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Laying the Educational Basis for a More Competitive North American Society

H. Ian Macdonald*

INTRODUCTION

In describing the Canadian aspect of this North American topic, I am reminded of that story of the American textbook: *An Objective History of the War of 1812 (from the American Viewpoint)*. There is no such thing as an objective viewpoint on education. Indeed, nothing lends itself more to anecdotal, personal, and emotional interpretation than an analysis of the educational system. Today this situation is compounded even more by a widespread romanticism about the so-called "good old days." Consequently, all our social and economic ills are laid at the feet of the public education system. In turn, the same critics have concluded that our very salvation will depend upon our capacity to reform the educational system, and the more quickly that is done the better. Only if we do so, they argue, do we retain a chance of becoming credible participants in the ever quickening world economic competition. Let me offer three recent illustrations of the lack of logic, the ignorance of facts, and the inconsistency of policy that permeate this argument.

First, how often do we hear people of my generation suggest that educational standards have declined, while, at the same time, they provide us with contradictory evidence of this decline? At a luncheon I attended recently, I listened to a table-mate of mine, for what seemed like an eternity, lament the decline and fall of the educational system. He then spoke glowingly about his son who had required an eighty-five percent average at graduation in order to be admitted to the Faculty of Engineering at one of the Ontario universities. "I would never have reached the front door if that had been the admission standard in my day," he proclaimed with paradoxical pride.

Second, there are those who counter that apparent contradiction by saying that the curriculum is much easier today, and that grades are grossly inflated. However, such an argument begs the facts of the case. Today, in the third year of our five-year high school curriculum in Ontario, my children have covered the same ground in mathematics, physics, and chemistry that provided the basis of the curriculum in the tough first year of the Honours Mathematics, Physics and Chemistry program when I was admitted to the University of Toronto over forty years ago. More-

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over, they are doing work today that was not even imagined forty years ago. This contrast is most apparent in the various fields of the biological sciences.

Third, when it comes to discussing what kind of education we should encourage, inconsistency is prevalent in the conversation. A few years ago, I participated in a workshop of approximately fifty corporate chief executive officers who, without exception, suggested that they preferred to hire liberal arts graduates as management trainees since they could then mould these graduates in their own image. At the same time I did a sample survey of the hiring practices at the corporate human resources departments. I found that nearly all of their human resources departments expressed a preference for hiring individuals with MBAs. While the MBA yardstick may have been a safer crutch for the personnel officers to lean on, it certainly did not conform to the private views of the CEOs.

Therefore, educational philosophy is not like laser technology or quantum physics. The kind of educational system appropriate to the enhancement of the "wealth of nations" is infinitely debatable. Moreover, if we could find the correct formula, we then enter into that minefield of public policy known as "manpower planning." Although the evidence has proven again and again the folly of manpower planning, the almost religious faith that is attached to the concept still persists. The pitfalls are even more pernicious than in the realm of "economic forecasting." I recall when that realization was first forced upon me. Thirty-five years ago, in my graduate examinations at Oxford University, the three-hour exam on applied economics had one question: "Economic Forecasting: Discuss." And for three hours, under the doleful surroundings of an examination hall, I was obliged to consider every conceivable obstacle to a legitimate economic forecast (I invite you to try it sometime). Fortunately, those examination papers were incinerated because I am absolutely certain that anyone who would read my creative prose would never again have hired an economic forecasting service. Perhaps the so-called "science" has improved, but I have not really changed my opinion, nor have I seen any real evidence to suggest that I should.

Now that you know my particular bias about educational planning, those of you who are hoping to now hear my prescription for a new educational system in Canada might prefer to leave. Indeed, I intend to question whether the salvation of global competitiveness is to be found in a newly conceived educational system. That is not to imply that improvements cannot be made to the educational system, nor to conclude that there are no problems or shortcomings with the educational system, nor to suggest that providing a better educational system is unimportant. Rather the answer to global competitiveness is to be found in a much larger and more complicated realm, of which strengthening the tradi-

tional basis of education is a significant part, but is not the entire solution.

