

Big Ideas Global Summit 2010

We would like to thank the presenters from around the world who lead the conversations and provoked our thinking at the inaugural Big Ideas Global Summit, held in Northport, Maine, June 2010. This paper is a result of those conversations, however the views and opinions expressed in this paper may not reflect the individual views of those in attendance.

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We'd also like to thank our special guest of honor, Professor Seymour Papert.

While much has been written about the use of computers in schools over the past three decades, there has, at best, been only minimal incremental impact on the way our young people learn. What has been lacking most is quality conversation; serious dialogue that raises the questions that must be asked, exploring ideas that subvert and challenge the status quo. Many have tried, and some small steps have been taken, but in June 2010, a small group of just under one hundred people gathered at Point Lookout in the state of Maine, USA, to try and address some of these bigger issues in what was called the Big Ideas Global Summit.

The task was ambitious, the process at times challenging, but the outcomes were a significant first step toward a more enlightened dialogue that, in the end, in the words of Alan Kay, provokes more fluency in the powerful ideas that may change our thinking around learning. We hope it will become a starting point so that we all can ‘move on’ and unleash deeper and more rigorous exploration of what, indeed, may now be possible. This paper is not intended to be simply a commentary on the events at the BIG Summit, but rather an embodiment of some of the key ideas, and powerful thinking that was shared there.

Through these conversations, five **Key Elements for Initiating Change** emerged:

- 1) The Need to Identify and Embrace a New Perspective**
- 2) The Importance of Re-framing the Conversation**
- 3) The Value in Identifying and Building on Passions and Talent**
- 4) The Opportunity to Shift the Locus of Assessment Control**
- 5) The Priority Required to Refocus Educator Preparation**



My own philosophy is revolutionary rather than reformist in its concept of change. But the revolution I envision is of ideas, not of technology. It consists of new understandings of specific subject domains and in new understandings of the process of learning itself. It consists of a new and much more ambitious setting of the sights of educational aspiration.¹

Seymour Papert, Mathematician, Scientist, Educator



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The Right to Learn

Identifying Precedents for Sustainable Change

The Current Context

The ability of the institution of school to provide an education that befits students in a contemporary society is being challenged globally, in both the developing and developed world.

“We haven’t fundamentally restructured the way our schools function. We need to stop, take a step back, and ask ourselves some hard questions about the tenets that define our work today. We need to rethink some basic assumptions about the use of time, the structure of the school day, and how we organize our students in their learning environment. We need to move from measuring seat time to measuring competency

Together, we have an unprecedented chance to reform our schools and drive innovation; a fantastic nexus of crisis, urgency, and opportunity. We must dramatically improve teaching and learning, personalize instruction, and ensure that the educational environments we offer to all students keep pace with the 21st century.

We can get there with technology.”²

United States Secretary of Education Arne Duncan

The situation in much of the developing world is even more dire. Few initiatives have had as much potential for impact on modern society as the United Nations’ Millennium Development Goals³ and within that initiative, probably the most ambitious and impactful goals related to education. The Millennium Development Goals included, among seven others, the right to receive a Universal Primary Education.

Previously, there have been similar targets that were created and recognized by some jurisdictions; for more than 50 years since 1952, Article 2 of the first Protocol to the European Convention on Human Rights obliges all signatory parties to guarantee the right to education (although interestingly, never realized). At world level, the United Nations’ International Covenant on Economic, Social and Cultural Rights of 1966 guarantees this right under its Article 13. Previous initiatives were also developed as part of the World Conference on Education for All in 1990, and the World Education Forum in Dakar in 2000 under which the Education for All program, driven by UNESCO, had most countries committing to achieving universal enrollment in primary education by 2015⁴. The impossibility of the task is extremely problematic given that even with four years to go, it seems that it will not be realized despite the introduction of the Fast Track Initiative in 2002⁵. Despite its best intentions, this initiative has been incapable of mustering sufficient ‘donor funds’ to meet even the half way goal in 2010⁶.

Yet no one has challenged the very idea that this right was defined as something that would be provided, rather than something inherent to all people, something of which each and every child has ownership.



The Right to Learn

Maybe our focus is not right. Is it possible that the definition provided under the Millennium Goals leads us to think of solutions that are more about delivery, provision and, inevitably, institutions, rather than empowerment and opportunity? Maybe we are too used to aligning teaching and learning with schools and traditional educational structures and processes, rather than re-imagining how contemporary technologies might provide more powerful learning paradigms that challenge traditional thinking. Maybe it's time we re-define a child's 'right to education' in terms of a child's fundamental Right to Learn. It is not what we might seek to give them or deliver. It is not something bestowed. Rather, it is something that they, by their very being, set in motion at their time of birth.

Sugata Mitra's 'hole in the wall' project⁷ has captured the interest of educators from around the globe. In one of the most popular conversations at the Big Ideas Global Summit 2010, Mitra described how children, living in the slums of New Delhi and rural areas in India, faced for the first time with a computer, a mouse and no instruction or educational context, teach themselves and organize themselves to learn in ways that most people believe are only possible in a formal educational setting. His remarks resonated with so many participants because his work so strongly demonstrates how, when given the opportunity to freely exercise their right to learn, children are driven to do just that.

