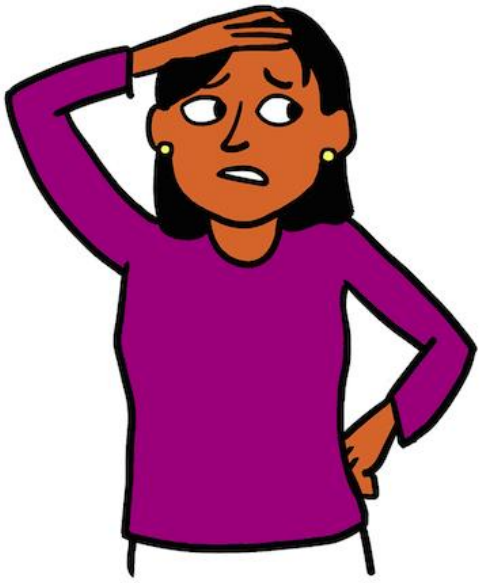
“What if I get it wrong?”

A psycho-social enquiry into SENCOs’ experiences of learning, doing and teaching maths



Dr Hannah Fleming, Educational Psychologist

Overview of my research

Explored SENCOs' thoughts about

- children with learning difficulties in maths
- Their own experiences of maths learning
- Their own feelings when doing maths tasks




What I did…

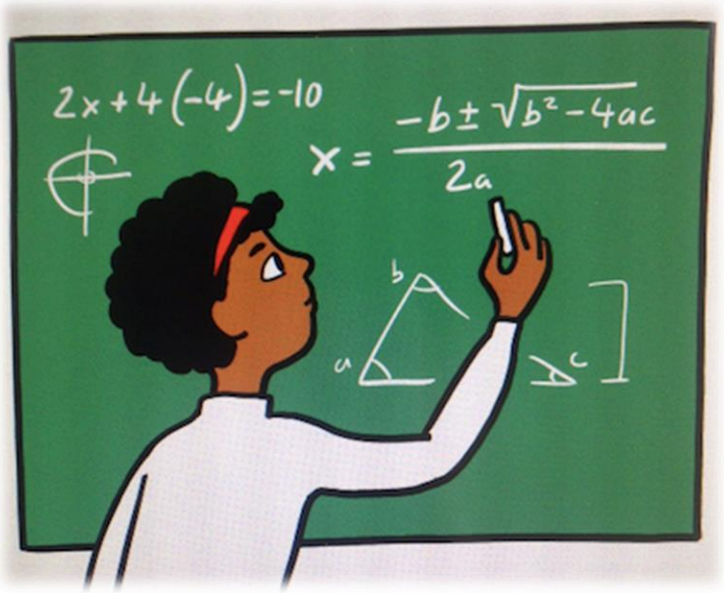
Four SENCOs interviewed twice:

1: Interviewed using FANI and then asked to do a maths task

2: Reflection on last interview

Why did I do it...?
National context

- Nationally the UK does not perform very highly in mathematics
  - PISA (2012) ranked UK 26th in 34 countries (DfE, 2013)
  - DfBIS (2012) said 26% of adults have numeracy skills at or below the level expected of a nine year old

