



## Observations

The Puzzle School philosophy is based on a few core observations:

- You learn and create most effectively when you are interested and care about the material. Your best work can only come from something that you care about.
- You won't learn or create effectively in an environment where you don't feel trusted and respected.
- Many experts and innovators started out slowly. Learning slowly does not prevent long-term success.
- Most people will learn more effectively when information is presented in different formats and from different perspectives.
- Deeper learning requires failure. Testing your understanding, receiving feedback, and developing a better understanding based on the feedback is a crucial part of the learning process.
- Too often the only opportunities students have to explore their personal interests and talents are outside of school hours.

*"If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea."*

*– Antoine de Saint-Exupery*

The following sections provide different perspectives on The Puzzle School based on these observations.

## The Puzzle Metaphor

The name, The Puzzle School, is a particularly important part of the vision. Our hope is that the puzzle metaphor can help align students, teachers, and parents around a nuanced vision of education.

Puzzles are often challenges that:

- Are intriguing and interesting not because of the value of the solution, but because of the creativity and problem solving required, because they are hard, but not too hard. They are about the journey, not the goal.
- Require testing strategies and hypotheses and iterating toward success with frequent "failure" expected.
- Are about creating a cohesive whole out of many disparate pieces.

Each of these ideas applies to education:

- If students only do their best work when they care about the work then we should strive to create interesting and intriguing programs that students will opt into without coercion.
- We need to meet students where they are, providing instruction and challenges that are appropriate to their current skill level. It should neither be too easy or too hard.
- The process of questioning, observing, testing hypotheses, and iterating toward success is reflected in the Scientific Method and Design Thinking as well as most professional work. It is at the heart of learning, discovering, and creating.

- We want to leverage all available resources to help create a personalized experience for every student. This includes technology, online courses, local college courses, internships, mentors, independent projects, etc. The goal is to be as flexible and responsive as possible to student needs and interests.

We hope that this metaphor will encourage students to engage in an iterative design process both with their learning as well as their lives. We hope that they become empowered to seek out any goal that is important to them through the design process and creatively leveraging all available resources.

We hope that parents will come to expect that school will be responsive to their needs and the needs of their child, and will be flexible enough to work with them as those needs and interests evolve.

We hope that teachers will develop and evolve programs with feedback from students, creating fascinating experiences that inspire students as well as advance their skills and knowledge.

These are just a few examples of how, over time, we hope the puzzle metaphor can align everyone around a more interesting, iterative, expansive, flexible, and responsive model of education.

## A Narrative

Imagine walking into The Puzzle School. The space immediately catches your attention as it is filled with interesting projects, books, and challenges. Student work adorns the walls, from engineering projects to video games to student-produced art, movies and poetry. Books are everywhere and there are specific areas dedicated to various activities, such as a makerspace, a debate space, a reading and writing room, etc.

Your guide asks if you have any questions.

“So is this a project-based learning school?” you ask, pointing to the many projects adorning the walls.

“No, not exactly,” she begins, “we definitely do a lot of projects here, but it’s not exclusively project-based. The goal of The Puzzle School is to be responsive to each student, to give them as much ownership over the process as possible, and try different ways to help students make progress. This definitely includes projects, but values other techniques, such as direct instruction, depending on the situation.”

“Oh, so is every student doing different things all the time?” you ask, nervous that it sounds a little too loose.

“Yes and no,” she says. “Everyone here understands the importance of fundamental skills like reading and writing, and social-emotional skills, etc. but teachers are always working to find ways to practice those skills that the students appreciate. A student could work on their own, in a group, online, in a class, with a tutor, etc.. The teachers

*“The minute I dropped out I could stop taking the required classes that didn’t interest me, and begin dropping in on the ones that looked interesting.”*

– Steve Jobs

really try to have a conversation with each student to figure out how best to help them learn.”

“It sounds a little chaotic,” you say, still concerned that someone could get lost in all of the flexible options.

“It’s a tough balance to maintain, but I don’t think you could work with everyone here without some flexibility.” She looks around the school, observing the diversity. Students of all ages and races, with and without disabilities interact with each other in front of her.

“The student body here is really diverse. I don’t think you could maintain the diversity you see if we required all students to do the same things at the same time. Every student has a different set of skills. Even students with learning disabilities are going to be better in some areas and more challenged in others. The teachers have a lot of respect for the students and try to treat them like individuals with different talents and interests rather than one big group. It may not be as orderly as some other schools, but I think the flexibility it provides is a real strength.”

*“As soon as children find something that interests them they lose their instability and learn to concentrate.”*  
– Dr. Maria Montessori

## **The Logistics**

The Puzzle School will be an evolving environment that is always trying to become more effective for students, families, teachers, and communities.

The environment will put the process of experimentation front and center. Students and faculty will be constantly involved in a process of testing ideas and receiving feedback, making small changes to improve the experience, while trying to maintain an environment that is stable enough to avoid confusion.

The Puzzle School will be open 8am - 6pm, year round to meet the holistic needs of parents and students, but will be flexible so that families can spend time with each other on convenient schedules. Students will be able to work more independently, taking breaks and vacations when desired without having to worry about missing fundamental lessons and falling behind.

The Puzzle School will extensively leverage all available resources and will constantly try new ideas rather than looking for any specific, dogmatic approach. In this sense The Puzzle School will evolve as new ideas are tried and replace existing practices, ensuring that The Puzzle School reflects the needs and interests of students, parents, and the community as effectively 50 years from now as it will today.

## **Programming**

The primary goals of Puzzle School programs are to be both interesting/inspiring/important and appropriately challenging for a range of ages and abilities. Programs will often be multidisciplinary, but there will also be programs that specifically focus on fundamental

and popular skills such reading and writing, math and science, social-emotional skills, building a website, etc.

A few examples of possible programs include:

*Plays from Scratch:* A group collaboration to write a play and either act it out or animate it through Scratch (a software engineering tool), recording each character's voice to bring it to life.

*The History of Time:* Explore how time has been kept throughout history and the ramifications on everything from farming to financial markets to smart phones. Create artistic versions of timepieces from different periods, ranging from sun dials to candle clocks to pendulum clocks to simple watches to sell in an online store.

*Elder Advice:* Video record interviews of parents and grandparents asking them about the most important lessons they've learned in their lives. Compare the advice from your family with other families and advice found in other sources such as commencement speeches and reflect on how those lessons apply to your own life.

*Signs of Life:* What does it mean to be alive? Take nature hikes and study different biological environments, read philosophical texts on what it means to be alive, and program robots with basic artificial intelligence that are responsive to feedback.

*Physical Music:* Explore diverse music styles from around the world and how they are created. Perform with musical instruments you've created from recycled materials while learning about the physics of how each instrument works.

*Structural Strength:* Can you build a wall to stop a flood? Can you build a container that can protect an egg from a fall? How do structures in the real world incorporate different structural techniques while maintaining a high quality aesthetic as well?

In addition to developing interesting programs The Puzzle School will strive to create an interesting environment as well, making it possible for students to engage in interesting open-ended activities when not involved in a specific program. The school will be filled with student work to celebrate and inspire other students. Highly recommended fiction and nonfiction books will adorn the walls and will be available to borrow. Arts and crafts areas and makerspaces will be designated and open to students. Book clubs and other student organized activities will be integrated into the school day.

In general the school day will be structured but flexible. Programs will be offered at specific times, but every attempt will be made to accommodate students who have conflicts. Additionally students will be encouraged to engage in independent projects and look outside of the school walls to find classes online and in the local community and potential internships that reflect their personal interests.

*"Do not train a child to learn by force or harshness; but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each."*

– Plato