

LITTLE BIG Maths

by Ben Harding



Little Big Maths:
The A-CLIC Book

Introduction

I was once asked at a Big Maths parents' seminar why we needed to teach children to become numerate when we had so much technology that would do 'the sums' for us. It's a fair question in so much that most adults in the western world have handheld devices on them wherever they go, and those devices usually have calculators on them. What interested me most was that we can even entertain the notion that as a human race we might one day have 'lost' our numeracy ability. It is so much against our basic understanding of what it means to be human that we actually struggle to imagine a time when adults might have no appreciation of amounts and number, and zero capacity to be numerate. Whoops! Did I just mention 'zero'? Numeracy is unavoidable! If we stop teaching numeracy then we will end up with a weird world where everyone stares at their devices wondering what on earth to do with them!

So, numeracy...is here to stay.

Little Big Maths is very systematic. It is systematic because becoming numerate is a very systematic process. The key is building that system into our schools and then embedding it. The school's system should be so 'tight' that it is hardy and resistant to knocks and challenges such as staff changes, changes in government policy, or children arriving into school from communities with high levels of social deprivation.

As well as being systematic, Little Big Maths is also empathetic because becoming numerate is a very emotional experience. The successes and failures we have with number can have a profound affect on us*. So, more than anything, Little Big Maths is about supporting young children to become numerate. Regardless of ability, all children should feel good about their numeracy and find new learning easy. Little Big Maths is also written with empathy for the adult (e.g. teacher) who wants to see the steps of progression in a clear and simple form. Time is always of the essence, and busy

teachers, parents and carers need 'minimum input, maximum output' strategies to increase their effectiveness. There is also high empathy for the school leader. Being in charge of a child's numeracy learning journey from 3 to 11 is a huge responsibility, and it is vital to know that everyone in the school is facing in one direction with the highest levels of consistency. The outcome should be such that the child experiences a numeracy learning journey as if they were being taught (and tracked) by one teacher.

The entire journey is vitally important but the early years are crucial. We know so much more about highly effective teaching and learning than we did 10 years ago. In another 10 years we will know so much more again. It is always an exciting time to be a teacher. As we head further towards 'the truth', we have already agreed, as a profession, some key features of outstanding teaching. For example, 'don't just turn up and cover a curriculum, turn up and teach your children's next steps'. And there are others. However, it has become clear that this approach leads to a universal 'teaching and learning toolkit', which is set to make the ability of the profession plateau.

** This is because an appreciation of amounts was, evolutionarily, important for survival. If you were a member of a hunting and gathering tribe and you didn't understand amounts you could slow the tribe down, and therefore you would be castigated.*

About the author

Ben has been working in education for over 20 years, including 8 years of headship. He has written numerous publications that have totalled over 100,000 sales reflecting their impact in schools. As the creator of Big Maths he presents high-quality training in a clear, accessible and humorous way, travelling across the UK and worldwide. Ben is also a current Ofsted inspector.

The pedagogical truth is...that there is no single truth! We cannot box all teaching and learning up together and say, 'this is how to do it'. In fact the key skill-set for the highly effective teacher over the next 10 years will be the opposite. It will be the ability to take each aspect of the curriculum separately (and to take differing aspects within those) and consider each separately, to zoom in on different areas within a 'subject', and look at the bespoke teaching approach needed to be effective for that particular thread. This can't be left to individual teachers to fathom, it requires the complex expert knowledge to be translated into a set of straight-forward key messages that mean something to the busy teacher at 9am on a Monday morning!

This is where Little Big Maths sits. It invites us to look at the age old subject of 'Mathematics' with a new pair of glasses. Maybe we can empower the children to make more rapid progress and have fun as they go, if only we can break down what it is we are trying to achieve and look at the different parts separately. And for each different part maybe we need to have a different approach. Maybe we need to 'say and do' something quite different for one part when compared to another. This is exactly the case, and in Little Big Maths you will see the accumulation of years of experience, knowledge gathering, and deep pedagogical thought all distilled into 10 simple messages and a bunch of Progress Drives that will help you to ensure that all children become properly numerate!

Little Big Maths

Little Big Maths is a systematic structured approach to getting children numerate. It is the equivalent of a 'letters and sounds' phonics approach for teaching the basic skills of reading. For too long now we have hoped that young children pick up basic skills for numeracy through a process of 'osmosis' - surrounding them with numbers and mathematical activities

and then hoping they will become numerate. Little Big Maths is about redressing the balance, ensuring that we have a dedicated time each day to 'insist on progress' for the basic skills for maths for every child - in much the same way that many schools successfully do for literacy through a structured phonics programme.

Little Big Maths has two main parts. The first part is called 'The Little Big Maths Way', and the second part is where you will find 'The Progress Drives'. The first part provides the 'how to teach', whereas the second part provides the 'what to teach', and in which order.

Little Big Maths



The Little Big Maths Way

The Progress Drives

The Little Big Maths Way

Here you will find 10 key messages for teaching young children the basic skills for maths. This is the skill-set of precise teaching strategies that are specific to teaching maths to three, four and five year olds. They may or may not be useful for teaching Science to 15 year olds but they are definitely useful for our purposes. What The Little Big Maths Way isn't... is another description of generic early years practice. It is assumed that the widely agreed features of outstanding early years teaching are 'a given'. The Little Big Maths Way is a specific look at how we input the core numeracy database of basic skills for maths. And as we progress through these 10 key messages you will see how we 'drill-down' even further on the different aspects within becoming numerate, and provide a simple, but highly effective, answer as to how to teach each part.

The Progress Drives, Drive Progress!