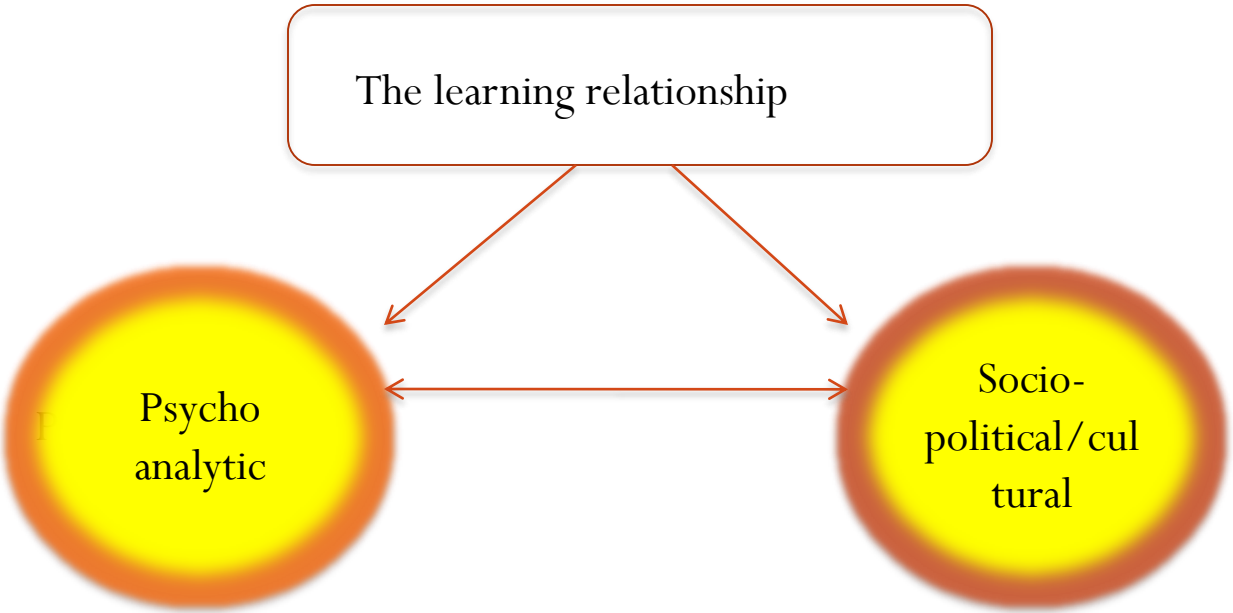


Why did I do it?

- There is increase in diagnosis of 'dyscalculia' (Szucs and Goswami, 2013; Gillum, 2012)
- There is an increase in diagnosis and research around 'Maths Anxiety' there is very little research around *WHY there is maths anxiety*

Psycho-social ontology

- Participants were thought of in terms of psychoanalytic and societal concepts



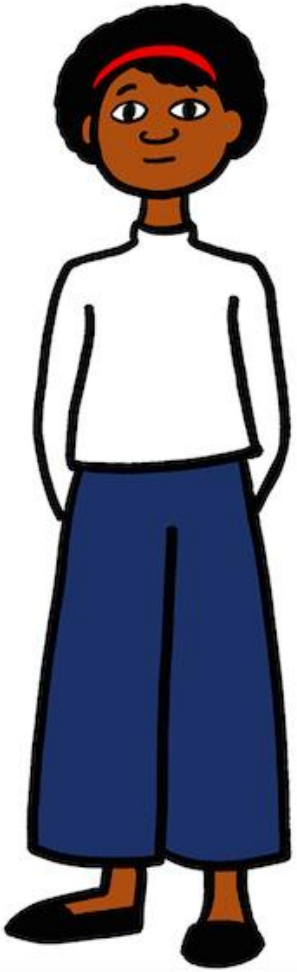
Psycho-social epistemology

- Acknowledges researcher as part of the dynamic relationship
- Understands researcher and participant as defended against anxiety (Klein, 1952)
- E.g subject to phantasies and transference and countertransference
- Therefore important to be reflective-
  - Psycho-social supervision
  - Research diary

Research questions

1) How do SENCOs think about children who struggled with maths, and children's maths difficulties?
2) What are SENCOs' perceptions of their own experiences of maths learning as a child?
3) How do SENCOs experience doing maths tasks?
4) *Why* do SENCOs feel this way?

- Participant 1: “Laura”



- Participant 2: “Patricia”

- Participant 3: “David”

- Participant 4: “Linda”

What did I find?

1) How do SENCOs think about children's difficulties in maths?

Learning relationships:

The SENCOs thought about the children as individuals and described their learning relationships.

1) How did SENCOs think about children's learning difficulties in maths?

The SENCOs attributed the causes of children's difficulties to 'within child' needs, poor teaching or poor parenting.

No SENCO attributed causes to the child's motivation or effort.

No SENCO attributed causes to themselves.




Attributing causes to other teachers…

It's just, in my perception, mathematics teachers tend to understand maths so they don't understand the difficulties with it

- Or teachers' pedagogical approach…

> Predominantly speaking, I can go into most maths classes and the way that it's taught now is the same as what it was then… Technology is the biggest change and sort of pedagogical approach and it doesn't seem to have affected maths just yet […] interestingly, the higher up you go, the more boring it becomes.

"You're not making it any more clearer for him, you're just repeating the same instruction!"

QUICK DISCUSSION POINT!(2mins)

- What were your experiences of learning maths at school?
- What do you think came up in discussions with my participants about their experiences of school?

