

# Navigating New Frontiers

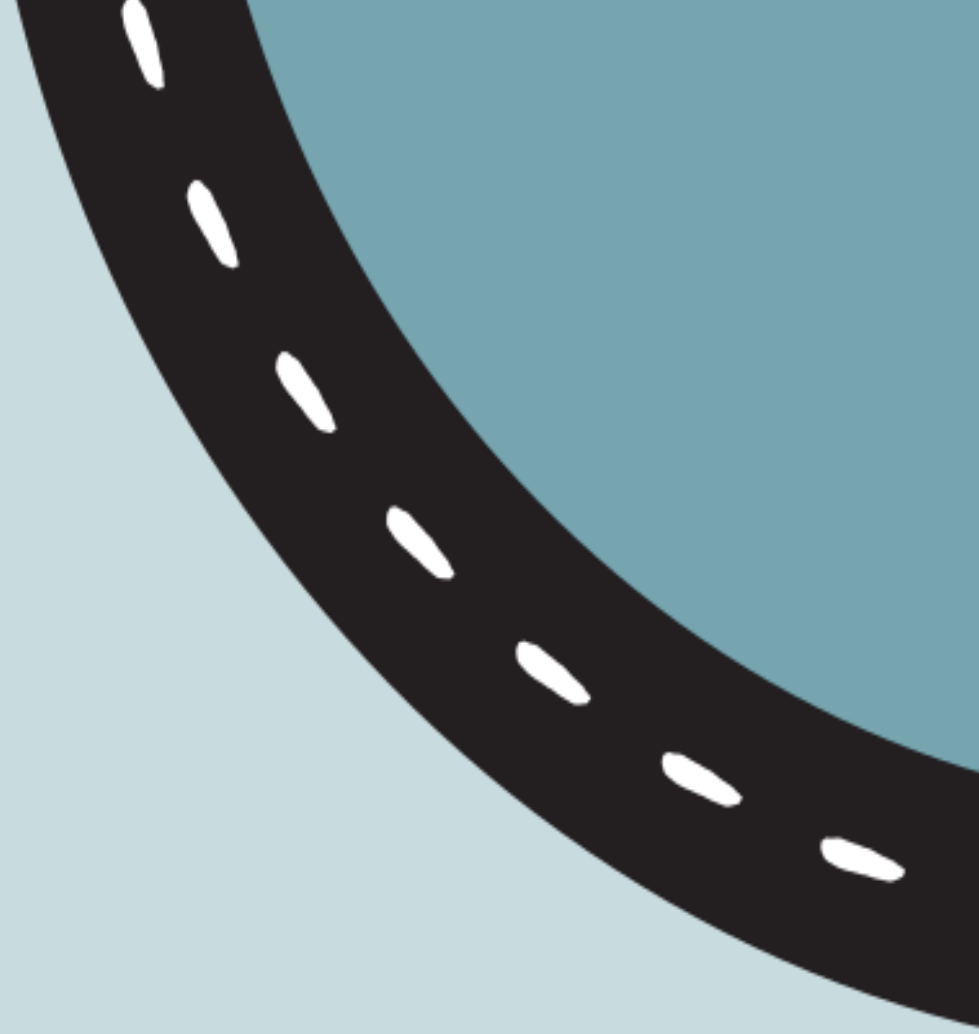
## A Roadmap for AI in FE Maths

Emma Bell

June 2025



# Introduction



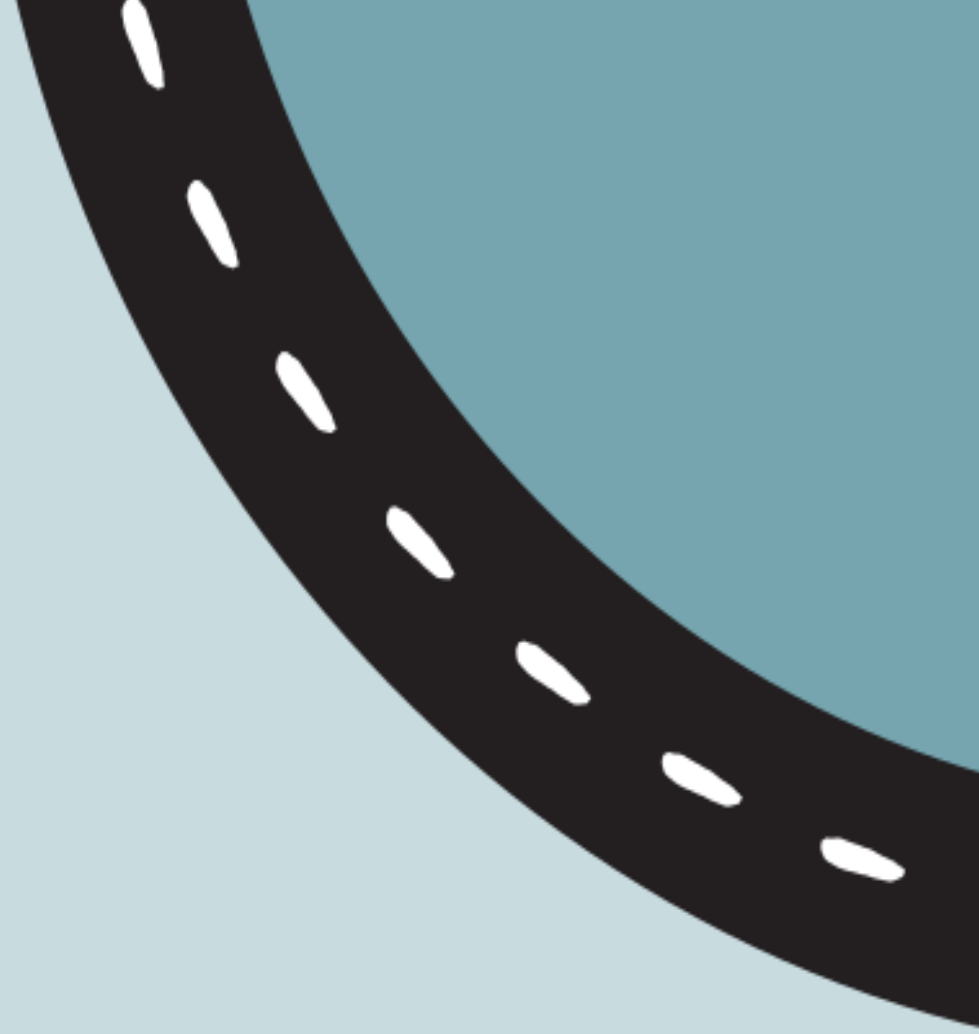
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**What word or  
feeling comes to  
mind when you  
think about AI in  
education?**

# What's this session about?

- It's the start of a conversation
- It's an exploration
- It's not a demo!
- It's a spark...

# Inspiration





## SECTION 1

## Leadership

<b>Strategic Leadership and Vision for AI in Education</b>   Anthony Bravo OBE, Principal and CEO, Basingstoke College of Technology	<b>08</b>
<b>AI's Role in Enhancing Teaching and Learning Outcomes</b>   Claire Foster, Principal and CEO, Boston College	<b>10</b>
<b>Adapting the Curriculum for Future Industry Needs</b>   Debra Gray MBE, Principal and CEO, Hull College	<b>14</b>
<b>Driving Workforce Digital Skills Strategy</b>   Danny Metters, Principal and CEO, Bishop Burton College	<b>18</b>
<b>AI and Data Management: Ethical Considerations and Governance</b>   Janet Smith, Principal and CEO, Nottingham College	<b>20</b>
<b>Resource Allocation and Budgeting for Sustainable AI Adoption</b>   Yiannis Koursis OBE, Group Chief Executive, The Bedford College Group	<b>24</b>



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**In an increasingly AI-driven world, Further Education (FE) colleges like Hull College play a critical role in preparing students for a rapidly evolving workforce. The demands of modern employers are changing, with digital skills and AI literacy now essential across a wide range of industries. For FE students, this means developing high level technical skills and the adaptability and problem-solving abilities that will help them succeed in workplaces which are becoming more technologically driven.**