When we think in this way, a far more reasonable and achievable focus becomes each child's Right to Learn, and, within that context, a child's right to have the *freedom to learn*; to have no impediment to learning within the modern world in which he or she lives. Surely this then is a profound and immutable right; one which carries with it, by implication, *universal access* for every child to contemporary learning media, resources and knowledge.

*"Universal access with computers is a human right,"*⁸

Miguel Brechner Frey, President, Laboratorio Tecnológico del Uruguay

The intent of this focus does not however, lead us back to the chaotic days of Summerhill⁹, and the terrible '70's when the extreme of children doing what they wanted, when they wanted, seemed to deflate many progressive educators' dreams. That was the outcome of lazy thinking, a complete lack of rigor, and, if anything, it took away a child's right to learn in ways that provided him or her with the best life choices.

Such learning requires counsel; it requires nurturing; it requires the wisdom and guidance of great teachers, who, from the time of Socrates and his learned Greek colleagues, have refined our notions of pedagogy until, in the forum of contemporary technologies, we are now challenged to anchor our thinking back with the learner. We must flip our perspective and ask how the art and science of contemporary teaching and learning might now make it possible for us to be able to reach, not just those few who made it to the Agora; not just the privileged who were allowed to attend the institutions of school over past centuries, but rather all young people.

To do this we need to shift our thinking from a goal that focuses on the delivery of something—a primary education—to a goal that is about empowering our young people to leverage their innate and natural curiosity to learn whatever and whenever they need to. The goal is about eliminating obstacles to the exercise of this right—whether the obstacle is the structure and scheduling of the school day, the narrow divisions of subject, the arbitrary separation of learners by age, or others—rather than supplying or rearranging resources. The shift is extremely powerful.

As challenging as this goal sounds, the reality is that this may *now be possible*, and that it is in fact *only* possible in our modern world through the advent of new technologies. Yet this is an idea that has only recently gained credibility, despite having roots shortly after the middle of the last century with the thinking of Seymour Papert and Alan Kay.¹⁰ It has taken an alignment of powerful ideas, technologies and visionary leadership to show us how possible the realization of this contemporary goal for education is.

Limits of Traditional Education

It has taken a long time for us to put education, learning and schooling into a balanced perspective. We are even today still largely celebrating the best that traditional education systems can deliver as countries across the globe strive to push that traditional education model to the limits of its capacity. The reality is that those limits seem, for the most part, to have largely been reached.

As we moved into the new millennium and international benchmarks such as PISA¹¹ grew in status and influence, countries such as Finland, Singapore, Australia, Canada and Korea were well-placed to reap the benefit of their focus on delivering a high quality traditional education, with all that that implies, and countries that had failed to match that commitment to quality such as the United States, France, and Spain showed up accordingly. That is, of course, omitting the extraordinary amount of commitment and money parents in countries such as Singapore^{12 13} and Korea^{14 15} were spending on private tutoring, variables for which PISA fails to account.

So the question really is, how many countries are reaching the limits of the capacity of that traditional system to address the needs of young people growing up in a modern society? At the end of the first decade of the new millennium, the cracks are starting to show.

As we start to analyze the inequity, the outcomes are staggering. A recent study completed by McKinsey¹⁶ shows that for the US, results show that if the gap between low-income students and all other students had been narrowed, GDP in 2008 would have been \$400 billion to \$670 billion higher as a result of this reduction in inequity. This represents an extraordinary 3 to 5 percent of GDP.

So again, we must ask ourselves, have we possibly reached the limits of our traditional education system's capacity to deal with the diversity of learners that come to our schools today?

For capacity is about breadth and most significantly depth, and despite all that is celebrated with the triennial release of PISA and associated global benchmarks such as TIMSS and PIRLS¹⁷, we are facing the realization that the traditional education system of schooling is clearly not capable of extending its reach and scope, to address every child's Right to Learn.

As we begin to realize the limits of the capacity of our traditional education system, we are slowly seeing real alternatives emerge. Both Leadbetter¹⁸ and Christensen¹⁹ in recent years have explored new ideas about the shifts in our traditional learning paradigm. The impact of initiatives such as One Laptop Per Child²⁰ are suggesting that as early as the end of the second decade of this millennium this momentum will have caused a dramatic shift in where, when, and how learning takes place, and, most importantly, it will provide a platform for every child to exercise the Right to Learn.



Breaking the Bonds of Legacy Thinking

So what has drawn us to this point? What has been the change process, and what role has that process played in creating this time of great debate and challenge?

In the first instance, for more than two decades, computers were simply part of school resources. But twenty years on from the original visions of Papert and Kay,²¹ the 90's saw the incubation and execution of the idea that students could have their own fully functional personal portable computer. While initially treated almost whimsically, the idea gained followers across several countries, and as the internet and, then, social media made a previously unimagined range of experiences possible for young people, attention shifted to what the implications of universal access to personal computing might mean for learners.

