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**EDUCATION AND LEARNING:** 

**A CANADIAN VIEW** 

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### The Foundations for the Future

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### **SETTING CONTEXT**

This is a time of change in higher education in around the world. David Agnew, former Cabinet Secretary for the Government of Ontario (Canada) and now President of Seneca College and Chair of Colleges Ontario, drew attention to the changes, focusing on Ontario, in a speech to the Canadian Club in October 2015<sup>1</sup>. Some of the changes occurring in Ontario and across Canada increase access and success for many who would otherwise not have been able to go to college or university. Other changes are not so positive, as Agnew also observed. Some colleges and universities are struggling to survive while others appear to be thriving. Some are innovation and some are retrenching. Some are engaged with their communities and others are not. Understanding the current and future dynamics of the higher education system is important, especially for those leading the system or developing the policies which guide it.

To look at just one example of change, we can look at online learning. In the United States, it is now the case that more than twice as many now take a class online as live on campus. There are more undergraduates enrolled in an online class than there are graduate students enrolled in all Masters and Ph.D. programs combined. At the current rate of growth, half the undergraduates in the US will have at least one online class on their transcripts by the end of the decade<sup>2</sup>. This is the new normal. The situation in Canada, so far as we can tell, is basically the same. Online learning is part of the standard mix of programs and course offerings across Canada, with very few higher education institutions not offering online learning to some degree.

Students are using digital options to make colleges and universities work for them – they are showing by their behaviour what flexible learning looks like. Online classes are no longer surprising, or experimental, or rare. By adopting them, students are telling us what they need our institutions to become. This is one of the changes which have occurred in a short period of time – just over twenty years – but which have a significant impact on pedagogy, programs and resources.

Let us we explore what is happening in higher education in Canada – key trends and developments – and look at the future, with a strong focus on the nature and developments likely to occur in learning. The intention is not to offer a definitive view of what the future will hold, but to create the basis for a focused and inspired conversation about the future which is informed, evidence based and provocative. While the focus is on Canada as a whole, an understanding of Canadian developments need to be contextualized in terms of developments in higher education globally – Canada competes and collaborates globally in program offerings, student recruitment and research.

# SEVEN TRENDS AND PATTERNS WHICH WILL IMPACT THE FUTURE FOR COLLEGES AND UNIVERSITIES BY 2030

When we look at the future of colleges and universities across Canada, seven major trends and patterns suggest that the future is likely not to be a straight line from the past. In this section of the paper, we will look briefly at each of these challenges and suggest their most obvious implication.

<sup>1</sup> A text of the speech is available here: http://startouch.thestar.com/screens/d2a495dd-6df5-4f9b-9168-54b7d7a90890%7C\_0.html

<sup>2</sup> Source: The Digital Revolution in Higher Education Has Already Happened – No One Noticed. Available at <a href="https://medium.com/@cshirky/the-digital-revolution-in-higher-education-has-already-happened-no-one-noticed-78ec0fec16c7">https://medium.com/@cshirky/the-digital-revolution-in-higher-education-has-already-happened-no-one-noticed-78ec0fec16c7</a> (Retrieved November 5, 2015).

### Demography<sup>3</sup>

Canada's demography is changing significantly. While the population will grow through to 2063, it will do so largely through immigration – Canada's birth rate is low (except amongst Aboriginal communities and recent immigrants). By 2030, 3 in 10 Canadians will be from a visible minority.

The most significant trend is the ageing of Canada's population. By 2030, one in four Canadians will be 65 or older and the seniors' population will represent 22% of all Canadians (this group currently represents 15%). What is more, seniors will live longer as the life-expectancy of Canadians continues to improve.

This in turn will have major implications for the Canadian workforce. By 2030, there will be fewer people in the workforce. Not so long ago, there were almost five people of working age for every retiree, by 2030, there will be closer to two. The workforce will be expected to fund and support increased costs of health care, social services and education.

Canada's First Nations, Inuit and Métis population will continue to grow. Aboriginals currently accounts for 4.3% of the Canadian population, and the figure is expected to grow to 5.3% of all Canadians by 2030. The Aboriginal population increased by 20.1% between 2006 and 2011, compared with 5.2% for the rest of Canada.

