# Teaching sequence for developing independence Stage 3: Scaffold : July 2, 2013

So, you've explained the new concepts and ideas students will need to know, deconstructed examples so that they know how to use these concepts in practice and you've modelled the process of how an expert would go about creating an effective example of whatever product students need to create. Surely they're now ready to be released, joyfully, on to the foothills of independent learning?

No, not quite yet they're not. Everyone benefits from scaffolding to help move them from kind of knowing vaguely what to do to being confident. Confidence is key; if students lack it then they're really going to struggle to be independent. This is the stage of the teaching cycle

that maybe most closely resembles the type of lesson that Ofsted may or may not prefer: it will probably include students working collaboratively and independently of their teacher. As such, this is perhaps familiar territory and possibly unnecessary to revisit. That said, I reckon that many joint construction lessons go wrong because of misunderstandings about why and how to scaffold tasks appropriately.
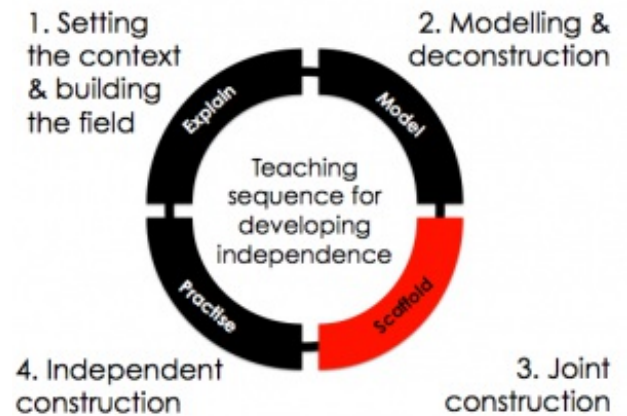
Before examining some practical examples of how to do this, it's worth having a bit of a look at the underlying theory. And for that we need to understand Lev Vygotsky's ideas of cognitive development. Amongst other things, Vygotsky argued that learning is social and happens by interacting with our environment. He also thought that we need a 'more knowledgeable other' to help guide us through the complexities of this learning. This suggests that both peer interaction and direction instruction are important components of learning. The concept of the more knowledgeable other is closely related to the most well-known principle of Vygotsky's work, the Zone of Proximal Development, or "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance". Obviously, a student will achieve much more with with guidance and encouragement than they might independently. Vygotsky saw the Zone of Proximal Development as the area where the most sensitive instruction or guidance should be given to allow students to develop skills they can then use on their own. This has become synonymous with the concept of scaffolding, although Vygotsky never used the term himself.

Unfortunately, scaffolding has become conflated with writing frames and consequently tarred with the same brush. It may be useful to use PEE (or one of its many variants) to get students to structure their writing, but these can often result in writing which slavishly follows a structure with little understanding of the processes and thinking involved. All too often they privilege procedural knowledge over propositional knowledge and produce work which only covers what students already know. The best scaffolding will support students' thinking and their ability to integrate new concepts as well as just providing a structure.

Scaffolding can be defined as, "Those elements of the task that are initially beyond the learner's capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence" (Wood, 1976). Or to put it another way, if we do the bits that students can't, they will be able to tackle the bits they're ready to attempt successfully with getting distracted and frustrated. Ideally, scaffolding should include a mix of techniques:

- Offer general encouragement e.g. 'Now you have a go.'
- Give specific instructions e.g. 'Do this first, then try that…'

- Directly demonstrate e.g. showing students what to do.

Our job in the process of joint construction is to select which approach is most useful with particular students and any given time. This is a delicate balancing act made more complicated by the fact that whole class instruction is almost impossible in those lessons where students are 'having a go'.

The process of scaffolding needs to:

- get students interested in the task.
- simply the task sufficiently to allow students to attempt it
- give specific suggestions on how to approach the task
- deal with the frustration of 'not getting it'

Doesn't sound easy, does it?

Clearly, there's a lott more than just making students use PEE at work here. For scaffolding to be successful teachers need to know their students really well. There is no substitute for having a clear picture of students' prior attainment. This knowledge enables us to differentiate effectively and to ensure that scaffolding is effectively targeted at the area that will make the most impact on students' ability to be able to do something that is currently just out of their reach. The great thing about this is that it can look like students are making marvelous progress as they demonstrate an ability to do what previously they couldn't. If an observer comes in to see a successful lesson in the joint construction stage of the teaching cycle in can appear almost magical. The teacher doesn't appear to have to talk much and students seem to know enough to be able to get on with it. But this is a conjuring trick. As teachers we are often at pains to showcase this kind of lesson to impress observers but students cannot learn by joint construction alone. It must be understood and accepted that this kind of lesson will only be successful at this stage in the cycle.