In many ways, it is probably only natural that it has taken until now, when we start to realize the limits of the capacity of our traditional education systems, to see the possibility and viability of alternatives. We are at a crossroads. We can see an emerging crisis in our schools, while, on the other hand, we see a renaissance for learning. The question then simply becomes: would a completely different perspective that builds on the latter, be a more productive focus for us than the continued, largely unproductive, public debate around the former?

In the past, the notion of alternatives was limited to a narrow series of schooling models that were still very much constrained by macro resourcing issues such as high quality teaching and the investment in physical infrastructure, while scalability and sustainability were largely afterthoughts.

As we look globally, alternatives have been emerging. In Sweden's Kunskapskoolan,²² each student sets his or her learning goals and, with assistance from a teacher who acts as a personal tutor, determines a personalized learning path. Currently in Sweden, there are only 9000 students enrolled in Kunskapskoolan schools, but there is significant interest from many countries, including the United Kingdom and the United States, in this model.

For more than 50 years, the Fontán family in Colombia has invested its time and energy in exploring alternatives to the traditional models of school, accruing decades of discussion and learning. In their schools, students are guided in setting and achieving personal learning goals and are able to do so in a timeframe determined by their needs and learning process. It is the antithesis of 'one size fits all' education. The Fontán schools believe that it is possible for every child to learn, for every child to fully realize his or her potential, and they believe that is every child's right.

"What we do in the Colegio Fontán²³ is to provide students with the tools to construct meaning in their lives and then how to develop this as a model of life that they set." Julio Fontán, Director, Colegio Fontán

Unfortunately, such thinking is rare and exceptional. Our incremental thinking sees the emergence of possibilities that suggest new schooling models, but while they are gaining traction in growing numbers, we seem to still be waiting for the 'Big Leap Forward'. Perhaps models such as Fontán illustrate scalable possibilities, but we are only just scratching the surface of what might indeed be possible. Our thinking about what personalized learning might look like is still exceptionally naïve. One only has to look at the popularity of the 'learning algorithm' that delivers 'personalized' learning in the much-lauded School of One in New York City, to appreciate the 'smoke and mirrors' view of how technology might personalize learning, compared to other more informed perspectives. From Dan Buckley's *Personalisation by Pieces*²⁴ and the New Line Academy²⁵ models of risk and intervention around personal profiles (both from the UK) to Alaska's Reinventing Schools Coalition (RISC)²⁶ with its competency-based pedagogy, new models *are* emerging, models that are showing glimmers of just what technology might offer teaching and learning.

At the same time, the evolution in computing technologies has led to repeated misplaced positioning of their role in education. We have suffered three decades of misdirected conversations around our use of technology in education, and it has inhibited our perspective around what it might make possible.

A combination of inadequate language and a lack of perspective hampered us as we sought to understand where technology fits into the traditional model of school. Whether it was computing as a science, computers locked in a ‘lab’, or computers used in ways that allowed both teachers and students to do what they were currently doing, but on a computer, our naiveté through the 80’s and 90’s was predictable, though disappointing.

But what everyone has avoided has been the simple fact that most of what we have done to date with computers in education has been at the behest of a compromise of access. It has been the ‘elephant in the room—don’t raise that, because we can’t do anything about it’ approach. So consequently much of the research in this field has been completed against a background of unreasonable and almost absurd compromise.

So we might well ask, why has so much time, energy and funding been expended on the ‘impact of technology on student achievement’ when the vast majority of it has been based around minimal access to the technology, and, at best, trivial leverage of the opportunities the technology can provide for both teaching and learning?

The state of Maine provides an example of educators and state leaders who saw the limits of the state’s education system and took bold steps to shift from a traditional to a transformed system. In order to prepare its young people for the knowledge economy, Maine knew it had to dramatically change the way in which teachers teach and students learn. Determining that technology would be a key in bringing about this shift, Maine began by ensuring that every middle school student has a laptop. In 2009, the program was extended to the state high schools. Maine’s efforts are helping to lead the way to a better understanding of this paradigm change.

In speaking with other governors, Governor King realized that all states were undertaking very similar investments in areas like education and economic development and if Maine wanted to jump ahead of these other states it would require a sharp departure from what Maine had done in the past. Immediately, everyone recognized that education represented the most crucial area for this major change and Gov. King recalled a conversation he had had with Seymour Papert a year or two previous where the idea of how to transform education was discussed. During their conversation, Papert convinced King that a major transformation would happen only when student and teachers worked with technology on a 1 to 1 basis and that any other ratio would not produce the transformation everyone sought.²⁷

Maine Learning Technology Initiative



It has only been in the past decade that the real opportunities for re-imagining our models, not just for computer use in schools, but for *new models of schooling*, or, most significantly, new models of *learning* have now emerged.

Now, we are finally seeing realistic alternatives emerging, ironically at the extremes. In the highly resourced developed world, ideas around how technology might make personalization and child-centered learning possible are becoming more mainstream, while in the resource-poor developing world, technology presents as a ‘leapfrog’ opportunity; the chance to equip previously under-served young people with the ability to access unprecedented learning opportunities.

