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Unlearning Is Critical for Deep Learning

By Jal Mehta on January 6, 2015 12:39 PM | [No comments](#)

One of the things that we don't talk about enough is the way in which existing commitments can get in the way of new ones. Nowhere is that more the case than with "deeper learning."

Learning is fundamentally an act of vulnerability. It is an acknowledgement that what one knows is not sufficient, and that new information and new thinking about that information is needed.

In a university context, this is almost a given. If a student finishes a course and says "I thought I knew about this when I started, but now I realize how much I don't know," a wise teacher would consider that success. Significant learning requires challenging what one thought one previously knew, which is likely to be unnerving and even destabilizing in the short run. Eventually, one's thinking re-crystallizes, developing a new equilibrium that is hopefully richer than the one left behind. And that becomes the new normal, until the next destabilizing event; [I have previously described this as the spiral theory of deep learning.](#)

This process is significantly more challenging for practicing teachers (or, really, adult professionals of any kind), because their identity is fundamentally centered in part on their expertise in the relevant domain. For example, moving from a more algorithmic to a more conceptual approach to teaching math requires teachers to acknowledge that certain practices that they had seen as staples of their practice are not actually as effective as they thought. And it might mean that teachers need to frankly acknowledge that they themselves need to learn more math, which could both require significant work and risks public embarrassment. And, even worse, [it is quite possible and even likely](#) that their teaching will get [worse before it gets better](#)--talk about perverse incentives!

We can see a similar pattern at the organizational level. Say you are a no excuses charter network. For the past decade you have achieved considerable success by developing a tight regimen of controlled pedagogy that relentlessly micromanages students, which has led to high scores on state exams and large numbers of graduates enrolling in college. Now you notice that your students are struggling with the more open-ended social and academic demands of college. What do you do? The first solution of many charter networks was to try to extend the kinds of supports they provide in high school into college. This is a cost-intensive and potentially developmentally inappropriate solution, but it was initially attractive because it allowed the core tenets of the pedagogical approach to remain intact. To their credit, some of these charter networks today are trying to gradually devolve responsibility for learning onto their students as they get older, but it has been a significant challenge because it requires *undoing* much of what has previously made them successful. Ironically, the more success that schools have had with their existing approaches, the harder it can be to unlearn, because it requires not only personal growth and change on the part of those in the organization, it is also riskier in terms of jeopardizing funding and external acclaim. (There is a parallel here to Clay Christensen's idea that leading companies are unable to innovate for the next challenge because all of their structures and processes are organized for the last one.)

So what can leaders do to facilitate the unlearning that is needed for deep learning? One helpful framework comes from William Bridges' work on ["managing transitions."](#) Bridges argues that transitions are marked by three distinct phases:

- 1) Letting go: Recognizing what is lost, honoring the value of that work, creating space for sadness and loss, and explicitly naming what is ending and what is not;
- 2) Neutral zone: Creating a space between the past and the future. In this phase the leader acknowledges the discomfort that comes with the uncertainty of this period, and defines the time as one of uncertainty rather than risk. This is the period where the crucial identity transformation begins to occur.
- 3) Beginnings: In this phase, leaders create opportunities for new and people in the organization start to assume their new identities and begin to try to do work in a new way.

Naming these phases can make explicit what is usually implicit, and help people recognize that the discomfort that comes with significant change is a normal part of the process. The design firm IDEO has found this pattern to be so familiar in doing design work (the abyss of uncertainty before the reemergence of clarity) that they share with their clients the following graph to show them the expected psychological trajectory of their process.





One of my doctoral students, [Elizabeth Leisy Stosich](#), is writing her dissertation on Common Core implementation. She studied three high-poverty elementary schools, and finds that the one that is having the most success explicitly framed the challenge as one that would require new learning, which they recognized would be hard, but they would take on together. At the others, she finds that in the absence of this framing, teachers have tried to graft Common Core into their existing pedagogical schemas and templates of teaching practice, which was initially easier for the staff and the leader, but did not result in significant changes to their practice.

Another school leader I know has taken on this problem by focusing the learning in a domain where no one can be expected to have expertise. She finds that trying to suggest to elementary school teachers new ways of teaching reading and writing is a dead end because it runs directly into what they see as their areas of expertise, so she starts with engineering. No one knows much about engineering, and so the teachers work together, as learners, to try to figure out how to make robots move or other hands-on challenges. Through engineering, she introduces the notions of collaborative inquiry, the power of experimentation, and the normalization of failure. Then she asks teachers to plan engineering units for their students. These units often take on some of the same qualities as their own learning experiences in engineering. And then, she hopes, once the teachers have seen the power of this method in a domain at which they have little at stake, they will be more willing to try to rethink their practices in areas of their core expertise.

At the end of the day, the factors that facilitate unlearning are the same qualities that mark good organizations and good teaching environments: psychological safety, the normalization of failure, the recognition that rethinking core assumptions is critical for significant improvement, and the development of challenging, rigorous, but supportive communities that help people do this kind of learning. If school leaders organize their schools with the explicit intent of creating these kinds of environments for students, it will be much easier to do the same kind of learning with the adults (and vice versa). And if districts and states can fight their usual instincts to apply pressure and seek immediate results, and instead create the space for schools to do the kind of experimentation, unlearning, and re-learning that significant change entails, they will be more likely to see the kinds of qualitative change in teaching and learning that they seek.

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