The underlying demographic dynamic is that Canada's birth rate is below replacement<sup>4</sup> – we are not producing enough children to replace the population. This makes immigration the key to economic stability and growth, which in turn brings its own challenges.

Implications: A more diverse and complex student body, with huge pressure for work-relevant skills with continued pressure on educational finance systems. The first language of many Canadians will not be English or French.

# **Structural Complexity**

With the pursuit of the massification of higher education since the mid-1960s, there has been a growing expectation that more and more individuals will attend college and universities and that educational attainment will continuously rise. Indeed, some provinces have committed to this as a strategic intention. In 2016, there are significantly more universities and colleges than there were in 1985 and 1995. Canada currently has 98 public universities and over 130 public colleges with more of both now being considered.

This has led to a complex system which has some barriers to learner mobility:

- Weak within and inter-provincial transfer credit systems.
- Few substantial examples of laddering from apprenticeship to a degree, from College Diploma to a degree, from an applied degree to graduate work – as institutions seek to "protect" their credential rights.
- Weak systems of reciprocity for quality assurance across Canada.
- Weak systems for prior learning assessment across Canada.
- Lack of portability for certain credentials (especially trades and certain professions), reflecting trade barriers and Provincial certification differences.
- Weak, but improving systems for the fast and efficient recognition of foreign credentials.

By 2030, changes can be anticipated, in part due to the clauses within international trade agreements enabling faster and more efficient recognition of foreign credentials<sup>5</sup>.

<sup>3</sup> All information in this section is based on reports from Statistics Canada.

<sup>4</sup> Total Fertility Rate is currently 1.59 and needs to be closer to 2 for replacement.

<sup>5</sup> For example, the Canada-EU Trade Agreement (Draft) contains such agreements as does the Trans Pacific Partnership Agreement (Draft).

The key issue for Governments is whether, given expectation of a lower revenue base from taxation linked to demographic change, they can afford such a complex and comprehensive system. Put another way, just what portion of funding for the complex system which has evolved since the 1960s will be paid for by Government and what portion by students and potential employers? It is already the case that several colleges and universities face technical insolvency – will fee constraints coupled with budget reductions push them over the edge?

The current complexity becomes even more complex when barriers to entry to higher education by foreign institutions are lowered or non-existent as students can chose to study online from institutions with a global presence.

Implications: The sustainability of the complex system of higher education in Canada is problematic and will likely lead to fewer institutions, more collaborative programming and more integration of functions and services.

# **Changing Student Expectations**

As students pay more of the costs of their own education, they demand more in terms of quality, relevance and engagement. More specifically, students are seeking high quality programs and courses which are work-relevant (but not solely focused on employment competencies) and engaging. They are much more critical of the quality of their education than many of their predecessors. As governments reduce their per-capita expenditure on higher education (following the trend they have pursued for the last twenty years), these expectations will increase.

Students are looking for access to quality programs, delivered with flexible options supported by coaches, guides and mentors who can personalize learning and leverage the knowledge and skills the learner brings to their studies. Many more are now looking at university + college courses, suggesting that the boundaries between such institutions will shift. By 2030, more joint or seamless programs will be in place.

They are looking at shorter programs with much more acceptance of credit transfer, work-based learning credit and prior learning assessment, which is efficient and not cumbersome. The emergence of so-called "micro credit" (e.g. badges), short courses, accelerated degrees and joint college:university integrated programs are all responses to this need.

Implication: Students will demonstrate by the decision-making and behaviour what they expect colleges and universities to provide and their influence on decision-making will grow in line with their financial contributions.

### **Costs and Competitiveness**

As has been mentioned, several universities and colleges are facing financial challenges due to declining revenues from Government, changed market conditions and shifts in student demand. Others are looking at mergers and there are likely, between now and 2030, to be significant structural changes in our systems of higher education in Canada.

More significantly, a combination of global competitive forces in higher education and cost issues, are forcing many institutions to rethink their focus and strategic intentions. They are looking initially at increasing the international student population in their institutions (who pay higher fees), at collaborative programs and other initiatives, all of which are intended to either sustain or grow registrations and retention while increasing revenue. Governments are actively encouraging these developments.

