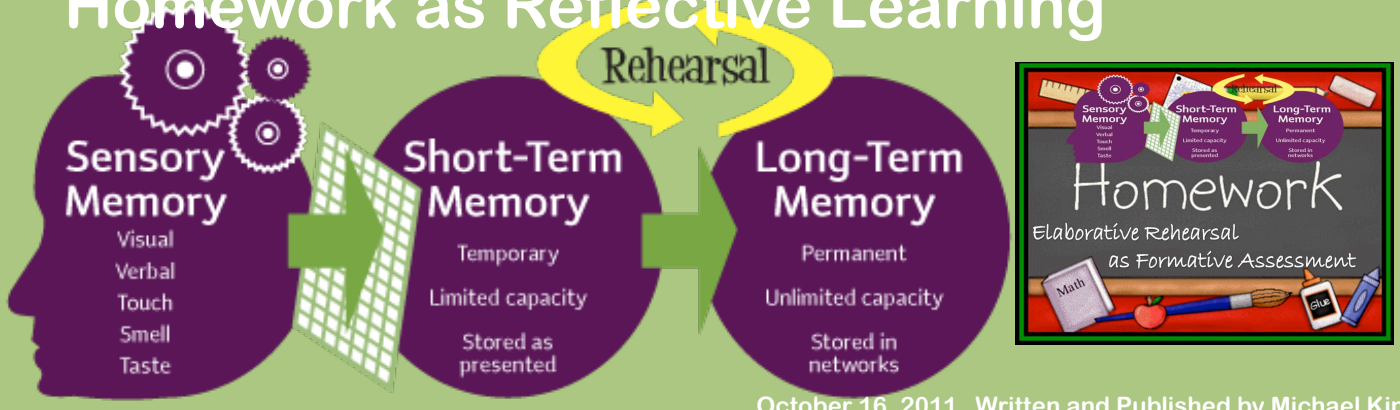
Homework as Reflective Learning

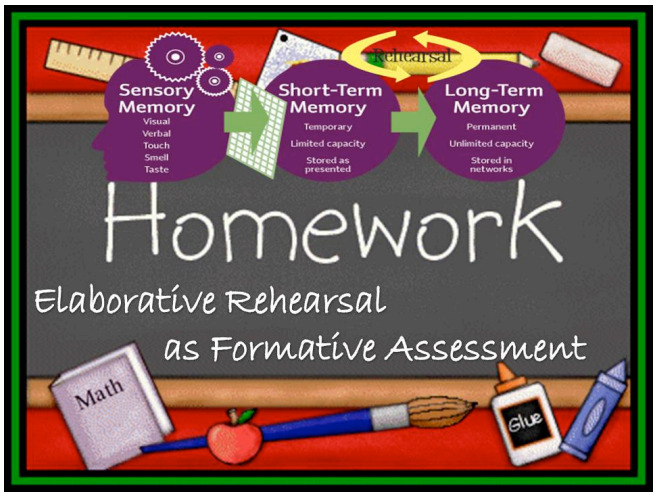


October 16, 2011 Written and Published by Michael King

Homework and Providing Feedback

"Research referenced in Marzano, Pickering, and Pollock's book indicated students need to practice a skill 24 times to reach 80% competency, with the first four practices yielding the greatest effect."1

Homework and Practice



Traditionally homework and practice has been connected by the context when students are learning on their own and by applying new knowledge they expand a deeper understanding through repetition. The research supported the idea that homework should be approached not as an afterthought to the school day, but as a focused strategy for increasing understanding. It should be noted that both reinforcement of learning through practice and repetition is viable to procedural memory but may not support semantic, declarative or implicit memory when consolidation of ideas are needed in making conceptual ties. In essence when students are provided an extended time to repeat the learning experience rote knowledge will increase but may not be recognizable when applied to new learning situations.

Homework as Rote Rehearsal

"This rote practices of learning in the traditional senses has made its mark by having students engage in hours, if not years of rote rehearsal."2 These

exercises of rote rehearsal to a viable curriculum is more likely to fall into semantic memory where rote practices do not allow for performance assessments to measure the application of learning. Viability means articulated content and skills that are taught and measured within the continuum of essential learning goals as they are applied to timeframes available during the academic year. The rote practice is generally associated with a repeated definitions, or recalling an

