

IT and the Revolution in Education (The Acadia Advantage Program)
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First of all I want to thank the President, and members of the Canadian Club of Toronto, for this invitation. It is a privilege to have the opportunity to address you here in the great city of Toronto.

I am particularly pleased to see so many Acadia graduates and friends here today including our Chancellor, Mr. Arthur Irving and Mrs. Sandra Irving. I hope all of you will have an opportunity to visit Acadia and to see the magnificent project that Arthur and Sandra and their family are building for Acadia. The project contains in one unit a Botanical Garden, an Environmental Science Facility, a Research Facility and a Campus Meeting Place. The gardens will focus on plants of northeastern North America including endangered species and native medicinal plants. It will thus be a unique research resource as well as a beautiful and tranquil place.

I am delighted to see so many students here today. Acadia is all about students. We are passionate about providing our students with a rich experience that enables them to leave Acadia confident and ready to pursue all of life's opportunities. I will tell you more about that later.

We all know about the revolution that is occurring in information availability and I want to talk a bit about the impact that this is already having on education. I will wind up with a focus on the Acadia Advantage Program in which our faculty and students are leading the world in creating the new learning environment.

But first let us look at the historic perspective and the three major "revolutions" in the development and delivery of knowledge and thus education:

Historic Perspective – the Three Revolutions

1. **Development of writing** in the form of books. Scribes were the fonts of knowledge. Works were collected in certain centers. Knowledge was restricted to a very small portion of the population. The possession of knowledge and written works provided a base of power.
2. **Printing Press:** Multiple copies of written works became readily available. Libraries and universities proliferated. This brought knowledge to a wider cross section of the population and broadened knowledge-based power beyond monks and scribes.
3. **IT Revolution and the year 2000.** All of the world's information is potentially available to anyone, anywhere, at any time. This will eventually lead to full equality of access to information. People will be limited only by their individual skills and capabilities. The established power base of school systems and

universities is threatened and a new revolution is underway. Competition will be fierce as the old order disintegrates and the new, fast-paced, order takes shape. It is the fear of this change that has led to the outcry from educators trying to create in the minds of the public the idea that technology will ruin education for their children. The reality is just exactly the opposite – information technology will liberate us all with regard to knowledge, information, and education and training opportunities.

In the past the power generated by knowledge has resided in the hands of adults. The interactive capability of IT and the digital world has given power to everyone, especially our youth, who use technology more instinctively than adults. The revolution we are about to experience will be far reaching.

The IT Revolution.

Through technological advances more information can be transmitted faster, at greater distances, and at lower prices than ever before. And the rapid rate at which we are adopting these technologies into our daily lives is having a dramatic impact on opportunities for rapid and timely access to information and lifelong learning. This in turn is changing the meaning of “education” and the definition of an “educated person”.

What does this “life long learning” mean anyway and why is it so important today? Well, for one thing, it means not having a “best before date” on your skills and knowledge. Our society and our workplaces are so complex that you can’t possibly learn everything you need to know to be “educated” for today’s world in the four years of a university degree program. Today’s “educated person” is an expert learner who has a traditional sense of time and place through a “liberal education” experience but who also has the skill, tools and motivation to adapt continuously upon entering the real world.

Like the companies they work for, employees must now continually reinvent themselves throughout their working lives, even if they remain with the same employer.

A solid liberal education develops flexible and innovative thinkers capable of making great contributions to the New Economy. Lifelong learning is essential to continued success in this rapidly changing world.

Today the delivery of education and training is limited only by the imagination of the supplier. Distance delivery is a given. The live theatre setting is dramatically enhanced by universal access to information. The ability of individuals to immediately access any reference material important to a discussion has empowered the learner in the learning environment. No longer does the learner need to wait to have the great truth revealed by someone holding him or her captive to yellowing notes. The excitement of the learning (classroom) situation is dramatically enhanced.

Today we have the capability of bringing the world to the classroom and the classroom to the world and to do so any time and in asynchronous mode.

In the New Economy what people expect of their providers of manufactured goods, they will also expect of their educational institutions; that is, customization in terms of content, time and place, efficient service, and value added. The learner will be able to demand delivery suitable to the learner's comprehension, not just to the instructor's particular delivery.

