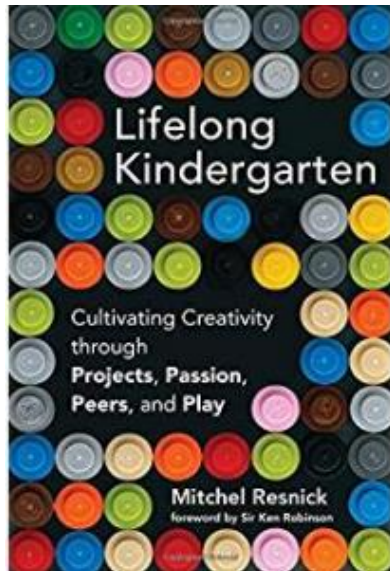


Lifelong Kindergarten: Cultivating Creativity through Projects, Passion, Peers, and Play



Mitchel Resnick

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Reviewed by David Longman
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At first glance, I was disappointed with Mitchel Resnick's new book 'Lifelong Kindergarten'. I had expected to read more about the genesis and development of Scratch along with other interesting background about the brilliant work of the [Lifelong Kindergarten](#) group led by Mitchel Resnick. Yes, a lot of that is in there though incidentally but it did not seem central to the book I was expecting.

I put it aside for a day or two because this seemed like yet another homily about the stultification of 'natural' human learning brought on by organised but inauthentic schooling. Worthy but not new, and at 200 pages with a lot of white space it promised a relatively light read. It's all there in the book's title. The four P's? Cultivating creativity? Kindergarten? But this is Mitchel Resnick! Lego-Logo, StarLogo, Computer Clubhouses, Scratch!

I gave the book my attention once more and, after reading on a dozen more pages, I realised that this is probably one of the more interesting and practical books I have read for a while.

Far from disappointing after all.

Resnick describes a framework for learning that is well grounded in many years experience, has generated some stunning learning resources (all free to use), and has consistently pursued important core values about how we learn.

But if you are looking for useful ideas or examples of programming with Scratch you won't find any in this book and if you are unfamiliar with Scratch itself, or its huge online community, this book will not help directly with that. The best way to know of that is to Play with Scratch, to sign on to the Scratch community (Peers) to see what's occurring and perhaps, as you become a Scratcher you might upload your own beginner project (Project).

However, it is a useful, delightful and practical text because what we have here is a broad curriculum planning framework. Wherever schools and curriculum developers are concerned about how to embed 'digital literacy' into their curriculum time this book could provide a solid framework for action.

Wherever? That would be pretty much all schools across the UK! For example, Wales is now undertaking curriculum reform which begins with building their '[digital competence framework](#)' (DCF). Unlike the English curriculum reforms in computing, the DCF does not grow directly out of a Computer Science mindset (as took place in England) but out of the ambition to build a deep and enriching cross-curricular competence. The possibilities suggested by Resnick's book this seem particularly opportune.

This is no rhetorical call to creative, project-based learning centred on learners' motivations and interests. While the four P's - Project, Passion, Peers and Play - may seem simplistic they lock together. It's hard to take one without losing the virtues of the other elements. They form core components of the Creative Learning Spiral an explicit link to Froebel who Resnick characterises as a progenitor of the Lifelong Kindergarten approach to (computer-based) learning. [Froebel](#) of course is famous for his influence on the way that society and educators thought about children and their education which should be designed for children to learn through playful, exploratory activities.

Having noted that this book does not explore the technical details of Scratch it does assume a passing knowledge of the online Scratch community, as well as some grasp of how Scratch itself can be used (the quickest way to find that out is to look at some of the [work produced by the community](#)).

Some readers might be less than satisfied that Resnick provides only 'soft' qualitative evidence about the effectiveness and outcomes of his kindergarten approach. He makes use of participant interviews, one to close each chapter, and many anecdotes of selected Scratch projects and events to illustrate the 4Ps at work. There is also an understandable tendency towards over-enthusiasm which, though motivational, might make put some readers on the defensive:

“That’s the kind of people that Scratch is growing, and I honestly think scratchers are going to change the world, seriously.” (p29)

Resnick is something of a digital visionary who has put in the time so, as far as this reviewer is concerned, he has earned his rapture!

Placed alongside the realities and the politics of ensuring a well-funded, and properly organised and equally distributed education system with a curriculum for all, and given the policy climate in the UK, the Scratch kindergarten would have to work hard for its place in our curricula at primary and lower secondary phases of schooling. In favour of adoption Resnick points out that even nations with a high PISA ranking [are concerned that their results also reveal deficiencies](#) in the range and quality of their provision. At the same time, UK policy shows few signs of reducing its reliance on selectivity and other reforms which are aimed at [boosting the UK position in PISA rankings](#).

To achieve this, argues Resnick (and here he touches the *zeitgeist* in contemporary debates about schooling) we should at least diminish managerial approaches to teaching and learning and reduce our reliance on high stakes assessment and accountability. There is a fair bit of sweeping generalisation in this critique but Resnick is right to warn us to think carefully about the options. For example, there is the risk that other forms of computer-based education may come to dominate the process of curriculum change, particularly those that aim to make current practices more ‘efficient’ through various forms of algorithmic personalisation.

