It's not just a change. It's a reset. Twenty-one trends for the 21st century

By Gary Marx

What gets our intellectual and emotional juices flowing?

What triggers our imaginations? What turns hindsight into foresight? It's the anticipation, the restlessness, and even the opportunities that spring from the virtual certainty of uncertainty.

Like an anthem, Bob Dylan's ageless alt-echoes across the world: "The times... they are a changin'!" Too often, we ignore that reality. We try to apply shop-worn solutions that once helped us endure but are no longer up to dealing with today's problems.

Some of us, by choice, prefer to refute a cascade of realities driven by the convergence of massive trends. A few dig trenches deep enough to protect themselves from the stimulation and rush of a world in constant motion.

Their hope? If we can hold out long enough, life will return to what it was before high-speed computers; before robots; before an array of mobile, handheld, wireless devices; and before the incessant presence of social media. Fully committed to the status quo or what we remember as 'better times', we lose touch, sometimes by choice.

One day, fully entrenched, we notice that battle cries from above have gone silent. Peering from the rim of our sanctuary, we discover that the world has gone on without us. We've been left behind, the smallest of islands floating in a mammoth sea.

Rather than simply peering from the tops of our trenches, we need to move toward higher ground. Seriously considering trends can jolt our fixed concept of the horizon. It can also fuel our foresight as we explore and shape a world of possibilities that might just be beyond our imaginations.

In or out of touch?

My new book, Twenty-One Trends for the 21st Century. Out of the Trenches and Into the Future focuses directly on helping us stay in touch. Working with a distinguished international Futures Council 21, I've tried to lay out the signals of forces in society that, in one way or another, have implications for every education system, business, community, country, and every one of us.

A glimpse of new realities

Before I share a list of those 21 trends, let's take a brief glimpse at society-shaking evidence of a perfect storm. We are facing a convergence of new realities that should command our attention, wherever we are and whatever we do.

- In the US, non-Hispanic whites are expected to fall below 50% of the population by about 2043. For those 18 and under -- by 2018. For those aged one and under, the shift began in 2011; for those five and under, in 2013-14.
- Majorities are becoming minorities.
- Beginning in 2011, baby boomers (born 1946-1964) began hitting 65 at a rate of about 10,000 a day. That cycle will continue for about 30 years.
- In 2012, members of the millennial generation (born 1982-2003) started turning 30 and will be assuming leadership that will be no less than revolutionary for society and every one of our institutions.
- As growing numbers of millennials downsize, they will insist on quality, style, collaborative leadership, service and results.
- Big data and the cloud coupled with super- and quantum computers, will lead to revolutions in everything from education to healthcare and raise even greater concerns about identity and privacy. Computer speed, capacity, interactivity and mobility will increase exponentially.
- Lifelong education will move toward being available anywhere, anytime and any way. The same expectations for service will be true for many other industries.
- While school curricula will continue to be aligned with goals, pressure will grow for goals to be more aligned with individual students' strengths and the needs of society.
- Leadership will become increasingly horizontal with an emphasis on listening, engagement, collaboration, making sense and developing a unifying sense of direction.
Look for a revolution in energy generation, distribution, storage and efficiency. Renewable energy harvesters will become more commonplace. Electro-chemists and superconducting technologists will help us increase battery capacity and develop a more efficient and dependable smart grid.

Scientific instruments, beginning in 2013, detected that carbon dioxide levels in the atmosphere had reached four hundred parts per million, a level not seen on earth for three million years, long before the roughly eight thousand years that humans have occupied the planet.

By 2020, agricultural employment is projected to drop to 1.2% of the workforce, down from 69% in 1840. Industrial employment is expected to continue its slide from 35% in 1950 to 11.9% in 2020. Service employment is slated to hit 79.9% of the US workforce by 2020, up from 17% in 1840.

Converging… in the streets
And then, there is convergence. Of the dozens of possible examples, here is just one. Anyone who stays in touch with broad societal trends might have known that people would take to the streets in several parts of the world. Converging into a kind of perfect storm are forces such as a generation of young people, largely millennials, who want to solve problems and deal with injustices; soft economies and a lack of jobs; a questioning of authority, and social media that can energise and bring people together at a moment’s notice.

Systemic innovation – a gift that keeps on giving
Economic recovery and sustainability will depend, in part, on systemic innovation. The harnessing of electricity and the fragile, simple-looking light bulb led to power plants, distribution lines, metering, generations of appliances that seem to have no end, and legions of factory workers.

The automobile eventually led to better roads, gas stations, repair shops and jobs for highway patrol officers. Now, drivers are topping off their electric vehicles at networks of charging stations.