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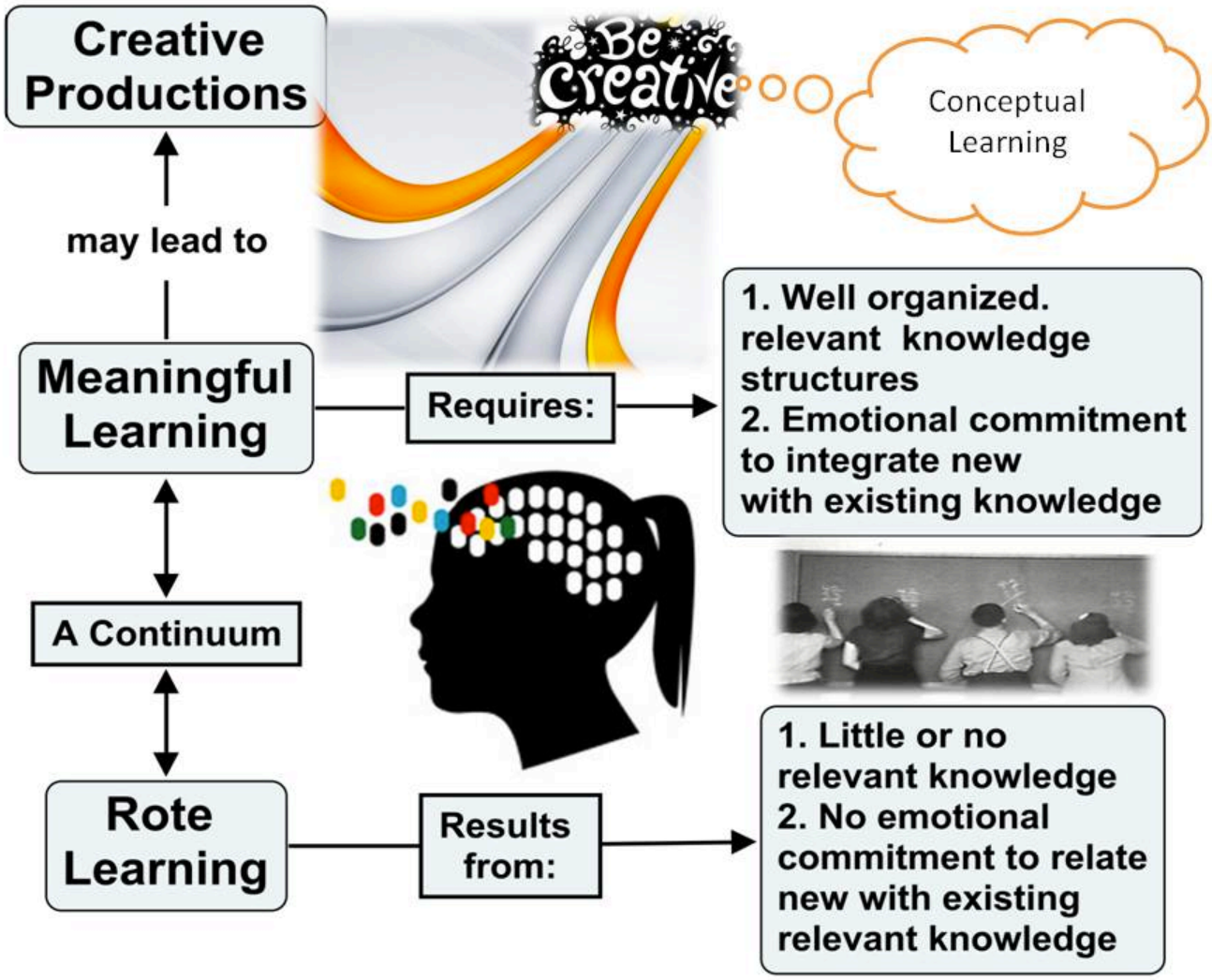
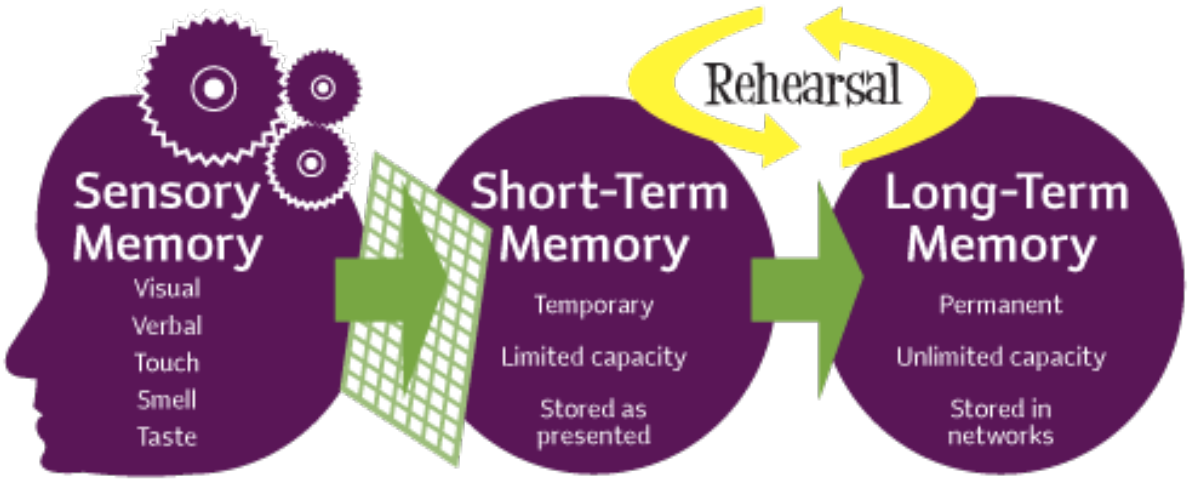


