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MARY IMMACULATE COLLEGE
COLÁISTE MUIRE GAN SMÁL

Overcoming Mathematics Anxiety

The Role of The Adult Numeracy Tutor

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Overview

1. What is Mathematics Anxiety?
2. How do you know an Adult Learner has Mathematics Anxiety?
3. How can the Tutor help the Maths Anxious Adult Learner?
4. Q & A

1. What is Mathematics Anxiety?

“feelings of tension and anxiety
that interfere with
the manipulation of numbers and
the solving
of mathematical problems
in a wide variety
of ordinary life
and academic situations”

Richardson & Suinn, 1972

What is Mathematics Anxiety?



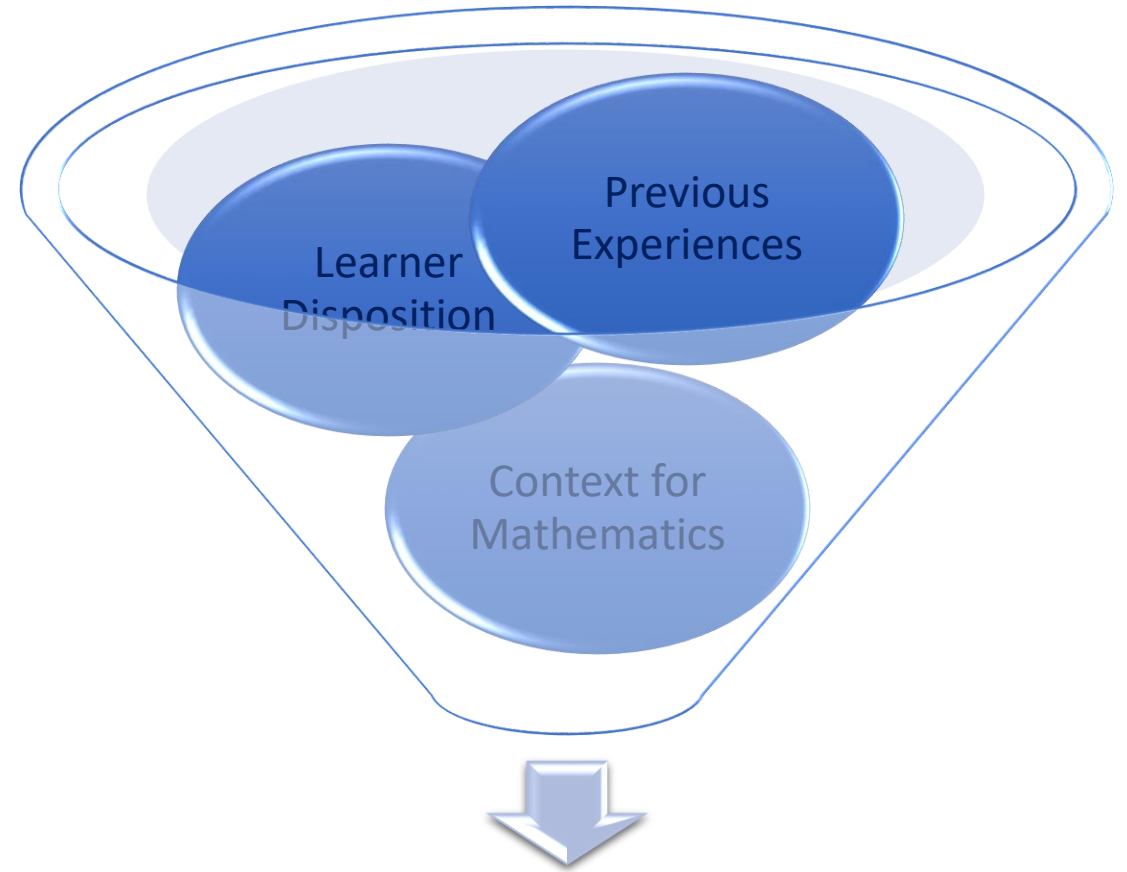
Other words associated with mathematics anxiety include:

- Nervousness
- Dread
- Mental Disorganisation
- Helplessness/Paralysis

Variations in terminology:

