Metacognition Pre/Post Knowledge Check Answer Key, Revised 2024

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| **Metacognition****Pre/Post Assessment Questions**  | **Answer and Rationale for** **Correct and Incorrect****Green indicates a yes response****Red indicates a no response** | **Which element of the Metacognition Practice Profile does this question address?** |
| **For scenarios 1-4, does the action taken by the educator(s) increase students’ knowledge of cognition?****Mark yes or no** |  | **Educators engage in metacognitive instruction to increase students' knowledge of cognition by doing the following.*** Teach the importance and benefits of metacognitive thinking
* Provide students with opportunities to understand their personal learning style preferences
* Increase student cognitive awareness by building declarative, procedural, and conditional knowledge
* Explicitly teach, model, and label cognitive and self-regulatory strategies
* Establish classroom structures and design lessons that help students understand and build their cognitive awareness
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| 1. Mr. Barnes’ third-grade students begin the year by taking a survey that helps identify their learning strengths and opportunities for growth. He also engages students in conversations and activities that illustrate brain plasticity, helping them see how making connections to new learning can grow their brains.
 | Teaching the importance and benefits of metacognitive thinking and providing tools such as learning inventories builds declarative knowledge and is foundational in developing students’ cognitive awareness. Learning how the brain is malleable helps promote a growth mindset. Such actions are key in developing metacognitive learners. | * Teach the importance and benefits of metacognitive thinking
* Provide students with opportunities to understand their personal learning style preferences
* Establish classroom structures and design lessons that help students understand and build their cognitive awareness
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| 1. The middle school math teachers incorporate number talks into their daily lessons. They begin by modeling think-alouds and then encourage students to discuss and label mental processes they use to find solutions to math problems.
 | Classroom structures such as number talks provide opportunities for educators to teach and model thinking processes. Students build cognitive conditional and procedural knowledge when they reflect on and engage in dialogue to analyze processes and strategies used to find solutions to problems.  | * Increasing student cognitive awareness by building declarative, procedural, and conditional knowledge
* Explicitly teach, model, and label cognitive and self-regulatory strategies (in general and in relation to specific content areas)
* Establish classroom structures and design lessons that help students understand and build their cognitive awareness
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| 1. Mrs. Reamer’s focus is on building content knowledge and believes students are intuitive and will internalize these skills indirectly when striving to reach their learning goals.
 | Although some students do learn self-regulation skills intuitively and indirectly, many learners do not. It is very important that educators devote time to explicitly teaching, modeling, and labeling cognitive and self-regulatory skills/tools/processes both in general and in relation to specific content areas. | * Increasing student cognitive awareness by building declarative, procedural, and conditional knowledge
* Explicitly teach, model, and label cognitive and self-regulatory strategies (in general and in relation to specific content areas)
* Establish classroom structures and design lessons that help students understand and build their cognitive awareness
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| 1. The science teachers at Washington High meet collaboratively each week to design lessons. They include ways for peers to collectively discuss and justify strategies, tools, and processes they use to answer questions and solve problems so learning can be celebrated!
 | By designing lessons that elicit deep thinking and establishing classroom structures such as collaborative think-alouds teachers help build learner cognitive awareness. These actions increase students’ procedural and conditional knowledge enhancing their cognitive assets. | * Provide students with opportunities to understand their personal learning style preferences
* Increase student cognitive awareness by building declarative, procedural, and conditional knowledge
* Establish classroom structures and design lessons that help students understand and build their cognitive awareness
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| **For scenarios 5-8, does the action taken by the educator(s) engage students in metacognitive regulation processes for planning, monitoring, controlling, or evaluating learning?****Mark yes or no** |  | **Educators utilize strategies/practices/tools that engage students in the following metacognitive regulation processes.*** Planning strategies to help students focus on what needs to be learned and how they will learn it (e.g. goal setting, activating prior knowledge, organizational tools, higher order questioning, etc.)
* Monitoring strategies to help students focus on how they are learning (e.g. self-questioning, think-alouds, self-assessment, journals, etc.)
* Controlling strategies that help students regulate their learning (e.g. self-checkins, relaxing muscles, positive self-talk, etc.)
* Evaluating strategies that help students consider how effectively they learned (e.g., written prompts, self-reflection tools, exit tickets, etc.)