It would be good enough if the Scratch software is all we have. However, what emerges clearly from reading this book is that for Resnick the community of practice behind Scratch is a significant catalyst for learning. Of all the P’s in this book, peer learning within the online community may be one of the most important parts of this model of computational learning. As Resnick recognises, it is the social affordance of technology that has changed profoundly since the pre-Internet days of Papert’s Logo, his own early work with Lego and the Computer Clubhouse.

If teachers and students do not participate in the online community will they miss important opportunities for making learning more interesting, creative and fun? For Resnick the answer has to be ‘yes’ and while there is nothing to say against the use of small-scale local, perhaps school-based online communities, why would you do that? The Scratch community is free to join and has a large number of active members (for some usage statistics [see here](#)). There are few, if any, infrastructure issues for schools and teachers to be concerned about (apart from good Internet access from within the school). The Scratch community is a ‘managed service’ with its own dedicated staff ([see here](#)) who provide technical management as well as community standards which are monitored and enforced, gently but strictly. Offensive posts are not allowed and are removed (with an explanation) and limits are placed on ‘gamification’ of the community, i.e. users can’t compete for whose project

gets the most hits, while remixing of any project is allowed, even encouraged, and there is no opt-out from these practices.

Thus, at the school level only a small additional investment of time and resource is needed to participate in Scratch and since the introduction of [teacher accounts](#) teachers, departments and schools can manage and monitor in-school signups. That is not to say that setting up and running some sort of 'kindergarten' community of practice within a wider curriculum would be cost-free and without effort. But it is worth trying.

The real value of this book lies in the framework it offers (the 4 Ps) along with some key ingredients such as Scratch, the online community, hundreds of stimulus resources, and useful guidance on the role of the teacher-mentor (e.g see Chapter 4). Quite how the framework could be deployed is an open experiment and one that our schools could take on, particularly in Wales. After all, that is the nature of frameworks - some actions are required, others are optional or flexible, and you don't always have to start at the beginning of the list. Resnick calls this approach 'wide walls', a simple but important addition to Papert's design maxim: "low threshold - high ceiling". Projects can have many starting points as they do both in playing with Scratch itself or in creating supportive learning environments.

One key proviso: on its face the model seems simple. However, putting the model into practice with particular students in particular times and places takes time, effort and perseverance and, in true Maker style, a willingness to iterate the curriculum design. Curriculum change is not a 'five minute job'. If something like the Lifelong Kindergarten approach can be made to scale across a region (if not an entire nation) then progress will have been made. But, Resnick reminds us quoting Dewey, such an approach is "simple but not easy".

Buy this book, study it and put something like it into practice. This is a framework, not an algorithm so there are many variations a professional community could come up with, adjusting and adapting the mix as experience is built up over time. It's a Creative Spiral after all.

Follow-up

- Lifelong Kindergarten Website: [Engaging people in creative learning experiences](#)
- Mitchel Resnick. 1997. [Turtles, Termites, and Traffic Jams: Explorations in Massively Parallel Microworlds](#). MIT Press.
"How does a bird flock keep its movements so graceful and synchronized? Most people assume that the bird in front leads and the others follow. In fact, bird flocks don't have leaders: they are organized without an organizer, coordinated without a

coordinator. And a surprising number of other systems, from termite colonies to traffic jams to economic systems, work the same decentralized way. *Turtles, Termites, and Traffic Jams* describes innovative new computational tools that can help people (even young children) explore the workings of such systems--and help them move beyond the centralized mindset.”

- [Mitchel Resnick's publications list](#) at the Lifelong Kindergarten (not all are directly available).
- Mitchel Resnick. 2013. *Cultures of Creativity*. <https://dam-prod.media.mit.edu/x/files/~mres/papers/CulturesCreativityEssay.pdf>
The substance of this earlier essay forms part of the new book.
- *StarLogo*: http://education.mit.edu/portfolio_page/starlogo-tng/
“StarLogo TNG is a client-based modeling and simulation software. It facilitates the creation and understanding of simulations of complex systems. Its 3-D graphics, sound, blocks-based interface and keyboard input make StarLogo a great tool for programming educational video games.”
- *NetLogo*: <https://ccl.northwestern.edu/netlogo/>
“NetLogo is a programmable modeling environment for simulating natural and social phenomena. It was authored by Uri Wilensky in 1999 and has been in continuous development ever since at the Center for Connected Learning and Computer-Based Modeling.”

Anecdote: the author of NetLogo, Uri Wilensky, was with Papert when, in 2006, he was hit hard by a moped while they were crossing a busy junction in Hanoi, supposedly while discussing the paradox of order and chaos exhibited by the Hanoi traffic! This has poetic truth and an urban-legend quality. It's also a touching tribute to Papert the scientist at work, even as the work itself crashed into him! [Read it here.](#)

A more prosaic account is here. It highlights the issue of traffic volume and chaos that blights Hanoi (and many other cities around the world):

http://archive.boston.com/news/globe/ideas/articles/2006/12/17/caught_in_the_swarm/