*Debra Gray MBE, Principal and CEO, Hull College*



## SECTION 2

## Transformation

<b>Developing and Implementing an AI Strategy</b>   Roddy Peters, Group Head of Digital Skills, Windsor Forest Colleges Group	<b>28</b>
<b>Introducing and Scaling AI tools in Teaching and Learning</b>   Scott Hayden, Head of Teaching, Learning and Digital, Basingstoke College of Technology	<b>30</b>
<b>Building the Technical Infrastructure for AI</b>   John Bayes, Director of IT, Hull College	<b>34</b>
<b>Staff Training and Upskilling for AI Integration</b>   Zoe Tierney, Learning Technologist, Burton and South Derbyshire College	<b>38</b>
<b>Employer Engagement: The AI Academy and External Partnerships</b>   Deborah Millar, Executive Director of Digital Transformation, Hull College	<b>42</b>
<b>AI-Driven Curriculum Development and Adaptive Learning Pathways</b>   Rob Wraith, Head of Learning Technology and Digital Learning, NCG	<b>46</b>
<b>Managing Change – Building a Culture of Transformation</b>   Kelly Edwards, Director of Quality, Harlow College	<b>50</b>
<b>Monitoring, Evaluation, and Continuous Improvement of AI Solutions</b>   Kirsty Ingleson, Digital Innovation Manager, Kirklees College	<b>54</b>

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In the evolving landscape of education, Artificial Intelligence (AI) has quietly operated behind the scenes for many years, without significantly impacting how we teach or learn. However, recent advancements, particularly in chat bots (such as chat GPT), have allowed us to reimagine our educational landscape. AI has become more accessible and is proving to be a powerful tool. Not only does it have the capability to improve the quality of teaching and learning, it also serves as a valuable resource for wellbeing across the sector.

*Kirsty Ingleson, Digital Innovation Manager, Kirklees College*

## SECTION 3

## Governance

<b>AI Governance Framework: Oversight and Accountability</b>   Catherine Sykes, Director of Governance, Hull College	<b>58</b>
<b>Legal Compliance and Regulatory Considerations or AI</b>   Kay Kavanagh, Director of Governance, Stoke on Trent College	<b>62</b>
<b>Risk Management in AI Adoption and Vendor (and Subcontractor) Due Diligence</b>   Kay Kavanagh, Director of Governance, Stoke on Trent College	<b>64</b>
<b>Ethical Considerations in AI Decision-Making</b>   Catherine Sykes, Director of Governance, Hull College	<b>66</b>
<b>AI Governance Framework: Oversight and Accountability</b>   Catherine Sykes, Director of Governance, Hull College	<b>70</b>
<b>Board Reporting on AI Projects</b>   Catherine Sykes, Director of Governance, Hull College	<b>72</b>
<b>Environmental Considerations</b>   John Bayes, Director of IT Services, Hull College	<b>76</b>
<b>The Chair's Perspective</b>   Rob Lawson OBE, Chair of Corporation, Hull College	<b>78</b>

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**AI has the potential to significantly enhance educational outcomes, but it also presents ethical challenges that institutions must address. Governance professionals play a key role in ensuring AI is used ethically, transparently, and inclusively, preventing unintended consequences like bias or opaque decision-making processes. As AI becomes more integrated into education, it is essential to develop robust frameworks that promote fairness and transparency in AI systems.**

*Catherine Sykes, Director of Governance, Hull College*

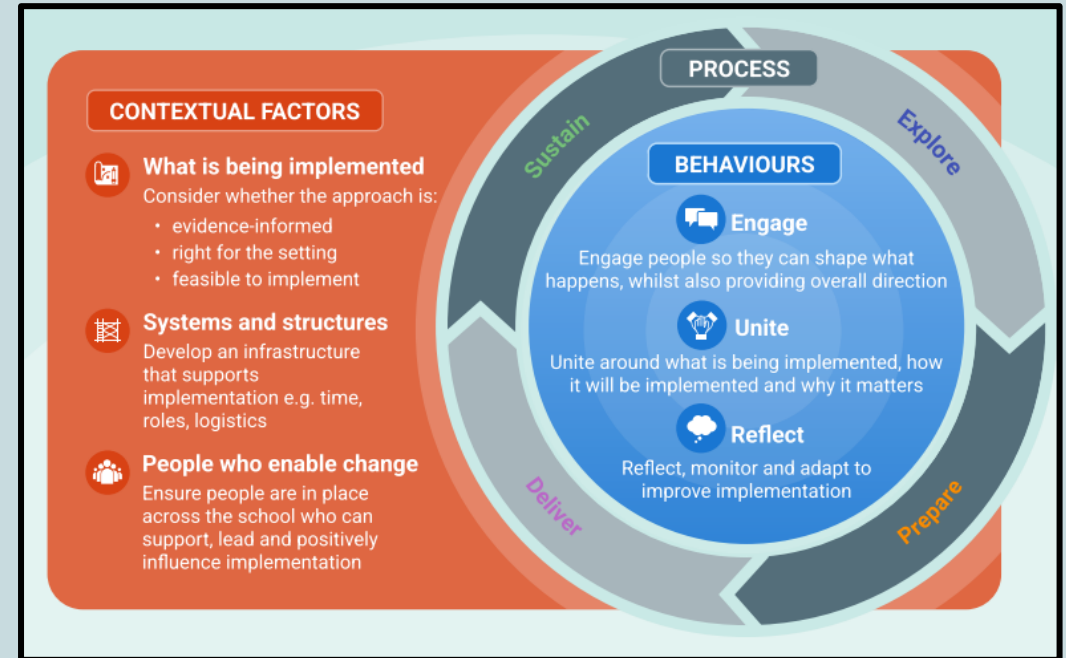
FE educators have a responsibility to ensure that AI is used safely and ethically, helping students to navigate its benefits, limitations and risks.

