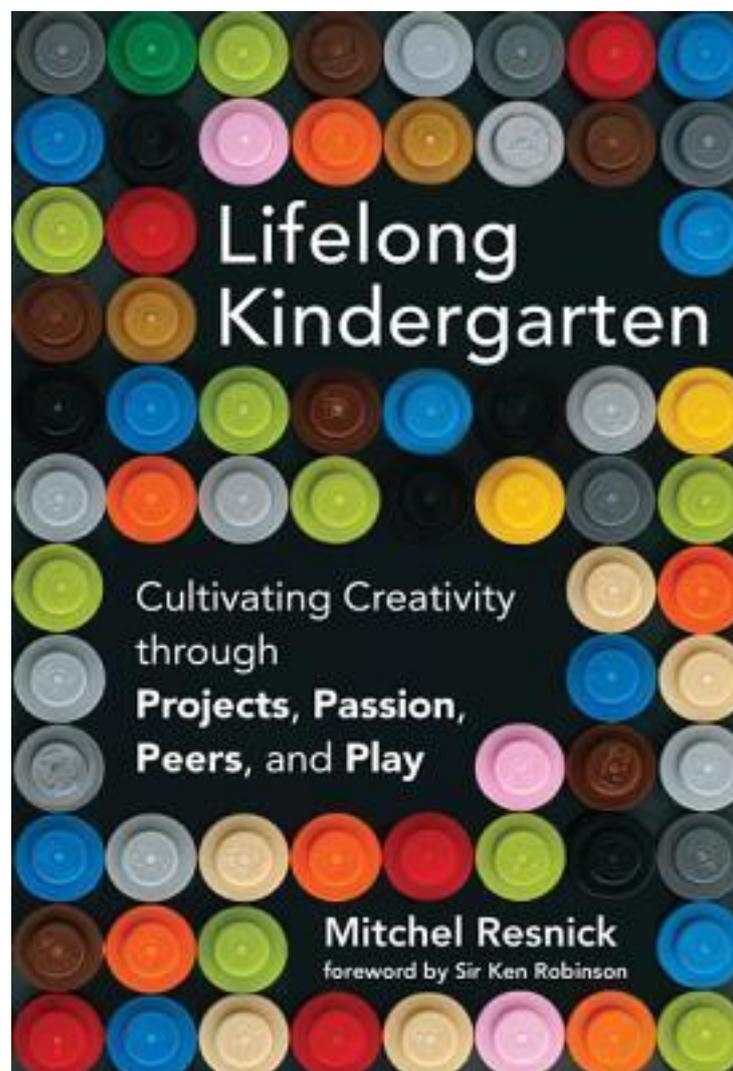


BOOK REVIEW: LIFELONG KINDERGARTEN
CULTIVATING CREATIVITY THROUGH PROJECTS, PASSION, PEERS, AND PLAY
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Received: August 1, 2022
Revised: September 7, 2022
Accepted: September 9, 2022



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What would the educators of the future look like? As an educator, our objective is to ensure our students thrive in tomorrow's uncharted and hazy future. In an era where technologies like artificial intelligence are the norm, and ed-tech companies evangelizing personalized learning strive to automate teachers out of their work with AI, how might we prepare the students of today to be the facilitators of tomorrow?

One of the men charting this inconceivable future for educators is Mitchel Resnick, the director of the Lifelong Kindergarten group at the Massachusetts Institute of Technology (MIT) Media Lab. His answer is crystal clear: creativity must be at the heart of how we educate, evaluate, and empower our pupils. We'll be reviewing his critically-acclaimed publication, "Lifelong Kindergarten: Cultivating Creativity through Projects, Passion, Peers, and Play", to examine how we can utilize creativity for students to build their own learning journey.

There are six chapters in this book: Creative Learning, Projects, Passion, Peers, Play, and Creative Society. These chapters are largely based on his life's work and experiences at the Lifelong Kindergarten research group. Instead of striving to produce Grade-A students with perfect test scores, the objective of creative learning is to imbue the next generation of X-students with the spirit of creativity and innovation, as automation continually transforms the careers of the future and communities of tomorrow will be facing problems where textbook solutions are inadequate.