Arguably, a contemporary application of Vygotsky's theories is reciprocal teaching, used to improve students' ability to learn from text. In this method, teacher and students collaborate in learning and practicing four key skills: summarising questioning, clarifying, and predicting. The teacher's role in the process is reduced over time. Alex Quigley recently wrote about the role of reciprocal teaching in scaffolding metacognition. He offers a bank of thought stems designed to guide peer questioning:

> *What is a new example of…?*
> *How would you use…to…?*
> *What would happen if…?*
> *What are the strengths and weaknesses of…? How does…tie in with what we learned before?*
> *Explain why… Explain how…*
> *How does… What is the… Why is… How are…different?*
> *Compare…and…with regard to…*
> *What do you think causes…?*
> *What conclusions can you draw about…?*
> *Do you agree or disagree with this statement:…? Support your answer.*
> *How are…and…similar?*
> *How are… and…best…and why?*

And says,

> *By scaffolding these questions you can better structure the quality of group discussion whilst also honing their metacognitive understanding, allowing them to actively make their next step in their learning. If we can calibrate students to ask better questions we will make them better learners.*

And we all want that, right?

We can also see how Vygotsky's theories feed into theories of collaborative learning, suggesting that group members should have different levels of ability so more advanced peers can help less advanced members operate within their zone of proximal development. Some might call this effective differentiation. Others might call it a waste of 'more able' students' time. I couldn't possibly comment.

For me, one of the most effective ways of scaffolding students' ability to think, is to prompt them to shift their speech from everyday to academic register. We've all experienced those 'verbally able' students who seem incapable of putting anything down on paper. In the past I might have believed this to be laziness but in reality they just don't have the words. For experts, shifting from everyday to academic language is seamless. As soon as I think a thing I am able to 'translate' it the formal code required in writing. I don't even notice I'm doing it. For some of our students, this transition is seemingly impossible. But prompting them to use thought stems to scaffold this transition from thought to speech to writing is almost magical. As soon as you've *said* it, you can *write* it. If we want students to be able to work independently this is a crucial and neglected area.

I love the following examples of 'speaking like a scientist' from Lee Donaghy's school:

The idea here was to scaffold students' ability to be able to talk about this chemical equation using scientific language. Students naturally said things like "The amount of reactants is the same as the amount of products."

This is scaffolded to "The mass of the reactants equals the mass of the products."

They said, "The mass has stayed the same."

They were prompted to say, "The mass has been conserved."

And finally, "This chemical equation demonstrates the conservation of mass."

And because their ability to speak about the conservation of mass has shifted, so has their ability to think:

I use thought stems to prompt students to reword their answers in the kind of language they need to use in writing.

Who would have believed that something so simple was so effective? Surely it should be more complicated than this?

Here's Lee again describing the process of joint construction in a history lesson using a whole-text schematic

