

From Engaged to Agentive: Why Is It Time to Raise Learning to the Next Level?

Tina A. Grotzer

Picture a classroom of engaged learners working towards deep understanding. This is what many educators aspire to. We know that engagement and active processing are critical to learning that is meaningful¹ and that persists over time.² Who would want anything more?

The CoVID-19 Pandemic had a lot to teach us, but as educators, one lesson stands out; engagement is not enough. Interviews with teachers across the U.S. conducted by educational researcher and teacher, Sophie Rich, pointed to their realization that they need to teach their students something else.³ They must teach them to be effective learners and to have the agency to initiate and chart learning. In addition to being engaged learners, they must be agentive learners.

When teachers initially envisioned who would do well in remote learning, their visions mirrored who showed success in school. Teachers pictured students who dutifully followed along in Zoom sessions, always showed up at the correct times, were deeply engaged in what was being presented, and turned in completed assignments by the given deadlines. What many teachers came to realize, however, was that students who were able to initiate and sustain interests, figure out learning paths, and assess where they are and where they might be going in their learning, were the ones who were most successful. These are the tendencies and skills of an agentive learner.

Interestingly, research shows that agentive learners don't always play the "school game" well. They may be so interested in rocket design that they send a paper rocket across the classroom or forget to do their spelling. They may mentally drift off during a lecture because they are wondering what would happen if they could turn back time and change a key historical event. Some of them may be able to "do school" well enough and fulfill the expectations there, even if they are disinterested. Others, however, end up being "students at risk."

What Characterizes Agentive Learners?

Who are agentive learners and what characterizes their learning? 1.) Agentive learners *are motivated by finding out and often have a well-developed repertoire of skills for how to figure things out*. This focus on epistemic learning typically competes with their interest in instruction guided by others; 2.) Agentive learners *engage in progressive problem-solving, finding each new, more complex version of problems compelling, and following its implications*. They experience flow and tend to lose track of time; and 3.) Along way, agentive learners *learn a lot about how their minds work and how to best use their minds*. Let's look at each of these characteristics in turn and consider what they mean for learning.

Agentive learners are driven by the epistemic emotions. These are the "finding out" emotions such as curiosity, interest, wonder, and awe. These emotions are central to intellectual curiosity and sustaining drive for learning. They have been shown to sustain lifelong interest in ideas and the pursuit of new knowledge. Further, they are much more about the process of figuring out than the actual knowing that might follow. Megan Cuzzolino studied the role of awe in how scientists, from across various sub-disciplines and at different stages in their careers, thought about their work. She found that they were compelled by the process of doing the work and by realizing that they were figuring out things that no one else may have figured out.⁴

It follows then, that *agentive learners prioritize epistemic learning rather than instructional learning*. They are more motivated by actively figuring something out than by instruction about something that is known or that may be helpful to know someday, but that is not relevant to their current focus. They often have developed a repertoire of skills for figuring out how to find out about things. They may experiment, test things out, consult people whose thinking might contribute to their understanding and the like. This repertoire may include instructional learning, but when it does, it is in service of their broader epistemic goals.

It may be easier to imagine students focused in certain areas of learning, such as science and engineering, for instance, as agentive. However, the characteristics of agentive learning apply across domains. An artist might continually experiment with combinations of colors and perspective to try to achieve a certain goal or might introduce texture into an artwork to see how it changes the way that the light is experienced. A historian might be alert to puzzles about a certain historical perspective and decide to investigate other perspectives to gain a more kaleidoscopic understanding of what may have happened.

What are some ways that epistemic interest might reveal itself in K-12 students? Picture fifth grader Samira, who found an old quilt in her attic and is curious about its past and how it was made. She starts to explore its history to find out about the pattern and how old it might be. Or consider seventh graders, Sophie and Theo, who really want to practice with their rock band in the spare room next to the science lab. After an all-school meeting, people agree that, if they can figure out how to mitigate the sound so it doesn't disturb science class, the band can practice there. Their interest in rehearsing with their band leads to learning investigations that they never anticipated, but that now have them very engaged in learning about sound and acoustics.

Agentive learners tend to engage in progressive problem-solving. This means that even after they have solved a problem at one level, they often seek to solve it at deeper and more complex levels. They bring a sense of constructive discontent to their products and learning outcomes. This in turn drives deeper processing and learning. It also means that *agentive learners tend to experience flow and to lose track of time*. They attend to the internal characteristics of the problem space that they are investigating and the cyclic nature of progressive problem-solving that goes deeper and deeper. This has been referred to in the research literature on Flow as the "autotelic process."⁵ A consequence of this deep concentration is that learners are typically unaware of time passing and of the things going on around them.

For the students in the examples above, their agency leads to deepening investigation as they explore each problem space. Samira finds a museum online that has quilts like it from Revolutionary times in the US. Even though she can't get to the museum, she reaches out to the museum staff who suggest ways to learn about the pattern in her quilt and in other quilts of that time. As Samira immerses herself in the different types of patterns, she discovers how challenging it can be to sew an entire quilt and starts to consider the social culture surrounding quilting parties. Samira's teacher suggests that she might also investigate the math of tessellating patterns and offers some support in the skills that she needs to understand angles and the conservation of area involved in creating tessellating shapes such as those in the quilts.

Sophie and Theo begin investigating how sound travels and quickly discover that they need to learn about acoustics and how different materials affect the transmission of sound. They take an on-line course related to the physics of sound and talk with Theo's neighbor who is a retired acoustical engineer. They begin testing different materials and find out that it is not just their design at the macro-

level that matters, but also at the micro-level. This invites them into a whole new realm of science. The school puts them in contact with a materials scientist to help them to think about different types of material composition.

