

# The Year of the Curriculum: **Life Without Levels**

The programme consists of a Bridging Unit and five further units:  
(Have you completed the Bridging Unit and Units 1, 2 & 3?)

## Bridging Unit

Measuring  
what we  
value

Making use  
of  
assessment

What is the  
new  
National  
Curriculum  
asking for?

The new  
National  
Curriculum  
in context

The tools  
of the  
trade

# The Year of the Curriculum: **Life Without Levels**

## Unit 4

The new national  
curriculum in  
context

## **Welcome to Unit 4**

First things first - did you do your  
homework for Unit 3?

(Do you even remember what it was?)



How did it go?

Were you able to take a subject or Year from the new national curriculum and note down how you would use **observation, conversation** and **product** to triangulate assessment?

Did you manage to cluster some of the learning outcomes together in the way that you would teach them over a series of lessons?

If so, post your ideas online.

# Unit 4

This Unit is in three parts:

**Part 1:** Different contexts and approaches

**Part 2:** Classroom techniques

**Part 3:** Keeping track of progress



## **Unit 4**

The new national  
curriculum in  
context

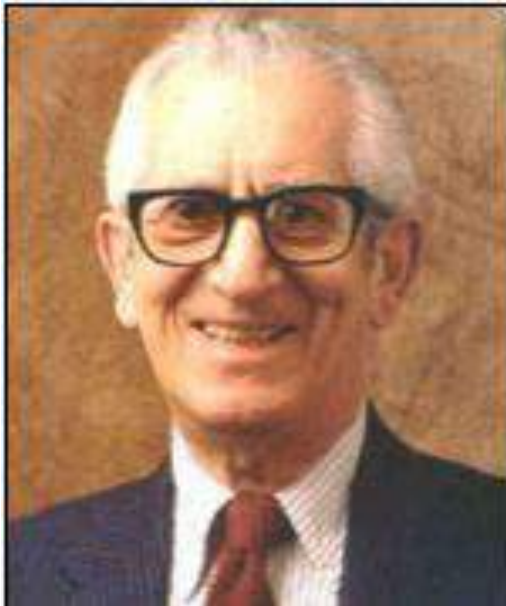
## **Part 1**

# **Different contexts and approaches**

As teachers, we always work within the very practical context of what works in a classroom – and the minute-by-minute pressures that the classroom brings. Ted Wragg used to talk about teachers making “a thousand decisions a day”.

Whether consciously or not, we always frame those thousand decisions within a theoretical context – yet seldom stop to consider what this is, or how it frames those decisions.

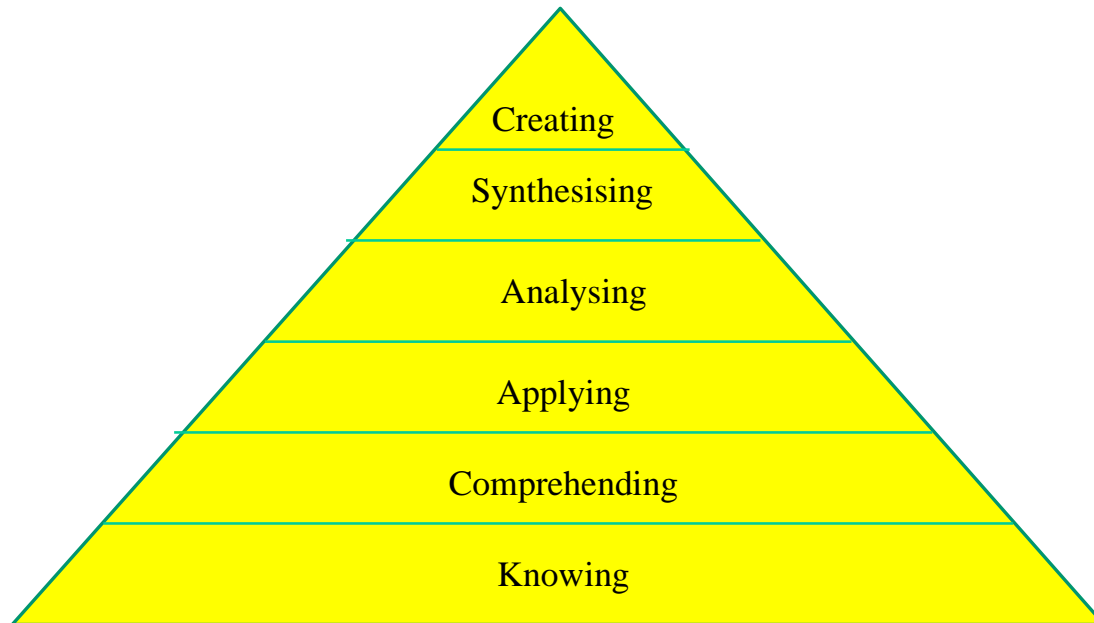
So let’s take a few minutes to think about the various theoretical contexts (don’t worry – it’s not too abstruse!) and how those contexts lead to different approaches.