Through questioning we were able to establish why we had ordered the factors as we had – we had arranged them in chronological order, in that the desire to expand had been there since the end of the First World War, the economic problems had come about after 1929 and the Mukden Incident happened immediately before the invasion. As we
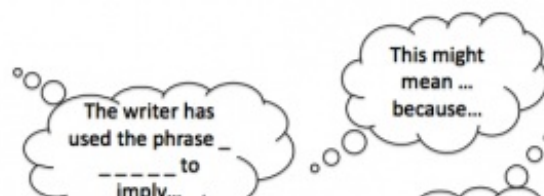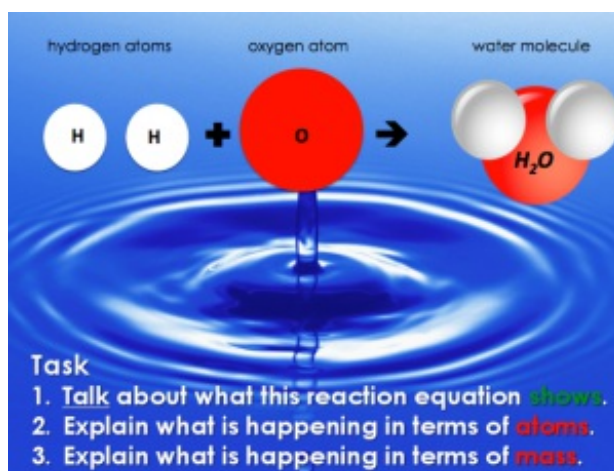
had ordered them in this way in the introduction, we then had to order them the same way in subsequent paragraphs in order to maintain whole-text coherence.
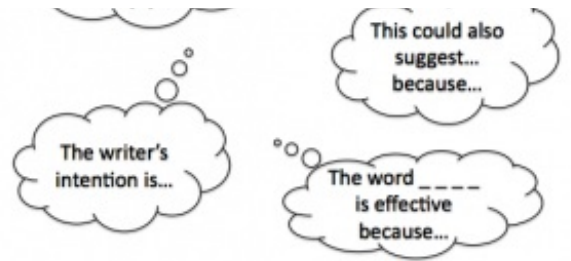
The next step was to write each paragraph and having jumped around the teaching and learning cycle so far, here was the point at which I would now stick to it closely. I decided I wanted to nail down the topic sentence for each paragraph first, before completing the rest of each paragraph in turn. The first step, then, was to model and then deconstruct the first paragraph's topic sentence. Here's how I did it:

I went back to the statement 'Japan invaded Manchuria because the army wanted to make Japan's empire bigger', which a pupil had come up with from the YouTube clip. At this point the fact that the question was about the reasons for the invasion became important. The statement above has Japan as its theme (ie at the start of the clause), but the question doesn't, it has why (or the reasons why) as its theme. Thus our answer needs to thematise the reasons, not Japan. If we look back at the introductory paragraph we find our first nominalised reason for the invasion was 'the army's desire', and so I explained that my topic sentence would have this nominalistion in theme position – hence it started 'The desire of the Kwantung army to expand Japan's Pacific empire…'.

The writer's intention is…
This could also suggest… because…
The word ____ is effective because…

Explain why Japan invaded Manchuria

Following the First World War, Japan had dominance over a large empire in the Pacific. However, the army's overwhelming desire to expand further, the need to find a solution to its economic problems, and, ultimately, the pretext provided by the Mukden incident led to the Japanese invasion of Manchuria in late 1931.

The army wanted to make Japan's empire bigger.

Its population was growing and the depression destroyed its important silk industry.

The Mukden Incident.

The Manchurian Crisis:
• Explain why Japan invaded Manchuria

Japan invaded Manchuria because the army wanted to make Japan's empire bigger.

I then explained that I wanted our topic sentences to do two more things: firstly to give the factors that led to this reason (in this case the desire); secondly to then link back to the question. I reminded the class, drawing on our knowledge from the clip, that the desire was a result of the army's nationalist ideology and the weakness of the Chinese government. These two things made up the second clause of our topic sentence, which would also be a dependent clause thus making the sentence a complex one (teaching grammar in context!) and therefore necessitating bookending with a pair of commas. The final phase of the sentence (after the embedded, dependent clause) would directly reference the invasion and would also locate this reason chronologically as 'the long term cause'. We therefore ended with a topic sentence of: 'The desire of the radical Kwantung army to expand Japan's empire in Asia, fuelled by its Nationalist ideology and the weakness of the Chinese government, was the long term reason for the Japanese invasion of Manchuria.'

Having modelled the first topic sentence I then moved on to jointly constructing the second with the class, which produced the following:

We followed the previous pattern of: nominalised factor as theme – embedded, dependent clause giving reasons for the

Building theme or topic sentences

The desire of the radical Kwantung army to expand Japan's empire in Asia,

factor – link back to question, and came up with: 'The need to find a solution to Japan's economic problems, sparked by population growth during the 1920s and deepened by the effects of the Depression, was the short term cause of the takeover of Japan'.

Pretty slick, eh? If this kind of detailed scaffolding doesn't result in students being able to work independently, nothing will. With enough of this kind of guided discovery, students will be ready for independent construction stage and to embark on the path to mastery. To achieve mastery we need to practise, and we all know what practice makes, don't we?

Maybe not; in my next post I'll attempt to unpick some myths that surround the cult of practice.

Coming next: **Stage 4: Practise**

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