In the “Organic Curriculum” classrooms of the 1970s and 80s, teachers might have taken on Samira’s interest in quilting or Sophie’s and Theo’s acoustical engineering questions and developed curriculum units around these topics for the whole class. This might also happen in the Project-Based Learning (PBL) classrooms of today in which teachers choose an issue, problem, or question of interest and engage students in investigating it. PBL classrooms can certainly encourage the development of agency as learners take different paths into the curriculum. However, this leaves out the important initial step of recognizing one’s epistemic emotions and learning to follow through on them. Sensitivity to wonder, puzzlement, curiosity, need, and awe is essential to becoming a life-long learner. In Living Curriculum classrooms, these epistemic emotions are recognized and honored; a portion of the day is reserved for following through on students’ interests and encouraging their agency. Teachers guide students in developing the skills that they need to chart learning paths into their interests and students may share their interests with others through examples and by contagion.⁶

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but they are becoming expert learners.*

Agentive learners tend to use their minds as tools. They leverage their minds similarly to how they leverage other resources in service of progressive problem-solving. They might decide that it is important to develop a certain kind of skill or to improve how they hold and use particular pieces of information in order to serve their broader process. Along the way, they are learning about how their minds work. They also learn about how their minds work in relation to the characteristics of certain bodies of information. They may be less than stellar students in the classroom, but *agentive learners become increasingly expert learners in ways that will serve them well in the long run.*

Teachers can support students in learning how to use their minds well in service of their investigations. For instance, Samira might start to gather so much information that she finds herself losing track of it. Her teacher may explain about the concept of cognitive load—that our minds can only hold so much information in working memory at one time, particularly when it is new information and is not yet connected to existing information. She might suggest that Samira use an online white board to download her thoughts by developing a concept map. Or in the case of Sophie and Theo, they may find themselves dealing with levels of scientific detail that extend beyond that which is needed



Agentive Learners...

- put learning and ideas first.
- are driven by the epistemic emotions—curiosity, interest, wonder, and awe.
- focus on epistemic learning rather than instructional learning.
- have developed a repertoire of skills for figuring out how to find out about things.
- experience flow and tend to lose track of time.
- engage in progressive problem-solving.
- learn about their minds and how they work because their minds are an important tool—a means to finding out.

to solve the problem at hand and may be overwhelmed by it. Their teacher might remind them of how scientific explanation can take place at different levels and that how the parts of the problem interact depends upon this level of focus. She might help them to realize that transferring information to their problem of mitigating sound involves understanding at certain levels, but not necessarily at others.

How Does Being an Agentic Learner Set Students Up for Success in the Future?

As the CoVID-19 Pandemic has underscored, uncertainty, turbulence, and disruption, are most certainly features of the world that the current generation of students will live in. While educators have never had a crystal ball to help them predict what skills would be needed in the future, an agentic stance that enables learners to learn what they need so that they can engage in progressive problem-solving is high on the list. A silver lining of the transition to remote learning may well be how it changed our perspective on what effective learning looks like.

This is not to argue against important learning goals that will support their future problem-solving. Understanding social interactions, global dynamics, the science of climate change, for examples, are all societally valuable understandings that future generations will need. But on balance, so little of in-person school is presently structured to support agentic learners, that a significant shift in that direction would bring much needed balance and develop a critically necessary learning stance.

Is It Possible to Develop Agentic Learners?

The short answer to whether it is possible to develop agentic learners is an emphatic yes. The longer answer is that, unfortunately, so much of what we do in schools pulls against such agency. Agentic learners often do not fit the structural aspects of school—many of which run counter to their forms of engagement. For instance, a block schedule constrains opportunities to be driven by the internal characteristics of a problem space that they are interested in. School learning is typically directed by curriculum guides and syllabi—meaning that if your particular passion isn't studied for three years or was studied two years ago or isn't in the sequence at all, you are out of luck.

The students who struggle the most with structures that lock in short attentional time blocks and broad coverage of concepts are those who have deep and sustained interests. Schools that serve these students well invite periods of deep engagement and support the epistemic emotions by inviting learners to travel learning paths of their own design while helping them to navigate these journeys. Interestingly, the cognitive science research supports that having a few areas of deep understanding resulting from such agentic learning and explicitly seeking connections between them, may support better transfer to the real world than broad coverage that never reaches the deeper structural aspects of concepts.

Interestingly, the youngest children often enjoy the most opportunities to be agentic learners. Consider the children of Reggio Emilia, Italy where, as preschool and primary school age students, their epistemic goals guide their inquiry and learning.⁷ My graduate students often ask when it is appropriate to introduce an agentic approach to learning. Should one wait until they have the basics first or at least a good grounding in everything that we want them to know? I respond with a different set of questions. Why would we ever stop engaging their epistemic goals and agency in the world? And then try to undo the result of teaching them to be passive learners? Agentic inquiry results in deep investment and active processing which leads to deeper and more empowered learning—the basics and beyond.

Tina Grotzer is a faculty member at the Harvard Graduate School of Education where she teaches courses on complexity and instructional design. She is a former classroom teacher and program director in public and private schools. She directs the Next Level Lab (NLL), with funding from Accenture Corporate Giving (ACC), and the Causal Learning in the Classroom (CLiC) Lab, with funding from the National Science Foundation (NSF), at the Harvard Graduate School of Education (HGSE). The opinions here are those of the authors and do not necessarily reflect the views of the funder.

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⁶ For more on Living Curriculum, see Grotzer, T.A., Vaughn, D., Wilmot, W. (2019). The seven principles of "Living Curriculum." Independent School Magazine on Reimagining Schools. Spring 2019, National Association of Independent Schools (NAIS).

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