2) What are SENCOs' perceptions of their own experiences of maths learning as a child?

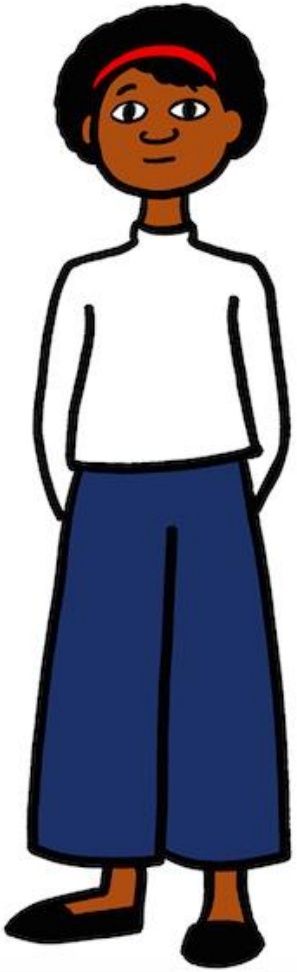
- Mathematics lessons involved feelings of disempowerment, competition and rivalry, book learning and vulnerability.




What are SENCOs' perceptions of their own experiences of maths learning as a child?

- Participant 1: "Laura"
  - Memories of a punitive maths teacher

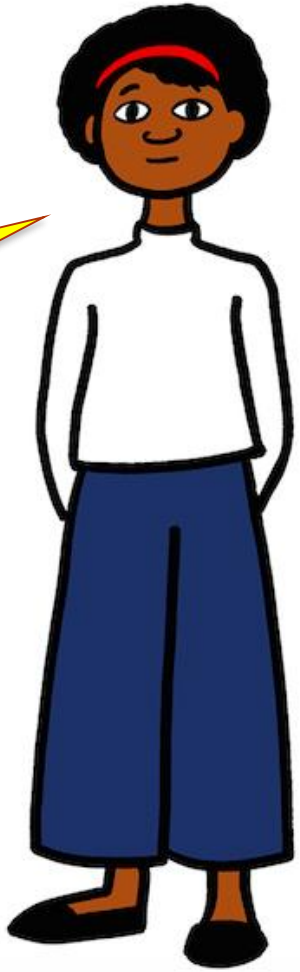
"We were all scared of her, we wouldn't ask for help we would just get on with it"



What are SENCOs' perceptions of their own experiences of maths learning as a child?

- Participant 1: "Laura"
  - Memories of a punitive maths teacher

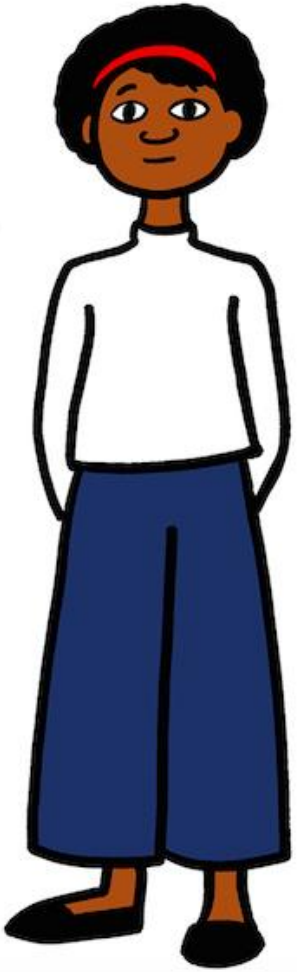
"I remember, it must have been my turn, to go up to the desk, and she's like "**yes?**" then, banging her fist on the table "**I've just told you what to do**!" It was quite intimidating"



What are SENCOs' perceptions of their own experiences of maths learning as a child?

- Participant 1: "Laura"
  - Memories of a punitive maths teacher

"If you were an adult you wouldn't put up with it!"



What are SENCOs' perceptions of their own experiences of maths learning as a child?

- Participant 2: "Patricia"
  - Had unpleasant experience
  - Found maths competitive and confusing
  - Damaging to self esteem
  - Traumatic

What are SENCOs' perceptions of their own experiences of maths learning as a child?

"Pass or fail. Are you good or are you not?"