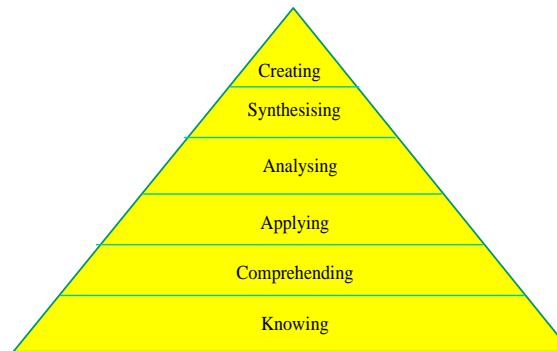


Yes, it's Benjamin  
Bloom of the  
Taxonomy



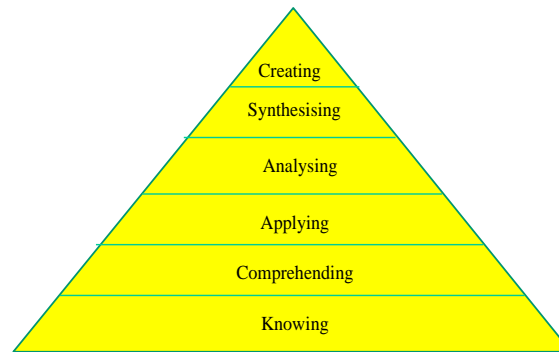
Bloom's Taxonomy suggested an ascending scale of learning from knowledge through application to creating.





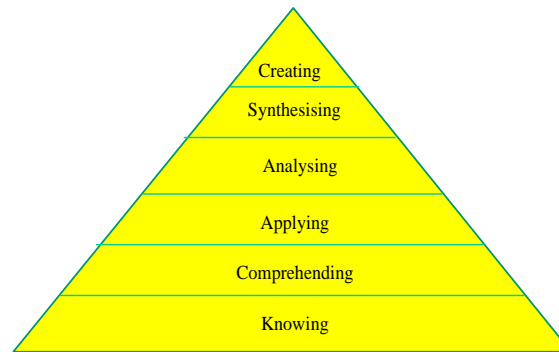
This was an early (1969) attempt to put some structure into the progression of learning that made it more than an increasingly longer list of things to be learned. It also gives a structure for assessment.

There is some criticism of it to-day because of the difficulty in establishing the boundaries between one level and another. However, this is to misunderstand Bloom's intention which was not to establish a rubric for assessment, but to begin the process of identifying different levels of demand in learning.



The problem is in the distinction between application and then analysis (separating things into their component parts) and synthesis (putting separate ideas together into new whole). Many people suggest that these are not strictly hierarchical, and so they do not always occur in this order, but depend upon the context. In some contexts, for example, it might be easier to analyse than to apply.

