

# **What happens when I welcome mistakes in my classroom?**

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## ***Rationale***

Dweck (2006) explains that learners with a 'growth mindset' believe that they can learn just about anything. It may take some struggle and some failure but they understand that with some perseverance and effort, they can succeed. The focus of a growth mindset is on learning, not looking smart whereas someone with a fixed mindset will avoid situations where they might fail (Dweck, 2006). This can have implications in the classroom where children become reluctant to try or become distressed if they get the wrong answer. During the course of my induction year, I have found that many children within my class have a fixed mindset, particularly when it comes to numeracy and mathematics. Thus, the purpose of this enquiry was to embrace mistakes within the classroom, particularly during mathematics with the aim that the children did not become distressed when they made a mistake or were reluctant to try if they thought they would get the wrong answer.

## ***Aims***

The aim of this enquiry was to use a planned and structured approach to measure the impact of welcoming mistakes in maths in a primary 4 class.

## ***Methodology***

A scale from one to ten was created in order to measure the children's feelings about making mistakes at the beginning of the enquiry then at the end of the enquiry (Fig.1). The scale ranged from one (negative feelings) to ten (positive feelings) measuring children's feelings towards making mistakes in maths. The scale was explained to the children and it was highlighted that positive feelings meant that children were able to use these mistakes and learn from them where as negative feelings meant that children got distressed and upset if they made a mistake. In addition to the scale, some direct quotes from both the beginning and the end of the enquiry from the children were recorded during discussions about mistakes.

The enquiry was carried out four days a week during the 'Number Talks' part of the lesson. Number Talks encourages children to 'think aloud' with children sharing their chosen strategy and method of working out the problem with the rest of the group. During these parts of the lessons, there was a particular focus on creating a culture where children feel comfortable to share their strategy and methodology. This included a 'no hands up' approach so as to not put children off who are still working on a problem. A no inappropriate

comments rule was also set banishing such comments as ‘this is easy’ ‘got an answer already’ as well as ‘I can’t do this’. In addition to this, five children, who were selected at random, were also involved in weekly discussions about their feelings and attitudes towards mistakes (Table.1). Children were led by the teacher in discussions about how they can learn from their mistakes and also each other’s mistakes during the thinking aloud time. This enquiry was carried out over a period of four weeks and the findings are recorded below.

