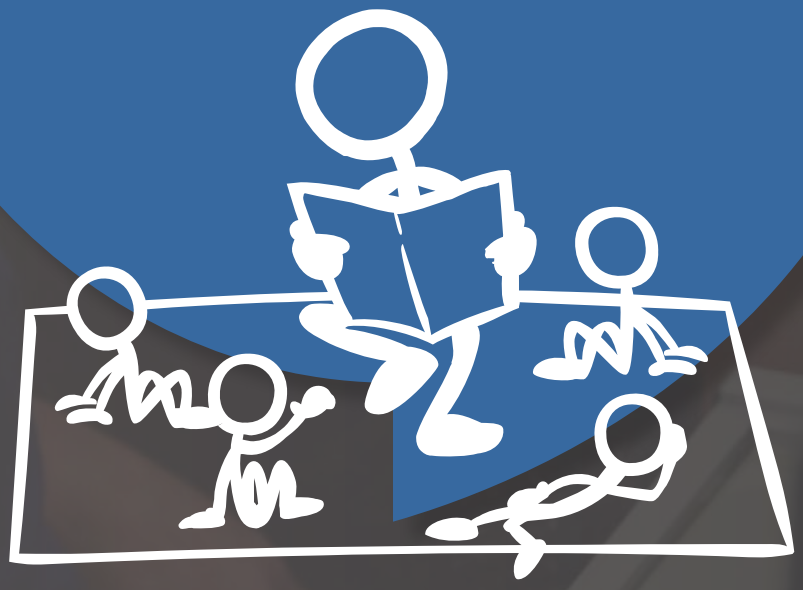
The Dyslexia-SpLD Trust

CASE STUDY

Cognition, learning and learning differently;

doing it with the whole class



Funded by:

Department for Education

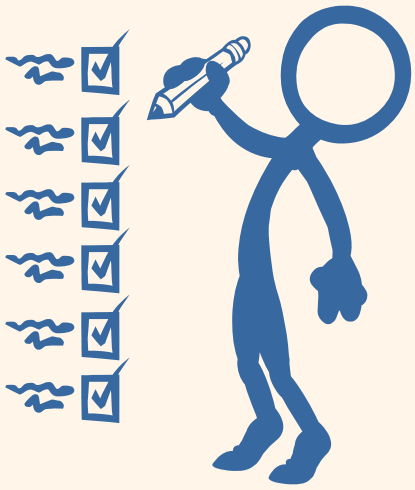
The Whole Class Project is a 'making it happen' approach to teaching and learning that has, as its starting point, a celebration of diversity in human learning. This project challenges the typical traditional approach to learning differences. Rather than planning the secondary school curriculum delivery first with adaptations and or modifications coming second and along the way; the neurodiverse approach is to plan holistically using what we now know about cognition, learning and learning differently to ensure that teaching includes all children's ways of learning. Also, the methodology is more than a literacy intervention; it encompasses all subjects in secondary education. It is inclusive at the planning stages to ensure that what is being taught is equally accessible to all children and does not 'disable' children who learn differently. The Whole Class Project builds upon successful outcomes from AchieveAbility, a HEFCE funded national project involving over 120 schools, which focussed on developing inclusive approaches to classroom learning to support dyslexic learners whilst also improving the learning experience of all learners in the class. Through the then Chair of the Parliamentary Working Party for Children, Schools and Families, AchieveAbility recommended in its publication and at a presentation at the House of Commons in November 2007 that a major obstacle to inclusion in the classroom was the general lack of knowledge about cognition.

"There have been major advances in our understanding about how the brain operates and the processes of cognition in the past ten years. However, neither initial teacher training nor CPD provide an adequate grounding in how the brain operates, how cognition takes place, what is meant by learning and learning differences. Teachers are generally therefore without this crucial underpinning knowledge necessary to plan whole class teaching and learning to incorporate learning differences within a class"

(Hewlett, K. and Crabtree, D. 2008. Whole Institutional Framework for Inclusive Teaching Practice, University of Westminster)

Since then, the new Teachers' Standards were introduced in September 2012 and they extended the professional expertise of teachers to include being able to "demonstrate knowledge and understanding of how pupils learn and how this impacts on teaching" (Part One Sect 2). The Whole Class Project is a response in a South London Academy to meet this expectation.