At the same time, institutions are looking at cost reduction through re-imagining their labour costs and reducing the range and breadth of activity – using differentiated programming to create competitive advantage.

The challenge here is that these developments increase the competitive nature of the market for students and staff and represent significant shifts in the way in which colleges and universities undertake their work. Union agreements, especially faculty agreements, are not designed for such shifts or nimbleness. Some institutions across Canada are "stuck" between an old paradigm and a new one and do not seem to be able to build the bridges needed to make this shift.

A related challenge is that the quality assurance regimes operating in some parts of Canada make innovation and radical change difficult, as their focus is on equivalence and peer-supported change. Breakthrough program design and models of instruction are sometimes "caught" in a quality trap.

Implications: Institutional change is inevitable and always difficult and requires courageous and innovative leadership. Making such changes will likely be disruptive and likely to lead to some failures.

### Internationalization

Some programs in some institutions now have 30% or more of their students who are international students. More programs include international study components and more students are completing part of their Canadian programs abroad. More learners are coming to Canada with part of a program completed in another country and more courses have international components and links to international research, applied research or organizations. Higher education is increasingly an international business. To give just statistic, universities and colleges worldwide will soon be competing for over 8 million international students<sup>6</sup>.

The growth of international student body in Canada will continue, though it will become an increasingly competitive market as more institutions seek to capture these students. Canada competes with the USA, UK, Australia and New Zealand for international students and will soon add China and Singapore to this list. A variety of estimates suggest that, by 2030, some 8 million individuals will be seeking to study on one of these countries – an increase of 5 million from 2015. At this time, the USA, UK and Australia are preferred destinations, especially for post-graduate study. Indeed, the UK has become increasingly dependent on international students to fund its complex system and requires some 100,000 or more *new* international students each year to sustain the system. Recruitment depends very much on immigration rules, costs, relevance, security and quality of student life.

Internationalization is not just about who the learners are; it is also about what it is they are learning. As access to knowledge is much more universal (aided significantly by advances in automatic translation engines and open education and research resources), then the curriculum itself also needs to reflect who the learners are, where they come from and are likely to return to. As knowledge develops at a faster rate than ever before and is much more globalized, a failure to ensure international content and focus is likely to lower the interest of international students in a specific program or area of study (with some exceptions).

Linked to these developments is the observation from a student union organization that there may be a need to offer programs, especially online programs, in several languages. That is, an assumption that the language of instruction will be either English or French may need to shift by 2030 as the nature of the student body changes. While there are likely be highly effective translation engines available by 2030 (they have steadily improved since 2000), translation is not a substitute for a course or program being offered and supported in multiple languages.

<sup>6</sup> Bob Goddard (2012) Making a Difference: Australian International Education. Sydney, NSW: International Educational Association of Australia.

Implications: Internationalization is a key feature of the future of higher education, but comes with challenges, especially if colleges and universities become revenue dependent on international students. Internationalization impacts not just who is studying, but also what they are studying and how and where they are studying.

# **Technological Developments**

Since 2000, there have been many changes in the technological landscape. Hand-held devices now surpass desktop computers in terms of ownership and use. Growing access to broadband across Canada (but still not universal) has changed access to knowledge, information, services and support. The emergence of online learning has transformed access to learning for a great many students and has changed the dynamics of higher education. It is now the case that (approx.) 1.5 million online courses for credit are being taken by Canadian higher education students each year<sup>7</sup>.

By 2030, there will be further changes. These five seem the most likely:

- Artificial intelligence and machine intelligence will generate new ways of assessing and supporting students, using adaptive learning systems and automated assessment. Such developments may also lead to a growing use of robotic technologies to support learning and student services.
- Enhanced simulations and games using augmented reality so as to permit life-like laboratories in science, engineering, music, art and other disciplines, but also make remediation for struggling learners more manageable when combined with adaptive learning technologies.
- More visual and aural learning than text and graphics with the growth of voice and gesture recognition and an increase in computing power, learners may make more use of audio, video, graphics, gesture and 3D imaging in their study and in their assignment activities.
- More personalized and differentiated using adaptive learning and analytics as the
  technology becomes more ubiquitous (the so-called "Internet of things") then learning
  can shift from batch-processing (classes with an instructor) to a more individualized and
  self-paced experience.
- Far more extensive use of open education resources by both learners and their instructors, both because of the ease of access and cost, but also because of quality assurance being attached to such resources.

