

# Teaching Learners with SEN in the FE Context

Tom McCormick

# About me

1. Decade of experience teaching Maths in FE
2. Dyslexia & Dyspraxia
3. Delivered multiple CPDs on teaching learners with SEN in this context
4. BSc (Hons) Mathematics with Education & PGCE

# Why This Matters – The Hidden Majority?

1. 58–72% of autistic adults undiagnosed (Brugha et al., 2011)
2. Only 0.32% of adult maths learners diagnosed with ADHD despite 3% prevalence (Asherson et al., 2016)
3. Dyslexia (10%) and dyscalculia (6%) often overlooked
4. Implication: Learners struggling with maths may have unidentified SEN

INSPIRED BY A PUBLIC SCHOOL STUDENT WITH DISABILITIES



COULD YOU  
PLEASE  
SHOVEL THE  
RAMP?

ALL THESE OTHER  
KIDS ARE WAITING TO  
USE THE STAIRS.  
WHEN I GET THROUGH  
SHOVELING THEM OFF,  
THEN I WILL CLEAR  
THE RAMP FOR YOU.

BUT IF  
YOU SHOVEL THE  
RAMP, WE CAN  
ALL GET IN!

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# Inclusive Pedagogy Without Diagnosis

1. Inclusive  $\neq$  diagnosis-dependent
2. Plan for difference, not for labels
3. Based on Universal Design for Learning principles

# Aural Processing/ Memory

[www.Bandicam.com](http://www.Bandicam.com)



# Dyscalculia

“How am I supposed to learn 200 completely different methods and when to use them?”

# Quick Wins (Dyscalculia)

1. Over-learning- explain in a different way
2. Mathematical conversations
3. Mastery
4. Avoid board copying



# Cognitive Load (Theory)

# cognitive load

mcdreemiamusings.com @mcdreemie

## intrinsic cognitive load

*complexity of new  
information*

SIMPLIFY



## extraneous cognitive load

*distracts working  
memory from  
processing new  
information*

REDUCE



## germane cognitive load

*deep processing of  
new information by  
integrating it with  
previous learning*

MAXIMISE



# About me

1. Decade of experience teaching Maths in FE
2. Dyslexia & Dyspraxia
3. Delivered multiple CPDs on teaching learners with SEN in this context
4. BSc (Hons) Mathematics with Education & PGCE

# WHO AM I AND WHAT DO I KNOW?

- *I have a little over a decade of experience teaching Maths in FE*
  - *I have Dyslexia & Dyspraxia*
- *I have experience of delivering multiple CPDs related to teaching learners with SEN in the further education context*
- *BSc (Hons) Mathematics with Education & PGCE*

THANK YOU  
THANK YOU  
THANK YOU  
THANK YOU

# About me

1. Decade of experience teaching Maths in FE
2. Dyslexia & Dyspraxia
3. Delivered multiple CPDs on teaching learners with SEN in this context
4. BSc (Hons) Mathematics with Education & PGCE

Preview

None Multiple Appear Fade Fly In Float In Split Wipe

Animation

Effect Options

Animation Pane

Start: With Previous

Duration:

Delay: 00.00

Reorder Animation

Move Earlier

Move Later

10

11

12

13

14

15

# Who am I and what do I know?

- 1 Decade of experience teaching in FE
- 2 Dyslexia & Dyspraxia
- 3 Delivered multiple CPDs on teaching learners with SEN in this context

Add Animation

Appear Fade Fly In Float In Split

Wipe Shape Wheel Random Bars Grow & Turn

Zoom Swivel Bounce

Emphasis

Pulse Color Pulse Teeter Spin Grow/Shrink

Desaturate Darken Lighten Transparency Object Color

Complement Line Color Fill Color Brush Color Font Color

Underline Bold Flash Bold Reveal Wave

Exit

Pa..

expe...

Dysp...

expe...

multi...

Dysp...