Learners will demand, and obtain, access to skilled communicators.

Education and training will be a true service and, like any other service, multiple choices will be available. Broad differentiation in the type and structure of postsecondary institutions is inevitable, desirable and essential.

The education – training industry will evolve to just-in-time delivery or, really, the learner will choose just-in-time access to needed information, explanation and training.

The student of today knows more than most educators about the learning technologies. Learners today can interact with media instead of passively watching a "broadcast". Learners generally have fewer inhibitions than their teachers. Technology empowers students and they in turn are driving innovation in the learning environment.

Eventually the credential will shift from just a traditional post-secondary diploma or certificate to inclusion of certification of capability of learning and adaptability.

Courses in digital format can be easily modified to meet individual learning styles, needs and educational objectives. They can be designed to provide a range of easily accessible foundation material to meet the prior learning level that students bring with them to the subject. We can no longer afford to limit a student's choice or future because of deficiencies imposed by decisions of youth.

Today's learners expect to progress and at a rate that is suitable to their situation. The customization of knowledge packets makes this a possibility. It also liberates those with special aptitudes who have fared poorly in rigid educational programs.

Technology not only allows us to reach learners with special needs, it also opens access to educators who have special skills but who may have been shut out of the traditional lecture environment because they too had special needs.

In the 1970's new concepts had a lag time from inception to textbook on the order of 2 to 5 years. In today's fast-paced economy, this is no longer acceptable. Lifelong learners need the most current information, and they need it, and will demand it, today. Just think of e-business where the text is being written and rewritten as we speak – it is there, in the e-world, that we interface at our convenience.

Traditional universities are facing enormous challenges because they are not geared for rapid change. The private sector will increasingly enter the market place. The closer a program is to skill development the more rapidly adaptive it must be. Niche

opportunities will abound. Universities must determine the niche and identity that they will pursue and they must be good at it. That is what we are doing at Acadia.

Existing universities will have to restructure if they intend to survive the forces of change they are now encountering. They will need faster decision-making and implementation capabilities. The university curriculum must be capable of continuous adaptability to meet the needs of society. University employees will have to be more adaptive and more flexible and they will have to understand the competitiveness of their marketplace. Reward structures will also have to meet this reality.

The potential to widen access, increase flexibility and improve the quality of teaching means that technology needs to be embedded within a wider strategy for teaching and learning. The university community at Acadia saw this potential and developed the Acadia Advantage Program. This academic initiative has enhanced the university's teaching and learning environment and brought a whole new dimension to the concept of interactive learning. By participating in Acadia Advantage, students use today's technology to develop the advanced analytical skills they need to adapt to ever changing study and work environments.

People still have to live and work together in society and as a result they must be able to integrate and use the new technologies comfortably in their daily lives. This is where education comes into play and where universities like Acadia have such an important role.

The role of the university is primarily to develop educated people. We see an enhanced and highly valued role for small residential universities where young people grow while attaining a liberal education.

Just what is this magnificent achievement of the faculty, students and staff of Acadia University – this Acadia Advantage Program? The Acadia Advantage Program is no accident; it emerged from a deliberate strategy for the university.

Every student at Acadia receives an IBM Thinkpad computer each September. The computers are leased from IBM through a partnership agreement and are generally replaced with a new model each year. The laptops are provided with all of the software that the student will need at Acadia. The campus is wired with a sophisticated fibre optic Intranet that is connected to the Internet. Every student site is wired – each desk in residence, carrels in the library, gathering sites in lounges and common rooms and most importantly, every seat in Acadia Advantage classrooms. And the classrooms – these are a new design with students sitting in clusters around tables, in continuous communication and dialogue. Students are supported by a User Support Centre that maintains and repairs the laptops and provides continuous just-in-time training in all software programs.

In 1989 I commissioned our University Librarian and our Director of Computer Services to do a joint study of the leading institutions in North America and Europe with regard to access to, and dissemination of, information. The motivation was to find a way to ensure

that Acadia's students would have access to information at a level equal to any university in the world, in a time of great financial challenge.