While in the past the barrier to accelerated adoption of such technologies has been the willingness of faculty members to utilize them, student behaviour and the other trends and patterns listed here will lead to more and more colleges and universities adopting these technologies not simply for competitive advantage but also for survival.

Implications: Technology will continue to evolve in such a way to make learning more personal, affordable, effective and accessible. Institutions will respond by more rapid adoption in line with student behaviour.

# **Global competitiveness**

All of these trends and patterns lead to one conclusion: it will get more difficult over time to recruit, retain students as the market for these students becomes increasingly competitive and value sensitive. What is more, governments will assess institutional performance by their ability to sustain themselves while offering less financial support per capita: expectations will

<sup>7</sup> This is a "best guess" based on available information. Unfortunately, there are no systematic approaches to data collection across Canada which permits an accurate statement.

grow while resources available to meet these expectations shift from government to more varied sources of revenue.

What is more, the competition which Canadian institutions face is not just local, provincial or national: it is international. The University of Toronto is competing with all of those institutions listed amongst the top 100 in the world, not just for students but also for staff. There is a global war for talent.

At the heart of this global competitiveness is a significant increase in learner mobility – a cornerstone of the twenty-first century. More learners are traveling further and more often for their education, whether or not they leave their home.

This new level of learner choice requires a re-imagination of what courses, programs, credit and learning looks like. Offering the same program in 2030 in the same way as it is being offered in 2015 is likely not to be a successful strategy. New business models, program designs, pedagogy, uses for technology and new forms of assessment and credit granting will be found so as to enable colleges and universities to be sustainable.

Implication: Change is constant, but learning from change is the challenge which institutions face. The key for a college or university is to engage in strategic foresight and constantly look at ways in which is can become secure sustainability through innovation.

### THE NEW LEARNING AGENDA

These developments, taken together, pose challenges for the management and development of institutions. As they each explore new markets, re-imagine business processes, reinvent their technology platforms to provide a richer, adaptable and simpler experience and build new value propositions, they need also to consider changes in the way in which learning will be provided to their learners.

Using a great many sources, including future studies of learning being undertaken at Harvard and by the European Union, the following seem widely accepted statements among learning futurists:

1. Learning will no longer be defined by time, place or institutional offerings.

Learners will expect and secure access to learning anytime, anywhere on their schedule. This will include a growing number of short courses (2-3 weeks in duration) which carry credit, week-end and intense learning, as well as longer learning periods (6-8 weeks). Admission to programs and courses will vary from 6-12 times a year to 365 times a year, the cycle being driven by demand not availability of academic or instructional staff. New forms of support for learning - instant mentoring, online peer networks, coaching from global support structures – will meet this demand. Learners will drive provision – they will no longer have to "fit in" with the schedules designed by others.

2. Learners will create their own learning agendas ("learning playlists") which reflect their own career, personal and lifelong learning goals.

The shift from institutional determined programs to skills and competency based programs determined by labour market needs or individual learner preferences will reduce the reliance on formalized program structures and increase the ability of learners to "mix and match" their learning activities against their learning agenda. Some of these agendas will be set by the professional bodies or organizations they are seeking to join while others will be set by their own authentic earning interests, passions or commitments.

3. Learners will secure their learning outcomes through a combination of formal, informal, self-directed, instructor delivered, in class and online learning. Flexibility will be the

### hallmark of learner expectations.

One key difference between now and future learning relates to how learners acquire knowledge and skills. In the future, routes to knowledge and skill acquisition will become much more varied. Whether they take courses from post-secondary institutions (as a great many will continue to do) or obtain their knowledge and skills through self-directed learning, informal learning networks, intense workshops, online learning from public or private sources, open education resources, mentors, paid for coaches or other means will matter less than the fact that the knowledge has been acquired and the skills developed. As we move from "time in class" to knowledge, skill and competency based assessment as the basis for credit recognition, employment and professional development, how a person gained knowledge and skill is less important than the fact of mastery. Indeed, as is already becoming the case, what someone knows or can do is more important than where and how they acquired these competencies.