File Home Insert Draw Design Transitions **Animations** Slide Show Record Review View Help

Preview

Teeter Spin Grow/Shrink Desaturate Darken Lighten Transparency Object Color Effect Options

Animation

Animation Pane Trigger Animation Painter

Advanced Animation

Start: With Previous Reorder Animation

Duration: Auto Move Earlier

Delay: 00.00 Move Later

Timing

## Who am I and what do I know?

- 1
- 2
  - Decade of experience teaching Maths in FE
- 2
  - Dyslexia & Dyspraxia
- 3
  - Delivered multiple CPDs on teaching

Animation Pa..

Play From

- 1 Decade of expe...
- 2 Dyslexia & Dysp...
- 3 Start On Click...

☒ Start With Previous

Start After Previous

Effect Options...

Timing...

Hide Advanced Timeline

Remove

# Cooperative Learning Ideas



1

## Talking Chips:

During a discussion, learners place their chip in the centre each time they talk. They cannot talk again until all members have placed a chip.

2

## Think-Pair-Share:

Learners think of their own response, then share in a pair, then share with the wider group/class.

3

## Rally Robin:

In pairs, learners alternate generating oral responses.

4

## Reciprocal Teaching:

Learners become the teacher in small groups. Learners take it in turns to assume the role of the teacher in their group.

5

## Pairs Check:

Learners work in pairs to try and resolve a problem. The results of their problem solving will then be checked by another pair.



Cognitive load

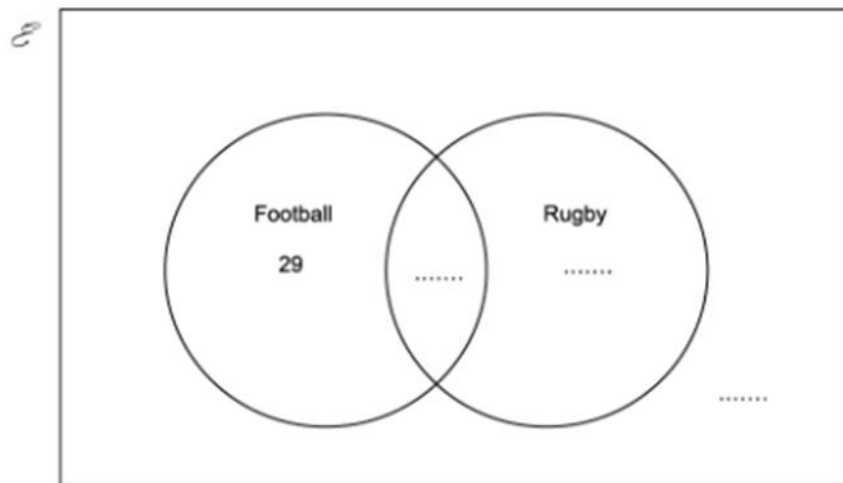
Wait time

Average wait between posing a question and answering....

Under a second

Quick Wins

Here is a Venn diagram.



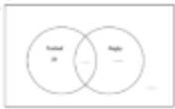
80 people were asked if they watch football or rugby.

- 29 said they watch football, but not rugby.
- 65 said they watch football.
- 47 said they watch rugby.

Complete the Venn diagram.

### Color Saturation

Here is an image




80 people were asked if they watch football or rugby  
= 20 watch football, but not rugby  
= 60 watch rugby  
= 20 watch both  
= 20 watch neither

Complete the task

### Color Tone

Here is an image



80 people were asked if they watch football or rugby  
= 20 watch football, but not rugby  
= 60 watch rugby  
= 20 watch both  
= 20 watch neither