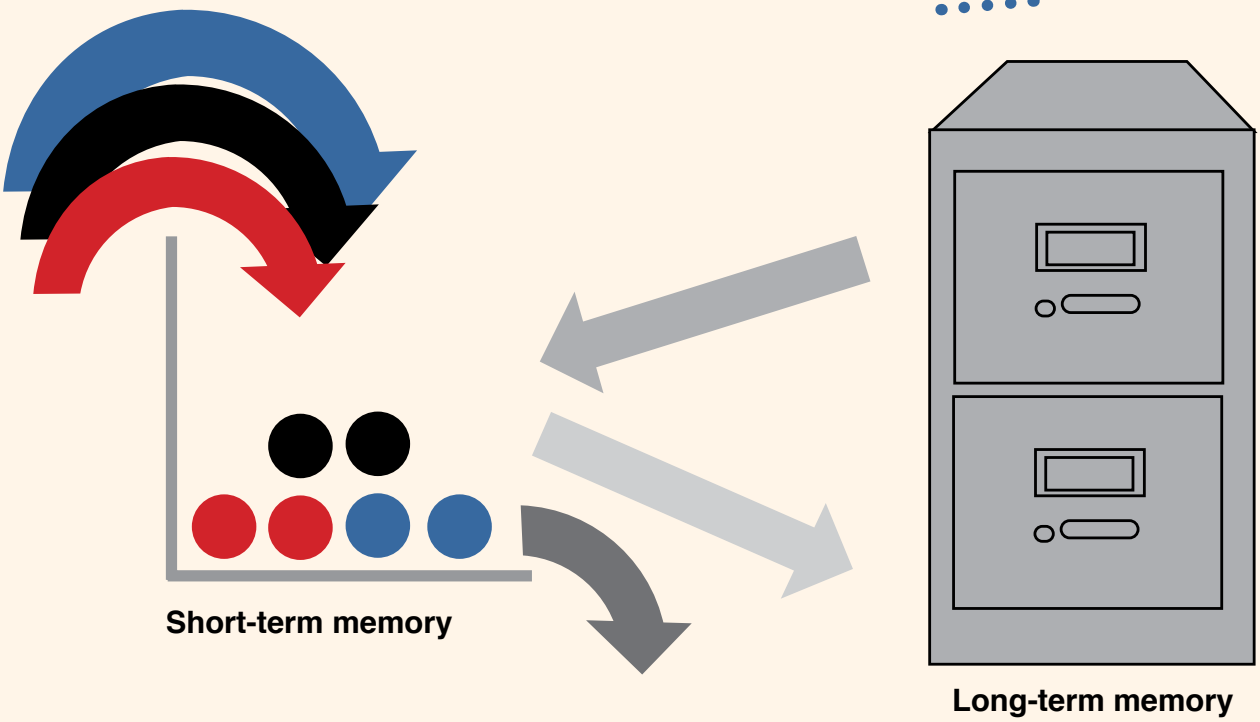
The theory; cognition, learning and learning differently



The main concept was one of 'stickability', a concept coined within the project. 'Stickability' is the process of improving pupil retention of knowledge and thereby increasing achievement for all learners. As a term, it was felt to be more user-friendly than cognition.

Whether a learner tends towards the big picture and then fills in detail, or is more content to go from the smaller detail to the larger whole, both of these cognitive styles require ideas and concepts to be stored in memory. The brain holds memory in various parts and neural pathways are the links in long-term memory that allow us to process knowledge, make thoughts and thereby make sense of things. Whatever the school subject being taught, or aspect of life being experienced, both the big picture and the smaller chunks are required in order to make sense.

