'Rigor and Whimsy'

THE greatest human invention of the past thousand years is not the steam engine, the light bulb, or the computer. It's kindergarten, says Mitchel Resnick, a professor of learning research at the **Massachusetts Institute of Technology** and director of the Lifelong Kindergarten research group at the MIT Media Lab.

That first year of school, devised by Friedrich Froebel in Germany in 1837, features a learning style that may be key to training people for the future. In Froebel's kindergarten, students played with toys, blocks, or colored paper — and with one another — to create things like miniature buildings and art.

That connection between recreation and re-creation is a more effective, permanent way of learning new things, Mr. Resnick says. Unfortunately, that method has been diminished in schools today, as students focus more on memorizing facts for standardized tests. Even kindergarteners are seeing less playtime and more worksheets and flashcards.

In the future, society and the working world will need more innovative, collaborative thinkers, Mr. Resnick writes in his new book, *Lifelong Kindergarten: Cultivating Creativity Through Projects, Passion, Peers, and Play* (MIT Press). Schools and colleges, he says, should incorporate in some way the playful, projected-oriented approach more traditionally offered to 6-year-olds. —SCOTT CARLSON

Do colleges have problems encouraging learning through play?

At the MIT Media Lab, we want all of life to be more like kindergarten, including colleges and beyond. We try to make our laboratory here more like a big kindergarten, with students and researchers constantly experimenting, exploring, and collaborating on projects.

We think that's what makes this such a creative place, and we hope that more learners of all ages, both in school and outside of school, can adopt the "lifelong kindergarten" approach, where they're constantly imagining new ideas, experimenting with them, and collaborating with others to come up with creative and innovative solutions to new situations that they encounter.

Learning to play is important precisely because we want people to have an extended engagement with activities and ideas. People will be willing to work long and hard on projects only if they care deeply about them.

People can get tripped up by the notion that play isn't rigorous. Would this be an easier sell if we used another word?

Well, I tend to use four words: "projects," "passion," "peers," and "play." And I think all are important to support the types of creative learning experiences that we're hoping for. We want to support people working on projects based on their passions, in collaboration with peers, in a playful spirit. And we think as people do that, they will dive deeply into the activities and make deep connections with the ideas.

Too often, schools introduce ideas by first having students learn the basics and then later use them in meaningful ways. And we really want to emphasize a different approach, where people are learning ideas in the context of projects — while working on the projects, not before. We find that approach is both more motivating, and that people have deeper connections with the ideas when they are integrated into a meaningful project.

I want to avoid this dichotomy between rigor and whimsy. Creative experiences require both. People need to be able to have a playful approach for experimenting, exploring, testing the boundaries, but also a systematic thinking to make progress on what they're working on.

Some companies, notably in Silicon Valley, have a reputation for playful work environments. Do companies get this better than schools do?

Some do, and some don't. Sometimes when people try to bring in play, they're just focusing on laughter and fun. And, of course, there's nothing wrong with laughter and fun. But what's most important, whether in the workplace or in schools, is a playful approach that involves taking risks, trying new things, testing the boundaries, constantly experimenting. For me, that's the type of playful attitude that's needed.

When I talk about the four p's of creative learning — projects, passion, peers, and play — I sometimes call play the most misunderstood, because people do tend to look at just the surface, the laughter and fun, and that is not enough to really support the creative process. The word "play" gets used in so many different ways, and not all play is created equal.

Even among advocates of play in learning, do some have misconceptions about what that means?

A number of years ago, I was at a conference about research on play, and it was full of play advocates. But the title of the conference actually bothered me: "Play = Learning." A certain type of playful approach contributes strongly to learning, but I don't think play equals learning. And sometimes the rhetoric of play is adopted for certain activities that I don't

think are the best for learning environments. If a kid is just going to spend 20 hours a day playing a certain video game, that's not the type of play I'm talking about in order to develop as a creative thinker. We really want to support a particular type of play.
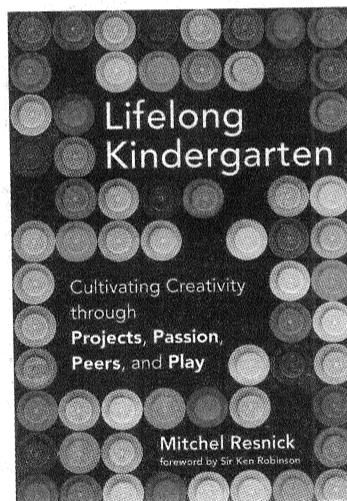
My mentor, Seymour Papert, liked to use the phrase "hard fun." It's not just a matter of having fun. Watching a movie is fun. That's not always the type of learning experience we're talking about here. When he talked about hard fun, it's a type of learning where you get deeply engaged so that you're willing to work really hard to accomplish something. That's the type of play we're talking about.

Too often, people think that kids want things to be easy, and that's not the case. Kids want things to be engaging and meaningful. That's different than easy. They're willing to work really hard as long as they're working on things they really care about. In some of the places where we've worked, kids who have been traditionally unsuccessful at school come to some of these after-school learning centers, and they work hours on end, because they find projects that they're deeply invested in and deeply care about.

Are there ways to engineer students' engagement, to help them find their talents and interests?

Helping students find their interests is an important role in education, but I push back somewhat when you say we could "engineer" a way for them to get engaged. I would probably use the word "nurture" instead of "engineer." The process is less the way an engineer works — coming up with a plan and executing — and more creating an environment where creative learning is

likely to take root and grow.

There's also sometimes a problem in the way people think of this false dichotomy: Either we deliver instruction to kids, or we leave them on their own to follow their own interests. What I'm advocating is not leaving kids on their own to do whatever they're interested in. That's a common misconception people have about the progressive approach to education. I strongly believe that we need to provide structure and supports, but ones that enable kids to follow their own ideas, to have their own agency, to make progress on problems and projects they really care about. For kids to do that, they need support from other kids, from mentors, from facilitators, from teachers, from parents — from many people.

I take a playful approach to my own learning and work, which I'd imagine is common among scientists, designers, chefs, and so on. But what about people who do jobs with few opportunities for creativity? Is the concept of play reserved for the privileged creative class?

Creative expression brings joy and meaning to one's life, so it's not just about performance in a job. I like what John Dewey said, that education is not just about learning to make a living, but learning to make a life. We want to support people to grow up to have meaningful lives, and I think that being a creative thinker supports you in all parts of your life.

But even if you just look at the workplace, there's a growing number of jobs that do require creative thinking, and that percentage is going to keep going up. Because of that, a growing number of educators, parents, administrators, and policy makers will come to recognize that we need to support kids developing as creative thinkers. There is a growing number of people who recognize that the current education system is not well suited for today's society, that the way that we're educating kids doesn't prepare them. Those pressures will continue to grow. That makes me optimistic that change is coming. ∎

This interview has been edited for length and clarity.