

## Project Academy Educational System for our Organization Success.

**Video on Meta-cognition** <https://youtu.be/eIZFL4FLVLE>

Innovative educational solutions sit at the intersection of ***feasibility, desirability, benefit, and viability.***

Our Building Blocks for Learning represent a set of evidence-based skills, mindsets and learning process that facilitate and foster success in school and life. They have been proven by research to strongly correlate to and even predict academic achievement.

While there is increasing focus on these skills and mindsets within the U.S. education system, K-12 schools have yet to be designed with the effective integration of these critical components of development in mind. But they can and should be.

Moreover, when educators do emphasize key cognitive and social-emotional skills, they generally do so in isolation from academic instruction, without the sound design and instructional practices that are often effectively applied toward academic development.

### **Needs:**

- The skills needed in our vastly complicated world, whether to earn a decent living or to be an active and informed citizen, are radically different from those required historically.
- simply, the world has changed, and our schools remain stuck in time. “Knowledge workers” have become obsolete. What the world demands today are “smart creatives,” the term that Eric Schmidt and Jonathan Rosenberg use to describe the kind of people Google needs to hire in their book *How Google Works*. ... Wagner, Tony; Dintersmith, Ted (2015-08-18). *Most Likely to Succeed: Preparing Our Kids for the Innovation Era* .

We are still using the same method we did 100 years ago We need to provide an education that interests our students and gets them deeply engaged in their own learning, and that teaches all of our students what they need to be successful in their 21st-century lives.



To change, that is, both how we teach and what we teach, in ways that reflect our current and future realities. Changing the “how” means creating a pedagogy that works for today’s students. Changing the “what” means creating a curriculum that is future-oriented and engaging to today’s students, while remaining useful and rigorous.

**How to Teach – Changing Our Pedagogy to “Partnering”** We need to move from the teacher talking and the students taking notes. (“My teachers just talk and talk and talk” is by far the students’ biggest complaint about school.)

In partnering, the students do what they do – or can do – best, which is finding information, using technology and other resources, and creating.

**The teachers do what they do best, which is asking the right questions, ensuring quality and rigor, vetting, and adding context and appropriate scaffolding**

**Learning Strategies:** It is important to give learners the time and opportunity to talk about thinking processes, to make their own thought processes more explicit, to reflect on their strategies and thus gain more self-control. **Acquiring and using meta-cognitive skills has emerged as a power idea for promoting a thinking skills curriculum ...** Carol McGuinness (1999) Create your thinking strategies • Look to make your approach more efficient.

- Look at issues from a system view with inputs, outputs, processes and feedback.
- Think of strategies in “gathering, organizing, analyzing and making conclusions.
- Break problems into small chunks and study them well.
- Begin with the things that are simplest to understand and move to the more complex.
- Never to accept anything as true that you do not clearly know.
- Be complete in both your work and reviews that nothing is omitted.

***Descartes, Discourse on Methods***





## 'Official' SMARTS Definition

**Metacognition:** “Thinking about one’s own thinking.” Self-awareness is the foundation of metacognition. There are three key processes involved in metacognition:

1. Self- understanding – understanding our unique profiles of strengths and challenges
2. Reflection – thinking about what we know
3. Self-regulation – regulating and monitoring our learning. Together, these comprise important learning processes.

### Lesson 5.1

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## CONTEXT DIMENSION

<b>Relationship</b>	Relationships are the fuel for human development; they foster trust and belief, and are a buffer against stress. Children learn through modeling from and interaction with others, whether it be a parent, teacher, other adult or a peer. Current focus on student development rightly prioritizes the skills and knowledge that students must acquire, apply and then transfer to new contexts, yet this prioritization cannot eclipse the fact that relationships drive this learning and development.
<b>Peer Learning</b>	Our learning model uses a defined web based content for the students and a pair share working together to mentor each other to learn the web structure. The model is like after school study partners helping each other. The students use their knowledge of the web to search, find and learn new information.