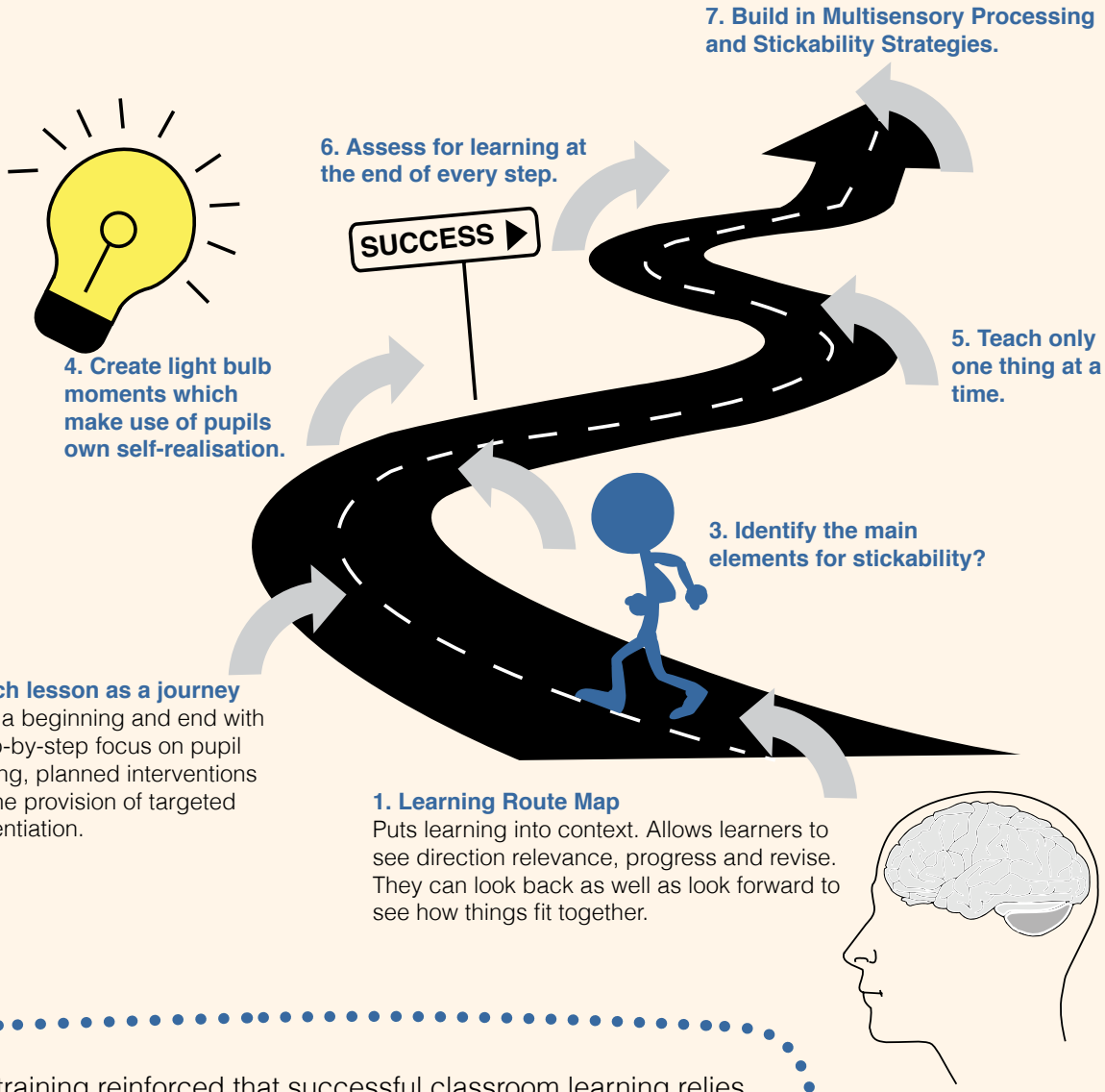
The brain uses different strategies to put the bits together and file them in long-term memory. Learning is stored in long-term memory to be available for recall. Long-term memory is the filing cabinet for what we learn. By applying what we know about learning and cognition to classroom learning, we can then be more certain that whatever has been taught is available for use later on and can be recalled. Learning is stored in long-term memory; cognition is a short-term memory function. Short-term memory does not store knowledge and disposes of information relatively quickly. Working memory can become overloaded, especially when a lesson contains things not necessarily pertinent to either learning or the topic. Successful learning for many learners requires a reduction in this 'clutter'.



In the diagram, we see information coming into the short-term memory via the senses and linking into already held information in long-term memory. The interaction between short-term memory and long-term memory is cognition. Short-term memory is constantly shedding information. Long-term memory stays with us. Within the Whole Class Project, training focussed on pupils, all pupils no matter how they approached learning and no matter how effectively they processed learning, successfully retaining what had been taught.

One important part of this was turning the Scheme of Work into a visual map which made good use of pictures and colours and then putting this up on the wall as part of the classroom display. By so doing, those pupils who learn most effectively by going from the 'big picture' to the detail could identify exactly where they were in the learning journey and where the current lesson fitted into the whole scheme of things. Similarly, those who like to focus on the detail could map each chunk and link these together.

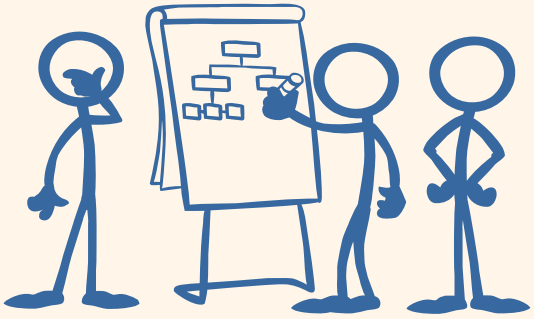
Equally, the teacher could then track this learning journey and ensure that there were clear pathways for all the learners and that there was a multi-sensory guide running constantly and coherently throughout the route. Other considerations that there were clear way station points for assessment for learning that included all learners, that it followed a logical progression and that skills development as well as knowledge acquisition could be tracked to then be linked to learner progress.