The globalisation of 1:1 initiatives should reduce the digital divide between young generations of developed and developing countries.²⁸

Francesc Pedro, OECD Centre for Educational Research and Innovation

Perhaps these earlier missteps were a necessary pre-requisite for the ‘real thing’; perhaps we were simply giving ourselves a reference point, even if it has been a low one at that, but, if we accept that technology ubiquity for learners is both inevitable and fundamental to a young person’s Right to Learn in a digital world, then now is the time to confront the reality and raise the bar for all. We must stop accepting the behavior of past years of compromised access, and focus our future research around what is *now* possible in this emerging learning world of technology-richness.

The dynamics of teaching and learning within the virtual space are as diverse as they are complex. We will need to develop tools to better understand them, but in the meantime we can start to build a theoretical framework that allows us to better articulate the experiences and behavior. Instead of seeing the non-face-to-face learning space as one of a compromised experience, we surely need to recognize and explore without fear the new and, in many ways, more profound pedagogical opportunities the virtual space opens; opportunities that will challenge and possibly even undermine our traditional perspectives around effective teaching and learning.

“Should we think of education as separation from everything else? I think we’re in the process of redefining what’s important and how we get there. 1:1 can become the basic infrastructure of education. 21st Century learning, what does it take? It takes Universal Access.”

Participant Big Ideas Global Summit 2010

Rethinking How Learning Happens – Constructing Knowledge, Self-Directed Learning, and Collaboration

Young people say to me, “when I need to know something at the point when I need to know it, I will find it in five minutes. So why are you wasting my time in class?” We must have a good answer.²⁹

Sugata Mitra, Professor of Educational Technology, Newcastle University

In many ways the when and where learning takes place answers follow on naturally to our notions about how learning happens, so it is essential to explore these ideas further. So many of our learning theorists have hypothesized about the nature of learning. From Dewey to Bruner, Papert to Bransford, we are slowly unpacking the fundamental building blocks that allow us to better understand how learning happens, and, most notably, how such a process can happen across a diversity of learners, cultures, intellects in its many forms and demographics. We all became walkers and talkers in every environment, before school was even a concept we understood, and yet the common belief that guided our recent past of around a century or so, is that mandatory participation in the institution of school for a minimum of 10-12 years is a necessary pre-requisite to becoming functioning members of our society. Our Millennium Development Goals seek to deliver that universally by 2015.

The real paradox of this is that our participation in the institution of school is only required for less than 20% of a student's waking hours each year³⁰, and yet, not only is the role of learning outside that time rarely discussed, modeled or understood³¹, it is too often trivialized. Recent notions around informal learning are changing this; however, too much of the current thinking about learning suggests it is something that happens *to* the learner, happens only as result of being taught, and is heavily weighted towards a “content” view of the world. Nowhere is this more evident than in the predominant view held around the broad brush of processes labeled e-learning, where pleas of “more content” brings music to the ears of vendors locked in the textbook-resources legacies of past generations of learners. This will change, soon.

It has sometimes been said that “content is everything publishers would like pedagogy to be, after it has become adulterated into a commodity.” The cries for content decry the role of the teacher and the magic, wisdom and insight they can bring to the learning process.

What is becoming better understood is what personal computing in the hands of learners allows. The emphasis is more about who controls the learning than about content. It's about learners learning through the lens of topics and issues that are of interest, relevant and purposeful to them; it's about them constructing knowledge; it's about connecting to an unlimited resource of people, ideas, and conversations that gives all learners unique insights, insights that underpin deeper understandings about the world in which they live, and how they might act collectively to influence their world and their lives. It's about having the freedom to learn in a way that is appropriate in a modern world. It's about acknowledging a learner's innate drive to learn about, and understand, his or her place in the world.

So we have a simple, but powerful idea: Empower young people with a personal portable computer that will support their Right to Learn. With that right, young people will explore ideas, construct knowledge, and share collectively and collaboratively to provide unique learning opportunities that even a decade ago we would have thought were never possible. So that not only will we see *more* young people connecting, communicating, and acting collectively, but they will have unprecedented opportunities for deeper learning, and, with that, more substantial and more rigorous learning.



*The most profound influence on life in the 21st century may turn out to be the Internet. The Internet links us to the greatest repository of information in the history of civilization. It also provides multiple modes of communication. Finally, it is the most efficient system in our history for delivering new technologies to read, write, and communicate. Together, these elements permit individuals to construct new information, new knowledge, and even newer technologies. As a result, the Internet is in a continuous state of becoming, regularly transforming each one of us as we, in turn, transform it.*³²

Donald Leu et al, New Literacies Research Lab, University of Connecticut

When we think about learning within this notion of constructing knowledge or ‘constructing modern knowledge’,³³ rather than something that is most often ‘delivered’ from within an institution, it becomes a possibility for infinitely more young people around the world. In this model of learning, they formulate their thinking and build their knowledge within a technology rich-learning environment, and their specific circumstances, whether they are in a developed or the developing world, becomes decidedly less relevant. They are not constrained by a lack of ‘content’ or resources, but rather, only their imagination.