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| 1. Mrs. Breck wants to make the best use of the limited time students have in her class. She posts learning goals but does not refer to them in her directions. She encourages students to begin working immediately on learning tasks. Mrs. Breck believes this is an effective learning strategy.
 | Students must have a clear understanding of learning goals, activate prior knowledge, and pre-select strategies for completing tasks in order to engage in the metacognitive regulation process of planning. The learning outcomes need to be made visible to students prior to the learning task. | * Planning strategies to help students focus on what needs to be learned and how they will learn it (e.g. goal setting, activating prior knowledge, organizational tools, higher order questioning, etc.)
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| 1. The staff at Elliott Elementary are teaching students strategies to self-assess whether their learning has gone off track and then use recovery strategies to move forward in their learning.
 | Self-monitoring is an important component of the regulation process for learning. Explicitly teaching recovery strategies for students to use once their learning goes off track will enable them to recalibrate so they can move forward…toward their learning goal. | * Monitoring strategies to help students focus on how they are learning (e.g. self-questioning, think-alouds, self-assessment, journals, etc.)
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| 1. Mr. McCarty, the art teacher, helps students identify and remove distractions and gives learners opportunities to refocus through stretching exercises and mindfulness activities.
 | Gaining control by using strategies to focus is an important component of the regulation process for learning. By identifying and removing distractions, students become more capable of targeting and reaching learning goals. Stretching, mindfulness, and meditation are all effective strategies for helping learners control learning and become self-regulated. | * Monitoring strategies to help students focus on how they are learning (e.g. self-questioning, think-alouds, self-assessment, journals, etc.)
* Controlling strategies that help students regulate their learning (e.g. self-checkins, relaxing muscles, positive self-talk, etc.)
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| 1. The fifth-grade social studies teachers are designing and using exit tickets to help students evaluate their learning.
 | Exit tickets can prompt evaluative thinking - assessing what you know and how and why you know it. The process of evaluating allows learners to determine if the strategies they employed were effective, if they comprehended the intended learning, and if not, what different strategies should be utilized. Possible revisions and refinements should be reflected on as well. The process of evaluation also helps to prevent time consuming backtracking. | * Evaluating strategies that help students consider how effectively they learned (e.g., written prompts, self-reflection tools, exit tickets, etc.)
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| **For scenarios 9-10, does the action taken by the educator(s) create a classroom culture and environment conducive to developing, encouraging, and supporting metacognitive thinking?****Mark yes or no** |  | **Educators create a classroom culture and environment conducive to metacognitive thinking by implementing the following.*** Develop classroom norms that support a climate of optimism, academic risk-taking, and growth mindset
* Set high expectations, clear goals, and opportunities for reflective thinking
* Model and encourage the use of language that clearly describes thinking
* Provide learner centered rigorous tasks and convey that productive struggle is part of the learning process
* Develop a physical environment that promotes and supports metacognition
* Allocate time, opportunities, and interactions that promote metacognitive thought
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| 1. The educators at Wilson High spend the majority of instructional time on content rather than processes. Valuable instructional time is saved by avoiding time spent on review and revision.
 | To promote a metacognitive classroom environment, learning should be a shared responsibility with students, not solely teacher driven. Students should frequently discuss ways they learn and metacognitive tools and supports should be made available. Tasks should be aligned to learning goals rather than having the textbook guide learning. Lessons designed to feed both content and process learning encourage metacognitive thinking. Review and revision are integral components for cultivating a growth mindset and metacognitive classroom culture. | * Set high expectations, clear goals, and opportunities for reflective thinking
* Model and encourage the use of language that clearly describes thinking
* Provide learner centered rigorous tasks and convey that productive struggle is part of the learning process
* Develop a physical environment that promotes and supports metacognition
* Allocate time, opportunities, and interactions that promote metacognitive thought
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| 1. Sunset Elementary teachers make time for students to generate and explore challenging questions and problems using collaboration and classroom supports/tools that promote deeper thinking.
 | A classroom culture and environment that enables students to become regulators of their own learning is one that is conducive to metacognition. When thinking processes are modeled, along with the use of tools and supports, a collaborative environment for higher level thinking is promoted. | * Develop classroom norms that support a climate of optimism, academic risk-taking, and growth mindset
* Set high expectations, clear goals, and opportunities for reflective thinking
* Model and encourage the use of language that clearly describes thinking
* Provide learner centered rigorous tasks and convey that productive struggle is part of the learning process
* Develop a physical environment that promotes and supports metacognition
* Allocate time, opportunities, and interactions that promote metacognitive thought
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