"I was sat there with this card, and I can't do it. Everyone is completing and everyone else is moving on, everyone's moved onto the other box, everyone's doing this and everyone's doing that… and I'm sat there […]and I can't do it. I asked the teacher and she explained but I still don't get it. Then I have to wait 20 minutes or so while she's wandering the class helping everyone else, and I still don't get it. And I don't get it over and over and over again. "

What are SENCOs' perceptions of their own experiences of maths learning as a child?

"I decided I was never going to do [maths] ever again. That was it."

"There's no in between. There's no case of 'oh you did really well on that let's extend the answer'. It's just, there's a tick in the book or a cross in the book"

"It's easy for kids to see if they're any good or not […] because they can see how many crosses they've got and how many crosses their mate's got, and that instant comparison, and that instant knock on self-esteem"

What are SENCOs' perceptions of their own experiences of maths learning as a child?

- Participant 3: David
  - Did not mind maths at school
  - Had a very good teacher in lower school

  But teachers used more 'rote learning' as he got older.

What are SENCOs' perceptions of their own experiences of maths learning as a child?

"Most maths lessons were in your seat, all the tables are facing the front […] you have all the information on the board and then you just do that, and you get the textbook, page ten, and you do the first ten questions. That's what I remember about maths. That was the structure pretty much all the way through"

What are SENCOs' perceptions of their own experiences of maths learning as a child?

- Participant 4: "Linda"
  - Liked maths throughout school
  - Did maths to A-level

What are SENCOs' perceptions of their own experiences of maths learning as a child?

""yeah you'd get told off or I remember getting slapped around the head. There were three sections to the paper and one of the sections was for mechanics which he taught, and I just couldn't understand it. I could not understand it and he didn't care that I didn't understand it. He would just shout at you and call you thick and things"

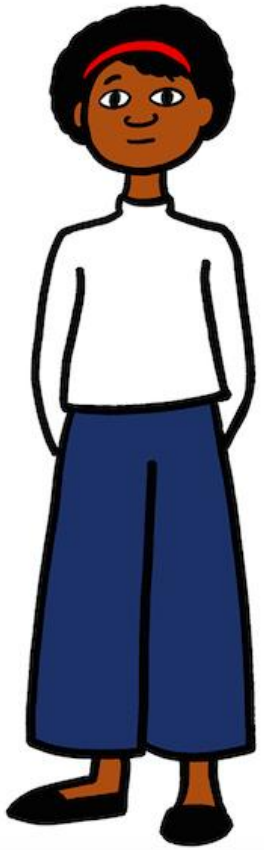
"I've got the feeling of it being very light, friendly and fun, you know. Nothing traumatic. I remember people getting the slipper"

The maths task

Consider the number M = 33 x 3 x 52 x 3 x 7. Is M divisible by 7? Is M divisible by 5, 2, 9, 63, 11, 15?	How could you end the remainder of 589 divided by 98 by using a calculator?	How would you convert 1/7 into a decimal?	Which of these numbers are equivalent to 1/5? one fifth, 20%, 1.5, 3/7, 1/5, 0.5, 3/15 1 in 5, five tenths, a fifth, 5/20, 0.2.
A new out of town shopping centre offers building plots of three different sizes: 70 m by 114 m, 450 m by 508 m, 180 m by 235 m. If you were to view these plots from an aeroplane which would appear most square?	The price of a video game was increased by 5%. In a sale, its new price was reduced by 5%. Is this price now: the same as the original price; less than the original price; more than the original price? Give your reason.	Which is greater, 2/3 or 3/4? 2/3 or 5/8?	A sales assistant was asked to end the original cost of an item which had been reduced in a sale by 15% to £850. He did the following calculation: £850 x 15/1005 =£127.50, £850 + £127.50 = £977.50. Describe why the sales assistant has arrived at an incorrect solution and calculate the correct amount.

What are SENCOs' attitudes to maths tasks?

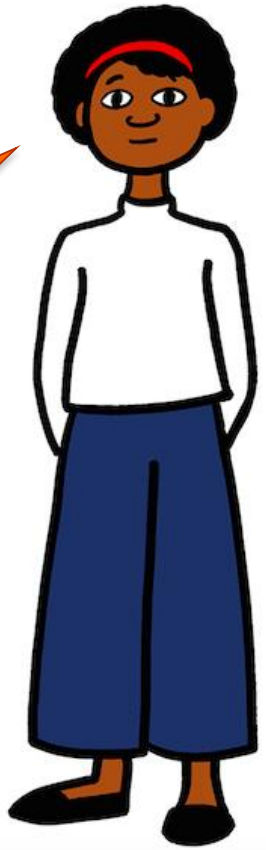
- Not confident
- I became the provider, Laura was stripped of her competence
- She completed the task



What are SENCOs' attitudes to maths tasks?