# 4. Learners will expect personalized learning services and supports for their learning agenda.

Learners are paying for more of their post-compulsory learning. Whether directly in tuition fees and materials costs or indirectly through time, travel and other costs, personal investment in learning has grown significantly over the last decade. These investments will not only continue, but will continue to rise. As they do, expectations of service and quality will increase. Learners will expect faster, reliable and quality services not just in terms of courseware and coursework, but also in terms of all of the related services – mentoring, coaching, guiding, advising, knowledge management, financial services, information and registrarial services.

This in turn will require a refocusing of our understanding of quality – shifting from an "ISO9000-like" view of quality assurance, to one based on learner engagement and satisfaction and the learning experience. Understanding the quality of peer-to-peer, instructor: peer, assignment feedback, learner engagement will all form part of this different approach to quality assurance.

# 5. New mechanisms for meeting personal learning agendas will appear in the market as the "unbundling" of learning continues.

"Unbundling" refers to the separation of the components of the learning and credentialing process. Who designs and develops courses will not be the same as the group which then delivers programs and courses. Who assesses learning and skills will be different from who delivers learning. Who provides credentials will differ from who assesses learning and skills. Learners will be able to "mix and match" the providers of content, the mentoring and coaching for mastery and then undertake assessment in dedicated assessment centres so as to secure recognition by professional bodies, credit coordinating agencies, universities and colleges. Given that quality no longer relates to "residency" (50% or more of a learners learning must take place at a given institution for that institution to provide degrees, diplomas or certificates) but to competencies and mastery, unbundling is the key to personalized learning routes and differentiation of providers.

Elements of this are already occurring:

Course development separate from delivery: open education resources make
content freely available for learners to use to develop knowledge, skill and
competencies. Most large online learning institutions (e.g. Open University UK,
Athabasca University, Thompson Rivers University, Western Governors University US,
Indira Gandhi University, India) use course development teams which then may not
teach the courses they have developed.

- Delivery Separate from Course Development. The development of adjunct faculty and systems of tutoring support a model in which a standard course is delivered in multiple sites by qualified individuals who did not develop that course. The University of Warwick amongst the top ten universities in the UK has outsourced its tutoring and learner support to a wholly owned subsidiary company Teach Higher<sup>8</sup>, who will support courses and programs developed by the University's full-time academic staff<sup>9</sup>. Other examples of this use of short-term contracted staff or companies to deliver learning can be found around the world.
- Assessment Separate from Delivery. Some professions (e.g. nursing) and other occupations (e.g. Power Engineers in the UK) already undertake assessment independent of the providers and assessment processes of institutions.
   This certification process is now being accelerated by the development of microcredentials, badges and other forms of skill and competency recognition. Skills assessment centres in Australia cover a range of different professions and trades. Western Governors University is based on this construct of outcomes-based assessment of learning it is how they award degrees<sup>10</sup> and this is now also the way in which the University of Wisconsin and others are offering their "flex" route to a degree<sup>11</sup>. The MOOC developments in Malaysia (see above) are also an example of assessment being separated from delivery.
- Certification separate from Assessment. Some qualifications use credit coordination as the basis for the award of a degree or diploma. Athabasca's Bachelor of General Studies<sup>12</sup> is one such degree, but other similar prior learning and competency-based qualifications are available around the world. There are emerging collaborative programs between a variety of institutions up to five collaborating partners where the learner completes their competency journey and then chooses which institution is the primary provider of their qualification.
- 6. "Courses" will be less important than mentoring, coaching, counselling, advising and assessment. Learning materials will be increasingly available on a range of platforms. Navigating this learning and linking learning to learning agendas is the "new work" for 2030 learning.

The implications of unbundling are that the real focus for the future is on providing opportunities for the assessment of learning and guiding learners towards their assessments: assessment is where the future for public investment should be. This is aided by significant developments in our ability to assess competencies and skills, supported by immersive technologies, simulation, machine intelligence and adaptive assessment. Hill and Barber capture this in their 2014 paper <a href="Preparing for a Renaissance">Preparing for a Renaissance</a> in Assessment, and we can see employers and professional bodies moving quickly to create rich assessments offered frequently so that learners can be assessed "just in time" and on the learners timetable.

