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So if you are a MapWise school or teacher or a student who has made a contribution to the book, we'd like to say a big 'thankyou'! It will become obvious to the reader that *Think it – Map it!* could not have been written without you!

We would particularly like to thank the teachers who took the time to write detailed case studies of their work. You are named within the book.

We would like to single out Jo Grail's work with her Year 6 students. Jo is now a headteacher in Cornwall. Working with her Year 6 students, she adapted the model mapping format to suit the different text genres. Through the use of model mapping she transformed her students' attitudes towards literacy generally and writing in particular. We think she has made a very significant contribution to literacy development and we are excited that her work will be made available to all her teaching colleagues around the country in the form of text genre mapping posters. Her work is proof that if we focus on dispositions towards and the processes of learning the results take care of themselves.

Finally, we need to apologise for 'mixing up' some of the maps. As a result we have not always been able to attribute maps to specific schools or students. At this stage we can only offer our apologies and promise to label maps for future books with a more permanent method than Post-it notes. If you do see your (or your students') work and want it acknowledged in future editions please send details to [theoffice@modellearning.com](mailto:theoffice@modellearning.com) stating the page number, map title, name of school and the relevant year group and, of course, the name of the map's author. So, we are sorry and it won't happen again!

We would also like to thank our editor Carol Thompson and Neil Hawkins who laid out the book, for their support, advice and flexibility under pressure. We hope you would be as happy to work with us again as we would be to work with you!

## Foreword

by John MacBeath

Have you ever stopped someone in the street and asked for directions? Have you then got hopelessly lost? This experience is familiar to most people and parallels an all too common classroom experience of listening to a teacher and struggling to find a way through a verbal welter of information. From the teachers' side their greatest source of frustration is that children never follow directions, no matter how many times you tell them.

Well, perhaps the problem is in the telling. Perhaps there is some deep-lying fault line in the process of giving information. Something elusive seems to happen between the giver and receiver with the result that information loses its way. This must be what David Hargreaves means about knowledge being 'sticky', not in the sense of 'sticking' in your head, but sticking somewhere *en route* to your head. Would-be learners who say they simply can't 'take it in' have identified the most significant problem with knowledge, that it can't come in until it has found a place to enter.

In response to this age old dilemma there is a fairly simple explanation. The simple explanation is that we cannot navigate physically or intellectually without a map. Before maps were invented people didn't travel too far for fear of falling off the end of the world. Before we discovered the cognitive map the favourite metaphor for teaching and learning was the bucket or the sponge. We have now replaced that superstitious notion with one informed by research and cutting-edge classroom practice. We now understand something about the cognitive map – that wonderful intricate set of pathways in our brains that help us to make sense of the world and to know where and how to travel confidently.

The map, as this book explains so well, is a powerful metaphor and a highly practical tool. Maps, of course, come in myriad forms and are not always helpful. There are maps with too much detail and maps with not enough. There are linear maps, like the route maps you get from the RACV or [street-directory.com.au](http://street-directory.com.au) that are fine as long as you stay on the advised route. Then there are maps that give you the whole picture so that you can always find your way back to where you were before you went astray. It is this kind of map that is of most use to the learner and to the teacher. As Ausubel, quoted on page 63, contends, the single most important factor in learning is what the learner already knows. 'Ascertain this and teach him accordingly.'

So the learner needs a map that always lets them find their way to what they already know and enables them to navigate from there to their desired destination. Teachers who have used mapping techniques recommended in this book testify almost evangelically to the profound difference it can make to classroom learning.

This book is not, however, simply about useful tricks as magic techniques. It is fundamentally about how learning works and how teaching can be transformed when it grasps and respects some cardinal principles – about facts and knowledge, about memory and retrieval, about language and thinking, about individual and social learning.

This book sheds new light on some deep truths about peer learning, about talking your way to meaning, about learning as liberation from a ruthlessly lockstep progression through the curriculum. It is a salutary reminder in an age of attainments targets, assessments, key learning areas and value added that learning is what schools are for and it is what makes teachers want to teach. This book is a real treasure trove of good ideas and sound pedagogic principles.