They also have a unique opportunity to develop students' critical thinking and digital skills, preparing them for future employment.

# The Road Map







## CONTEXTUAL FACTORS



### What is being implemented

Consider whether the approach is:

- evidence-informed
- right for the setting
- feasible to implement



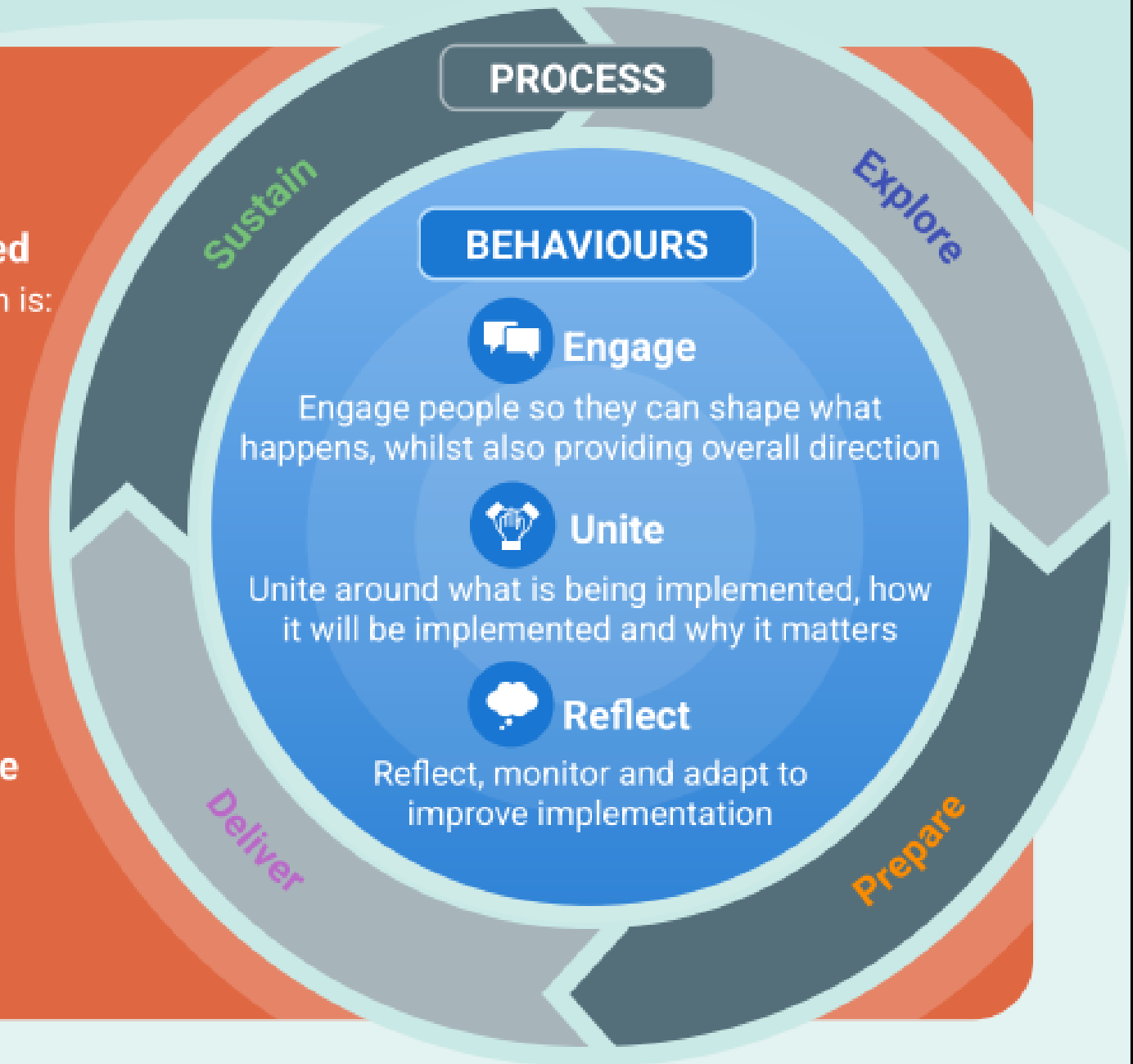
### Systems and structures

Develop an infrastructure that supports implementation e.g. time, roles, logistics