- Mathophobia
- Math panic
- Math abuse
- Math trauma

Exploring the sources of mathematics anxiety



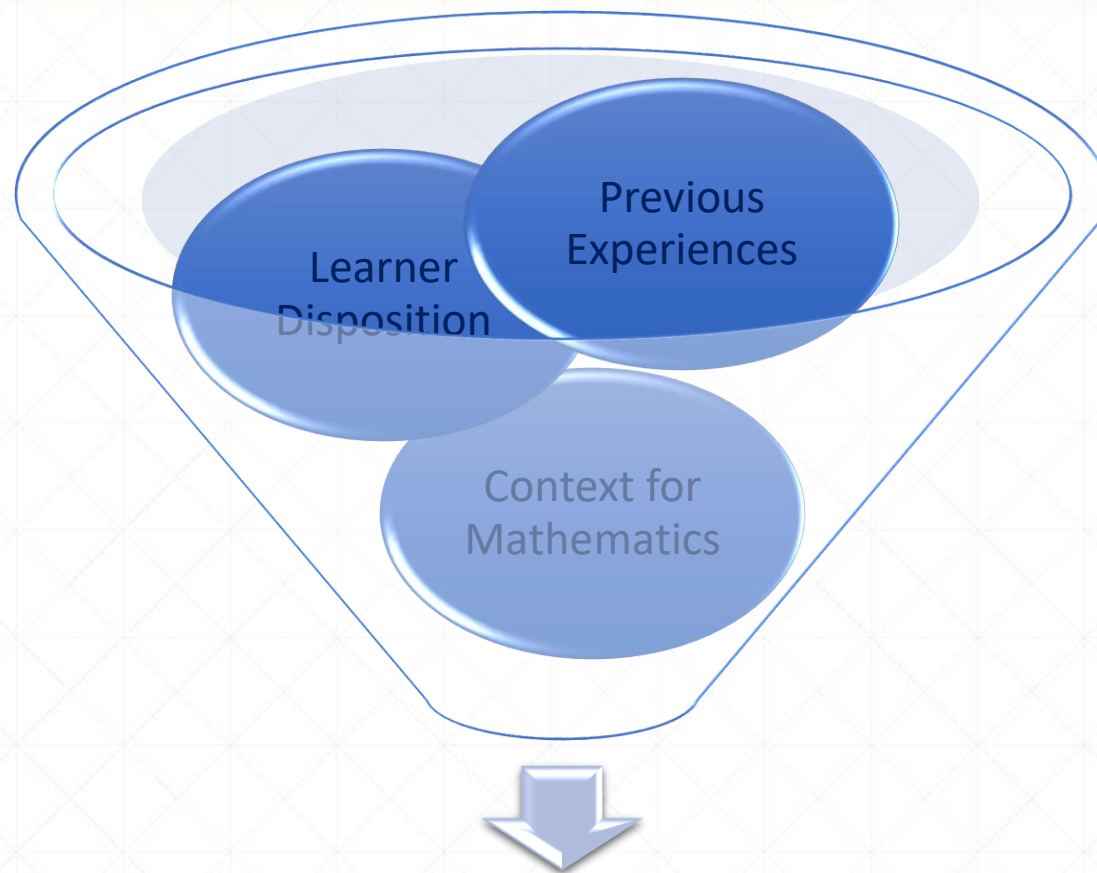
Mathematics Anxiety Reaction

(Adapted from Cemen, 1987)



Parent (attitude, extent of encouragement)

School and Teacher
(transitions, classroom, teaching methods, punishment for failure)