The training reinforced that successful classroom learning relies heavily on using visual, auditory and kinaesthetic reinforcement as a narrative each supporting the other. The more teaching stimulates and uses sensory channels, the greater the input into the brain. Furthermore, the more the same neural pathways are stimulated and used, the deeper the memory and the easier it is to recall.

What did we do?

The project began with whole school training with each department bringing along Schemes of Work and Lesson Plans. The initial stage involved a detailed look at the cognitive processing around the working memory, how the neural building blocks of learning are physically created in the brain, the transition from working-memory into long term memory and the relationship between the 'big picture' and step-by-step acquisition of knowledge. Teachers explored the concept of neurodiversity to identify the different strengths that different ways of learning bring to the classroom and the implications for their teaching. Following the training, subject departments participated in a linking activity which required teachers in subject groups to produce a visual representation of the scheme of work to display in their classes and provide pupils with the 'big picture' for the next six weeks of the curriculum.



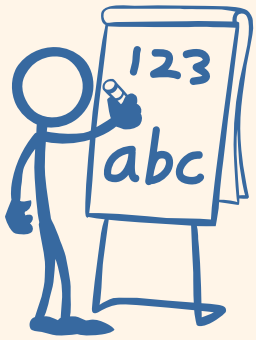
As well the training, information about cognition, learning and learning differently was published in a booklet and as on-line information for teachers. There was also a review of the information which class teachers received about pupils. A decision was made to create a common format to match approaches to learning to recommended classroom interventions for particular pupils and this was directly linked to teachers' registers. These Student Information Sheets followed a common format and enabled teachers to see that whole groups of pupils required a similar intervention rather than having to differentiate and create separate learning intervention for each child on the SEN profile. To begin to assess the impact in class and to provide support mechanisms for teachers to successfully bring about changes in methodology, a series of learning walks were arranged. These are observations of lessons with supportive feedback to more fully develop neurodiverse approaches to classroom learning. The final stages included follow-on training workshops in twilight sessions to support the embedding of practice and linked to data analysis to measure impact on pupil progress.

What did we find out?

- Children responded positively to learning being made more accessible. One class took to asking teachers, at the end of the lesson, to provide them with 'the golden nuggets'.
- Creating a learning journey or 'big picture' really made teachers think about every aspect of teaching and learning.
- There was a great deal of discussion about whether the visualised Scheme of Work was a learning journey or map. Some teachers did it in the format of step by step – some more mind map.
- The visual Scheme of Work enabled some departments to identify greater commonality of approaches and began to plan templates for learning.
- Making sure visual/multisensory techniques contributed towards pupil learning.
- The training, subsequent planning and delivery increased overall thinking about learning.
- Teachers and students liked the term 'stickability' rather than learning objectives.
- Both pupils and teachers commented that the visual Scheme of Work reduced the general feeling of learning being fragmented.

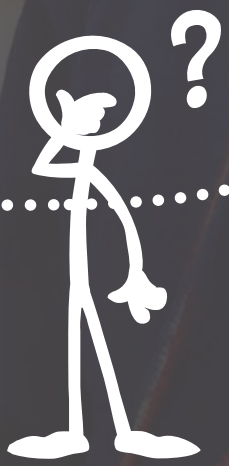
Future Developments

This project now is looking for impact on pupil progress through data analysis. Pupil progress is tracked on a termly basis across subject areas. In keeping with national expectations, there is an expectation of 2 sublevels of progress every academic year. The progress of children with SpLD who are in Band 1 - Universal Age Weighted Pupil Units (AWPU) and Core Funding (6K) up to Matrix 5 - will be closely observed to measure impact.



CASE STUDY

For more information about AchieveAbility go to
http://www.achieveability.org.uk/
David Crabtree MA, Dip SpLD



The individuals represented in these photographs are not models. The photographs were taken during Trust activities but individuals may not be involved in this specific work described and are used only to illustrate the case study.

British Dyslexia Association
Dyslexia Action Taking Action • Changing Lives
Helen Arkell Dyslexia Centre
patoss
Springboard Life-changing literacy
xtraordinarypeople