Professor John MacBeath is Chair of Educational Leadership, University of Cambridge

# introduction

## Why this book is important

Have you ever wondered what was going on in your students' heads? How often have you wondered what they were thinking? How often are you surprised by what has (or hasn't) gone in at the end of the lesson? Would you accept that, for the most part, we haven't got a clue what is going on over there, in their heads?

What would happen if you could see what was going on in students' heads, if you could see the sense that they have made of what you were saying? What would happen if we transformed the act of thinking from something that was previously fleeting, invisible and private into something that was concrete, visible and public? This is what model mapping does. This is what *Think it – Map it!* is about.

When you introduce model mapping into classrooms, nice things happen. It affects areas such as literacy, thinking skills, study skills, boys' writing, inclusion and G&T extension in a very positive way. It can transform levels of communication and collaboration in the classroom because model mapping provides us with a model for understanding *how we understand*. Underneath all the many ways that we are different, and underneath all the many ways that we can set up the environment and manage the process of learning, lies the one thing we all have in common: a built-in need and desire to create meaning from our experiences. We all want to understand. This book is important because it enables us to understand understanding.

## The content

The three most common questions that we are asked on professional development days regarding model mapping are:

- 1 Why do we need to know this?
- 2 When do we do it?
- 3 How do we do it?

*Think it – Map it!* addresses these questions directly and is organised into three sections accordingly.

By reading and using this book it will soon become clear why model mapping is an essential teaching and learning tool for anyone involved in education. Its application is not – as some believe – limited to areas such as revision or planning; nor is its usefulness limited to only particular 'types' of learner. Such beliefs are based on an inadequate understanding of what model mapping is and how it can be used within schools. This book will leave you in no doubt as to the relevance and usefulness of this powerful learning tool within every classroom and with every student and member of staff.

## Overview of the three sections: Why, When and How

Claire Hunking, a year 3 teacher, along with Megan Howe, one of her students and the *Big Friendly Giant (BFG)* are going to help us to introduce you to the world of class maps.

In a letter to the authors Claire wrote:

'Please find enclosed a linear example of the *BFG* character. This work was the result of reading the text with my year 3 children and picking out relevant describing words. This was then 'dumped' on their own whiteboards. We discussed what we had found out and created a model map together (top of p. 7). Using the model map they wrote their own descriptions of the BFG (bottom of p. 7).'

## Why model map?

Megan and Claire know why model maps are significant. They know that the mapping process provides teachers and students with the tools they need to make learning a social process during which they collaboratively build their models of understanding. (See chapter 1.1, Models of learning.) They understand that learning is about forming, developing and constantly modifying these models of understanding, that psychologists call schemas, and that this is far more likely to happen when the process is made visible through the use of model maps. (See 1.2, Schemas.) This process, as the two illustrations in the introduction show, involves two acts of transformation: Act 1 – when we listen or read we turn linear language into holographic (non-linear) schemas; and Act 2 – when we write or speak we turn these holographic schemas back into linear speech or text. As Megan's work shows, transformation is easy when the schemas are built up in front of you. (See 1.3, Holographic-linear.) If you look carefully at the branches on the *BFG* model map you may see that there is a hierarchical structure that permeates the whole map. You may realise that it is not the words that convey most meaning. Rather it is the spatial (almost triangular) relationships between them that carry a deeper more significant level of meaning. Claire's class know that beneath the linear layout of language on the page lies a deeper semantic structure. (See 1.4, Language triangles.) Because all her students

- a) understand how they process information
- b) know that this works best when done socially
- c) know that models of understanding are called schemas
- d) realise the benefits of making schemas visible
- e) have explored and understand the structure of language.