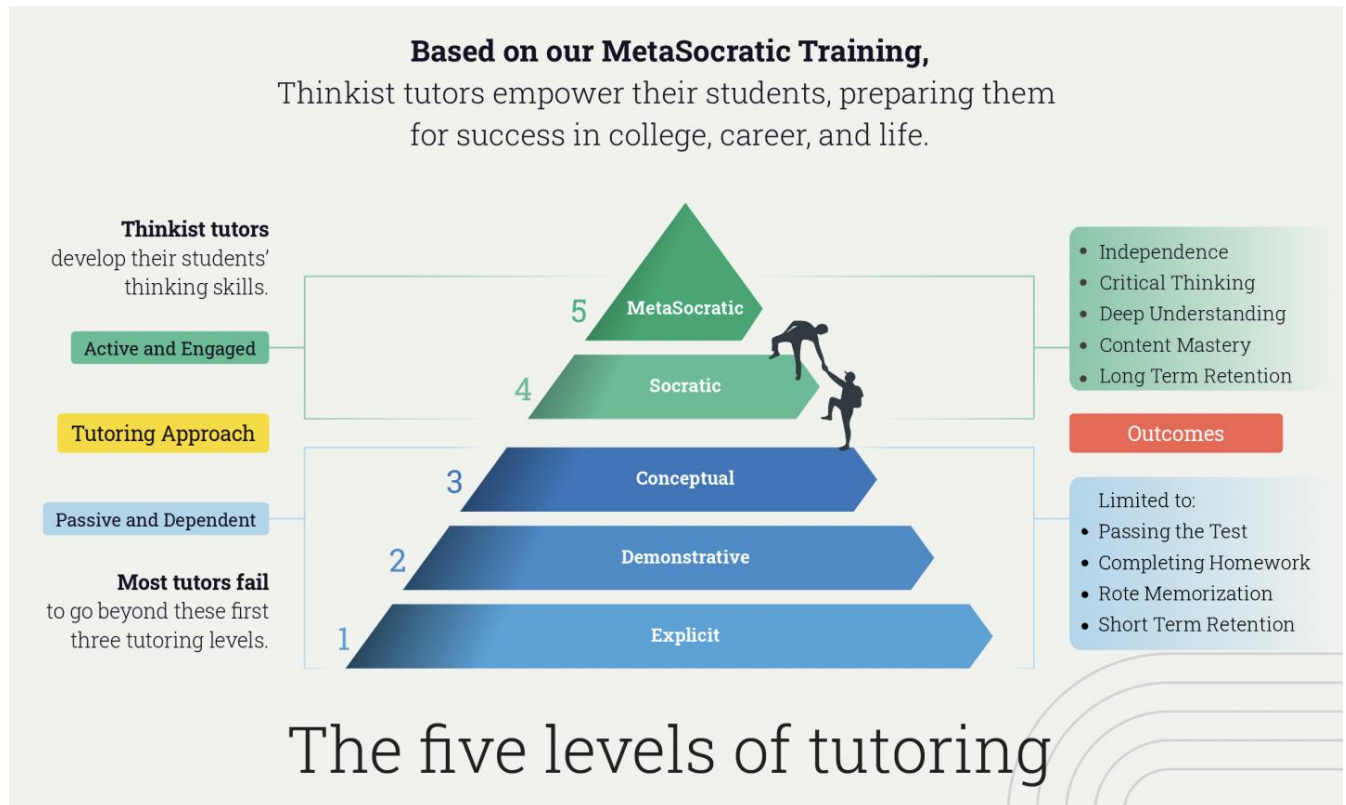
<b>Critical thinking and Questions</b>	The students will be given instructions in using critical thinks ad questioning to discuss what they read and discuss to better understand the content for accuracy.
<b>Learning goals and integration</b>	<p>Every learning ecosystem should have a clear set of goals for students that articulate the critical skills needed to address emerging challenges. To measure this, we would consider rubrics across the following elements:</p> <ul style="list-style-type: none"> <li>• The existence, visibility, quality, and clarity of a <a href="#">portrait of a graduate/profile of a learner</a>.</li> <li>• Evidence of a robust and comprehensive learning outcome/competency progression tied to the portrait of a graduate.</li> <li>• Clear integration of the competency progression in the curriculum, instruction, and assessment approaches.</li> </ul>
<b>Pedagogy</b>	<p>An innovative learning organization will need to have evidence of specific approaches to best support learner success based on the future skillsets required by adults to thrive.</p> <ul style="list-style-type: none"> <li>• Evidence of high quality <a href="#">project-based learning</a>.</li> <li>• Real-world connections (<a href="#">place-based</a>, experiential) and pathways (at the high school level) to connect directly to possible careers and bundled skills.</li> <li>• Implementation of <a href="#">personalized learning</a> approaches, especially around core skills such as math and literacy, to ensure that every learner is highly literate in language and mathematics.</li> <li>• Learners have appropriate opportunities to <a href="#">co-design</a> with their Peer to build relevant learning experiences.</li> </ul>