However, the taxonomy is recognised around the world and still underpins our understanding of intellectual progression.

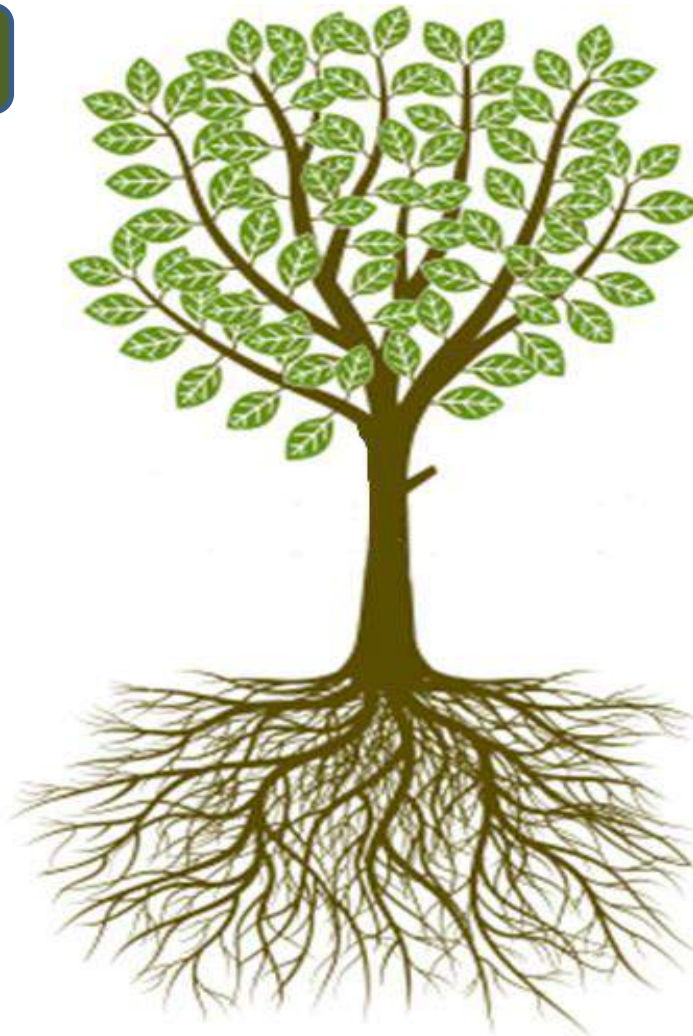


The Bloom taxonomy is seldom referred to in UK, but is used widely across the world to underpin both curriculum and assessment.

It also fits rather neatly with the model of the curriculum as a tree in which syllabus details are the leaves and the underlying skills are the roots.

It is when we challenge our pupils to apply, analyse and synthesise that they deepen their understanding and retain their knowledge.

Knowing



Comprehending

Applying

Analysing

Evaluating

Creating

You will remember that the tree model represents the way in which the most effective learning gives meaning to knowledge (understanding) by applying it in a range of contexts. Applying, analysing, synthesising and using knowledge and understanding creatively all contribute to 'deep' learning.

So in assessment, we need to be looking for these deeper levels.

Other taxonomies use the same notion of deepening.



Sorry that the picture is not clearer – you'll just have to buy the book yourself!



A taxonomy that is very popular in UK today was actually put forward by Biggs and Collis\* as long ago as 1982.

This is the 'Structure of Observed Learning Outcomes' (SOLO) that puts forward five levels of understanding.

\* Biggs, J. B. and Collis, K. (1982) *Evaluating the Quality of Learning: the SOLO taxonomy*. New York, Academic Press

## The five SOLO levels are:

**Pre-structural** - The task is not attacked appropriately; the student hasn't really understood the point and uses too simple a way of going about it.