### ***Findings***

**(Fig.1)**

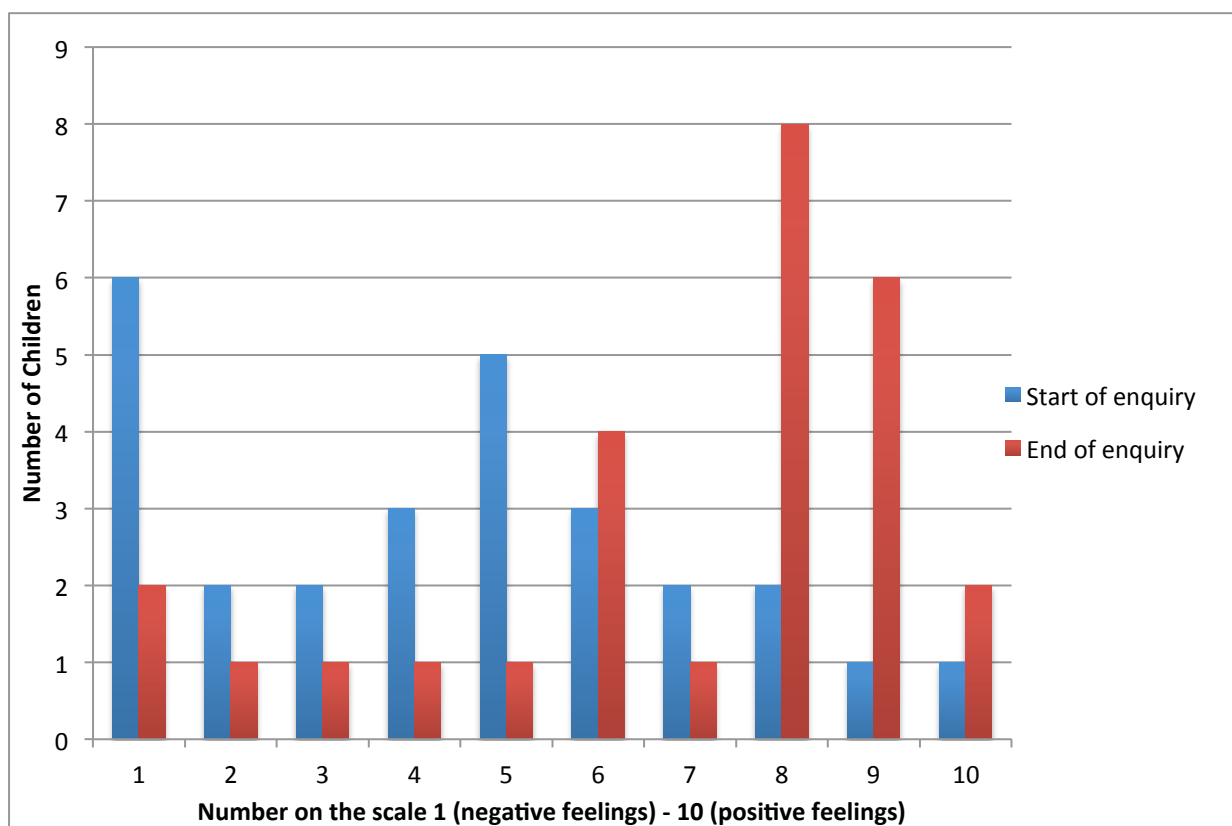


Table.1 Showing children’s feelings towards making mistakes.

<b>Pupil</b>	<b>Start of Enquiry</b>	<b>End of Enquiry</b>
Pupil A	“it makes me feel as if I’m dumber than other people”.	“ I feel better doing number talks because I know I’m not the only one who gets the wrong answer and listening to everyone’s way helps me see where I went wrong”.
Pupil B	“sometimes everyone else is getting the correct answer and I’m getting the wrong answer I feel as if I’m not as good as everyone else”.	“ I still don’t like it when I make mistakes, I want to get the answer correct”.
Pupil C	“I feel that I don’t want to share my answer in case I make a mistake”.	“I feel that I can share my answer now because I know that if I make a mistake, the teacher will show me where I went wrong”
Pupil D	“I’m scared I get the wrong answer”.	“ I still feel a little bad if I get the wrong answer but I’m not scared to tell everyone my answer”.
Pupil E	“ I don’t get worried if I get a wrong answer because the teacher will help me”.	“everyone has started sharing their ideas and we can help each other. People show me an easier way of doing the sum”.

From Fig.1 it can clearly be seen that the majority of children had placed themselves at the bottom end of the scale indicating that they do not feel good when they make mistakes. A high number of children highlighted that they felt ‘very bad’ about making mistakes however most children placed themselves in the middle of the scale indicating that they felt ‘ok’ about making mistakes. Only a small minority of children placed themselves at the top end of the scale signifying that felt ‘very good’ about making mistakes.

From looking at Table.1 it can be seen that at the start of the enquiry that four out of five children had negative thoughts about making mistakes with many indicating that they did not want to seem ‘dumb’ in front of their peers. However, by the end of the enquiry three out of the five children who had negative thoughts about mistakes, had more positive thoughts with some saying that talking about mistakes and having a calm, safe environment made them feel more comfortable about opening up about their method.

## ***Conclusions***

It can be seen that for many of the class, their mindset has shifted from negative feelings to more positive feelings about making mistakes in maths. From looking at the results of the table, it is clear that celebrating mistakes in maths has made children feel more comfortable to share their method even if it is not correct. Children were able to see the benefits of talking about mistakes with many children saying that they felt more confident in maths. Therefore, it could be said that by discussing mistakes with the children, they can have more positive feelings about it. Additionally, by creating a calming, safe environment, children are more likely to be open about their answers and how they got their answers. This can lead to discussions between children on how to improve or showing a different way to the answer. These discussions in the class have been very beneficial to the children in improving their mindset.

## ***Implications for Future Practice***

Even though this enquiry has shown some promising results in terms of growth mindset, future research is required in order to validate these findings. This was a small-scale enquiry carried out over the period of four weeks thus in order to make it more reliable, it would be better to carry out this enquiry for a longer period of time. Additionally, more research is required as some children may be hesitant to show their true feelings towards mistakes and may record something different from their true feelings. It might also be worth adding the fact children could view other pupils' responses on the 1 to 10 scale on the white board and it may have to a degree influenced their opinions. In future enquiries it might be better to gauge pupils opinions individually and in isolation from each other on paper to gain a more independent response from pupils, collecting their responses in a letterbox of some kind like a poll. This would I feel be more anonymous. Additionally, in terms of the second scale at the end of the enquiry, children may have felt that they had to be seen to have improved feelings about mistakes when it may not necessarily be the case. Therefore, it would be useful to carry out more research.

## ***Bibliography***

- Ames, C. and Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology*, 80(3), pp.260-267.
- Dweck, C. (2006). *Mindset*. 1st ed. New York: Random House.
- McLean, A. (2003). *The Motivated School*. 1st ed. London: SAGE Publications.
- Ricci, M. (2013). *Mindsets in the classroom*. 1st ed. Texas: Prufrock Press Inc.