In the sports competition, the most skillful is not always the eventual winner. As a participant and as a spectator, I have so often been struck at how the heart (or, as I call it — 3Ds: desire, determination, drive) counts for as much as skill, or even more than skill. So it is true with the wealth of nations. We, in Canada, are not at a particularly high point in our nation-building. Indeed, countries struggling for survival find it particularly odd that so many self-destructive tendencies are apparent in Canada today. To be as preoccupied, as we are, with constitutional reform at a time when international economic life has never been more challenging is like trying to repaint the deck of a ship in the midst of a raging hurricane. Rather than attempting to liberate economic, competitive forces, the Canadian federal government is determined to impose a seemingly draconian taxation system which few understand and even fewer believe advisable. As our traditional dependence on natural resources becomes less and less able to sustain the Canadian economy, we should be investing more in the development of human resources, but preferring to lament the shortcomings of the educational system we are prepared to invest in education, there is an increasing tendency to be concerned about methods that would produce “instant globalization,” rather than concern over improving our basic capacity to adapt to rapidly changing circumstances. Furthermore, as I shall explain in greater detail, there is an increasing tendency to confuse “education” with “training,” and to view educational institutions as centers of occupational preparation.

In my view, the public policy agenda requires a host of ingredients if we are to fulfill our potential. I am completely confident that our nation of twenty-six million people has the talent and the capacity to be a world leader. However, we will require a number of improvements in the way in which we do things in order for us to be successful. I would summarize these improvements as follows:

- (1) First and foremost, we need to invest more in our basic and traditional educational infrastructure;

- (2) we must distinguish between “education” and “training” and provide adequate training facilities, particularly for an increasingly large number of young people who are not occupationally prepared;

- (3) we should greatly enhance our commitment to basic research, both in the public and the private sector;

- (4) we should improve our capacity to “commercialize” our basic research as a means of widening our technological base, improving our productivity, and increasing our economic competitiveness; and

- (5) we should require an attitude of mind among managers and leaders of business that is increasingly international in outlook.

(1) Basic Education

I have suggested that we have a strong basic education system in Canada, and a strong network of colleges and universities. We have also provided an enviable democratic underpinning by committing ourselves to equality of educational opportunity, unlike some of the so-called elitist societies. It is this system that must be the basis of our human resource development—the preparation of intellectually curious minds, which will be capable of adapting to rapidly changing job requirements. We can never train enough people, quickly enough, or with sufficient accuracy, for the changing demands of the labor force. Rather, we can only prepare minds which welcome the need to adapt, and which regard that need as challenge rather than as an impediment.

In discussing the process of liberal education, Cardinal Newman referred to those critics who ask: “What is the real worth in the market of the article called liberal education?” On the supposition that it does not teach us definitely how to advance our manufacturing, improve our lands, better our civil economy, produce lawyers, engineers, and surgeons, lead to discoveries in chemistry, astronomy, geology, magnetism and science, I would suggest that the record speaks for itself. If you look at the sources of leadership, the foundations of entrepreneurship, the background of the captains of industry, and the origins of the social pioneers, the value of a liberal education to society is proven over and over again.

Of course, that is not to suggest that occupational preparation does not belong in the formal educational system. It does belong, and, indeed, it always has been a part of the formal educational system from the time of the early universities to the present day. The issue now is how to provide adequate resources for both the liberal education and occupational preparation function.

To the extent that such matters can be evaluated, it can be argued that we in Canada have not done too badly. Canada has now moved from sixth to fourth place in the World Competitiveness Report, which is prepared jointly by the World Economic Forum in Geneva and the International Institute for Management in Lausanne, Switzerland. For their purposes, the definition of competitiveness is “the ability of entrepreneurs to design, produce and market goods and services, the price and non-price qualities of which form a more attractive package than that of competitors.” However, what is really significant for purposes of this discussion is that, although ranked fourth overall, Canada is awarded second place in “human resources and in natural endowments” category.