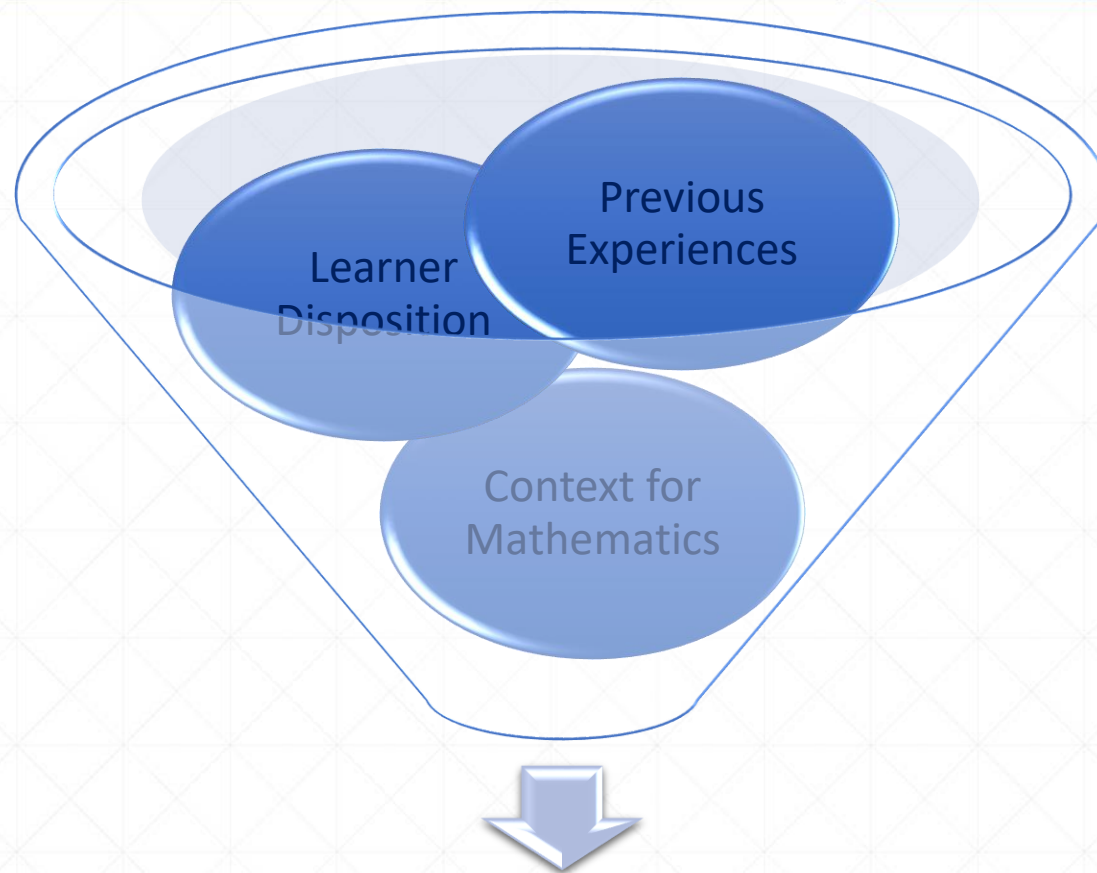
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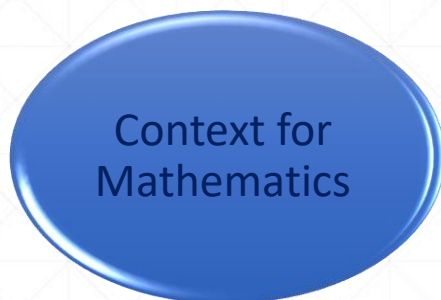
Directly influenced by previous experiences