**Uni-structural** - The student's response only focuses on one relevant aspect.

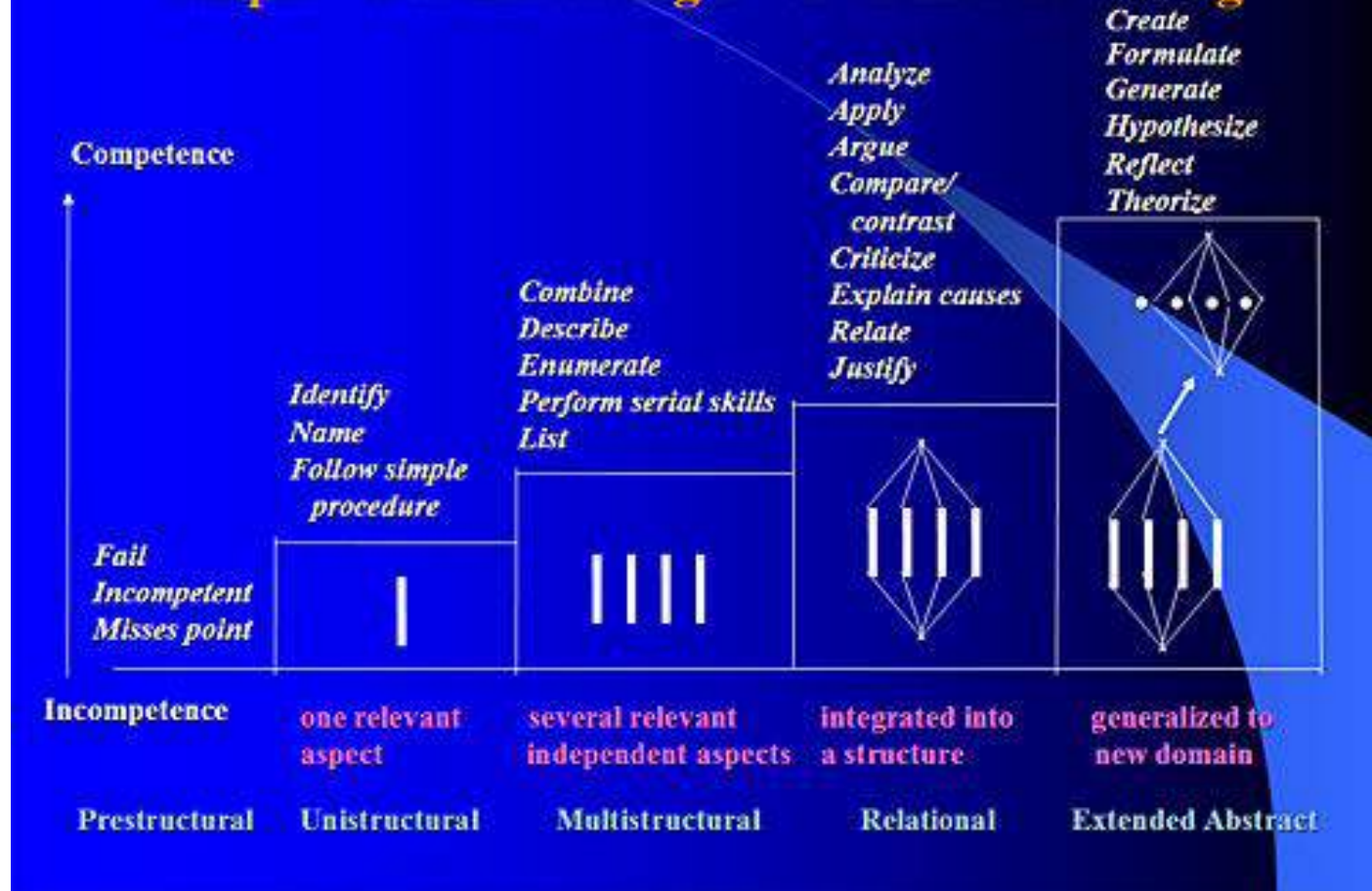
**Multi-structural** - The student's response focuses on several relevant aspects but they are treated independently and additively.

