Act was passed in December, 1960. While I do not want to bore you with statistics it is necessary to use some to get a picture of the present situation and some estimate of where we are going from here and, very importantly, how we compare with our competitors.

In the current school year in Canada the total enrolment in elementary and secondary schools is 4,600,000. Of this number 20 per cent, or 920,000, are in secondary schools. In the current year, 140,000 are attending universities. It is estimated that the cost to the Government per pupil, that is, apart from what parents have to pay, is as follows:

Elementary—$250 per year, or $920,000,000; secondary—$425 per year, or $400,000,000; university—$1400, plus, per year, or about $200,000,000; making a total of $1,520,000,000. This total figure does not include the money being spent on private schools, nor on adult education which, if added in, would probably bring it close to $2 billion per year.

Some projections that have been made by the Dominion Bureau of Statistics and the Canadian Universities Foundation should be of interest. I am going to confine my remarks to what is happening at the university level because this is the critical area in Canadian education and it is the only place from which we can get the highly-trained scientific personnel necessary for the world of today. Do not misunderstand me, honourable senators: this is a major issue facing the Canadian people, and we are falling behind in this respect. It is estimated that by the academic year 1965-1966 we will have to provide for an additional 50,000 students in our universities, making a total in that year of 190,000. By 1970 it is anticipated that the university population will increase by another 135,000, bringing the total in that year to 325,000.

The estimated annual operating costs which are presently running at $200 million a year will increase to $300 million by 1965-1966, and to $450 million by 1970. In the same period of time the capital costs will require $375 million by 1965-1966 and $1 billion by 1970. For example, in the current academic year, 1962-1963, Canadian universities are spending $167 million on capital; in 1963-1964 they will spend $255 million and in 1964-1965, $309 million.

In order to turn out the trained manpower required, we obviously need to have an adequate teaching staff. In 1960-1961 there were 9,000 full-time teachers and research workers employed in Canadian universities. It is estimated that by the academic year 1965-1966, 14,000 will be required, and by 1970-1971, 25,000. Allowing for an annual withdrawal rate, through retirements, death and other causes, of five per cent per year, we will have to recruit an additional 23,000 teachers and research workers for universities in the next 10 years. This is on the basis of a purely normal rate of growth, and makes no allowance for an expanded program.

Just to underline the deficiency in teaching staffs with desirable qualifications, we had a total enrolment in the graduate schools in Canadian universities in the academic year 1961-1962 of 7,347. In the spring convocations, masters degrees were given to 2,800 and doctors degrees to 325. Most Canadian universities today are trying to make the doctoral degree the minimum prerequisite for permanent appointment. However it is just not possible to get enough people with this standing to staff our universities, and we have to settle for people with lesser training.

It is estimated that by 1965 one Canadian university—the University of British Columbia—will require half the doctoral graduates in Canada in one year. This is only one university and it is not the largest. This illustrates the tremendous shortage of people with the kind of training required to teach and conduct research.

I could go on at much greater length to quote additional statistics, all on the same point, namely, if Canada is to maintain its place in the scientific world of today we must be prepared to find greatly-increased funds for education, and these can only be provided by finding some formula by which resources of the federal Government can be placed more effectively behind those of the provinces.

Expressed as a percentage of the gross national product, Canada has made substantial strides in attempting to meet her educational needs, but these are far short of what is necessary. In the current year Canada is spending 3.8 per cent of its gross national product on education—the highest we have ever spent. The figure for the United States is about the same. Again, the most authoritative figures we can get on Russia is about 7.5 per cent—almost double.

One of the privileges of living in a democratic society is that we have some choices, and it may be that we have reached the stage in our national development where we may have to exercise some degree of choice as to how we expend our resources.

It is easy to point out that Canada, for example, is spending 63 per cent of its national worth, or its G.N.P., on consumer goods. The United States is spending 66 per cent on consumer goods, and Russia 29.5 per cent. In other words the Russians are concentrating their expenditures on capital goods, military commitments, education, basic research, propaganda and foreign aid, while Canadians are concentrating their expenditures on food, shelter, household costs,