So the question becomes how do these ideas about collective knowledge construction ‘fit’ within our present models of schooling? Is this something that extends what we currently do in school, or is there possibly a very different framework based on our new perspective for what ‘schooling’ could and should be?

There is a natural leaning by educators toward the former option, which tends toward incrementalism, whereas true learner empowerment would seem to be implied with the latter. Again it is directly a function of control, of who determines what, when, and how the learning takes place. The very notion of constructing knowledge implies self-directedness, self-organized learning that leverages, rather than depends on, an institution to deliver an education.

*Incremental change can be self-defeating; it's not a step on the way to the big change. A silly example: suppose that the inventor of the refrigerator found that the only way to persuade people to buy them would be to make a refrigerator that could drop the temperature by just one degree. Now that thing would be no use as a refrigerator, it would be a kind of step towards a real refrigerator. If you distributed these around people would develop ways of using them, they'd use them as storage boxes, they'd use them for all sorts of things because people are ingenious beings and they try to use what they've got. So, there'd come about a refrigerator culture based on ways to use refrigerators for purposes that had nothing to do with what we know refrigerators are good for... this is what's happened to computers in schools. They're being used in ways that have nothing to do with the potential of the computer to allow the possibility of a radically different way of learning.*³⁴

Seymour Papert

The Elusive ‘21st Century Skills’-Self-directedness and Collaboration

While the education and corporate world dance around ideas and clichés of 21st Century Learning, a new, extended global conversation around the nature of learning within our schools has begun to spring up. Much of that conversation has been about manipulating and sequestering these ‘new’ competencies within the existing curriculum and existing school practice. Again, the institution of school wins. There is always general agreement around the importance of many of the skills such as problem-solving, collaboration, and self-directedness, however, the latter two stand alone in both importance and execution.

Directing Yourself

You don’t deliver learning, you inspire learning, you engage people in learning”

Stephen Heppell, Chair in New Media Environments, Bournemouth University³⁵

When Singapore’s well-respected Education Minister Mr. Ng³⁶ opens a keynote to address to school leaders with a focus on the importance of self-directed learners, people take notice. This is not the education system one might expect to have such a focus. While always near the top of traditional international benchmarks such as PISA, Singapore’s school system, by its own admittance, has been decidedly traditional, didactic. Self-directed learning would seem to undermine much of the teacher control values that are inherent in this framework.

Self-directed learning cannot be separated from the Right to Learn—it is the core expression of this right. The current critical conversation that surrounds the idea of learners’ ‘controlling’ their own learning parallels much of what is being written and spoken about in regard to personalization.

What we should be asking as we re-frame the conversations is how technology ubiquity enables us to re-imagine the experience for self-directed learners. So much of the discussion around personalization, child-centered learning, project-based learning and the like is still centered around the traditional model of school as too often a pre-requisite institution for learning.

What if, instead, we started with some key questions that might better define our notions of personalization...

Who should choose what your students learn?

Who should choose the path your students take?

Who should choose at what pace your students learn?

Who should choose how and when their progress is assessed?

Who chooses what mode or medium they will use?

Surely this should be our starting point, and while the extreme answers to these questions again take us to the chaos of Summerhill, the choices a child might make do not. In fact if we start from these basic principles, we are now having a very different conversation.



Instead of thinking about buildings and budgets, we think about what learning might be possible. Instead of thinking about student teacher ratios, and high stakes tests, we think about the impact that a child taking more responsibility for his or her learning might have on a child's life choices. It simply shifts our emphasis, and most importantly, our perspective.

In keeping in mind our new understanding and acceptance of each student's fundamental Right to Learn, the answers to these questions become clearer. The challenge is to answer these within what is perhaps a new definition of 'schooling'. One of the great paradoxes of the call for '21st Century Learning' is that it clearly calls for students to develop the disciplines necessary for self-directed learning while taking away most, if not all, the necessary pre-requisites a student must develop for such disciplines. If we continue to try and deliver what we think is best for a student, if we continue to impose traditional school structures that remove a student's capacity to better develop his or her competence for better decision-making, how can we ever hope to see the sort of shift towards self-directedness that we seem to be calling for so urgently?

At one level, in this technology-rich learning world, we can immediately grasp various dimensions of transparency that will be made possible. For example, it could be learners leading the learning, while a teacher, mentor or learning coach provokes and stimulates insight, challenges and questions hypotheses a student may be forming, and tracks visible learning through online conversations and dialogue, more authentically monitoring progress.

We know that ubiquitous technology can make this possible at an individual or small group level and in unprecedented ways that are yet to be realized.

Collaboration - Who Collaborates With Whom, When, How, and Why?

The idea of collaboration appeals to everyone conceptually, but is often executed sparingly. We are not talking about the traditional 'group-work' definition of collaboration, or the sharing work practice, but real, authentic collective knowledge construction that technology ubiquity makes so easy. But where is the evidence that we have even started to explore the dimensions of what collaboration experiences should be for young people?

Technology has provided a myriad of new ways to construct meaning through both increased interactions and different modes of interaction. We must leave behind trivial notions of collaboration and develop more sophisticated ideas around what might be called collaboration literacies. In doing so, we make available greater opportunities for learning, more opportunities to be exposed to a variety of ideas and experiences.