**Relational** - The different aspects have become integrated into a coherent whole. This level is what is normally meant by an adequate understanding of a topic.

**Extended abstract** - The previous integrated whole may be conceptualised at a higher level of abstraction and generalised to a new topic or area.



## The SOLO Taxonomy with sample verbs indicating levels of understanding



This also suggests the verbs that will help with assessment:

SOLO level	Verbs
Uni-structural	Define, identify, name, draw, find, label, match, follow a simple procedure
Multi-structural	Describe, list, outline, complete, continue, combine
Relational	Sequence, classify, compare and contrast, explain (cause and effect) analyse, form an analogy, organise, distinguish, question, relate, apply
Extended abstract	Generalise, predict, evaluate, reflect, hypothesise, theorise, create, prove, justify, argue, compose, prioritise, design, construct, perform

There's more at: <http://uq.edu.au/tediteach/assessment/docs/biggs-SOLO.pdf>



Did you notice the verbs in the previous slide? These are the key words to use in assessment.

They tell us what to look for in the classroom situation – whether it is a conversation, observation or product.

Take another look and apply them to some recent learning activity in your own class. At what level were your pupils operating?

Another look at the verbs that will help with assessment:

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Uni-structural	Define, identify, name, draw, find, label, match, follow a simple procedure
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The drawback of SOLO is that a great deal of ground is covered in Level 4. Much of what Bloom sees as analysis, synthesis and creative application is squashed into one level.

Even if one were to ignore Bloom, it would be helpful to be able to distinguish between various levels of application and the increasing skill levels involved in problem solving and critical thinking. SOLO does not easily offer these distinctions.

However, more recent work has developed these ideas.



A more recent approach was put forward by Prof Norman Webb of Wisconsin University in 1997. This saw four levels of ‘Depth of Knowledge’ (DOK).

Knowledge is used here in a wider sense that encompasses understanding and the ability to process and apply that knowledge. “Knowing how to ..” and “Knowing about” as well as “knowing that..”.

Webb’s DOK has become the basis of the entrance exams for universities in the USA – and well as for a wide range of assessment of deeper understanding and application in other countries.

There’s more at:

<http://www.ode.state.or.us/teachlearn/subjects/socialscience/standards/depthofknowledgechart.pdf>

## Norman Webb’s “Depth of Knowledge”

Level 1	<p><b>Recall and reproduction</b> Recall of a fact, information or procedure</p>
Level 2	<p><b>Application of skills and concepts</b> Use of information or conceptual knowledge – two or more steps</p>
Level 3	<p><b>Strategic thinking</b> Requires reasoning, developing a plan or a sequence of steps, some complexity, more than one possible answer</p>
Level 4	<p><b>Extended thinking</b> Requires an investigation, time to think and process multiple conditions of the problem.</p>



Webb suggests that we should be helping our students to embrace complexity – not just making things more difficult for them and seeing this as progression.

He distinguished between things that are difficult and things that are complex. For example:

**Who is the President of the USA?**

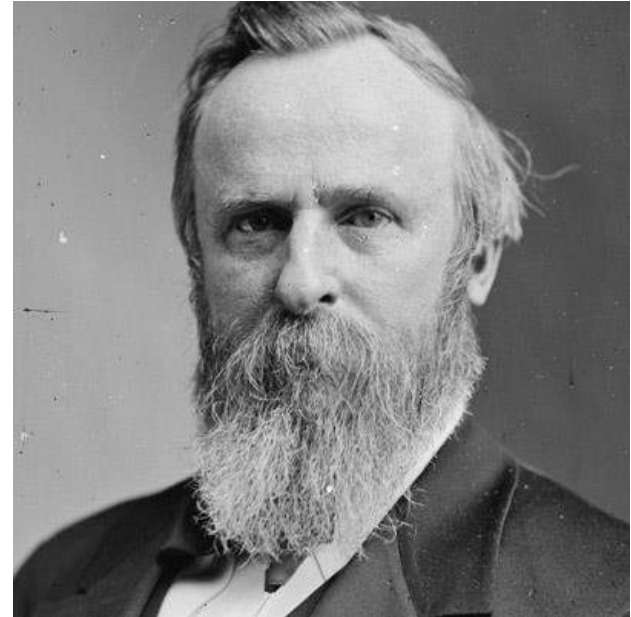
**Who was the 19<sup>th</sup> President of the USA?**



You probably got the first one right. It is seen as an easy question because almost everyone knows the answer.