### People who enable change

Ensure people are in place across the school who can support, lead and positively influence implementation



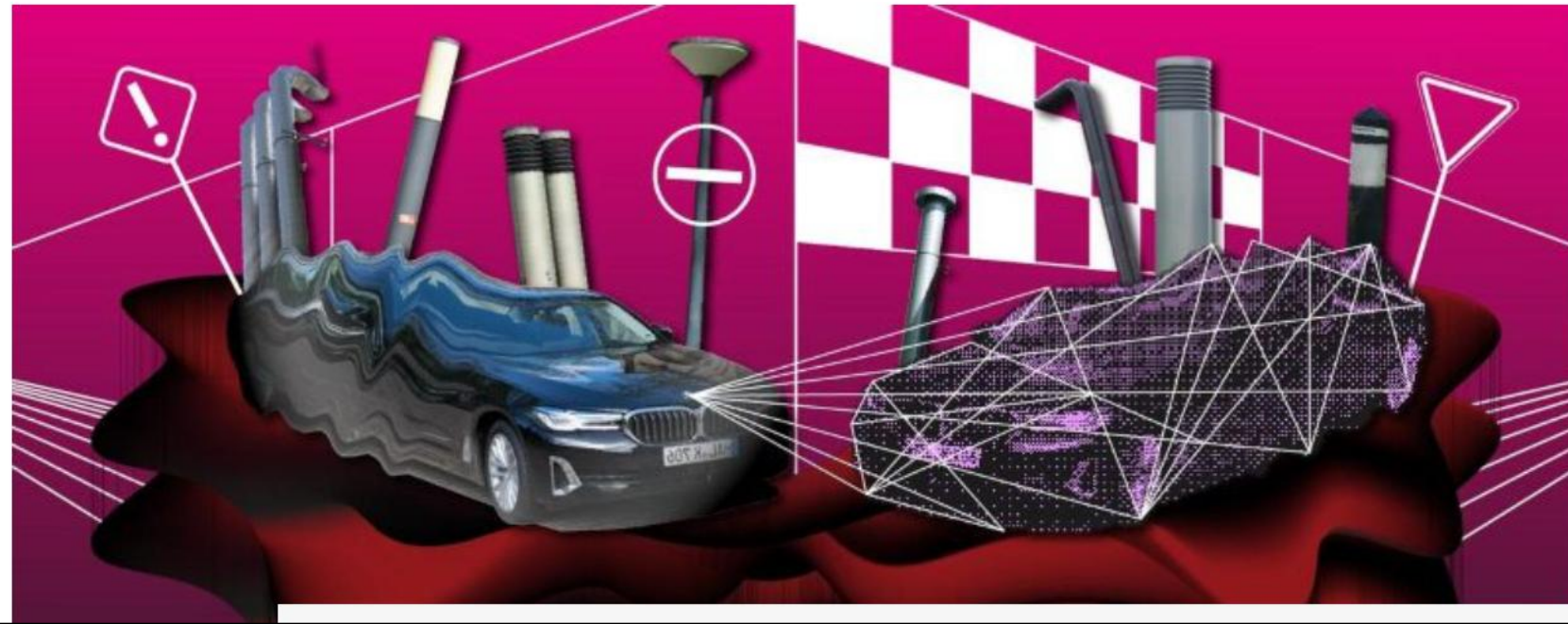
# CCT Impact Journal, 2025

## Navigating AI in further education maths: A professional development roadmap

Perspective Article

Written by: [Jude Mortimer](#) and [Emma Bell](#)

Published on: June 9, 2025



From this issue



2025 Special Issue: Safe and effective use of AI in education

June 2025

[Impact Articles on the same themes](#)



