



The Future of Education

The 2013 NMC Horizon Project Summit Communiqué

Over January 22-24, 2013, one hundred distinguished thought leaders from around the world journeyed to Austin, Texas to engage in a substantive dialog on the future of education. They represented higher education, K-12, museums, libraries, funding agencies, and industry, in their diversity comprising a gathering unlike any other, and bringing a range of viewpoints that encouraged the exploration of, as the organizers hoped, “learning, writ large.”

Dr. Larry Johnson, CEO of the NMC, and Dr. Lev Gonick, VP and CIO at Case Western Reserve University as well as Board Chair Emeritus of the NMC, worked together as Summit co-chairs to plan this very special event, designed to tap into energy and expertise from all over the world. Those in attendance collectively represented every sector of formal and informal education. David Sibbet, CEO of the Grove and widely acknowledged as the world’s leading visual facilitator, led the group with imaginative manifestations of the ideas as they flowed in real time. Jeff Conklin’s notion of “wicked problems” was used to describe what the group was hoping to articulate: issues that are extremely difficult and even seemingly impossible to solve because of the complex or ever-changing environments in which they arise.

As the NMC explored the nearly two dozen potential candidates for “wicked problem” status identified by the summit participants, Conklin’s framework helped reveal overlaps, patterns, and interdependencies between many of the challenges, and ultimately helped determine what surfaced as this set of five essential challenges for education:

- **Rethink what it means to teach, and reinvent everything about teaching.** All of our notions about teaching were developed for eras in which the oral tradition was the main way that knowledge was transmitted from one generation to the next. Libraries existed, but only the very lucky few had access to the kinds of resources that virtually all of us take for granted today. When most any practical question can be answered in microseconds via the network, and in most cases, with a variety of perspectives and viewpoints also included — what is the role of the venerated teacher? What are the defining attributes of the teachers we need to help the next generations build on (or fix) the work we did? What can and should be the key competencies of a teacher? We know we need education overall to be more experiential and more hands-on. We need to be emphasizing good choices, and ethical decisions. Learning must be global, and more based in the realities of the world as it is. It should be more authentic. What we do not know is how to prepare people to be successful with these very different kinds of skills, and that makes this a wicked problem.
- **Reimagine online learning.** The demand for online learning is challenging us to rethink what learning via the network can and should deliver — whether the provider represents one of the world’s leading universities, a for-profit provider of skills or business training, or a school system trying to meet the needs of increasingly disengaged learners. Simply delivering content is no longer enough. Students expect learning that matters; learning connected in timely ways to the real world; learning that engages their interests; and learning experiences that see them as entire persons, not just consumers of content. Online learning owes its heritage to distance learning, but in today’s world, online learning is something even residential students want and expect. How to make online learning realize its full potential is a wicked problem because we are not even sure of the questions we need to ask so we can begin to understand what to refine, and what to improve. More experimentation, more data about every dimension of online learning, and new fresh ideas are needed to even begin to define the directions in which development should be taking place.
- **Allow failure to be as powerful a learning mode as success.** Learning is all about risk, but learning institutions are anything but risk tolerant. There are good reasons for that, except when it comes to

learning. We deceive students when we do not make it clear that not all knowledge is absolute. Truth is the result of generations of exploration, of refinement, of pushing the boundaries of our experience. Truth builds on failure as much as success, but failure is anathema to today's learning institutions. We must instill in students the drive to learn, and to help them see the vital role of failure in discovery. We need to expect our halls of learning to question their own processes and strategies, and their own success. We measure things, but spend little time on understanding what we should be measuring. We know great innovation always comes from the refinement of an initial idea, but we teach in and administer schools as if there are absolute certainties that we must never question. How can we ensure that the next series of great discoveries will be made? That is a challenge whose dimensions and starting places are elusive enough to be considered a truly wicked problem.

- **Make innovation part of the learning ethic.** Innovation springs from the freedom to connect ideas in new ways. Our schools and universities generally allow us to connect ideas only in prescribed ways — sometimes these lead to new insights, but more likely they lead to rote learning. Why is it that when one asks a first grade class which of them can draw, all of them eagerly raise their hands, but ask the same question of a high school class, and only one or two admit to having artistic skills? What convinced those who decided they could not draw? Why do we not encourage everyone to draw, even if they do so in their own ways? Great artists break the rules — and new ground — all the time. That is how they become great artists. We need schools and universities to be places where innovation happens routinely. Instead we share stories of how the great innovators left school to allow themselves the freedom to pursue their dreams. Turning this around is not equivalent to pruning the branches of the education tree — it is akin to grafting a new root system to it, and we have yet to develop the techniques for wholesale reinvention at that level. We must innovate to even begin to understand where to start, and that recursiveness makes this challenge wicked indeed.
- **Preserve the digital expressions of our culture and knowledge.** As the world and society shift from capturing and disseminating new knowledge, art, and understanding on fabric and paper, as we have for millennia, to digital formats that are still very much evolving, we are at risk of losing generations of scholarly, cultural, and creative contributions. Already, most of the early digital art and digital publications are lost because the formats they were encoded in are no longer in use. It is a paradox that as we have become far more efficient and productive, due to the digital tools at our disposal, the very product of our work has become something far more ephemeral than we ever imagined. The reality is that most digital materials produced over the last 30 years — and likely decades more into the future — are very likely to be lost. We truly have no idea where to begin to address this wicked challenge, but if we don't, much of the work of humankind is likely to suffer the fate of the irreplaceable papyri that were lost at the Library of Alexandria.

At the first NMC Horizon Project Summit in 2012, thought leaders and education experts specifically focused on the drivers of change in education technology — and reached consensus on [ten megatrends](#) that will underlie our decision making for years to come — essentially a list of constants amongst the change. This year, the emphasis arced toward understanding equally well the essential challenges we face, and to begin to articulate them.

Taken together, the five challenges outlined above represent a foundational shift in how we think about teaching, learning, and the work of knowledge creation. They overlap in part, but are presented here as discrete concepts in an effort to begin to define them — itself a wicked challenge, and like all wicked challenges, there is no one right answer. As the NMC continues to work with its growing global community of expert advisors — now more than 750 — from understanding the essential trends influencing our decisions to articulating challenges worthy of global attention, to taking action in concert with others around the globe, this list will guide our efforts, even as it continues to evolve.