- Confidence
- Maths attitudes
- Relevance of maths
- Prior avoidance



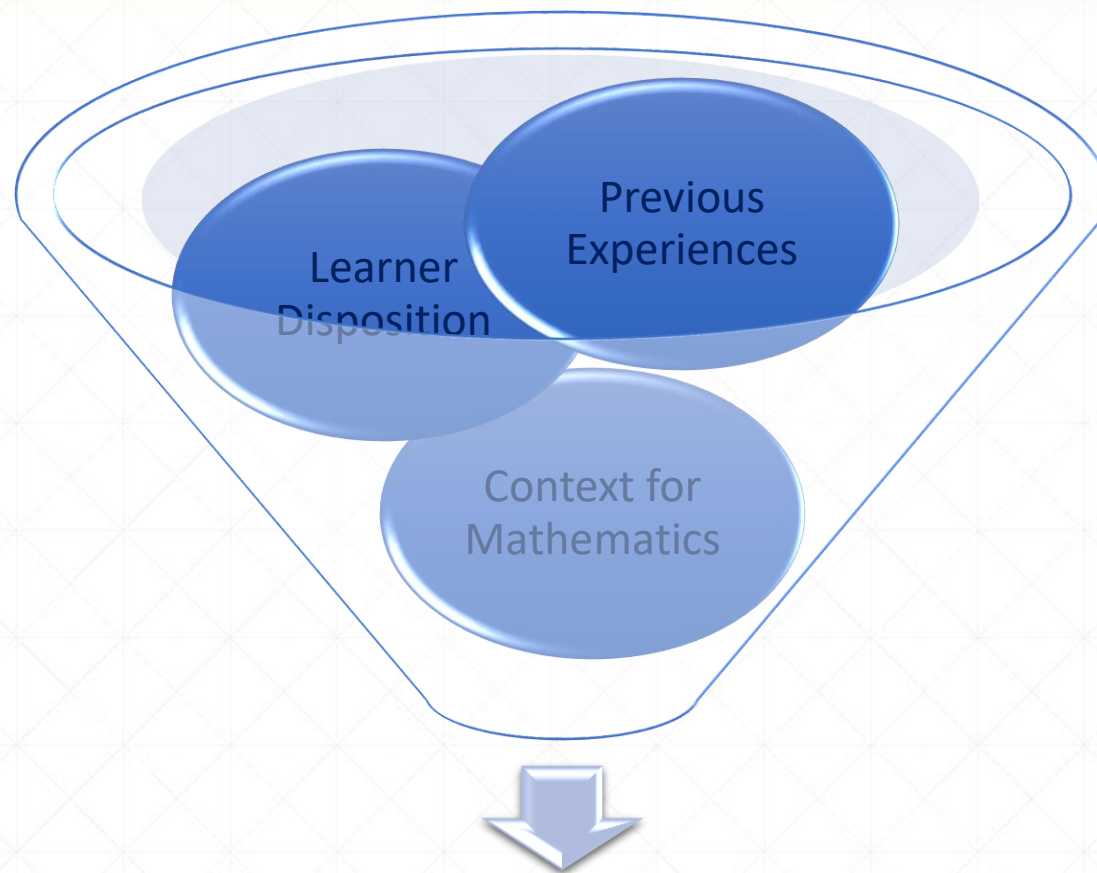
Mathematics Anxiety Reaction

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Gives rise to stress for the learner

- Nature of maths
- Scheduling of classes
- Teaching methods
- Tests, Homework



Mathematics Anxiety Reaction

(Adapted from Cemen, 1987)

Sources of Mathematics Anxiety among Adult Learners

- Certain topics – fractions, decimals, times tables, long division, algebra, formulas, etc.
- Emphasis on one answer, the right answer!
- Speed equates to proficiency
- Being asked to solve a problem in front of your peers
- Teacher's preferred method of teaching
- Topic perceived as irrelevant
- Being good at mathematics equates to intelligence and value as a person
- Gatekeeper subject
- Etc.

2. How do you know an Adult Learner has Mathematics Anxiety?

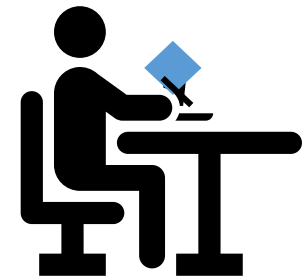
- Anecdotally
- Mathematics Anxiety Timeline
- Mathematics Anxiety Questionnaire
- Mathematics Life Story

3. The Tutor and the Maths Anxious Adult Learner



- How maths anxious are you?
- What is your mathematics story?

- How maths anxious is the adult learner?
- What is their mathematics story?
- Other factors to consider ...
 - Attendance
 - Engaging with your class
 - Support
 - Safety in numbers! – Pair/small group work
 - 'Can do' attitude



How the tutor can help a maths anxious adult learner

- Understanding and empathy
 - Significance of mathematics to the adult learner
 - Their motivation for learning mathematics
- Support for the maths anxious adult learner
- Space to allow adult learner to share their experiences of doing mathematics

Helpful Strategies:

- **Focus on mistakes!**
- **Stuck Sheet**
(Chisholm, 2017)
- **Reading** about how others feel about mathematics
- **Writing** about feelings before test
- **Breathing & Exercise**

Selected Resources for Information on Mathematics Anxiety and Related Topics

(Dr Maria D. Ryan, MIC Thurles)

What is math anxiety – and how to help with math anxiety?	Ansari, D. (2017)	https://www.understood.org/en/articles/what-is-math-anxiety
Fostering the Growth Mindset in Mathematics (YouCubed)	Boaler, J.	www.youcubed.org
Dyscalculia in Further Education	Chinn, S. (2021)	http://www.stevechinn.co.uk/dyscalculia/dyscalculia-in-further-education
A moment to breathe: how reflection can reduce teacher maths anxiety	Cosgrove, F. (2021)	https://www.bera.ac.uk/blog/a-moment-to-breathe-how-reflection-can-reduce-teacher-maths-anxiety
Love Math Journal	Dillard & Jenner (2021)	(Link to eBook on Amazon.com) https://www.amazon.com/Love-Math-Journal-Affirmations-Reflections-ebook/dp/B095J36SPN
Getting into and staying in the Growth Zone	Lee & Johnston-Wilder (2018)	https://nrich.maths.org/13491

Thank you!

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