

## The Moves of a Living Curriculum Learner

A core set of four learning moves support one’s ability to engage in a living curriculum approach to learning. These moves reflect the behaviors of life-long learners. Each one has sub-routines that support the broader aims. In addition, many of the moves or routines of good thinking can be called upon under each of these broader moves. It may be tempting to use the moves sequentially, but in the flow of learning they are best used iteratively as needed. Therefore, a triadic notion of thinking dispositions applies in that learners must: 1) be sensitive to occasions to use them; 2) know how to use them; and 3) be inclined to use them.

<b><u>Mapping Knowledge/Understanding:</u></b>		
<b><u>Move</u></b>	<b><u>Sample Questions</u></b>	<b><u>Examples of Ways to Get Started (as a Learner or a Guide)</u></b>
<b>Mapping Terrain</b> <i>(Novices don’t know the terrain to be traveled so their task is different from Backward Design Approaches.)</i>	What is “out there” to know? What are sources of knowledge? What does a broad scan across a topic enable? What does a deep dive into a topic enable?	>See how experts think about a domain. >Look at historical shifts in how people thought about the topics to get ideas about how novices see it.
<b>Detecting Barriers</b> <i>(An extensive literature exists on typical misconceptions that humans hold based upon how our minds work and what information is perceptually available.)</i>	What can’t be seen from a novice or developmentally young perspective? (Are there things that can be seen from a novice perspective (looking across boundaries or assumptions) that is harder for experts to see?) What does the research say about misconceptions that humans typically hold?	>Read about typical misunderstandings or wrong paths that learners take (in the misconceptions literature) to help recognize when one is heading down a limiting path. >Pay attention to the differences between productive and non-productive struggle. >Keep track of novice questions and revisit them later to see if they have changed.
<b>Finding Expertise</b> <i>(Experts structure information and view the inherent patterns differently than novices.)</i>	Are there experts who can support my inquiry? Are there teachers, knowledgeable peers, or other guides who understand the content area deeply enough to help me to get started? Are there tables of contents, frameworks, or other sources that outline the nature of knowledge in the area(s) of my interested?	>Look for on-line experts. >Look for on-line mentorship opportunities (ex. the cartooning network). >Think about your social network. Ask those around you for suggestions.
<b><u>Path-Building:</u></b>		
<b><u>Move</u></b>	<b><u>Sample Questions</u></b>	<b><u>Examples of Ways to Get Started (as a Learner or a Guide)</u></b>
<b>Asking Questions</b> <i>(How we frame questions has a significant impact on learning.)</i>	What are the many forms of questions that I could ask? How do I operationalize my questions? What do open-ended questions look like? How can I ask the most generative questions?	>Use the “QRR Technique” from Artworks for Schools >Keep a learning journal to collect questions and things that you wonder about. >Use the “Creative Questions” Thinking Routine.

