ACTIVATING THE BRAIN FOR DEEPER LEARNING

This rubric offers guidance on designing highly effective educational activities and methods that stimulate key learning processes in the mind. For more resources, visit: *bit.ly/DLS_Resources*

Perception-Action Schema Building

☹ INEFFECTIVE	😮 DEVELOPING	😀 HIGHLY EFFECTIVE
• Teacher does the majority of the work. • Learning relies solely on memorization. • Students are penalized for making mistakes. • Any feedback given is binary, “correct” or “incorrect”. • Students have no chance to adequately practice what they learn. • Teacher assumes learning happened after a fixed amount of instruction. • Concepts are taught in isolation.	• Students are participating. • Conceptual connections are made when learning the schema. • Mistakes have no consequence on the learning. • Students receive infrequent and delayed feedback. • Students have the opportunity to practice what they learn within a lesson. • Teacher assumes learning happened after students are able to reliably answer questions correctly. • Connections are made between concepts.	• Learning is hands-on and interactive for students. • Students build a deep understanding for how and why the schema works, allowing them to derive the concepts. • Early mistakes are learning opportunities, and environment guides students away from repeatedly making the same mistake. • Feedback is instant and informative. Students see right away why their solutions worked or didn’t work. • Students practice what they have learned daily until they achieve mastery. • Learning is only deemed complete after students have exhibited mastery and fluency of content. • Concepts are highly interconnected. Students see profound relationships.

Experiential, Episodic Knowledge

☹ INEFFECTIVE	😮 DEVELOPING	😀 HIGHLY EFFECTIVE
• Experience is mono-sensory. • Experience is forgettable and bland. • Activity is disconnected from other experiences. • It’s difficult to get students to engage with the activity. • Curriculum does not make use of characters for social connection.	• Experience engages multiple senses. • Experience is somewhat memorable • Activity has ties to other experiences. • Students willingly engage with the activity. • Students interact with each other. • Curriculum incorporates characters, but students do not connect with them.	• Multiple senses are engaged in meaningful ways. • Experience is vividly memorable, emotionally and physically. • Activity fits into a larger story of connected experiences. • It’s hard to pull students away from the activity. • Experience has meaningful social elements such as collaboration and cooperation. • Curriculum includes compelling characters that students make social connections with.

Creative Problem Solving

INEFFECTIVE	DEVELOPING	HIGHLY EFFECTIVE
• Students are taught to write down steps to solve problems. • Solving problems does not require much mental energy. • Finding the answer is a higher priority than the problem solving required to get the answer. • Rigor means completing lots of problems. • Multiple choice questioning. • Teacher "rescues" students when they start to struggle. • Solutions are relatively quick to find. • Students have no opportunity for metacognition.	• Students are taught to visualize certain elements of problems. • Solving some problems requires substantial mental energy. • Students are prompted to show their work in order to track their thinking. • Rigor means completing open-ending, real world problems. • Free response questioning. • Teacher allows students to try a problem multiple times before finding a correct solution. • Problems require substantial time to solve. • Students have some opportunity for metacognition.	• Students rely on mental visualization in order to solve problems. • Students eventually need a "brain break" due to the high cognitive demand of tasks. • Students develop ways of organizing their thinking out of necessity. • Rigor means open-ended questions, requiring multiple steps to solve that intentionally connect prior knowledge to new concepts. • Tantalizingly tricky, open-ended problems. • Teachers design learning experience that encourage productive struggle with problem solving. • Problems are solved over multiple days or even weeks. • Metacognition is a primary focus.

Academic Discourse

INEFFECTIVE	DEVELOPING	HIGHLY EFFECTIVE
• Students only communicate the answer. • Students do not provide justification for an answer. • Students don't get to hear other students explain their thinking. • Teacher asks closed-ended questions. • Conversation topics are un-engaging. • Discourse relies on language alone. • Students use only colloquial vocabulary. • Students do not record their thinking.	• Students explain their solutions. • Students give one justification for an answer. • Students hear other students explain their thinking. • Teacher asks open-ended questions. • Conversation topics are interesting. • Students use written work as a tool for discourse. • Students use academic language. • Students record their thinking for future reference.	• Students explain their solutions with justifications as to why they are correct. • Students give multiple justifications for answers. • Students are given the opportunity to dialog about other students' explanations. • Teacher, as facilitator, guides students to think beyond the concept at hand. • Discourse is able to take any topic and pull out fascinating elements. • Students can use drawings, pictures and stories to convey a message. • Students connect academic language to colloquial vocabulary. • Students keep journals and put together large arguments.

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