Nevertheless, there has been some uneasiness about whether or not this ranking can be maintained. In particular, it is argued that we must direct more students into specialized fields; principally into science and technology. Now, as I have suggested, this is notoriously difficult to do. About twelve years ago, when I was President of York University in To-

ronto, I was urged to close our Faculty of Education in view of the developing surplus of teachers. I recall arguing that, within the decade, we would be desperate for new teachers. I argued that by looking at the age structure of the teaching profession at that time, it was possible to see what lay ahead. And, today we are facing a critical shortage of teachers that shows no sign of abating.

On the other hand, I would not argue against the need to increase the numbers of those educated in science and technology. The question is how to do it. I suspect that in Canada, we may have to do what we have always done in circumstances of needs: import trained manpower. In addition, whereas it is difficult to direct the marketplace of student choice, we can at least provide our educational system with adequate funding and ensure that places are available for those who wish to study science, and make sure that they are encouraged to do so. Moreover, some early marketing would not be inappropriate to counteract the "dull image" too often associated with science.

Salesmanship could be helpful in stimulating interest in science, particularly among female students. My own University has made considerable efforts to encourage high school students, particularly women, to pursue scientific studies. However, they cannot be coerced, and it will not serve our basic interest to attempt redirection of interest by diminishing opportunities for those who wish to study the fields of humanities and the social sciences.

(2) *Occupational Training*

Let me now turn to the high-school situation and the environment for occupational training. In our society, drop-outs represent not only a wasted economic asset, but a potentially explosive social cost. It has been estimated that close to 30% of Canadian students drop out of school before getting a high school diploma or its equivalent. The participation rate of seventeen-year-olds in formal education is 72% in Canada; compared with 78% in Sweden, 87% in the United States, 89% in Germany and 94% in Japan.

Now that may be more a comment on the docility of students in other countries than the disenchantment of Canadians with school. However, the more important question is what is being done to assist those drop-outs to find significant and challenging careers. A whole host of recommendations are forthcoming, including a Canadian Apprenticeship Board to advise the Employment Minister on setting up an apprenticeship program with national standards, and the establishment of labour market boards in each of sixty-two economic districts designated under the Unemployment Insurance program. Composed of representatives of business, labour, schools and community organizations, the boards would enjoy considerable authority to design and implement training programs. However, in the process, it will be important to avoid

constructing a costly, cumbersome infrastructure that identifies but fails to solve the problem. Rather, there must be close cooperation among schools, business, labour and community groups to develop the combined needs of basic education and marketable skills. In today's society, considerable effort will be required for individual counselling and the encouragement of young people to pursue particular courses of action if we are to be successful.

In addition, major new efforts will be required for training and re-training of those already in the workplace. The onus must fall on the shoulders of the private sector to provide the necessary support. The fear of "poaching" (luring away of trained workers) should not be an impediment. A task force under the direction of the Canadian Labour Market and Productivity Centre recently reported that workers are more loyal to their companies if they have received training.

(3) *Basic Research*

Recently, a senior government official visited my university seeking ideas and input for a new program called "Going Global." The program objective is to stimulate Canada's response to the challenge of global economic competition. Although a substantial sum of money had been committed to the objective, the government did not have a clear idea how to proceed, other than identifying the importance of spinning off the results of basic research into the commercial marketplace.

The exasperation of my scientific colleagues was manifest at the mere mention of this program. They are short of space, restricted by limitations of equipment, deficient in laboratory assistance, and starved for adequate research funding. In Canada, the universities have always carried a disproportionate share of the burden for scientific research, while their product, relative to the size of our population, has been commendable. However, we are now falling short of our potential. That in turn, has a domino effect on the training of scientists and the encouragement of the study of science. Nowhere has the underfunding of our universities had greater impact than on scientific research. There is no better way of underwriting our competitive future than making a national commitment to a significantly higher level of financial assistance to basic research.

(4) *Commercializing Research*

The great buzz-word of the day is "university-industry relations," whereby the universities are seen as steam-engines that haul our industrial and technological structure into the new age of the post-industrial society. There are inherent dangers in such a concept for the universities and the basic premises of education; and there are also unfortunate historical precedents.

