

Continuum of Underlying Skills

A = Awareness (teachers name it, explain it, think-out-loud about it, model it, do it with the students, and provide lots of support & structure)

P = Prompt and practice (teachers prompt students to use what they already know, help them develop & refine their skills, and teach "situation-specific" strategies as they are needed)

I = Internalized (students apply what they know without prompting from teachers, asking for help as they need it...teachers facilitate deeper, more critical thought and continue to help students develop & refine their skills)

Think-it-Through

We must teach students how to:

Constantly "step back" to monitor and navigate their own progress through the steps and stages of the research process (*Where am I now? What do I do next?*)

"Step out" of the process and think metacognitively to **plan** how they will approach their assignments (*What is my assignment? How can I manage this in the time I have? Where do I start? What could I make or do to show what I learn?*)

Deliberately consider which strategies to apply in diverse situations as they arise - select and apply appropriate strategies (*What do I know that would help me to do this?*)

Deliberately consider how technology might assist them in their work - select and apply appropriate tools (*What would help me to organize and manage this information?*)

Use discussion and interaction with others as a tool for thought (*What do you think? How do you know? Does that change what I think? Neat idea! How does that fit my project? I think...because... Etc.*)

Use writing as a tool for thought (*What do I think? What do I know? What am I confused about? What questions do I have? What do I need help with? Who could I ask for help? Does this information make sense? Etc.*)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Constantly "step back" to monitor and navigate their own progress through the steps and stages of the research process (<i>Where am I now? What do I do next?</i>)	A	A	A	A	A	P	P	P	P	I	I	I	I
"Step out" of the process and think metacognitively to plan how they will approach their assignments (<i>What is my assignment? How can I manage this in the time I have? Where do I start? What could I make or do to show what I learn?</i>)	A	A	A	A	A	P	P	P	P	I	I	I	I
Deliberately consider which strategies to apply in diverse situations as they arise - select and apply appropriate strategies (<i>What do I know that would help me to do this?</i>)	A	A	A	A	A	P	P	P	P	I	I	I	I
Deliberately consider how technology might assist them in their work - select and apply appropriate tools (<i>What would help me to organize and manage this information?</i>)	A	A	A	A	A	P	P	P	P	I	I	I	I
Use discussion and interaction with others as a tool for thought (<i>What do you think? How do you know? Does that change what I think? Neat idea! How does that fit my project? I think...because... Etc.</i>)	A	A	A	A	A	P	P	P	P	I	I	I	I
Use writing as a tool for thought (<i>What do I think? What do I know? What am I confused about? What questions do I have? What do I need help with? Who could I ask for help? Does this information make sense? Etc.</i>)			A	A	P	P	P	P	P	I	I	I	I

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We must teach students how to:

	K	1	2	3	4	5	6	7	8	9	10	11	12	
Think-it-Through	Use discussion and interaction with others as a method for comparative reflection (How does my experience compare with that of others? What did they learn that I can use?)				A	A	P	P	P	P	I	I	I	I
	Use reflective learning to direct their future actions (What did I learn last time that I will use this time? What did I learn this time that I will use next time?)	A	A	A	A	A	P	P	P	P	I	I	I	I

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Explore

We must teach students how to:	K	1	2	3	4	5	6	7	8	9	10	11	12
Brainstorm collaboratively and independently	A	A	A	P	P	P	P	P	P	I	I	I	I
Sort & categorize ideas and information	A	A	A	A	A	P	P	P	P	I	I	I	I
Create mind maps & thought diagrams			A	A	A	P	P	P	P	I	I	I	I
Create information webs and charts	A	A	A	A	A	P	P	P	P	I	I	I	I
Use Kidspiration/Inspiration programs as thinking tools for brainstorming, sorting and categorizing, webbing, mapping		A	A	A	A	P	P	P	P	I	I	I	I
Read & interpret a variety of graphic organizers		A	A	A	A	P	P	P	P	I	I	I	I
Use graphic organizers as thinking tools		A	A	A	A	P	P	P	P	I	I	I	I
Participate in class discussions	A	A	P	P	P	I	I	I	I	I	I	I	I
Collaborate with partners	A	A	A	P	P	P	I	I	I	I	I	I	I
Collaborate in small groups of various configurations			A	A	A	P	P	P	I	I	I	I	I
Ask relevant questions to clarify understanding and have information explained	A	A	A	P	P	I	I	I	I	I	I	I	I
Construct questions about the topic at hand that require higher levels of thought						A	A	A	A	P	P	P	P
Identify subtopics of, and topics related to, the one being discussed	A	A	A	A	A	P	P	P	P	I	I	I	I
Make reasonable predictions based on current information	A	A	A	A	A	P	P	P	P	I	I	I	I
Extract & record general information from various sources (visuals, audio-visuals, text, etc.) using a variety of methods	A	A	A	A	A	P	P	P	P	I	I	I	I
Relate the topic at hand to own life and identify areas of special interest	A	A	A	A	A	P	P	P	P	I	I	I	I

