**A Spiral Approach to teaching the basics in English and maths.**

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To achieve mastery in any skill it must be **taught,** then learners need the time to **practise** and **consolidate**. In maths and English there are underpinning skills which, if not mastered, will present significant barriers to progress and achievement.

Geoff Petty advocates that when planning learning “Many teachers fall into the content trap by taking the curriculum content and use this exclusively to create their scheme of work. Generic skills are not given much, or even any class time because they are not on the syllabus” [[1]](#footnote-1)

A spiral curriculum, as defined by Bruner in the 1960s, proposes that learning follows a circular format with topics re-visited, getting progressively more challenging and building on what has been learned before. [[2]](#footnote-2)

In maths and English learning often focusses mainly on GCSE topics using a linear approach with each topic taught separately. Learners are given feedback on work which relates to underpinning skills development for example “You need to revise sentences” however Geoff Petty believes “putting more time and emphasis on skills, and reducing the time and emphasis on content, can produce a dramatic improvement in results [[3]](#footnote-3)

In mathematics William Emeny conducted a research project “to investigate which topics are the ‘essential skills’ required to access as many topics on the GCSE as possible. If pupils need to completely master certain topics in KS3 in order to be able to learn as much of the GCSE syllabus as possible, what are those topics?”[[4]](#footnote-4) The results of his investigation supported what he says he instinctively knew as a maths teacher that “if pupils have not mastered the important number topics you will struggle to teach them much else.”[[5]](#footnote-5) One of his top underpinning skills is multiply and divide whole numbers, prior knowledge of which is needed for 90 topics.[[6]](#footnote-6)

**Applying the research**

3 questions to ask yourself when planning for maths and English:

1. **What underpinning skills do learners need to make progress in the current topic?**

Example 1: writing needed to answer GCSE English questions – Can learners create an effective plan for an essay? Can they organise their ideas into paragraphs? Do they know what a paragraph is? Do they know what an effective essay contains? Can they structure sentences? What is the quality of their essays? These are skills regardless of which exam question is being answered including creative writing.

Example 2: Edexcel Examiner’s report summer 2017 states “Basic numerical problem solving was usually well done, particularly when the context was money, but when use of other units was required, or some conversion between units was needed, candidates did not perform as well.” [[7]](#footnote-7) What underpinning skills do these learners need to master?

1. **Have the learners mastered the requisite underpinning skills?**

Time spent critically reviewing the syllabus, its key underpinning skills and how well your learners have mastered them, then tailoring your scheme of work accordingly, will give them a greater chance to progress and succeed.

Effective learning builds on what is known and teaching the next steps

For further information about the research with ideas about how to apply to your practice see the links to the work of Petty and Emeny.

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1. Petty, G. <http://geoffpetty.com/for-teachers/skills/> Accessed 15.8.18 11.50 [↑](#footnote-ref-1)
2. <https://eric.ed.gov/?id=ED538282> Accessed 18.8.18 11.34 [↑](#footnote-ref-2)
3. Petty, G. <http://geoffpetty.com/for-teachers/skills/> Accessed 15.8.18 11.50 [↑](#footnote-ref-3)
4. Emeny, W. <http://www.greatmathsteachingideas.com/2014/01/05/youve-never-seen-the-gcse-maths-curriculum-like-this-before/> Accessed 15.8.18 11.50 [↑](#footnote-ref-4)
5. ibid [↑](#footnote-ref-5)
6. Emeny, W. <http://www.greatmathsteachingideas.com/2014/01/05/youve-never-seen-the-gcse-maths-curriculum-like-this-before/> Accessed 15.8.18 11.50 [↑](#footnote-ref-6)
7. [https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/exam-materials/1MA1\_CE\_pef\_20170823.pdf Accessed 18.8.18](https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/exam-materials/1MA1_CE_pef_20170823.pdf%20Accessed%2018.8.18) at 11.50 [↑](#footnote-ref-7)