However, Canada has tended to preserve a tradition of unnecessary

purity, in fearing that encouraging “commercialization” of university research might somehow compromise the intellectual honesty and integrity of the university. Fortunately, there are indications that our excessive concern is dissipating and there is widening recognition that some of the off-shoots of research in Canadian university laboratories could be potential products of considerable economic value. Indeed, in the past, we have seen such products manufactured, financed, marketed, and imported back into Canada from abroad rather than supporting indigenous development. There are now a variety of government agencies, programs and mechanisms of considerable promise for encouraging the process of commercialization of the products of academic research.

Yet, if my experience for four and a half years as Chairman of one such agency is any indicator, this is no simple task. There is no quick and easy pay-off. For every winner, there are eighteen or nineteen losers. Professors of science are not necessarily entrepreneurs, nor are they necessarily skilled in finance or marketing. Those who do possess the necessary skills are not necessarily able to establish effective communication with the scientists. Above all, the two prerequisites of success are the absence of meddling politicians and an abundance of patience. However, of over-arching importance is the recognition that basic research must retain its priority. If the commercialization tail begins to wag the research dog, then the process will ultimately be doomed to failure. Without a constantly reinvigorated environment of basic research, the potential for commercialization will quickly diminish.

(5) *Establishment of an International Outlook*

In many ways, Canada is a paradox, especially in our relationship to the international community. Although we have traditionally depended on export earnings for over thirty percent of our gross national product, we have been characteristically slow to invade foreign markets, reluctant to learn foreign languages, and unwilling to take the time to understand the prerequisites of doing business in a different societies and cultures. Obviously, there are notable exceptions. Indeed, in those countries where we have demonstrated a determination to succeed, we have demonstrated that Canada is a force to be reckoned with in the international marketplace.

Although, as our recognition of what is required to succeed in the international marketplace has matured, we have now come to face the so-called new competitive environment: of Europe 1992 and the Pacific Rim. But let us never forget the law of comparative advantage. Our task is to choose the right horses to race in these markets — a process that can be assisted by certain educational changes. With this thought in mind, I refer to the *Corporate-Higher Education Forum's International Task Force*, of which I was privileged to be a member, wherein we reported on the recommendations of the business community itself for in-

ternational business courses in our business schools, in order to improve "real-world understanding." The recommendations that we made are:

1. Increase the use of international business managers as teachers and guest lecturers;
2. Expand co-operative work/study and foreign exchange programs;
3. Increase the number and breadth of international business, language, global strategy and "people skills" courses;
4. Expand use of the case method and increase the number of international business courses for the corporate sector;
5. Increase the international exposure students receive by hiring more foreign staff and accepting more foreign students; and
6. Make a concerted effort to cooperate with business to identify corporate needs and market expectations.

It was interesting that the academic community also identified these same activities as important ingredients in international business education. I am pleased to say that there is growing evidence that these things are now happening, within both the business community and academia.

(6) Footnote on a Growth Industry

The term "sustainable development" has already become a tiresome platitude, designed to give one a good feeling that the planet will be preserved from ultimate destruction. Like many noble sentiments, people give it credence as a means of assuaging their conscience over what they intend to do.

Notwithstanding my cynicism, I believe that the environmental movement is here to stay and is producing a major new industry, not the least in its environmental education component. Canada also has a head-start in this area with strong educational programs, sensible legislation, and growing experience. I believe that environmental technology will become a major industry for Canada, and one in which we will enjoy considerable international success. It is also attractive to a wide variety of people who are normally not attracted to traditional industry, but for whom this represents the interesting challenge of a productive career combined with a distinct contribution to society. In the twenty-first century, Canada could well establish for itself, in the environmental field like what Britain achieved in the nineteenth century through iron and steel, and the United States in the twentieth century with the automobile.

CONCLUSION

Where do we go from here? In preparing for this presentation, I read mountains of paper. When I finished, I felt the same way as I do after reading pages of commentary on a sporting event. What really matters is that the score was 2-1, and I knew that before I started reading. Recently, the Prime Minister of Canada has called for a "national educa-

tion strategy for Canada". I, for one, am not prepared to hold my breath waiting for it to emerge from the tangled thicket of federal-provincial relations. Rather, I propose that we start with the five points I have outlined here, roll up our sleeves, and get to work.