- Not confident
- I became the provider, Laura was stripped of her competence

I mean, you see these and you feel 'oh I don't like this' and you see that's how I feel now […] it's getting an answer and being told you're no good at it. I'm looking at another one now to do. I don't want to do that one!



What are SENCOs' attitudes to maths tasks?

Too much. Hard!

Oh my god. No, Go away!

No, not touching it!

What are SENCOs' attitudes to maths tasks?

- Was competitive with me

What are SENCOs' attitudes to maths tasks?

David: Do you know the answers? Did you come up with these questions?

Me: I don't know the answers [...] I'm just more interested in the process.

David: Okay. Is mathematics an area of strength for you? Is that something you find quite easy?

Me: That's interesting that you asked me that. What do you think?

David: I would have assumed that mathematics was something that potentially you found relatively easy, I would assume. Just from my interpretation of mathematics teachers, I would assume that you were okay at this.

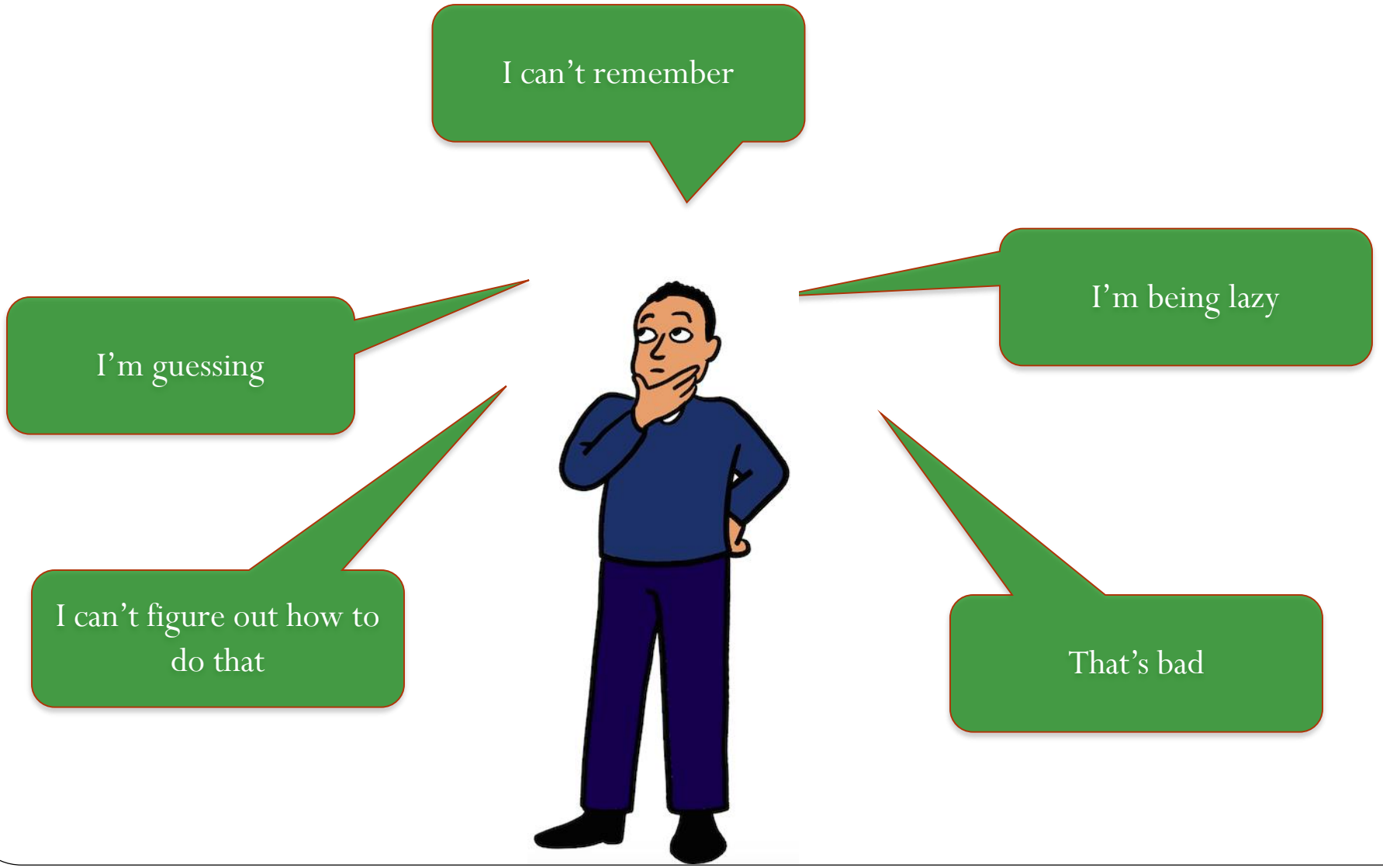
Me: Oh, I see. So, did you assume I was a mathematics teacher?