<b>Assessment.</b>	<p>Assessing learner progress with authentic approaches allows for clear instructional and curricular choices to allow every student to reach their potential.</p> <ul style="list-style-type: none"> <li>• Individualized growth metrics are used for every student in all measurable content areas.</li> <li>• Progress on learning goals is monitored in real-time and available to teachers/students/families as needed.</li> <li>• A clear articulation of proficiency on learner goals is defined organization wide.</li> <li>• Learner records are accessible between schools and across age cohorts to show visibility of growth in various dimensions.</li> </ul>
<b>Advisory</b>	<p><a href="#"><u>Strong advisory programs</u></a> support learner-centered environments where every learner feels supported by a caring adult.</p> <ul style="list-style-type: none"> <li>• Advisory occurs weekly with progress monitoring, goal setting, coaching, peer support, skill building</li> <li>• In older age cohorts, college/career education and advising is part of every learner's schedule.</li> </ul> <p>High quality student support systems wrap around all learners – including support for mental health, physical health, financial health, etc</p>
<b>5 Levels of support</b>  <b>(see table below)</b> 	<p>Our students will follow the following 5 levels of Peer discussion</p> <ol style="list-style-type: none"> <li>1. Explicit ... Short term retention</li> <li>2. Demonstrative</li> <li>3. Conceptual</li> <li>4. Socratic ... Active &amp; Engaged</li> <li>5. Meta Socratic ... Critical thinking</li> </ol>







### From **Peer Mentoring Works...and Now It's Scalable**

Peer tutors are trained to support their students to engage more fully with the material they are learning, empathetically modeling curiosity through active questioning.

This method helps both the tutor and tutee to learn how to make better sense of what they are learning. It also helps students become future leaders by developing effective critical thinking, problem-solving, and communication skills which build their capacity for future individual and collaborative learning

*"Understanding sets the foundation for all learning. Knowing what we must do, why it matters, and why it's done the way it's done improves all other learning phases.*

*But what influences how we process and understand information? And how can we get better at it?*

*That will be the subject of this chapter. The Principles Input Modes We'll start with the different ways we take in information: **Observation**: watching*



someone do what we want to learn **Imitation**: following along as someone else does it **Explanation**: reading or **listening** as someone else breaks down the subject **Experimentation**: trying to figure things out on our own" — from "Learn, Improve, Master: How to Develop Any Skill and Excel at It Learning is most effective when we understand the principles, logic, and purpose of what we study.

**For this reason, understanding sits at the base of learning anything. We need to make sense of what we are doing, how it works, and why, so we can"**

"great way to start our exploration is by talking to people already involved in what we want to learn—from beginners to advanced practitioners to pros, coaches, and teachers. We'll ask them about the process and anything they can share on learning, practicing, and performing. **What do they find most challenging? What mistakes should we try to avoid? What deserves special attention?**

Their insight will provide us with a real sense of the path ahead. At the same time, **they can help us deconstruct the skill by telling us the different pieces that compose it and their level of importance. That information"**

## Ask Metacognitive Questions Throughout the Lesson



BEFORE	DURING	AFTER
<ul style="list-style-type: none"> <li>• What do you already know?</li> <li>• What is this question asking you to do?</li> <li>• What level of challenge will this be?</li> <li>• How can you organize your information?</li> <li>• What is the best way to tackle this task?</li> </ul>	<ul style="list-style-type: none"> <li>• Is this making sense?</li> <li>• Is your strategy working?</li> <li>• Are you using the best tools?</li> <li>• What connections are you making?</li> <li>• What predictions do you have?</li> <li>• Are you making progress?</li> <li>• Do you need to slow down?</li> <li>• What do you understand so far?</li> </ul>	<ul style="list-style-type: none"> <li>• What helped you to understand?</li> <li>• Where did you struggle?</li> <li>• How did you overcome challenges?</li> <li>• How could you have tackled this differently?</li> <li>• How will this information help you in the future?</li> </ul>

Connie Hamilton, Author of *Hacking Questions*

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