The silicon chip, a gift that has truly kept on giving, has spawned one invention after another. Nearly every one of them has increased the pace of change. Inventors have blossomed along with a seemingly endless supply of apps, gaming technology, a deep well of information and a vast array of social media that connect us with people and ideas. Artificial intelligence and augmented reality, in their many forms, help us make it through the day. Big data and the cloud, along with concerns about identity and privacy, are a reality, along with terabytes, petabytes, exabytes and zettabytes. We have computer, biological, medical, communication, instructional, aeronautical, space, military, administrative, financial, assistive and a host of other technologies.

All of these systemic innovations are dynamic. Non-stop research has led to an expectation of quantum leaps. We have more energy-efficient light bulbs and other forms of lighting. A move is on to put what some are calling ‘driverless cars’ on the road, using vehicle-to-vehicle communication. Particle physics, including nanotechnology, is preparing us for the day when the silicon chip hits a wall and is no longer capable of doubled computer speed and capacity every 18 months or so. Look for the rise of the qubit as quantum computers become even more practical. In fact, the quest for viable quantum computers, spurred by theoretical physicist Richard Feynman, has led to a virtual tag team race among scientists and nations. The implications are off the charts.
These are just a few examples of multiple forces that are having a profound impact on nearly every aspect of society and hatching new generations of systemic innovation.

It's happened before. It's happening again.

To dig out of any major economic depression or recession, we need to bite a very large calibre bullet, namely the transformation of our physical and social infrastructure. That means everything from transportation and manufacturing to lifestyles and education. For a lot of us, hunkering down and defending the status quo might seem easier. We can even run in the opposite direction, but we can't hide from that stark, historic reality. No one gets a free pass.

In 2008, we were being hit by the first waves of the great recession. Economists and pundits stoked our hopes and fears. On the one hand, they looked to the sky, gestured broadly and warned that we were on the edge of another Great Depression of the 1930s… maybe something like The Panic of 1893. On the other, a slightly different breed of cultural warriors, in the calmest of tones, assured us that it was just another adjustment in the economic cycle.

Stepping into the firestorm, General Electric CEO Jeff Immelt declared, “The economic crisis doesn’t represent a cycle. It’s an emotional, social and economic reset.”

Social observer and author Richard Florida looked closely enough at history to find a pattern. He observed what had happened following each significant economic downturn. One of his conclusions among other things, our technologies and preferred lifestyles had outgrown existing infrastructure. It's happened again, in our own lifetimes. Push has come to shove. Call it a dilemma — like trying to squeeze a size 12 foot into a size 8 shoe.

Our infrastructure: it's physical and social

Sure enough, when the American Society of Civil Engineers (ASCE) issued its 2009 “Report Card on American Infrastructure”, the average grade turned out to be a solid D. ASCE was looking at physical infrastructure, such as aviation, bridges, dams, drinking water, energy, hazardous waste, inland waterways, levees, public parks and recreation, schools, roads,
transit, rail, solid waste, and wastewater, all symbols of our built environment. We are still trying to develop a renewed economy and civil society on an often outdated, sometimes crumbling and dangerous foundation.

Hope springs eternal. However, if we truly do hope to build a more promising future, we had better expand the list to include our social infrastructure. Consider the need to develop: education that is broad, deep, personal and purposeful; an ability to tap human imagination, creativity and ingenuity, while we encourage innovation and entrepreneurship; and preparation that helps us become both employable and good members of a civil society. Think about our need for a sustainable environment; an even more reliable and affordable telecommunication system; and computer speed and capacity that will support and propel possibilities for the future. That includes faster download speeds.

Equal opportunity?

Whether we are able to transform our physical and social infrastructure depends largely on whether we are willing. Are we willing to move beyond acute road blocking polarisation and toward putting an even higher value on ethical behaviour?

Are we committed to helping our fellow human beings overcome poverty, wherever it exists in the world, and to ensuring equal opportunity... a more level playing field for all? Are we willing to demand a sense of urgency about the need for emotional and physical well-being for ourselves and everyone else?

Can we get past our quarterly report mentality and deal with issues that demand a multi-generational commitment? Just a few of those multi-generational issues include adequate clean energy, the environment, food and water, health, and education.

Let’s face it. Our Industrial Age mentalities, habits, biases, misunderstandings and sometimes just plain denial have run squarely into Global Knowledge/Information Age realities.

