

Linking TASC with brain activity

The processes encapsulated within the TASC Framework correspond with the *latest theories of neuro-science that confirm how children best learn and, consequently, how teachers best teach.

Using and Recording the TASC process

How to use TASC

All the stages of the TASC Problem-solving Framework can be conducted with the whole class, or with small groups. More able learners quickly learn to use the TASC Framework easily and independently, while other learners use the TASC Framework as strong scaffolding for the stages of their learning. Classroom assistants are a great help in using the TASC Framework when they are supporting learners with special needs.

If the work is mainly oral, as it is with young learners, then either the exact words of the children can be quickly jotted down on a flip chart or whiteboard and saved, or a short memo of their ideas can be made afterwards – this is the *evidence* available, for anyone to read, of the learning that is taking place. When children are able to write, then the recording of the thinking in each stage needs to be minimal. The guide is: ‘Maximum thinking; Minimum recording’. Obviously, children can also record through drawing, tape-recording, on whiteboards, or on TASC project boards (1). Where appropriate, records of the TASC process can be photographed. Mindmaps, plans, ‘re-thinks’, and finished work can also be photocopied for every child so that s/he has a copy of the stages of their collective thinking to paste into their books as *evidence* that they have been actively engaged in the process of problem-solving.

It is important to record in some way *all* stages of the TASC process and indicate that these stages are the ‘thinking stages’: then the finished product is marked ‘final product’. It is a good idea to mark all the thinking with a blue sticker and the finished product with a red sticker. This highlights and

celebrates the thinking, and children soon realise that the thinking is the most important part of learning.

The TASC Framework itself provides the 'control' of the lesson(s). However, when children are working within the TASC Framework, teachers universally report that learners are 'on task' with increased attention and concentration. Many 'behaviour problems' disappear, as learners take more responsibility for their thinking and decision-making. Moreover, learning objectives can be inclusively 'slotted in', drawn in from across the curriculum.

Stages of the TASC Framework

Gather and Organise: What do I know already?

This stage encourages learners to pull the fragments of their learning into the working memory. There are no mistakes in this activity: all children are successful, although some of the remembering may be fragmented. The important element in this stage is to draw the connecting lines between ideas. Mindmaps are vitally important since they replicate in a simple way, how the brain actually functions; and the more often children use mindmaps, flowcharts and diagrams of all sorts, the better they can make the links in their learning. This activity also helps memory and recall since the very making of a mindmap activates, reinforces and links the dendrites, strengthening the connections in the brain. Post-it notes are very useful for gathering and then organising ideas because they can be re-arranged - but again the links must be shown to emphasise how the ideas are connected.

With young learners, this stage can be developed through gathering and organising a collection of tangible objects around a broad theme, for example, model vehicles, small toys, collections of various bottle tops or large buttons. The items are stored in a big box ready for sorting into groups in as many ways as is possible. In these activities, we need to sort out the items on the floor and then use coloured ribbons to represent the connecting lines – a tangible, hands-on, changeable, visible mindmap. (TAs may be helpful here).

If we know that learners have little prior experience to 'gather' from, then it is important to flood the experiential learning *before* doing a 'gather and organise'. For example, if children are going to be doing a project on the Aztecs, it is important to bring in a team of experts who will lead the children in a rich exploration of the artefacts, songs, food, dances, stories, costumes etc. Then children have a rich store of experiences from which to gather and organise what they already know. An emphasis on first hand experience is helpful for learners of all ages as a series of prompts or reference points. It can help develop confidence in 'playing with ideas' and developing the skill of 'reflecting back' from a later stage of the TASC cycle.

Identify: What am I going to do?

Sometimes it is necessary to identify *for* the children the specific task they are going to explore and learn: and this is important when we are teaching, for example, a set of specific skills. But as often as possible, children need to identify the area of their exploration for themselves. Just by asking questions such as: What would you like to know about this topic? What questions could we ask? What would you like to find out? gives the children ownership of their learning and is the first key to personalising learning.

For example, after the rich experiential learning mentioned in the topic on Aztecs, children could be asked to identify particular questions about the Aztecs that they would like to explore further.

Helping children to identify their own avenues of interest and exploration is a powerful motivator for learning: it focuses the direction of exploration, and generates the emotional involvement needed for attention and concentration. It is also the critical point for differentiation: some children can tackle simpler tasks, while others work in greater depth and breadth.

Alongside the identification of the task, pupils need to begin to discuss questions such as: How will I know that my work is good? excellent? What should it look like when I have finished? This kind of questioning links the purpose of the task with the end goal. The brain understands where the learning is leading - the direction, both logical and creative, of the learning journey.

