4, 8, 16. 24 has factors 1, 2, 3, 4, 6, 8, 12, 24. 56 has factors 1, 2, 4, 7, 8, 14, 28, 56. The common factors of 16, 24 and 56 are 1, 2, 4 and 8. Their highest common factor is 8.
histogram	A particular form of representation of grouped data. Segments along the x- axis are proportional to the class interval. Rectangles are drawn with the line segments as bases. The area of the rectangle is proportional to the frequency in the class.  Where the class intervals are not equal, the height of each rectangle is called the frequency density of the class.

Related to EAL in Engineering

L, organized by common usage and topics:

IT	Information Technology
LAN	Local Area Network
IP	Internet Protocol
VPN	Virtual Private Network
NIST	National Institute of Standards and Technology
CERT	Computer Emergency Response Team
IDS	Intrusion Detection System
TLS	Transport Layer Security
AES	Advanced Encryption Standard
CPU	Central Processing Unit

Focus on Command Verbs

Command verbs tell students/apprentices what action to take, e.g. *Explain, Compare, Describe, Analyse, Summarise.*

Why they are important?

- Students/Apprentices recognise what is expected in tasks.
- Helps in writing assignments, reflective logs, EPA’s exams, and vocational tasks.
- Supports reading and interpreting instructions confidently.

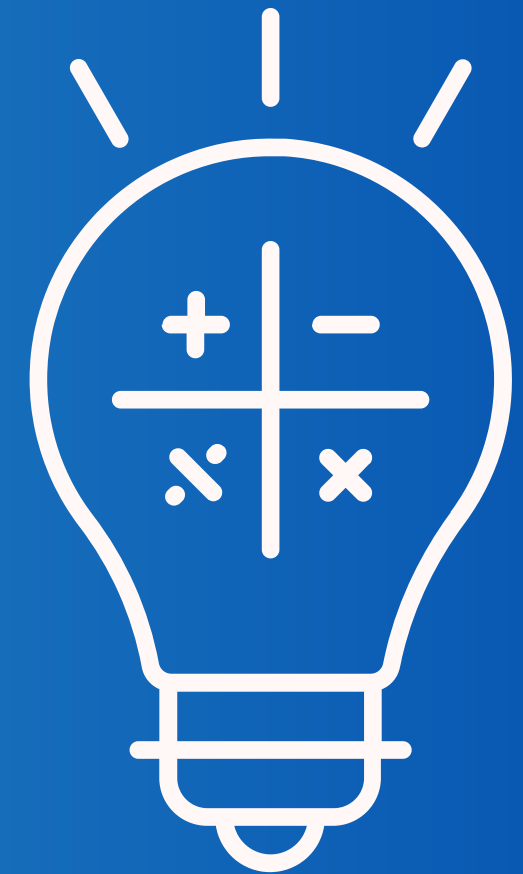
Questioning: Extend the question

Ask one additional question

Instead of: "Measure that."

Try: "Why that measurement?"

"What would happen if it was 2mm larger?"



"What if...?"



Encourage learners to think mathematically.

- What if the budget was cut?
- What if we doubled the order?
- What if this measurement was wrong?

Key Takeaways

- English and maths already exist in every apprenticeship.
- Apprentices engage more when learning is authentic.
- Small teaching changes make the biggest difference.



Over to you



what is one thing you are taking away to use in
your practice?

Pop an answer in the chat box

**Thank you for your
time**

We'd value your feedback



Stay in touch

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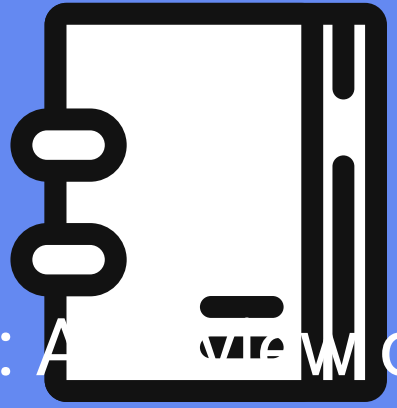


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<https://lxpskills.co.uk>

References and Further Reading



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