“We can’t do that because...” Fill in the blank with anything you’d like, from a lack of funds to a shortage of know-how. However, foresight is the new fundamental, and we need to persist. Let’s not slam on the brakes whenever we run into short-sighted excuses and single-minded, sometimes self-serving rants from the trenches. We need to learn from what we hear, engage even more thoughtful people in the process, and search for solutions. However, our sights should always be set on an even brighter and more just future for people, our planet and our future. Wherever we are, we’re all in this together.

Another thought. When people tell us what is impossible and give us their reasons why, we need to ask, over and over again, “What are we going to do about that?”

Twenty-one trends

Let’s take a look at trends that have emerged from years of observations and research. Each one has earned a full chapter in our latest book.

- Generations: Millennials will insist on solutions to accumulated problems and injustices and will profoundly impact leadership and lifestyles.
- Diversity: In a series of tipping points, majorities will become minorities, creating ongoing challenges for social cohesion.
- Ageing: In developed nations, the old will generally outnumber the young. In underdeveloped nations, the young will generally outnumber the old.
- Technology: Ubiquitous, interactive technologies will shape how we live, how we learn, how we see ourselves, and how we relate to the world.
- Identity and privacy: Identity and privacy issues will lead to an array of new and often urgent concerns and a demand that they be resolved.
- **Economy**: An economy for a new era will demand restoration and reinvention of physical, social, technological, educational and policy infrastructure.

- **Jobs and careers**: Pressure will grow for society to prepare people for jobs and careers that may not currently exist.

- **Energy**: The need to develop new sources of affordable and accessible energy will lead to intensified scientific invention and political tension.

- **Environmental/planetary security**: Common opportunities and threats will intensify a worldwide demand for planetary security.

- **Sustainability**: Sustainability will depend on adaptability and resilience in a fast-changing, at-risk world.

- **International/global**: International learning, including relationships, cultural understanding, languages, and diplomatic skills, will become basic.
  
  (Sub-trend: To earn respect in an interdependent world, nations will be expected to demonstrate their reliability and tolerance.)

- **Personalisation**: In a world of diverse talents and aspirations, we will increasingly discover and accept that one size does not fit all.

- **Ingenuity**: Releasing ingenuity and stimulating creativity will become primary responsibilities of education and society.

- **Depth, breadth and purposes of education**: The breadth, depth and purposes of education will constantly be clarified to meet the needs of a fast-changing world.

- **Polarisation**: Polarisation and narrowness will, of necessity, bend toward reasoned discussion, evidence and consideration of varying points of view.

- **Authority**: A spotlight will fall on how people gain authority and use it.

- **Ethics**: Scientific discoveries and societal realities will force widespread ethical choices.

- **Continuous improvement**: The status quo will yield to continuous improvement and reasoned progress.

- **Poverty**: Understanding will grow that sustained poverty is expensive, debilitating and unsettling.

- **Scarcity vs abundance**: Scarcity will help us rethink our view of abundance.

- **Personal meaning and work-life balance**: More of us will seek personal meaning in our lives in response to an intense, high tech, always on, fast-moving society.

Gary Marx is an author, futurist, education and leadership consultant, social observer and international speaker. He is president of the Centre for Public Outreach, headquartered in Virginia, and the United States. Marx has written a series of trends books and has done presentations on six continents. This article was prepared for his session at the World Future 2014: "What If: Get Ready for a Wall-to-Wall Reset" (see: <http://www.wfs.org/worldfuture-2014/worldfuture-conference-sectors/get-ready-for-wall-to-wall-reset>) and appears here with the author's kind permission.

References:
3. Says Marx: "As I developed the book, Twenty-One Trends for the 21st Century, I worked through a Delphi survey process with a distinguished Futures Council. 21. Its 26 members came from several parts of the world. Anand Mangalampudi, director of the Centre for Community and Educational Development in South Africa, was a member of that group. He asked Jessica Vinod Kumar, a teacher at M.L. Sultan Secondary School in Pietermaritzburg, KwaZulu-Natal, to provide observations which are included in the book."
5. See, for example: [http://www.gstf.org/what-is-the-cloud](http://www.gstf.org/what-is-the-cloud).
6. See, for example: [http://www.history.msu.edu/ac/Be/Biographies/Feynman.html](http://www.history.msu.edu/ac/Be/Biographies/Feynman.html).
7. See, for example: [http://www.history.com/topics/great-depression](http://www.history.com/topics/great-depression).
10. See, for example: [http://www.creativecommons.com/licenses/by/](http://www.creativecommons.com/licenses/by/).
From the Editor

ISASA's executive director, Lebogang Montjane, has written about his recent trip to Turkey on page 12 of this edition of Independent Education.