To support this focus on assessment, learners will turn increasingly to coaches and guides to help them navigate their learning journey. While some instruction may be necessary for some components of learning, it will be the case that many of the learning needs associated with needed competencies can be acquired through a range of different routes: navigating these requires expertise.

<sup>8</sup> This is the trading name of the company Warwick Employment Group.

<sup>9</sup> Tenure was abolished in the UK in 1988 – academic staff are either full or part time with contracts of varying length.

<sup>10</sup> For a description of the work of WGU, see <a href="http://teachonline.ca/sites/default/files/contactNorth/files/pdf/publications/wgu.pdf">http://teachonline.ca/sites/default/files/contactNorth/files/pdf/publications/wgu.pdf</a>

<sup>11</sup> See description at <a href="http://flex.wisconsin.edu/">http://flex.wisconsin.edu/</a>

<sup>12</sup> For details of this degree see http://calendar.athabascau.ca/undergrad/current/page03\_07.php

7. Geographic boundaries for learning materials, learner support, assessment and credentialing will gradually fade for many learners.

Just as help centres for technology companies can be located anywhere in the world, the globalization of professions, employability skills and knowledge will lead to a blurring of geographic boundaries for access to learning, support and assessment. As trade agreements, such as the Canada:EU agreement and Trans Pacific Partnership Agreement (TTP), specify reciprocity of professional credentials, assessments completed in one jurisdiction will increasingly be recognized in another. Indeed, thirty-two countries of the Commonwealth have entered into a Transnational Qualifications Framework agreement which does just this for these nations. Similar developments are occurring in the European Union. Learner mobility will be a central component of learning in 2030.

8. Diverse and new forms of credentials will appear which reflect the varied needs of learners, employers, social agencies, innovation organizations and entrepreneurs. While degrees, diplomas and certificates will still "matter", they will no longer be sufficient indicators or skills and competencies.

As has been suggested, many significant employers now look less at what the credential is and look more carefully at what an individual can actually do. To help them assess this, more and more employers are looking to work-based learning, badges, evidence from learner portfolios of projects completed and other forms of evidence of knowledge, skills and competency. A degree says something about commitment and perseverance and may represent mastery of knowledge, but what can the degree holder actually do?

In the UK answering this question has led to a new kind of document known as a Higher Education Achievement Report<sup>13</sup> which documents more of what the learner can actually do than a traditional transcript. Similar developments are occurring in the US with the development of a Postsecondary Achievement Report. Both of these developments are in their infancy. Also in development are what are known as "nano-credentials" or "micro-credentials". These credentials document hard and soft skills acquired by the learner during their studies. Georgia Institute of Technology, Northwestern University, the University of Washington, University of California's Davis, Irvine and Los Angeles campuses, and the University of Wisconsin Extension are all developing such credentials.

Digital badging – recognizing competencies and skills based on agreed rubrics – is also emerging as a way of recording learners' mastery. A number of MOOC providers are also offering credentials. Udacity, for example, has over 10,000 individuals enrolled in "nanodegrees", designed in partnership with major employers. Coursera is offering "verified certificates" (verified by partner academic institutions).

Alternative credentials will likely not quickly replace the traditional degree or diploma, but they offer another option for professionals and learners alike, and may eventually become more integrated within formal programs. For a time, these various credentials will present a confusing landscape for employers and learners, but some of these will emerge as leading the "pack" of credentials as "must haves" for employability.

9. Learning will be continuous throughout the life of an individual. Continuing professional development, skills upgrading, un-learning and personal development will drive the lifelong learning agenda.

Given the rate at which knowledge is changing and the speed at which new skills and competencies are required to take account of social, technological and scientific advances, learning will become increasingly a lifelong requirement for all.