Key Elements for Initiating Change

Surprising as it may be, we are already into the second decade of the ‘new’ millennium. So, what’s changed? If we are honest with ourselves, not much; or, at best, not enough. We can do better, much better.

We kicked off the turn of the century with the greatest ambitions and intent, but somewhere along the way, ten years went by, and here we are still having too many of the same conversations. It is time things changed. We don’t have time for ‘21st Century Skills’, for more distracting technologies or for any more debate or research about what, in too many cases, is frankly the ‘bleeding obvious’.

Change—real change—is not simple, nor can it be accomplished via a checklist of tasks or a recipe. It is profound, difficult and messy. Yet it’s possible to identify some elements that need to be present to not just initiate change but work towards achieving the goals of equity and the unencumbered exercise of the Right to Learn for all.

#1 Identify and Embrace a New Perspective (Perspective is worth 80 IQ points³⁷)

Because many of us work in schools, with schools, and we all went to schools, it should not surprise us that our perspective is too often tainted as we look at technology through “school-colored glasses.”³⁸

The time has come for fresh thinking—a new perspective. Over the past decade we have seen technology in schools moving from ‘school computing’ to genuine personal computing, ensuring an unprecedented means for each of us to exercise our Right to Learn.

As we see the now rapid growth towards students having their own fully functional personal portable computer, towards technology richness across our society and schools, and towards a very different view of the possibilities with which that presents us, there is an urgent need for us to look at our use of computers in schools from a completely different perspective and explore in some detail the implications this has for the role of school and what schooling could, and should, be.

This new perspective, the recognition that everyone has the Right to Learn, means we are obligated to not only *not* create obstacles to learning, but that we must enable at every opportunity the exercise of this right as much as possible.

For all that we have written about our use of computers in schools, little has explored the **excitement of possibilities**. So much has labored the trivialness of the technology, because it usually fails to challenge existing values or assumptions about the role of school or every child’s inherent Right to Learn. Witness the avalanche of words that have been written and spoken around interactive whiteboards (IWB) as evidence of how much can be spent for little value or real impact. This approach completely deadens new thinking.

Essentially it is *not* about technology, but rather, at the heart of the vision that underpins this technology ubiquity, is a deep and fundamental belief about empowerment and what the technology might make possible. It’s a powerful idea about learning equity. It is not about learning as we know it, but rather, how it could and should be; and, most importantly what it makes possible for all learners.

It seems very clear that simply providing computers to schools is not enough to change the nature of instruction and learning. A holistic perspective is necessary for 1:1 initiatives to be drivers of educational change in schools.³⁹

Francesc Pedro



Encouragingly, some of the least predictable people and places are championing the core values of technology ubiquity and a child's Right to Learn in our emerging digital world. We should all be inspired by these disruptions that are now becoming more prominent.

Countries such as Uruguay and Portugal have boldly begun to dig underneath the façade of expensive circuit boards and screens to reframe the realities of what inequity will mean for our new generations, and they've done so in spite of all the naysayers and doubters. Uruguay has provided XO laptops to all of its 380,000 primary students and 20,000 teachers and is now beginning distribution of laptops to secondary school students. Portugal's Magellan Project aimed to distribute 500,000 low cost laptops to primary students in that country. Several other countries, such as Argentina, Chile and Rwanda, are in the early stages of nation-building initiatives that will provide universal access for several million young people. Aren't these examples of what not just technology ubiquity but also vision, courage and disruptive innovation might achieve?

What matters most is that we *let go* what has gone before and start thinking how technology ubiquity enables us to re-imagine the experience for learners.

Identifying and embracing a new perspective means rethinking, re-imagining what technology ubiquity now makes possible for how, when, and where learning takes place.

#2 Re-frame the Conversation

Next, we must reframe the conversation. It is imperative that we rethink the nature and content of the conversations we have been having for nearly three decades around our use of computers in our schools. So much of what has been written about our use of computers in schools has been locked away in incrementalism. There is no more time for this. Our world—our digital world—is changing far more rapidly than for previous generations. As we re-think the conversation from the perspective of a child's fundamental Right to Learn, we have no time to delay. We need to be revolutionary in both our thoughts and our actions.

This new conversation has started already. June 2010 saw a group of nearly 100 education leaders from more than fifteen countries come together for three days to thrash out the good, the bad, and the ugly of where we sit today. The outcomes at one level were predictable, at another unprecedented. The dialogue that started at the Big Ideas Global Summit during those three days has set a new agenda, a new conversation—one that has been long overdue.

We must shake out old cobwebs and throw out old thinking, be bold and express ideas we've probably held for a while, but maybe were afraid to share because the accepted conversation was so different. As education and policy leaders, we need to begin a new dialogue based on a child's Right to Learn.

Ask new questions. Do whatever you need to bring the people you work and talk with to a new space in re-thinking the educational conversation around computing and what it makes possible.