Progress Drives are nothing more than a simple sequence of progression (see example shown). They are all obvious and logical, but as the seas of curriculum reform have swirled about us, these timeless sequences of progression have become the lost treasure. Little Big Maths is about getting back to basics for children, but it is also about getting back to basics for teachers. Taking a simple sequence of progression and tracking each child against it is exactly how good maths teachers (for children of all ages) used to teach. 'My children can do this, so I'm going to get them to do this next, and then I'm going to get them to do that!' is how the thinking went. Little Big Maths brings this thinking back and allows us to see what we are trying to achieve with the utmost clarity.

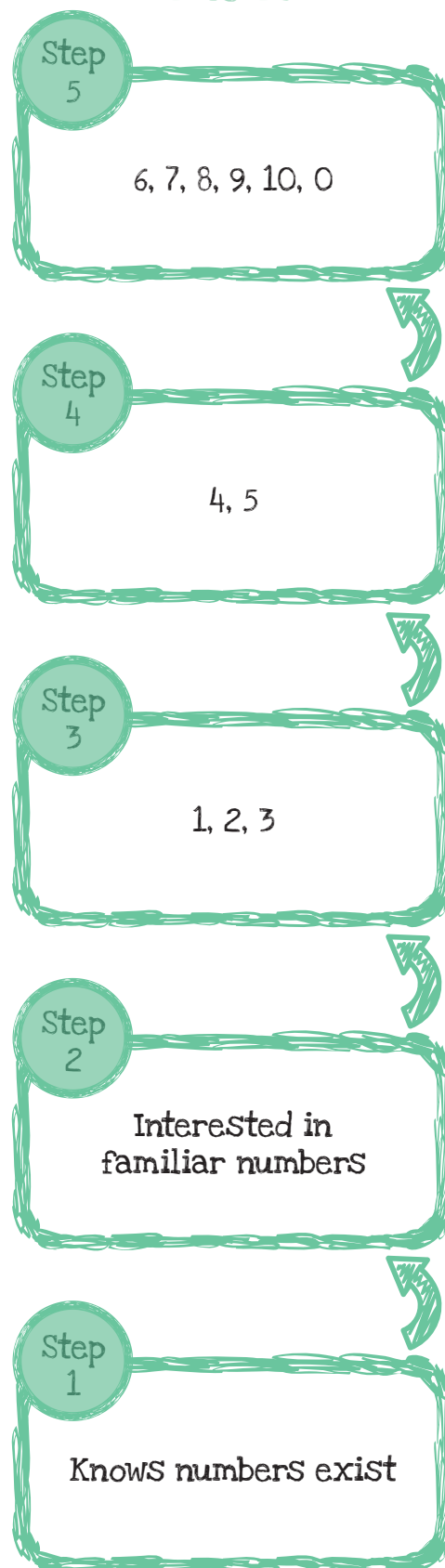
Here is a chicken and egg type question: Which came first the planning or the assessment? The answer...neither! One leads to the other, leads to the other, leads to the other. If we are teaching children, as opposed to covering a curriculum, then assessment and planning become a single event as we constantly teach the child's next steps. The Progress Drive approach knits the two elements together as one. In the second part of this book you will see 5 sets of Progress Drives organised under the following headings:

1. Amounts
2. Counting
3. Learn Its
4. It's Nothing New
5. Calculation

Each Progress Drive has its own set of teaching points that act as generic planning notes for that step.

Reading Numbers 1

1 to 10



Additional Notes

- **Professional Training:** For face to face professional development training by a qualified Big Maths or Little Big Maths consultant please visit: www.AndrellEducation.com
- **Learning Leaders:** In this book the term 'Learning Leader' is used. This term refers to any adult in a school, Early Years setting or alternative provision that has responsibility for children's learning. It is not intended that the term 'Learning Leader' is adopted by all that use the book, merely that it provides a generic name for adults in this context. Qualifications, perceived status and locally used job titles vary a great deal from setting to setting but the term 'Learning Leader' encompasses the very essence of what it means to be an adult with the privilege and responsibility of 'getting children to learn'!
- **Children:** Throughout the book the term child/children is used. However, it is fully recognised and respected that in some situations the individual learning these skills may not be a child.
- **Three, four and five year olds:** Although the Progress Drives are mainly age-appropriate for children that are 3, 4 or 5 years old. Some steps are clearly aimed at younger children, and some steps would typically be attained by children at 6 years of age. This is an important feature of Little Big Maths so that we can track every child as they move from one type of provision to another, from one year group/phase within school to another, or indeed from home to school. The document 'CLIC on your LBM Planning' (available free online from www.AndrellEducation.com) provides guidance as to what age children typically attain each step, allowing for the fact that this is only a guide in the earlier years as individual rates of development naturally vary.
- **Writing Numbers:** You will find that Little Big Maths covers all the progressive steps for a child to become properly 'numerate' at these ages. The writing down of numbers, i.e. the formation of digits, which can be boiled down to the child being able to make 10 different 'squiggles' on paper (1,2,3,4,5,6,7,8,9 and 0), is not in itself a numerical concept and is therefore not covered in this book. There are however many useful schemes and strategies that put a fun 'daily press' on these essential writing skills.
- **Parents and Carers:** There is little mention of parents and carers in this book. This is because it is seen as an accepted norm that parents and carers will be as fully involved as possible in their child's numeracy learning journey, just as they would for any aspect of their child's learning. Many proactive parents and carers may well find the messages in the book, and the tracking system, of great value at home and in relation to supporting their child at school. In reality, the parent is the child's most influential 'learning leader'.