Why does Maths Anxiety start to affect Primary (Elementary) aged children so badly?

The short answer is that somewhere between the ages 7-13 school systems all around the World shift the emphasis from a doing and seeing style of Maths, where children can use and are encouraged to use manipulatives and visual representations, to one where they are being asked to learn Maths facts. They are also being asked to do this with little or no visual or practical backup. This understandably often causes anxiety.

This is particularly the case with Mental Arithmetic where they only hear the question (Auditory Processing) and have to quickly respond having either recalled the number fact or having manipulated numbers in their heads as well. With no visual cues to see and use, the brain is forced to work in a way that has a very high Cognitive Load. This means that the activity is using working memory and processing speed with no other support mechanisms. Working in this high Cognitive Load way causes anxiety and once anxious working memory and processing speed are affected and lower significantly, which in turn causes more anxiety etc.

Also at this stage in most education systems, they are also being required to learn and have a quick recall for many number facts such as number bonds to ten, and times tables facts.

This means that there is a double whammy of having to do mental arithmetic quickly and recall number facts.

- Primary level maths is over-reliant on remembering facts and recall.
- Maths is more affected than anything else by anxiety probably because at this level it is highly reliant on working memory and processing speed.

For these few years while speed and recall are highly prized against all else we are likely to lose many children to a cycle of Maths Anxiety. Once they have got into this downward spiral of anxiety and lack of confidence it is very hard to help them climb back out and empower them to be happy and confident mathematicians at high school.

After children move past this stage in school it goes back to being about doing the Maths and getting the correct answer by whatever method works for them. We would never expect them to do multi-step algebra problems in their heads. Clear written working out and answers are now required. Working in this way, although the concepts are tricker, they don't have the same recall, timed elements or cognitive load issues to contend with anymore. Slow and steady now wins the race...

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