



DACIA TOLL

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EXPONENTIAL HUMAN PURPOSE: A MODEL FOR THE FUTURE OF AI IN EDUCATION

For 27 years, I have been a teacher, principal, school system leader, parent, and now EdTech founder. At my own dinner table and in schools across the country, I am being asked an increasingly urgent question: How do we best prepare young people for an AI-powered future?

Being deep in the weeds of teaching and learning—first without AI and now with AI—has shaped several strong, early beliefs.

WHAT YOUNG PEOPLE NEED, IN PLAIN TERMS

While there is much that is still uncertain about our AI-powered future, we do know young people will not succeed by out-computing computers. They will succeed by combining strong knowledge, distinctly human skills, and the ability to use AI to amplify their own effectiveness and well-being.

First, **knowledge still matters**. The cognitive science is clear: new knowledge can only be retained when the brain has a prior foundation; information that has nothing to anchor to doesn't stick. Students still need foundational knowledge in literacy, mathematics, science, history, and the arts, or they will struggle to connect and extend their learning, evaluate AI-generated content, ask the right questions, and serve as informed citizens. In addition to broad background knowledge, **students should also**



develop deep expertise in at least one genuine interest. Those who combine specialized knowledge with the power of AI will find their niche and use AI to accelerate their learning and opportunities.

Second, **the brain requires productive struggle to learn.** We must focus on the new content, grapple with our confusion, forget and retrieve information to strengthen memory, and practice skills to the point of fluency. One of the greatest risks of AI is the frictionless shortcut it offers. It's incumbent on educators to ensure that learning experiences, even with AI, require the cognitive struggle for deep learning.

Third, **distinctively human skills will matter more than ever.** As machines take on more tasks, human value increasingly lies in judgment, creativity, leadership, collaboration, entrepreneurship, and the ability to act when values and technology collide. Schools must now treat developing these strengths as essential as academic competencies.

Fourth, **young people must learn to leverage both AI and one another to maximize effectiveness and fulfillment.** AI literacy alone is not enough. Students should be using AI to explore ideas, complete tasks, and create new products, designs, and even companies. While some of this work should be independent, much of this learning should be communal, fueled by shared ideas, collective effort, and real-world application. The goal is not only productivity, but also agency, purpose, and connection.

ONE POSSIBLE MODEL, WITH CHOICE BUILT IN

There are many ways to design learning environments that develop knowledge and critical thinking, human connection and skills, and thoughtful AI use. We don't need a single model of schooling, but rather multiple models allowing for student and family choice. What matters is coherence, not uniformity. What follows is one illustration of what a coherent high school model could look like

THE SHARED CORE: BUILDING KNOWLEDGE AND MASTERY

After a morning advisory period with goal setting and reflection, students begin their **Mastery Block**, where they deepen their competence in core subjects: math, literacy, history, science, and the arts. AI curates learning experiences in each student's "learning zone"—challenging but within reach if they put in the productive struggle. Rather than the typical silent, solo learning experience that many AI school designs emphasize, students often work together in small study groups, and teachers circulate, offer targeted feedback, deliver mini-lessons, and provide encouragement. AI makes progress visible to students, teachers, and parents.

Next, all students participate in a **Socratic Seminar** that integrates humanities, science, and ethical reasoning. Students complete reading, AI-supported analysis, and other preparation for homework (yes, reading and homework still matter!). They arrive prepared to debate the ethics of gene editing, analyze leadership choices in a historical case study, or design public policy based on available data. AI supports the analysis of primary sources, but discussion, interpretation, and judgment remain human. Seminar topics are intentionally sequenced to ensure students build broad knowledge over time.



TWO AFTERNOON PATHWAYS: CONNECTING LEARNING TO LIFE

In the afternoon, students spend most of the year in the Project Studio with a three-month “expedition” to practice learning in the real world.

The **Project Studio** requires students to apply knowledge through collaborative, interdisciplinary projects. Topics are intentionally curated to build essential skills and often require the use of a variety of AI tools to produce top-notch products. After the first year, students may propose their own projects with mentor approval. At any given time, more than a dozen projects are underway in the Studio, each supported by a human mentor and an AI coach.

Projects range from designing and undertaking science experiments to launching software products, to researching and producing podcasts, to writing and performing original plays. The projects require creativity, analysis, design, collaboration, and experimentation. Peers collaborate and critique one another’s work. Mentors challenge students to clarify their thinking and defend their choices. AI acts as a design partner, helping simulate outcomes, create prototypes, and accelerate iteration. Projects culminate in public exhibitions with authentic accountability and purpose.

Starting in sophomore year, students spend three months in an **Expedition**, which is either an apprenticeship, internship, or service learning experience aligned to an area of personal interest. The school system develops relationships with local businesses, government entities, hospitals, and nonprofit organizations so that one-third of students can be “in the field” at any given time.

AI coordinates schedules, captures learning and artifacts, supports reflection, and curates a student-specific portfolio. Human mentors onsite and at school provide support, coaching, and accountability. Relevance fuels motivation. Geometry matters when applied to building design. Writing matters when it influences, inspires, or entertains. Engineering comes to life in manufacturing plants, technology firms, and small businesses.

WHY THIS MATTERS

As parents and educators, we are urgently called to prepare students to thrive in and shape their AI-powered future. While imperfect, this school model points toward learning spaces where students master core knowledge, develop advanced human skills, experience real-world relevance, and find meaning in their growth and community.