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We must teach students how to:

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Explore	Ask questions that direct further investigation into areas of interest	A	A	A	A	A	P	P	P	P	I	I	I	I
	Recognize issues that affect them within the topic at hand						A	A	A	A	P	P	P	P
	Recognize that there are different points of view for every issue						A	A	A	A	P	P	P	P

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We must teach students how to:

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Plan	Develop a project timeline	A	A	A	A	A	P	P	P	P	I	I	I	
	Recognize possible sources of specific information in the community, online, & in the library	A	A	A	A	A	P	P	P	P	I	I	I	
	Set a purpose - decide what they want to accomplish/why their work is important						A	A	A	P	P	P	I	I
	Identify and select desired audience	A	A	A	A	A	P	P	P	P	I	I	I	
	Identify and select an audience that fits their purpose					A	A	A	P	P	P	I	I	
	Consider possible presentation formats	A	A	A	A	A	P	P	P	P	I	I	I	
	Analyze, read & interpret evaluation rubrics				A	A	P	P	P	P	I	I	I	
	Construct rubrics that target the skills they are working to develop						A	A	P	P	P	I	I	
	Use rubrics to guide own actions				A	A	A	A	P	P	P	I	I	
	Search out and analyze models of excellence for the purpose of applying what is learned to improve own work (start with teacher-provided examples)	A	A	A	A	A	P	P	P	P	I	I	I	
	Generate potential search terms			A	A	A	P	P	P	P	I	I	I	

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We must teach students

how to:

Search

	K	1	2	3	4	5	6	7	8	9	10	11	12
Navigate the library (understand its organization & be able to locate specific resources)	A	A	A	P	P	P	P	I	I	I	I	I	I
Navigate print resources (understand common structures and devices & use them to locate specific information)	A	A	A	P	P	P	P	I	I	I	I	I	I
Navigate the web & other electronic resources (understand navigational tools embedded in the browser/resource & use them to locate specific information)			A	A	A	P	P	P	P	I	I	I	I
Contact human resources, and how to interact with them for the purpose of seeking specific information					A	A	A	P	P	P	I	I	I
Refine their searches to target the information they seek						A	A	P	P	P	I	I	I
Read, view, listen, & examine to find specific information (e.g. skim, scan, recall, summarize, paraphrase, ask questions, connect ideas, make notes)	A	A	A	A	A	P	P	P	P	I	I	I	I
Make notes using various formats and organizers (e.g. graphic organizers, index cards, note making organizers, spreadsheets, etc.)	A	A	A	A	A	P	P	P	P	I	I	I	I
Organize & manipulate data using technology		A	A	A	A	P	P	P	P	I	I	I	I
Cite sources using appropriate citation format			A	A	A	A	P	P	P	P	I	I	I
Evaluate relevance of information		A	A	A	P	P	P	P	P	I	I	I	I
Evaluate reliability of information					A	A	A	A	P	P	I	I	I
Differentiate between fact and opinion				A	A	A	A	P	P	I	I	I	I
Make a supported inference							A	P	P	I	I	I	I
Combine ideas and information from several sources						A	A	P	P	I	I	I	I

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Search	Recognize when "enough" information has been gathered to help them meet their needs (<i>How will I know when I am done?</i>)	A	A	A	A	A	P	P	P	P	I	I	I	I
	Create a project overview or mock-up						A	P	P	P	I	I	I	I
	Create a content outline for a project						A	P	P	P	I	I	I	I
	Create a detailed rough draft of the final project				A	A	P	P	P	P	I	I	I	I

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Present	Create effective and appropriate presentations using a variety of formats			A	A	A	P	P	P	P	I	I	I	I	
	Consider multiple learning styles of audience member when creating final presentation						A	A	P	P	P	I	I	I	
	Review own work for the purpose of improving quality of flow or content			A	P	P	P	P	P	P	I	I	I	I	
	Review work of others for the purpose of making suggestions for improvement of flow or content					A	A	A	P	P	P	I	I	I	
	Revise own work to incorporate own ideas for improvement based on self review			A	P	P	P	P	P	P	I	I	I	I	
	Revise own work to apply suggestions from others to improve quality of work					A	A	A	P	P	P	I	I	I	I
	Self edit final product using pre-established quality guidelines such as checklists or rubrics			A	A	A	P	P	P	P	I	I	I	I	
	Peer edit final product using pre-established quality guidelines such as checklists or rubrics					A	A	A	P	P	P	I	I	I	I
	Be an effective presenter			A	P	P	P	P	P	P	I	I	I	I	
	Be an effective audience member	A	A	A	P	P	P	P	P	P	I	I	I	I	
	Evaluate their plan	A	A	A	A	A	P	P	P	P	I	I	I	I	
	Evaluate the process	A	A	A	A	A	P	P	P	P	I	I	I	I	
	Evaluate their final presentation				A	A	P	P	P	P	I	I	I	I	
	Evaluate others' presentations				A	A	P	P	P	P	I	I	I	I	