Start conversations around the idea that technology ubiquity enables the free exercise of a person's Right to Learn. Then talk about collective learning and knowledge construction. Instead of asking, "How does 1:1 impact on mathematical achievement?" or "What is the impact of 1:1 on student achievement?" ask, "How does 1:1 empower us to rethink how we teach mathematics?" and "How can we best design assessments that truly reflect contemporary learning priorities? How do we empower learners?"

Ask and continue to ask, "What are the barriers to learning? How can these barriers be eliminated?"

#3 Identify Talent and Build on Passions

The real purpose of building knowledge is to put it to worthwhile use—to act collectively. Ultimately, this use is driven by both passion for its content and for its impact.

We spend much time exposing young people to a plethora of ideas and information, in the hope that some might stick. A more rational approach suggests that our aim for the lives of the young people who come to us as learners is to help them identify their talents, their passions. We should be structuring their school experiences accordingly.

And therein lies the dilemma—is it possible to provide in a systemic way a customized educational experience for all students that both allows and encourages them to pursue their passions, but also exposes them to the wide range of human endeavors that they may have little or no knowledge about and therefore wouldn't be able to even know if they were passionate about in the first place?⁴⁰

Karl Fisch, Director of Technology, Arapahoe High School, CO, USA

Again, this is not about young people doing whatever they want. Rather, it is the opposite. It's about the extraordinary range of possibilities that universal access provides for them, and about the depth to which they can pursue interests and explore ideas. It's about acknowledging that universal access does not just simply describe wirelessly connected laptops, but rather the access they now have to an unlimited array of experiences and thinking that might help them identify ideas and occupations that match their own interests and abilities. No longer do they need to rely just on the first-hand contact of their immediate world, with a friend, teacher or relative, to spark curiosity or develop an interest or indeed career aspirations, but rather they can reach out and network with others who share similar interests, hobbies and passions.

If we seek to do this, there is, of course, not just one answer, but many, for talent identifies itself in a diverse range of ways, often at very different times. For some young people, their destiny seems to stretch out before them as they enter formal schooling, while others need a broad, diverse range of experiences before their unique passions become obvious. Either way, it would seem a good premise on which to build the 'schooling' experience of our young people as it allows them to see purpose, relevance, and meaning and gives a foundation on which a genuine love of learning can be built.

It has been many years since the idea that children enter school as “tabula rasa” or blank slates was the accepted principle. We recognize that they each come in with knowledge gained through exploration, observation, and interaction with the world around them. They also come in with specific interests and an interest in being interested, a willingness to explore new ideas and areas of potential curiosity. A major role of educators should be the identification of both those interests and the paths along which these interests can grow. The well-known and much studied Reggio Emilia Approach⁴¹ is based on learning in an environment based on the interests of the children, a philosophy appropriate for all ages, not just young children. The new role of education is to ensure all students have the opportunity to use their interests and passions to connect to all areas of knowledge.



#4 – Shift the Locus of Control for Assessment - Learner Determination

The role of assessment in schools is one of the most challenging issues facing education today, partly because assessment has come to be used for such a variety of purposes. Many of these purposes have narrowed the opportunities for young people, teachers, and institutions, acting as, rather than removing, obstacles to the exercise of a learner's desire and Right to Learn.

Assessment is a triangle, you have a model of cognitive skills you want students to have, you have observations that you make about their performances because you can't open their heads and see what's going on inside, and then you have inferences you make based on observations. Over the last couple of generations, the cognitive models have gotten better, the methods have gotten better, and the reason things are so messed up is that the observations continue to be very impoverished. The observations you can get out of a multiple-choice item are so limited.

Christopher Dede, Timothy E. Wirth Professor of Learning Technologies, Harvard University ⁴²

In recognizing everyone's Right to Learn, we need to radically change our understanding of what assessment is. School testing is external to the learner and is too frequently used as a means to judge, sort, and eliminate learners from the system, dis-empowering them in the process. Our current system of comparison and judgment has been mediocre, at best, and fails to detect talents traditionally considered non-academic. What assessment should be is an essential component of a continuous cycle of learning and growth directed by the learner.

Self-reflection—to determine where you are in achieving your learning goals—is a powerful tool. It is the necessary complement to the learning drive all children inherently possess. Unlike manufacturing, where quality assurance testing is based not only on having raw materials of uniform properties but on end specification identical for all, in this new vision of schooling, educators would guide self-directed learners, with their diverse passions, talents and goals, in this reflective process to help them understand when their learning goals have been reached.

If you want to have a profound effect on kids' learning, have them write reports. Over four years, we had only one student exaggerate his progress. Serious kids take responsibility for their education.

Participant, Big Ideas Global Summit 2010

In this process, learners, now with the means to try out their thoughts with a wider audience and get a range of feedback on projects, can develop a deeper understanding of the role (and necessity) of assessment in pursuing their educational objectives. It's the educator's role to mediate this process to help learners achieve their goals and guide them in understanding how to self-evaluate more deeply but within reasonable parameters.

We work with virtual worlds, which are incredibly rich, but even something as simple as social bookmarking generates a cognitive audit.

Participant, Big Ideas Global Summit 2010

How will we ensure that all segments of the population progress? By removing obstacles and ensuring opportunities are available for all, equally.