They understand that underneath the many ways we are different there is a single common denominator. We are all meaning makers. (See 1.5, Thinking styles.) We are all trying to understand. While the ways we like to do it may differ, the fact that we all do it is unquestionable. And model mapping makes this process explicit. It enables teachers to model the process for students and it shows students how to build their own models. This model building/modification is what we do when we think. You could say it is what thinking is. (See 1.6, Thinking skills.)

## When do we do it?

Take another look at the *BFG* model map. In your mind replace the letters *BFG* with the title of a current topic you are teaching at school. Now, imagine yourself talking students through an overview of the forthcoming topic or lesson or scheme of work. You are giving them the 'Big picture'. (See 2.1, Big picture first.)

This could equally be you at the start of a staff or management meeting providing an overview of what is to be discussed or provided. (See 2.9, Meetings.) Or it could be you browsing over the school improvement plan for the year or term. (See 2.7, Development planning.)

Now imagine yourself going into the lesson and creating a map showing what the students already know about a topic before you start. Imagine yourself or the students recording new insights or ideas onto an existing map. (See 2.2, Simply connect.) At the start of a topic or lesson you ask the students to map out what they already know. You ask them to add to the same map at the end of the lesson or topic. You can see what they have learned. (See 2.6, Formative assessment.) Imagine the students mapping out what they know individually and then moving them into pairs or threes and then into fours. (See 2.3, Collaborative group work.) Imagine a display in your classroom or in the corridor growing as students add new connections and ideas as you proceed through the topic. (See 2.8, Displays.) Imagine your students working alone, in groups or as a class to produce revision maps that then go on display during the course of the year and then again in the period leading up to the tests. Imagine their explaining these maps to each other and yourself, referring to them little and often in the period leading up to the exam. (See 2.4, Total recall.) Imagine yourself helping a student make new connections, or helping to organise their thoughts in a way that enables them to communicate their understanding to you. You have a tool to help students with Special needs. (See 2.10, Special educational needs.)

**6** 'Through the selection of appropriate models, content can become conceptual rather than peculiar; process can become constructive rather than passive reception; and social climate can become expansive not restrictive'

B. Joyce, E. Calhoun and D. Hopkins (2000)

## What are models of learning?

Models of learning provide us with ways of reflecting, examining and understanding the learning process. Like all models, they are not real and they are not to be followed slavishly, but they do provide frameworks for understanding what is going on in classrooms.

In their fabulous book *Models of Learning – Tools for Teaching*, (2000), Joyce, Calhoun and Hopkins pool 25 years of research to identify four families of learning models which they call:

- 1 the information processing models
- 2 the social models
- 3 the personal models
- 4 the behavioural systems models.

Each provides us with a means of studying how learners learn and in doing so they promote reflective classroom practice.

- 1 The information processing models are concerned with the processes that learners use to create models of meaning (schemas) from the stimulus provided to them by teachers. (See next chapter, Schemas.)
- 2 The social models examine the importance of cooperation and collaboration in the classroom and explain why we learn best when learning communities are encouraged and developed.
- 3 The personal models are concerned with the importance of personal identity and personality. These models attempt to shape education so that learners come to better understand themselves.
- 4 The behavioural models are based on our capacity as human beings to self-correct as a result of feedback. These models concentrate on observable behaviour, communicating progress and on setting clearly defined tasks.

## Why are these models important?

The first two models of learning briefly outlined above have been shown to dramatically accelerate rates of learning by helping learners understand their own cognitive processes and preferred modes of enquiry in a way that traditional 'chalk and talk' teaching simply cannot do. By providing learners with the appropriate model of learning, passive reception of information can be transformed into constructive enquiry.

Models of learning are important because they provide a basis on which to examine current practice, to reflect, and therefore to change. Unless we place the art of teaching inside models of learning we run the risk of becoming a promiscuous profession running from one 'quick fix' strategy to the next.

It is beyond the scope of this book to go into detail or advocate any one model above the others. If you are serious about being serious about teaching and learning then *Models for Learning – Tools for Teaching* is, in the authors' opinion, a 'must have' book.