event in history and rarely enhances semantic, declarative or implicit memory. If consistent practice is one component linked to gains in student achievement, and it has been noted that homework provides such practice, then the practices should not be built in rote replication but on a more solid practice of elaborative learning. To better facilitate the learning process where associations are made between knowledge and application a truer form of elaborative rehearsal must occur.

Homework as Elaborative Rehearsal

Elaborative rehearsal encompasses a variety of strategies that provides the learner an opportunity to intricate their learning. Through elaboration the learner can express ideas more openly using multiple skill sets to compare new concepts with known concepts that hooks the unfamiliar with something familiar. This is usually accomplished by using similes, and analogies. For example, to build a solid set of mathematical skills and habits requires reflection in order to create understanding. These reflections do not have to occurred in isolation and could be more effective in collaboration, as long as the process for elaborative learning has structure. Reflecting on homework in small groups is one avenue to reinforce elaboration skills on the meaningful concepts. Providing time for students to review homework in small groups allows the



practitioner to listen to and understand students thinking in a more efficient and fluid manner. The reflective practices of homework allows for a formative assessment process to take place as the practitioner synthesis the exactness of knowledge and address misunderstandings in real time.

Elaborative Rehearsal as Formative Assessment

Given the opportunity to provide feedback in real time is the second factor associated with elaborative learning, as it applies to practice. If providing feedback is directly associated in making a significant difference in student learning, then two elements of practice must be consistently factored, linkage between teacher comment to student answer and time associated to the reinforcement of confirmed learning. If learning occurs in isolation then reflections of learning is also on hold until engagement can occur. Homework or practice in the sense of the provision of feedback should take the form of a new protocol as it relates to the formative reflective assessment process. This process in practice can be articulated by the practitioner in the following way.

- Students use a discussion protocol to analyze homework solutions, share ideas, build vocabulary, and refine strategies by learning from each other.
- Ask students clarifying questions to evaluate the cognitive direction of their ideas and understanding of the unit project.
- Monitor students as they debate ideas, clarify thinking, and make adjustments to their work.

The Elaborative Rehearsal Process

Practice means students are engaged in applying new learning, often repeatedly. The goal of practice is for students elaborate and apply knowledge while mastering newly learned skills. To generate a positive atmosphere around homework and to build metacognitive communication skills, a modified protocol called the learning Inquirer can be established to support the elaboration of learning through extended practice.

Step 1: Students work as partner pairs to discuss (no pencils, no writing, only discussions) their work. Students who did not do the work are required to go first and must either explain what was difficult for them to understand or share thoughts on how they would start the work. Students who did complete the work explain their solutions and their thinking. Students are encouraged to talk about what was confusing or easy for them and why. They often uncover conceptual or computational errors as they are explaining and are encouraged to tell how they will change their work. When partner pairs are finished, students can continue the discussion as a table group and are encouraged to exchange papers to look more closely at solutions.

Step 2: When the small group discussions are over, students are given the opportunity to ask for additional help from the whole class, especially if misconceptions or questions remain. At this time, I may ask for different solutions to the same problem to be shared. Students give feedback to everyone who presents to the class.

Step 3: When the whole-class discussion is completed, students are given a small window of time—usually 3 to 5 minutes—to make repairs, edit, or start the work if they have not previously done so. I find that this is an important time for the reluctant learner, the habitually disorganized, or the procrastinator, as it forces an action of some kind.

Step 4: Students keep their work and turn it in as a homework packet at the end of the week. Given the fact that many of our math problems are open ended and require solution steps, this practice gives students both additional time to complete the work and the opportunity to connect with me to build understanding.

Resources:
Homework and Practice Classroom Instruction that Works by Robert J. Marzano, Debra J. Pickering, Jane E. Pollock
Integrating Technology into the Classroom, Teaching, Learning, and Technology Guide Website.

Focus on Effectiveness, Researched Based Strategies, Homework and Practice and Providing Feedback 2005 - Focus on Effectiveness is a product of the Northwest Regional Educational Laboratory. These materials are in the public domain and may be reproduced without permission.

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