Complete the task

### Recolor

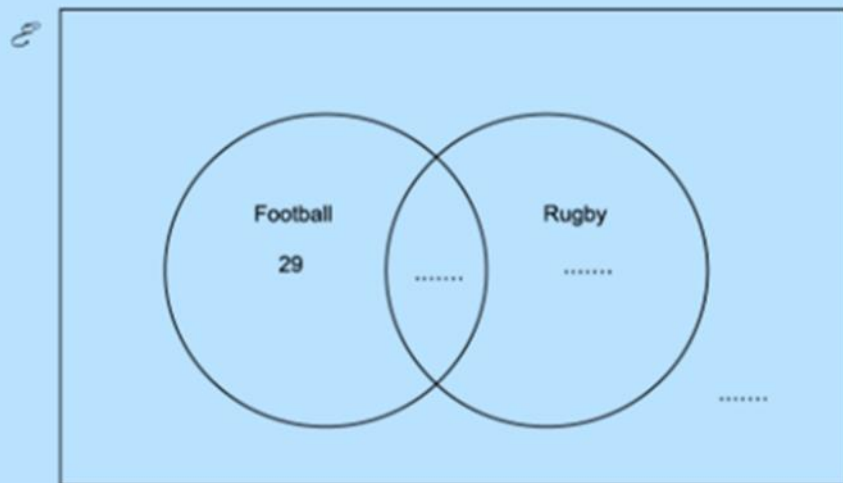
Here is an image



80 people were asked if they watch football or rugby  
= 20 watch football, but not rugby  
= 60 watch rugby  
= 20 watch both  
= 20 watch neither

Complete the task

Here is a Venn diagram.



80 people were asked if they watch football or rugby.

- 29 said they watch football, but not rugby.
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- 47 said they watch rugby.

Complete the Venn diagram.

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 1: Increasing participation in regular sport or physical activity for different types of sports participants (Part 2)				
Learning outcome A: Explore types and provision of sport and physical activity for different types of participant				
0 marks	1 – 3 marks	4 – 6 marks	7 – 9 marks	10 – 12 marks
No rewardable material	<p><b>Limited</b> application of knowledge and understanding of the barriers to participation for a selected participant and methods to overcome these barriers.</p> <p>Evidenced through:</p> <ul style="list-style-type: none"><li>• <b>basic</b> account of barriers to participation with <b>little</b> relevance to the selected participant</li><li>• <b>basic</b> account of methods to overcome barriers to participation with <b>little</b> relevance to the selected participant.</li></ul>	<p><b>Adequate</b> application of knowledge and understanding of the barriers to participation for a selected participant and methods to overcome these barriers.</p> <p>Evidenced through:</p> <ul style="list-style-type: none"><li>• <b>partially developed</b> account of barriers to participation with <b>some</b> relevance to the selected participant</li><li>• <b>partially developed</b> account of methods to overcome barriers to participation with <b>some</b> relevance to the selected participant.</li></ul>	<p><b>Good</b> application of knowledge and understanding of the barriers to participation for a selected participant and methods to overcome these barriers.</p> <p>Evidenced through:</p> <ul style="list-style-type: none"><li>• <b>mostly developed</b> account of barriers to participation <b>mostly</b> relevant to the selected participant</li><li>• <b>mostly developed</b> account of methods to overcome barriers to participation <b>mostly</b> relevant to the selected participant.</li></ul>	<p><b>Comprehensive</b> application of knowledge and understanding of the barriers to participation for a selected participant and methods to overcome these barriers.</p> <p>Evidenced through:</p> <ul style="list-style-type: none"><li>• <b>well-developed</b> account of barriers to participation with <b>specific</b> relevance to the selected participant</li><li>• <b>well-developed</b> account of methods to overcome barriers to participation with <b>specific</b> relevance to the selected participant.</li></ul>

Mark Band 0	Mark Band 1
Task 1: Increasing participation in regu Learning outcome A: Explore types and	
0 marks	1 – 3 marks
No rewardable material	<p><b>Limited</b> application of knowledge and understanding of suitable physical activities for the needs of a selected participant and the type of sport and activity provision. Evidenced through:</p> <ul style="list-style-type: none"> <li>• <b>basic</b> account to justify the chosen physical activities with <b>little</b> relevance of how it meets the needs of the selected participant</li> <li>• <b>basic</b> account of the characteristics and advantages and disadvantages of the type of provision with <b>little</b> relevance to the chosen physical activities and selected participant.</li> </ul>