# 1

## DISCOVER AND BUILD

Explore AI's role in FE maths and assess staff confidence  
Introduce AI in low-stakes contexts to build familiarity



# 2

## DEVELOP AND EXPLORE

Experiment with AI tools in training, planning, and collaboration  
Embed AI into existing CPD and teaching strategies



# 3

## REFLECT AND REFINE

Evaluate AI's impact through feedback and lesson observations  
Identify effective tools and refine approaches for wider use



# 4

## SUSTAIN AND EVOLVE

Ensure ongoing support, training, and ethical AI use  
Collaborate with networks to stay informed and adaptable



1

## DISCOVER AND BUILD

Explore AI's role in FE maths and assess staff confidence  
Introduce AI in low-stakes contexts to build familiarity

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## Which statement best describes you?

- I embrace AI
- I dabble
- I'm unsure or curious
- I'm worried or resistant





# 1

## DISCOVER AND BUILD

Explore AI's role in FE maths and assess staff confidence  
Introduce AI in low-stakes contexts to build familiarity

- Spark curiosity - what can *AI actually* do for FE maths?
- Break the fear: AI's already in your pocket (predictive text!)
- Reassure: AI's a *tool*, not a teacher replacement
- Get the pulse: Use polls to surface confidence and concerns
- Build awareness: Share real examples and start the conversation

# Edexcel November 2022, 1F, Q12

Elena spent 120 minutes at a sports centre.

She played badminton for 50 minutes.

She used the swimming pool for  $\frac{1}{6}$  of the 120 minutes.

She used the gym for 20% of the 120 minutes.

She then spent the rest of the 120 minutes in the cafe.

(a) Work out the total time, in minutes, that Elena spent in the cafe.

Hair and Beauty

Travel and Tourism

Automotive

Plumbing

### **Hair/Beauty Context**

Sasha spent 120 minutes in a hair and beauty salon.

She gave a haircut for 50 minutes.

She did a facial treatment for  $\frac{1}{6}$  of the 120 minutes.

She spent 20% of the 120 minutes doing a manicure.

She then spent the rest of the 120 minutes tidying the salon.

(a) Work out the total time, in minutes, that Sasha spent tidying the salon.

### Travel/Tourism Context

Liam spent 120 minutes leading a guided tour.

He spent 50 minutes showing the museum exhibits.

He spent  $\frac{1}{6}$  of the 120 minutes at the gift shop with the group.

He spent 20% of the 120 minutes answering questions from tourists.

He then spent the rest of the 120 minutes preparing the next tour.

(a) Work out the total time, in minutes, that Liam spent preparing the next tour.

### Automotive Context

Tyrese spent 120 minutes working in a garage.

He worked on the engine of a car for 50 minutes.

He spent  $\frac{1}{6}$  of the 120 minutes checking tyre pressure.

He spent 20% of the 120 minutes on a diagnostic scan.

He then spent the rest of the 120 minutes writing up the service report.

(a) Work out the total time, in minutes, that Tyrese spent writing up the service report.

### Plumbing Context

Amira spent 120 minutes on a plumbing job.

She spent 50 minutes fixing a leaking tap.

She spent  $\frac{1}{6}$  of the 120 minutes checking pipe connections.

She spent 20% of the 120 minutes fitting a new washer.

She then spent the rest of the 120 minutes clearing up.

(a) Work out the total time, in minutes, that Amira spent clearing up.





2

## DEVELOP AND EXPLORE

Experiment with AI tools in training, planning, and collaboration  
Embed AI into existing CPD and teaching strategies

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## **What are your biggest barriers to embedding AI in your practice?**

- Time
- Uncertainty
- Policies
- Lack of training
- Misuse
- Other



## 2

## DEVELOP AND EXPLORE

Experiment with AI tools in training, planning, and collaboration  
Embed AI into existing CPD and teaching strategies

- Start small - pick one AI tool that solves a real problem
- Keep it low-risk, high-support: try, reflect, repeat
- Build confidence through practice-not perfection
- Link to what matters: pedagogy first, tech second
- Use CPD time wisely: embed tools like Quizalize or ChatGPT into everyday planning



3

## REFLECT AND REFINE

Evaluate AI's impact through feedback and lesson observations  
Identify effective tools and refine approaches for wider use



# 3

## REFLECT AND REFINE

Evaluate AI's impact through feedback and lesson observations  
Identify effective tools and refine approaches for wider use