<b>Leveraging Resources</b> <i>(Unlike Constructivism, Living Curriculum purposefully uses the existing socio-cultural inheritance of learners.)</i>	Are there resources that others have developed that will help me build understanding? Do I have any existing resources that I can use? What learning supports can I find on line and in libraries?	>Search for on-line courses. >Make use existing curriculum focused on deep understanding. >Instructional videos can be a source of information that one can use in a self-paced manner.
<b>Charting and Revising Paths</b> <i>(Creating steps towards greater expertise requires taking the first steps and re-structuring the journey as needed.)</i>	What first steps can I take to build understanding? Where am I stuck? What do I need to do/know next? Do I need to jump to an entirely different path or with persistence, will this path pay off? How is my path working? What revisions would help me?	>Make drawings of possible routes to download the cognitive load of plotting paths. >Talk to others who have learned about this topic. >Use the “Think, Puzzle, Explore” Thinking Routine. >Ask a peer to analyze the topic into its parts with you.
<b><u>Self-Assessing:</u></b>		
<b>Move</b>	<b>Sample Questions</b>	<b>Examples of Ways to Get Started (as a Learner or a Guide)</b>
<b>Questioning Oneself/Group</b> <i>(Reflection is key to forward progress and finding ones’ learning edges.)</i>	What do I know I know? What do I know I don’t know? What do I not know I know? What do I not know I don’t know? How can I get data on what I know and don’t know? What do my friends know? How did they learn it?	>Use the “I Used to Think, Now I Think” Thinking Routine. >Use the Knowledge Quadrants Map as a reflection tool.
<b>Mapping Concepts</b> <i>(Self-assessment is easier when one downloads the cognitive load and can then reflect upon what is represented.)</i>	What does my current concept map look like? How does it compare to those of others? ...of those who are more expert? What are gaps and areas of knowledge that I would like to fill in? Where am I now in my knowledge/understanding in contrast to where I want to be?	>Use mind-mapping or concept-mapping tools and software. (Be explicit about whether the connections are associations, causal, correlational, etc.)
<b>Regulating Myself</b> <i>(Learning emotional and physical self-regulation are critical to becoming a lifelong learner.)</i>	What questions am I most excited about? What questions am I avoiding and why? What are the strongest antecedents to my emotional response? What biases and barriers are my positive and negative emotions creating?	>Consider your emotional temperature and what you can do to make it hotter or cooler as needed. >Work during your best thinking times of the day. >Minimize distractions by when and where you work. >Consider your physical state and what you need to do your best thinking/learning.
<b><u>Engaging Deeply:</u></b>		
<b>Move</b>	<b>Sample Questions</b>	<b>Examples of Ways to Get Started (as a Learner or a Guide)</b>
<b>Honoring the Epistemic Emotions</b>	What intrigues or awes me? What am I interested in? What do I wonder about? What am I curious about learning?	>Notice when you are in a state of wonder and allow yourself to follow it.

<p><i>(The “finding out” emotions are what sustain lifelong learning long after formal education ends.)</i></p>	<p>What do I want to find out?          What do I value and why?          What domains of my ignorance am I most afraid of or embarrassed about? How can I turn not knowing into wanting to find out?          What am I most pleased with myself for knowing and what barriers does that create to exploration? How can I get beyond these barriers?</p>	<p>&gt;Use the “See, Think, Wonder” Thinking Routine as a way of considering what you are intrigued by.          &gt;Underscore the value of the mindset and the power of “yet.”          &gt;Allow for open structures that enable the pursuit of inquiry (PBL, interest-driven research.)</p>
<p><b>Finding Provocations</b>  <i>(Mental puzzles, things that make you go “hmm”, and challenges provoke mastery-orientations to learning.)</i></p>	<p>What phenomena exist that can help me to explore my wonder, curiosity, interest, and awe?          What videos, puzzles, natural phenomena, etc. might I explore?          What other domains might inform my thinking and questioning?          How could reframing my questions lead to new insights?          What metaphors and analogies might illuminate my questions?          What other perspectives should I consider?</p>	<p>&gt;Look for points of generative tension.          &gt;Find places where others are sharing videos, poem, movies, arguments, etc. that offer puzzles or otherwise provoke deep thinking.          &gt;Associate with groups and other thinkers who have the potential to provoke and scaffold your thinking.          &gt;Use tools such as “Argumentation by Analogy” to explore provocative ideas.          &gt;Use tools such as “Moral Musical Chairs” to consider other perspectives.</p>
<p><b>Inviting Flow</b>  <i>(Flow is a state of deep engagement in which we follow our internal thoughts. We often get so caught up in them that we lose track of time and the “outside world.”)</i></p>	<p>How can I turn off my focus on other things to allow full engagement and flow in this learning?          How can I allow myself to follow the internal structures of what I am thinking about so that the thinking becomes the journey?          How can my work space support deep engagement?          How can I schedule my learning time so that flow is possible?          How can I use what I have learned about other flow experiences to make it more likely that I will find flow again?</p>	<p>&gt;Follow the problem space where it takes you; pay attention to the internal aspects of your thought process.          &gt;Don’t try to parallel process.          &gt;Try to schedule blocks of time to work. Use an alarm to help you know when you need to stop so that you can fully immerse yourself in learning and not have to monitor external stimuli.          &gt;Arrange for a workspace that minimizes attentional capture by disruptions, movement, and noises.          &gt;Make sure that others know not to distract you (unless you are aiming for group flow which is very different).          &gt;If taking “mental breaks,” avoid tasks that require deep thinking before resuming your main focus.</p>