Generate: How many ways can I do it?

This is the highly creative stage of generating possibilities, and the brain is very actively making numerous cross-connecting links. Children enjoy 'generating' because there are no 'wrong ideas' and they become very enthusiastic and highly motivated. Again this stage of thinking engenders a sense of ownership and personalisation. The children are suggesting possible avenues for the development of their activities, rather than the teacher directing the activity. There are a number of key questions such as:

What do I need to know in order to do this? Where can I find out? Who can I ask? How many ways can I do this? How shall I present/communicate my work?

If children are reticent to suggest possibilities, or lack the confidence, then the role of the teacher is to enter into the excitement of generating ideas, modelling a range of possible avenues for exploration. By doing this, the teacher can 'manoeuvre' the discussion and very subtly direct the range of activities to be developed.

Decide: Which are the best ideas?

After a very creative exploration of possibilities, the brain needs to think more logically and decide which ideas are feasible and possible. This stage still allows for creative decision-making, but the decision is more focussed towards the end goal. Important questions include: Which is the best way to do this? What is the plan of action? What materials do I need? How much time have I got?

Implement: Let's do it!

This is the time to think about ways of putting the decision to action! Learners should already have some ideas of how they want to present or communicate their work from discussions at the Generate stage. Vivaly, all children should have opportunities over half a term or a term, to present their work using their strong abilities. By working across the full range of human abilities: social, emotional, spiritual, mechanical/technical, scientific, auditory/musical, visual/spatial, movement, linguistic (oral and written), mathematical; all children have a chance to shine and celebrate what they can do well.

The brain is capable of functioning across and within *all* the abilities and we combine several abilities in everything we do, but we also have different profiles of strengths that are partly genetically endowed and partly environmentally fostered.

Often, learners who need support in Literacy and Numeracy, shine brightly when engaged in using their other abilities; and it is essential that they have opportunities to show their strengths if their interest and motivation is to be maintained.

Evaluate: How well did I do?

Of course teacher observation, assessment and evaluation are necessary; but if we are to develop pupil ownership, decision-making and personalised learning, then pupils need to learn how to evaluate both their own, and also each others' work. Being able to evaluate one's effort is a major key to autonomy in learning. The brain has to acknowledge success, which is a powerful factor in building self-confidence, whilst simultaneously accommodating the need for improvement and further learning. This process not only demands critical thinking, but also deep emotional strength and self-esteem. In a classroom that celebrates success across all human abilities, it is easier for learners to acknowledge that they need to improve and strengthen certain abilities.

Learners praising each other's efforts, while offering an idea for improvement, begins the process of self-evaluation. But it is also necessary that learners know what 'competence' and 'excellence' look like, and providing learners with concrete examples that they can discuss is an essential route for developing this evaluative capacity across all subjects within the curriculum and outside it.

Communicate: Let's share what we have learned!

In sharing ideas, learners are crystallising what they know, and what they have learned. In explaining to other children, learners are ordering and manipulating their ideas so that others can understand. In addition, it is wonderful fun to share using a variety of methods and skills, and importantly, children are learning new ideas from each other.

We are social beings and reaching out to interact with others develops our social, emotional and spiritual strengths as well as our cognitive abilities. When we communicate, we have the opportunity to use the whole brain – both creatively and logically across all dimensions of human abilities. Importantly, children are ‘doing something exciting’ with their learning rather than just always ‘writing it down’.

Moreover, when learners communicate across the full range of human abilities, their skills of literacy also improve. Since what they are communicating is the product of *their own thinking*, they can more easily talk about it and, as a result, more easily write about it.

Learn from experience: What have we learned?

This is the metacognitive stage – the thinking about thinking, feeling and learning. All learners need to realise that they are making progress: it is not only the children who receive learning support who need to realise this; but also the more able learners need to realise that they are extending their learning and not just marking time.

At the end of a topic or piece of work, important discussion should take place centring round questions such as: What do I know now that I didn’t know before? What new skills have I learned? How else can I use these skills? How can I improve my way of working? How can I improve how I work with others? It is essential to return to the original mindmap of the ‘gather and organise’ stage and add in any new ideas or knowledge. This extends the original brain map of where the learner started and helps with training memory and later recall of what has been learned.

When we can articulate what we have learned, then we can understand the learning that has taken place.

(1) A2 TASC Classroom Posters and A3 laminated dry-wipe TASC boards are available from NACE.

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