- Share what's working - no need to go it alone
- Talk impact: Does it boost engagement? Save time?
- Keep it ethical, inclusive and transparent
- Use real feedback - students, data, colleagues - to guide next steps
- Adapt and improve, don't just adopt and move on



4

## SUSTAIN AND EVOLVE

Ensure ongoing support, training, and ethical AI use  
Collaborate with networks to stay informed and adaptable





# 4

## SUSTAIN AND EVOLVE

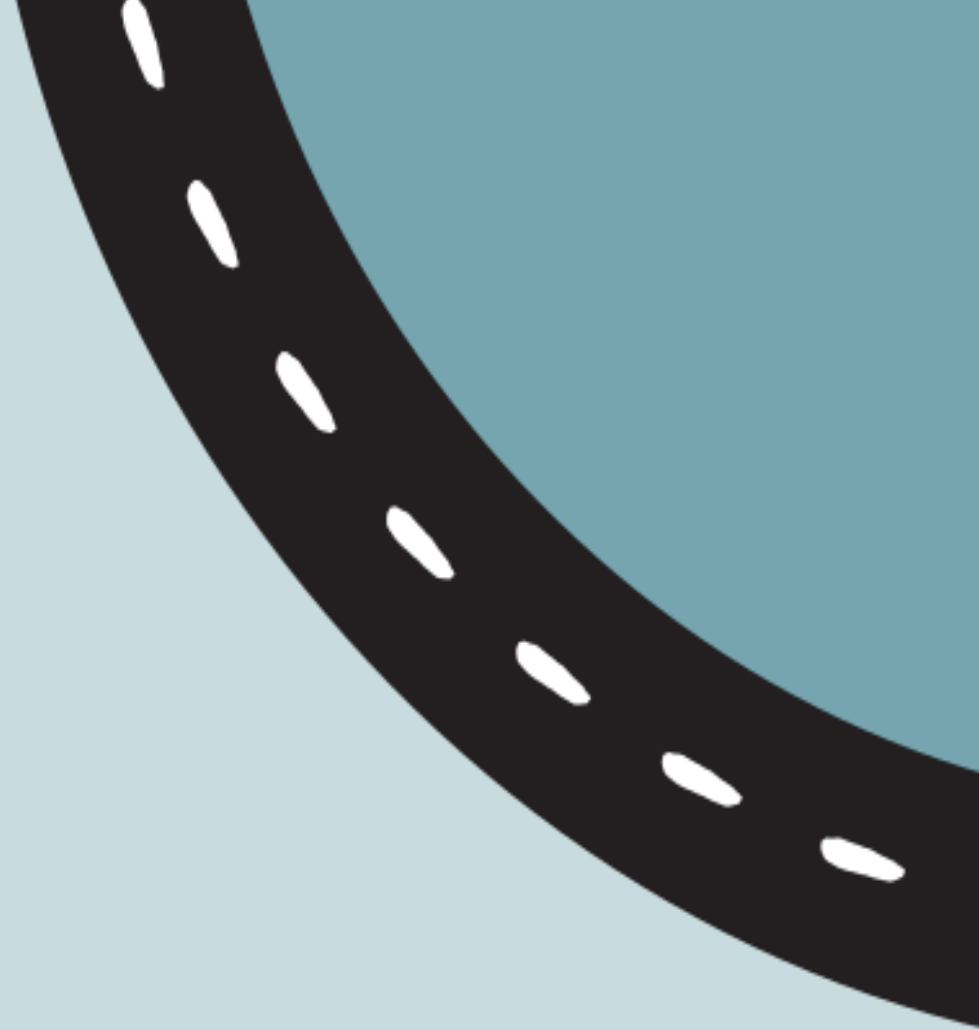
Ensure ongoing support, training, and ethical AI use  
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- Think long-term: support, train, reflect - then repeat
- Don't stand still - AI moves fast, so stay curious
- Invest in people and systems, not just tools
- Stay connected: use networks to share and grow
- Keep AI part of the culture, not just the CPD

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**What's one thing  
that you're taking  
away from today?**

# Summary



FE educators have a responsibility to ensure that AI is used safely and ethically, helping students to navigate its benefits, limitations and risks.

They also have a unique opportunity to develop students' critical thinking and digital skills, preparing them for future employment.

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think about AI in  
education?**

Thoughts?



# Thank you

[emma.bell@mei.org.uk](mailto:emma.bell@mei.org.uk)