David: No, I just assumed that you were good at mathematics, like somebody who is a mathematics teacher"

What are SENCOs' attitudes to maths tasks?

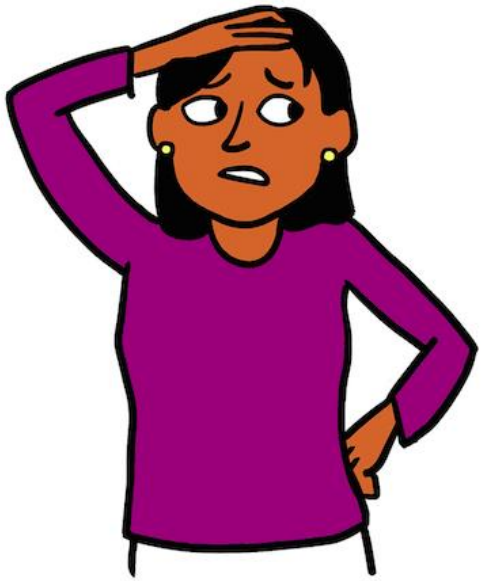
- Was competitive with me
- Initially found the task very easy

What are SENCOs' attitudes to maths tasks?



Themes

- Maths and VULNERABILITY



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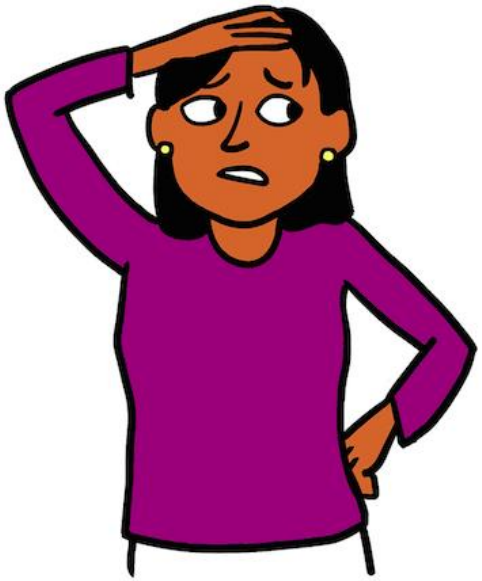
- Maths and VULNERABILITY
  - Powerful emotions recollected



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- Maths and VULNERABILITY
  - Powerful emotions recollected
  - Unequal power dynamics

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  - Rigid lessons + uncontaining teacher = traumatic

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- Maths and VULNERABILITY
  - Powerful emotions recollected
  - Unequal power dynamics
  - Rigid lessons + uncontaining teacher = traumatic
  - Competition

Themes

- Maths and VULNERABILITY
- Maths and SHAME

I don't know why I was ashamed, but I do remember saying that and I think that probably was the right term. There's lots of things behind shame isn't there

Themes

- Maths and VULNERABILITY
- Maths and SHAME
- The Learning Experience

IMPLICATIONS

Pedagogical approaches alienating students

Professionals' reflection on their role in assessment

Importance of relationships in learning

How we think about mathematics

Helpful reflection

IMPLICATIONS

Pedagogical approaches alienating students

"it's that whole [alienation] thing, isn't it. You become very distant to everybody and the rest of the class and you approach the teacher and ask the teacher but if the teacher still isn't giving you that back then what can you do?"

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THANK YOU!

Questions?

Illustrations by Rachel Sale @www.rachelsaleillustration.com