There he met with the Turkish Private Schools Association (TPSA) and visited the Ayazaga campus of one of its member schools, the Işık Schools group. Reports Montjane, "The Işık Schools ... are distinctive in Turkey for their innovative curriculum and philosophy.

Montjane says his visit confirmed for him that independent schools across the globe are generally "committed to adopting new knowledge to improve the quality of education they provide". In the most committed independent schools anywhere, where I would add, the adoption of new knowledge and ways to implement it, is innovation in action.

Well-respected futurist Gary Marx agrees. Writing for us on page 86 about his new book, Twenty-one Trends for the 21st Century. Out of the Trenches and Into the Future, he opines:

"If we truly do hope to build a more promising future ... [We must] consider the need to develop: education that is broad, deep, personal and purposeful; an ability to tap human imagination, creativity and ingenuity, while we encourage innovation and entrepreneurship; and preparation that helps us become both employable and good members of a civil society.

If we use Marx’s criteria, then the ISASA schools profiled in this edition of the magazine are all innovative. And, as they are all quite clearly "committed to adopting new knowledge", they must surely rank alongside some of the best schools in other parts of the world. Pioneers Academy in Ormonde, Johannesburg, Gauteng – the founding school in the Pioneers Academy Network – is our featured new ISASA member. On page 16, principal Gavin Esterhuizen writes about the thrill of starting a brand new school at which the pedagogical focus has shifted from ‘This is what we are going to be learning about today’ to ‘How would you explain the following?’ Explains Esterhuizen further, ‘We have asked that our teachers teach in teams ... [To] foster open collaboration among teachers and provide a continuous apprenticeship for all our teachers to develop higher levels of mastery in their craft.’

This approach is right on trend. In his research, Marx and his International Futures Council (comprising researchers in a multiplicity of fields from many different countries, including South Africa) discovered strong evidence that millennials (those born between 1982 and 2003, and who started turning 30 in 2012 and assuming leadership roles in our societies) will insist on collaborative leadership, service and results.

Such powerful global practices are shaping ISASA schools across South Africa. At Hermitage House, in the citrus orchards of the Sundays River Valley in the Eastern Cape, says principal Hilton Keeton (page 48), "We find that generally our pupils have positive attitudes towards school, higher self-esteem and more encouraging social relationships due to their exposure to multi-grade classes." At Tyger Valley College in Pretoria, Gauteng, the new Institute for Mathematical Excellence has, says Kim Masson on page 52, "every desirable mathematical resource [for] all teaching staff ... to share." Here, the class maths teachers team-teach with a permanent institute teacher, ensuring smaller groups of students, dynamic classes and individual attention.

Deletrick Swart, principal of Wembley College in Greytown in the KwaZulu-Natal Midlands, has correctly identified another key 21stcentury trend: the ability to be assertive, articulate and confident. To this end, at this school, students are completely in charge of all school assemblies. Read the heartening account on page 54.

You will also want to read (on page 68) the story of Cowan House, another ISASA school based in KwaZulu-Natal. Sally Evans, in charge of the school’s eco-programme, says everyone is aware that water scarcity is an increasingly urgent global issue. Cowan House students protect the precious wetland on its border and delighted in finding out about the nocturnal habits of amphibians on International Save the Frogs Day.

Whilst our schools are charged with preparing for an uncertain future, they must also teach our children about the ancient past. You may have been following the story (see page 26) of the removal of the statue of Cecil John Rhodes from the University of Cape Town’s campus. Montjane undoubtedly seized a valuable opportunity to view some statues of significance in Turkey, home to sites like Ephesus, at one time the capital of the Roman province of Asia Minor. It is an unsurmountable tragedy that Islamic State (Isis) insurgents have already destroyed Nimrud and Hatra in nearby Iraq and Palmyra in Syria, while smuggling countless portable antiquities into Turkey itself for sale on the black market.

Now is also your chance to use the ‘phenomenon teaching’ trend (see page 32) to share with your students images of the “largest concentration of World Heritage Sites anywhere in the world, unique in their style and in their mixture of Hindu and Buddhist and secular traditions”. This is how Debra Diamond, curator of South and Southeast Asian Art at the Smithsonian’s Freer and Sackler Galleries, describes the ancient temples destroyed by recent earthquakes in Nepal (see our related story on page 32).

But, while trends come and go, the very best schools know that human resources are irreplaceable. You will, I know, be moved by Bruce Pinnoch’s story (page 95) of the mild-mannered science teacher who “instinctively engaged with the ‘soul’ of a troubled class community”.

Such ‘innovation’ will always stand the test of time.