But you probably didn't get the second one. It's seen as difficult because very few people know the answer.

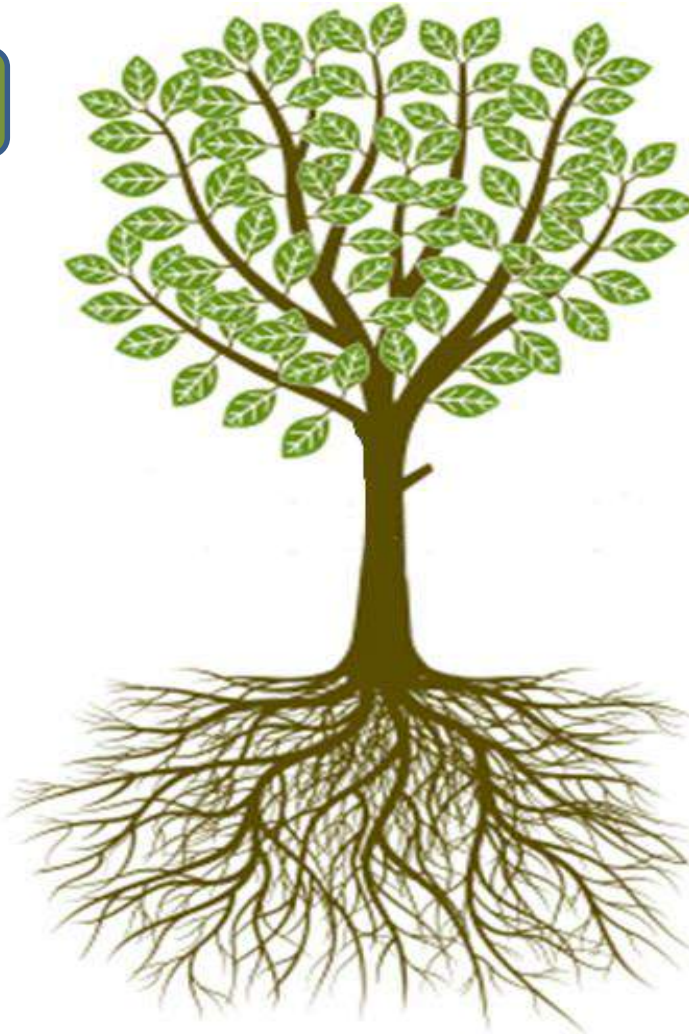
If you are interested, it was Rutherford B Hayes.



Of course, both questions are at the same level of complexity. All they require is the remembering of someone's name. And what we are aiming for in deep learning is complexity – not mere difficulty.

Webb's DOK analysis also fits well with our model of the tree.

Recall



Reproduction

Application of skills

Strategic thinking

Application of concepts

Extended thinking

## Three Approaches

The point of looking at three different approaches is not to say that one is right and the others are wrong (although you will notice that much of the literature about SOLO is directed at rubbishing Bloom!). The point is that they all give us a way at looking at learning in terms of its increasing depth or complexity. As we said earlier, the brain is an extraordinarily complex organ, and no simple taxonomy of levels will really describe what's going on.

However, approaches such as these help us to plan learning in terms of greater depth, and also to find out how well our students are doing in these terms.

It does not matter which one you use, or whether you find some blend that suits you best. What is important is to think about how the intellectual level is being increased, and so what needs to be assessed.