Section 3: Planning, Learning, Teaching and Assessment

The school's approach to planning, learning, teaching and assessment in the new Development Plan for 2018 – 2021 will be framed around three concepts and maxims:

1: Knowledge:	Factual Knowledge must precede skill
2: Memory:	Memory is the residue of thought
3: Assessment:	Assessment is the bridge between teaching and learning

The rationale and overarching principles for the development of each concept in 2018 – 2021 are as follows:

Knowledge

A: A stronger knowledge base is needed for new GCSE and 'A' Level examinations, which include increased theory testing and less testing of supposed 'generic, transferable skills';

B: Cognitive science indicates that background knowledge pre-empts strong domain-specific skills (Daniel Willingham 'Why don't students like school? P25);

C: The transmission of high-quality knowledge is one of the most effective and expedient ways of closing the 'learning gap' between children who come from different cultural backgrounds;

D: Knowledge comprehension lays the foundation for the journey from surface learning to deep learning, from novice to expert.

Memory

A: The embedding of knowledge into long-term memory will increase automaticity, thus easing cognitive load and freeing up working memory;

B: Real learning is when the 'mental map' in long-term memory is changed through the embedding of new knowledge and the interplay between existing knowledge and new knowledge. There is hence a difference between 'performance' and 'learning';

C: As 'memory is the residue of thought', we should be planning each lesson in terms of what our pupils are likely to be thinking about;

D: A further aim of lessons should be to 'harness' working memory in order to build powerful long-term memory;

E: To facilitate the transfer of knowledge into long-term memory, curriculum design should allow for topics to be spaced and interleaved.

Assessment

A: Assessment plays a vital role not just in measuring progress, but also in the process of transferring knowledge into long-term memory; through self-testing, formative assessment and other measures. In this way, testing does not just measure pupils' understanding; it helps develop understanding;

B: Frequent retrieval practice is an important factor in ensuring knowledge embeds into long-term memory;

C: Repeated low-stakes formative testing, when spaced and interleaved and with the intention of responsive teaching, can strengthen long-term memory;

D: Low-stakes formative testing can take numerous forms, including recaps at the start of class, weekly 'quizzes' and online computer-adaptive assessments.

Implications

- Markethill High School will introduce 'Knowledge Organisers' for Year 8 pupils in each subject in September 2018, Year 9 pupils in September 2019 and Year 10 pupils in September 2020. The purpose of these Knowledge Organisers will be to facilitate the process of embedding core knowledge in long-term memory through a range of explicit instruction, retrieval practice and self-quizzing techniques. When embedded in long-term memory, automaticity is facilitated and working memory is freed to allow for deeper learning in the classroom. Knowledge Organisers will therefore be an important tool in the process of harnessing working memory in the classroom;
- The establishment of clear and firm direction by the teacher. Markethill High School believes in the teacher as 'sage on the stage' and not 'guide on the side';
- The establishment of 'explicit instruction' which will include some drill and rote learning, as well as other well-established techniques for embedding knowledge in long-term memory, including effective questioning, scaffolding upwards as opposed to downwards, robust approaches to modelling of pupil work, daily recaps, low-stakes weekly testing and self-quizzing. Markethill High School will be basing pedagogical advances in this area on Clark, Kirschner and Sweller's excellent paper entitled: 'Putting Students in the Path to Learning'. A further good definition of explicit instruction may be found here: https://bennewmark.wordpress.com/2017/10/07/ten-principles-for-great-explict-teaching/

- A move away from a focus on skills to that of deep background factual knowledge. It is only from that strong conceptual springboard that domain-specific skills will develop. Markethill High School believes that its strong focus on knowledge at Key Stage 3, and strategies for the embedding of knowledge in long-term memory, will ultimately allow the school to introduce deeper and more advanced subject-specific concepts at an earlier stage. In that regard, our new Knowledge-Based curriculum at Key Stage 3 will include more breadth and depth in learning than at any time in the history of this school. It is both ambitious and highly aspirational for our pupils;
- Self-Quizzing and retrieval practice will become a much more prominent feature of pupil homework.