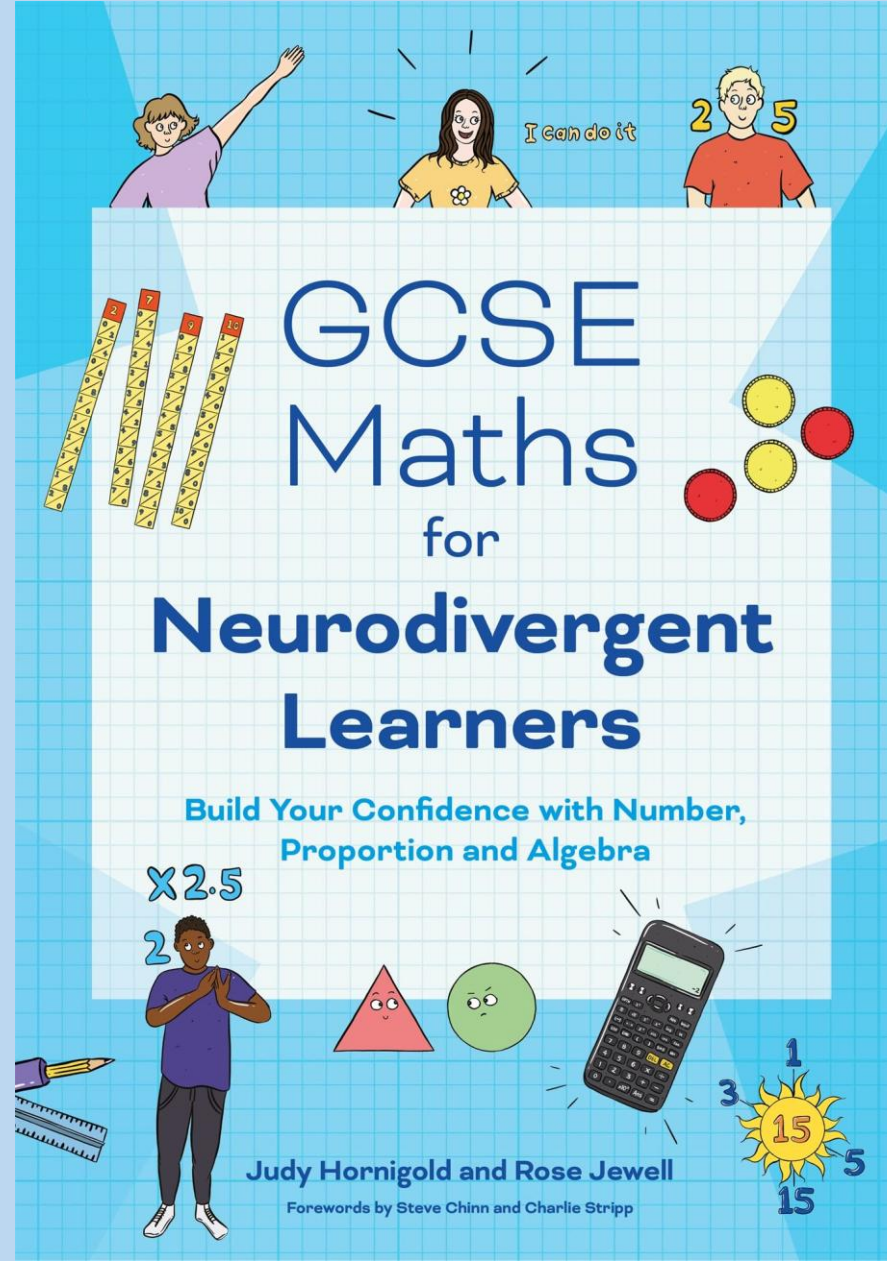
# Quick Wins (Resources)

1. Previous line fades
2. Colour/ crop images
3. Reduce visual load

## Quick Wins (Delivery)

1. Over-learning- explain in a different way
2. Wait time (3 seconds)
3. Avoid board copying
4. Avoid split attention

# Where to find more information:



# Where to find more information:

1. [Dyscalculia Network](#)
2. [Dyslexia](#)
3. [ASD](#)
4. [Dyslexia Style Guide](#)

tmcceducation@gmail.com

[Feedback](#)