How the *Learner-Active, Technology-Infused Classroom*™ Builds Executive Function

There are many structures and strategies that build executive function in the *Learner-Active, Technology-Infused Classroom*. These are just some ideas to get you thinking.

Executive Function Skill			**Connection to the *Learner-Active, Technology-Infused Classroom***
Organization	**Cognitive Flexibility**	Shifting focus from one event to another	Scheduling how one uses time builds the skill of stopping, identifying where to pick up later, and moving on to the next event.
		Changing perspective	The ability to shift perspective is needed for building higher-order thinking skills through a variety of activities such as collaborating with group members and synthesizing information.
		Seeing multiple sides to a situation	Collaborating with others and building arguments require seeing more than one side to a situation.
		Being open to others' points of view	Collaborating and solving open-ended, authentic problems requires one to negotiate and consider myriad options.
		Being creative	Engaging in divergent thinking in the problem-solving process requires one to exercise creativity.
		Catching and correcting errors	Reviewing one's work, particularly against a rubric, promotes error identification and correction, as does peer feedback.
		Thinking about multiple concepts simultaneously	Engaging in higher-order thinking to solve unit-level, open-ended, authentic problems requires one to consider multiple concepts simultaneously.

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Organization (continued)	**Working Memory**	Storing and manipulating visual and verbal information	Engaging in a variety of learning and practice activities emanating from a problem-based task requires storing and manipulating visual and verbal information.
		Identifying same and different	Analyzing a problem situation and engaging in the convergent thinking phase of the problem-solving process requires the ability to identify similarities and differences.
		Remembering details	Solving an open-ended, authentic problem and building an argument for the solution requires remembering and recalling details.
		Following multiple steps	Using "how-to" sheets to learn skills requires following multiple steps.
		Holding on to information while considering other information	Generating solutions and collaborating to solve problems requires holding on to information while considering other information.
		Identifying cause-and-effect relationships	Solving open-ended, authentic problems requires identification of cause-and-effect relationships, including those that are primary, secondary, tertiary, and so forth.
		Categorizing information	Solving unit-level, open-ended, authentic problems requires categorizing information.
	Planning	Setting goals	Using a rubric to guide one's learning requires the ability to self-assess and set goals.
		Managing time	Scheduling activities toward completion of a unit task, including coordinating with others to schedule collaborative time, requires managing time.
		Working toward a goal	Being presented with a unit-level, open-ended, authentic problem to solve at the start of a unit, and having a rubric to guide one's work, foster planning and working toward a greater goal.
		Organizing actions and thoughts	Choosing instructional activities that match need and interest, and managing time and resources, requires one to organize actions and thoughts.
		Considering future consequences in light of current action	Managing one's time and reflecting on personal progress, sometimes aided by a "table journal" or "great student rubric," requires one to consider future consequences in light of current action.
Organization (continued)	**Reasoning**	Making hypotheses, deductions, and inferences	Engaging in unit-level, open-ended, authentic problem solving and the foundational activities requires one to make hypotheses, deductions, and inferences.

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		Applying former approaches to new situations	The multi-faceted nature of problems enables a naturally spiraling curriculum and the need to apply former approaches to new situations; engaging in an end-unit transfer task requires one to do so as well.
	Problem Solving	Defining a problem	Offering students big ideas surrounding content and asking them to identify a problem of interest requires them to define a problem. Engaging in open-ended, authentic, problem-solving requires students to continually define smaller problems to tackle as part of the process.
		Analyzing	Engaging in open-ended, authentic, problem solving requires students to analyze information to both define and solve problems.
		Creating mental images	Defining a problem, generating possible problem solutions, and testing solutions all require creating mental images.
		Generating possible solutions	The divergent thinking phase of problem solving requires students to generate possible solutions.
		Anticipating	The convergent thinking phase of problem solving in which students consider possibilities requires them to anticipate problems and unintended consequences.
		Predicting outcomes	The convergent thinking phase of problem solving requires students to predict outcomes, based on their solution generation.
		Evaluating	The convergent thinking phase of problem solving requires students to evaluate solutions, both individually and collaboratively.

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Self-Regulation	**Inhibitory Control**	Attending to a person or activity	Engaging in a personalized learning plan, which includes learning activities that are both individual and collaborative, including group discussions, requires students to attend to a person or activity.
		Focusing	Engaging in a personalized learning plan and related learning, practice, and application activities requires students to focus.
		Concentrating	Engaging in activities that depend on the student to follow directions or attend to information requires students to concentrate.
		Thinking before acting	Managing one's time and actions in a larger, social learning environment requires one to think before acting.
		Initiating a task	Following one's personal schedule of learning, practice, and application activities requires one to initiate tasks on a regular basis.
		Persisting in a task	Following one's personal schedule of learning, practice, and application activities toward the solution generation for a larger problem requires one to persist in a task, then tackle another, and so forth.
		Maintaining social appropriateness	Learning in a collaborative, social environment in which students move freely around the room, work where they choose, share resources, and so forth requires social appropriateness.
	Self-Awareness	Self-assessing	Using rubrics for academic guidance and work habits requires students to self-assess.
		Overcoming temptation	Being afforded considerable latitude for personal choice in an academic environment requires students to overcome temptation to achieve their goals.
		Monitoring performance	Tracking how students use their own time, completing task management grids, and reviewing progress on a rubric requires students to monitor their own performance.
		Reflecting on goals	Using rubrics for academic guidance and goal-driven portfolios require students to monitor their performance.
		Managing conflicting thoughts	Being afforded considerable latitude for personal choice in an academic environment requires students to manage conflicting thoughts.

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