Their report, "The Global Library," identified the emerging Information Technologies as the basis of this opportunity and among their recommendations, the one that "Acadia provide access to the world's information from the user's preferred location on campus" became the basis of a remarkable development. After more than a year of campus consultation, the University Senate and the BOG adopted the report in 1991. But the technology did not yet exist in 1991 to allow this goal to be achieved.

Over the next four years we supported our faculty with IT opportunities wherever they could identify them and by 1995 we had nearly 40 professors anxious for more IT support. By 1995 technology developments and applications provided the model to allow us to achieve our objective. We set up a new task force and again went to full campus consultation before adopting, in February of 1996, the Acadia Advantage Program. This program now leads the world in the new learning environments. Acadia University is a real university bringing the world to our classrooms.

The greatest feature is of course our faculty who breathe life into this marvelous program. Faculty are supported by the Acadia Institute of Teaching and Technology (AITT) which hires "techies" but mostly students to work with faculty to continuously reinvent the classroom situation. This past summer nearly 90 faculty and 30 students worked together with the AITT in developing new and exciting ways to enhance the learning environment – to use technology to help explain intellectual concepts and to enrich the classroom dialogue and experience.

The Acadia Advantage Program empowers students and brings them in as full partners in the learning process. Imagine a classroom dealing with fast breaking social or political issues in another continent with every student having on line the very latest communications from the news services of the world and interacting directly with those on site; imagine the business class where every student has instantaneous access to every bit of analysis on every company that could be discussed; imagine the science class where the lab and the theory are integrated and students design their own approaches to experiments from the very first classes; imagine the music class that is jamming in real time with students from around the world; imagine discussing Greek and Roman history with the coliseum and the great museums of the world on line and at your fingertips.

The modern university must provide a quality education – in the finest of liberal education experience, but it must also provide its students with the capability and skills to enter the real world and to lead and change that world. The university must ensure: that its graduates have advanced communication skills, enhanced entrepreneurial skills, be capable of working together in groups, have advanced problem-solving skills and that they use technology instinctively and will continuously adapt to an ever-changing world. These are the very characteristics of the Acadia Advantage graduate. Acadia graduates have used technology at the leading edge in all academic disciplines over four years of university life – they use technology instinctively, and they are confident. The Acadia

Advantage degree confirms all of the skills identified by the Conference Board of Canada as being critical to the workplace. Our first graduates of the full program are already having a major impact on the firms that have hired them – they are in great demand. If you have not yet hired an Acadia graduate, you had better do so soon!

For those of you in the business world I am delighted to tell you that the “brand” is working. Applications for admission to Acadia are up over 40% in the past two years, the caliber of student is outstanding, and the major deciding factor for them has been the Acadia Advantage Program. Acadia has the highest percentage of international students at the undergraduate level and the number of countries represented is increasing yearly. The *Maclean's* annual survey of opinion leaders has ranked Acadia as the best overall primarily undergraduate university in Canada for the past six years and the most innovative the past four. In 1999 the Acadia Advantage Program was selected by the Smithsonian Institute in Washington D.C., from thousands of nominations from around the world, for inclusion in its permanent collection. Universities like Acadia are critical to the future of this Country in the 21st century. Give us the tools and we will finish the job – give us the tools and we will ensure the future of this great Country.

Let me close with a situation distributed over the Internet:

Sherlock Holmes and Dr. Watson go on a camping trip, set up their tent, and fall asleep. Some hours later, Holmes wakes his faithful friend. "Watson, look up at the sky and tell me what you see."

Watson replies, "I see millions of stars."

"What does that tell you?"

Watson ponders for a minute. "Astronomically speaking, it tells me that there are millions of galaxies and potentially billions of planets.

Astrologically, it tells me that Saturn is in Leo.

Time wise, it appears to be approximately a quarter past three. Theologically, it's evident the Lord is all-powerful and we are small and insignificant.

Meteorologically, it seems we will have a beautiful day tomorrow. What does it tell you?"

Holmes is silent for a moment, and then speaks.

"Watson, you idiot, someone has stolen our tent."

Ladies and gentlemen we as a country need more Holmes, we already are overflowing with Watsons.

Thank you for your very kind attention.

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