One of the most important things I see taking place is the discussion around the issue of alignment, because everything is so interconnected, alignment of the post-secondary agenda, the early childhood agenda, the public school agenda, etc. This is where I see the real power of pursuing the policy piece.

Participant, Big Ideas Global Summit 2010

How do we prepare educators for this new form of school? At the same time as we begin to change perspectives and reframe the conversations in K-12 school, we should be doing the same in schools of education.

The first change really involves a redefinition of the profession itself—it should be absolutely clear to anyone who chooses to study education what the focus of their work will be. Just as journalists are major players in the practice and in many ways protection of the fundamental right of freedom of speech, apprentice and experienced educators have the same role and responsibilities in regard to the Right to Learn. Anyone entering the field of education should be passionate about protecting this right.

Sometimes teachers are criticized for not designing the environments from which children can learn and interact, but maybe we're being unfair: how can you design something with which you have never had experience. I propose that teachers should be involved in immersive learning themselves. They need to experience it firsthand. They need to be de-socialized out of old attitudes and beliefs.

Participant, Big Ideas Global Summit 2010

Universities need to restructure classes in teacher education programs to model what learning in our schools should be. They should ensure all future educators not only have, but *use* technology and use it as an essential learning and thinking tool and not merely as a subject to study in one or several courses.

You have to redefine the curriculum that is taught (in universities) as to how to be a teacher.

Participant, Big Ideas Global Summit 2010

But how will this change come about? School districts and state education authorities hold the key. Currently they spend both time and money re-educating new teachers (in spite of this, 10-12% of first year teachers leave the profession). Schools of education must align their programs with the needs of school districts and state education authorities so that all new educators are prepared in terms of approach, attitude, and knowledge to participate within this new model of learning and schooling. There's no reason districts need to accept new educators who do not meet these expectations.

One of the things we have done is redefine the criteria of teacher education. Not only do we fund the university that produces the teacher, we certify the teachers and then we hire them.

We hold all the cards.

Participant, Big Ideas Global Summit 2010

Every year we delay in changing schools of education results in a corresponding delay in having new educators prepared to explore and implement these new schooling models.



The Ultimate Obligation

We have been given an unprecedented opportunity that we must not ignore. Never before have there been the possibilities that are now before us to create the extraordinary diversity of educational opportunities for young people around the world; and yet, we are only starting to realize that along with unprecedented opportunity comes obligation. In facing this obligation, we must be more ambitious in seeking answers to what technology makes possible for all learners.

The first and core principle in fulfilling this obligation is the recognition of the right that each of us has to be active, engaged, passionate learners; to recognize that learning is as natural and important a process for all humans as eating and breathing. We must eat, we must breathe, we must learn; and today we have more opportunity to learn than ever before. Rather than be overwhelmed by what we can now access and do, we should be excited; rather than be challenged by new and innovative ways that we can learn, we should be enthusiastic to know more; and rather than be intimidated by new paradigms of where and how learning takes place, we should be inspired to explore those possibilities.

Although this seems natural, none of this is easy. We have for so long modified the learning experience to be in line with industrial needs that moving to what is natural will take a tremendous amount of conscious effort and the need to do what we're rarely called on to do—create totally new models from those that brought us to this point.

In Identifying and Embracing a New Perspective, we have to recast our present not as a product of the past but as a precursor of the future.

As we Re-frame the Conversation, we must consciously and assertively push those around us to think anew from the perspective of a child's fundamental Right to Learn.

We need to find ways to Identify and build on each learner's Passions and Talent and provide guidance and support as they use these to connect to all areas of knowledge and become joyful, engaged learners.

We must move from a high-stakes industrial quality assurance model of testing to Assessment in which the learner actively participates and understands how to use this tool for growth and learning.

We must insist that new educators be Prepared to Protect a child's Right to Learn, to remove obstacles not allowing learners to exercise this right, and to support, mentor, and guide all learners as they explore the world.

At birth there is a clear path and boundless arena in which to learn. Yet this path gets so littered with obstacles – systemic obstacles that create a huge need and market for intervention and remediation – that we find ourselves in the bind of having to be constantly fixing when we could be building. We spend a great deal of time and money repairing a system based on a delivery and 'fix-it' model rather than on a build and grow model.

As adults create digital means to connect the world, collaborate, and interact in global citizenship, we should not deny these same tools to our children.

Fundamental change is in the air—from political revolution to the overthrow of old media models—and we'd be hiding our heads in the sand if we didn't recognize that major shifts have to be made in the way our young people learn. And, if we keep postponing the inevitable, maybe we will see 'student voice' become focused on the democracy of learning. Our passivity to date is surely reason enough to justify such a shift.

Now you can take a role in leading conversations that are genuinely critical ones; conversations that provide advocacy and real thought leadership; conversations that will expand our knowledge and experience, and make a genuine contribution to bettering the lives of our young people in their future.

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“We need to move beyond the idea that an education is something that is provided for us, and toward the idea that an education is something that we create for ourselves.”

Stephen Downes (Canadian education technology research specialist),
“A World to Change” Huffington Post Education

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