Buckminster Fuller created the "Knowledge Doubling Curve"; he noticed that until 1900 human knowledge doubled approximately every century. By the end of World War II knowledge was doubling every 25 years. Today, things are not as simple as different types of knowledge have different rates of growth. For example, nanotechnology knowledge is doubling every two years and clinical knowledge every 18 months. But on average, human knowledge is doubling every 13 months. According to IBM, the build out of the "Internet of things" will lead to the doubling of knowledge every 12 hours. These rapid developments require constant skill and knowledge upgrading.

But there is also another force at work. Changing demographics in Canada will lead to a very large cohort of seniors with significant disposable income, some of whom will seek to develop new knowledge and skills relevant to their interests and personal development. In other parts of the world, the <u>University of the Third Age</u> provides a collaborative peer-to-peer learning network for time-shared learning. Some universities and colleges provide low cost or free access to courses for seniors. Seniors and the young retired are enrolling in large numbers in courses in photography, culinary arts, art, music and kinesiology. There is a sizeable market for non-credit, short course based learning for this market.

Also emerging for informal learning are time share based learning schemes. A report for the European Commission (Ala-Mutka, 2010<sup>14</sup>) makes clear that, given the rise of communities of interest and practice and the emergence of time-shared learning networks and other informal learning networks, a great deal of meaningful learning by highly motivated learners and coaches is a significant component of lifelong learning. Indeed, the author notes, all educational policy objectives adopted by the EU Council of Education Ministers secure part of their response from such networks. In the work of the Commonwealth of Learning in farming and technical and vocational education, such informal networks have been crucial in securing significant gains in learning outcomes and social impacts.

### THE CHALLENGES OF A DIFFERENT FUTURE

This wide-ranging shift in the nature of learning as process and contract has significant implications for the providers of learning – colleges, universities, polytechnics and others. Three in particular are notable:

- 1. The way in which institutions are funded will need to change significantly. This is already occurring, with colleges and universities in many jurisdictions (with some notable exceptions) now relying less on government funds and more on revenue from learners, especially international learners, revenue from partnership arrangements, donations and other sources. As economic uncertainty and change occurs, linked both to global economic conditions and demographic shifts, new models of funding will be tried and tested.
- 2. The role of faculty members will need to change significantly. This too is beginning to occur, with more part-time and adjunct faculty engaged in teaching and a shift taking place from "sage on the stage" to more facilitative, coaching, mentoring and guiding roles, though instruction does remain a key part of the current repertoire. Over time, we can expect to see more significant shifts, with learning support roles becoming more varied, less related to classes of students and more focused on individuals or small groups of learners. This has major implications for collective agreements and trade unions.

<sup>14</sup> Ala-Mutka, K. (2010) Learning in Online Informal Networks and Communities. Luxembourg: Office for Official Publications of the European Communities (mimeo). Available at <a href="http://ftp.jrc.es/EURdoc/JRC56310.pdf">http://ftp.jrc.es/EURdoc/JRC56310.pdf</a> (Retrieved December 17th, 2015).

3. The nature of quality assurance will need to change significantly. This is not changing as quickly as many engaged in innovation in learning would attest. Our dominant quality models, which are based on industrial models of standards and compliance, need to shift to models more focused on outcomes, learner engagement, efficacy of support systems and the ability to leverage available resources for learning. This is a fundamental paradigm shift and will take time to displace a quality paradigm which many have only recently fully implemented.

These three challenges are the dominant challenges which result from the re-imagining of learning outlined above, but they are not the only challenges. There are many more. For example, the nature of knowledge is changing as is the speed of knowledge discovery and sharing and this will have an impact on our notion of "subjects" and programs; the nature of employment and employer expectations are changing, which will have an impact on credentials and their importance. What we can say is that significant change is in progress, how we chose to learn from these changes and how fast we change will depend on a range of factors, including cultural, financial and operational. With certainty, the future will not be a straight line from the past.

# **CONCLUSION**

Those in positions of leadership need to understand that the trajectory for their organization is unlikely to be a straight line from the past. They will encounter significant new demands for change and need to develop much more nimble, responsive and flexible organizations. To do this, governments need to think differently about control of the system, finances and quality assurance regimes. Change is inevitable – managing it will be difficult if the regulatory and fiscal frameworks do not change.

Yogi Berra once said "the future isn't what it used to be!". He was right.