In the first chapter, Creative Learning, the author analyzes the philosophy behind the creation of the kindergarten, which originates from Froebel's Gifts, a set of constructive toys that develops understanding via re-creation and play, which empowers children to think in a multi-disciplinary way at a young age, entangling design and engineering together. His analysis results in the Creative Learning Spiral, a description of the creative process of learning through play and experimentation, starting from imagination, creation, playing, sharing, and reflection. This closely resembles how innovation is being developed in the industry, such as build-measure-learn in Lean Startup or Design Thinking.

In the next four chapters, the author describes the 4Ps of creative learning: Projects, Passions, Peers, and Play. Throughout this book, the author uses the example of MIT Media Lab's Scratch application on how the Lifelong Kindergarten research group builds a virtual environment for students around the world to create and collaborate; he breaks down how each of the four components play a crucial role in how we can build environments that nurture and empower student's creativity.

Instead of passively consuming the information broadcasted by the teachers and solving quizzes on the textbook, projects change the role of students into maker of things and builders of knowledge. Learning through projects allows students to be multi-disciplinary, utilizes the connection between domains of knowledge, and develops the problem-solving strategies. Students who learn through projects naturally become fluent in computational-thinking strategies (i.e. decomposition, abstraction, debugging), and are able to clearly express their ideas and identities.

The author then shares the story of the students in the Computer Clubhouse in the third chapter, "Passion", and how their passion originates from their interest in their hobbies, technologies or life experiences, which becomes the key intrinsic motivation that drives their projects forward. He then highlights the importance of "wide walls", designing learning environments that support a wide variety of projects to support their creative processes. He criticizes how the current implementation of gamification and personalized learning does not utilize students' passions and only becomes an ineffective extrinsic motivation.

Through passions shared among their peers, collaboration emerges at various scale; from students collaborating on the same projects in extended teams, to entire sub-communities built around students with the same interest contributing their own projects to the bigger theme. The fourth chapter, Peers, indicates how some forms of collaboration in Computer Clubhouse and Scratch can be nurtured by facilitators, while the rest emerge organically through students' passions. The author advocates for the "hacker culture" of remixing, caring and openness; this trend aligns well with the modern open-source software and maker movement, such as how OSS contributions are done asynchronously in GitHub with issues and pull requests.

The fifth chapter, Play, extricates open-ended, imaginative, and experimental play (playgrounds) from strictly-defined and structured play (playpens). Playfulness defines the philosophy of the hacker culture, as the tinkering process is second nature to hackers: messing around with the environment, utilizing accidental findings to your advantage, inferring from your experiences, and hacking your tools to do what it is not designed to do; tinkering is an incremental, iterative, creative, and agile process. The author emphasizes on how well-designed playgrounds should support diverse styles of learn and play, as well as normalizing mistakes and failure as the part of the creative process.

The final chapter discusses the importance of building a Creative Society, as students in the current education system are discriminated based on their styles of learning and stripped of their identities, imagination, and creativity. Mitchel shares his idea on how to practically implement his idea, such as how to balance structure and freedom and when to switch between each of the four roles. My top five favorites tips are: 1) being matchmaker to help students connect with others, 2) encouraging students to engage in multiple types of making, 3) asking students to share strategies and source of inspirations, 4) forming collaboration with students on shared projects, and 5) sharing your own reflections and asking the right questions.

As an educator, we must re-think our roles as catalysts, consultants, connectors, and collaborators. While we cannot and must not enforce what exactly the students will learn or the solutions that they will build, we have an important role to spark their imagination, provide emotional and technical support, bridge the learners together, and collaborate with them; this empowerment plays a great role in how students develop their creative processes.

REFERENCE

Resnick, M. (2017). *Lifelong kindergarten: Cultivating creativity through projects, passion, peers, and play*. MIT Press.