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CANADIAN SCHOOLS AND UNIVERSITIES IN WARTIME

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EDUCATIONAL SYSTEM

In any survey of the effects of the war on Canadian educational institutions two facts must be considered:

1. There are several types of educational institutions.
2. The administrative control of them is decentralized.

Under the British North America Act public education in Canada, except in the case of the native Indian population, is assigned to the jurisdiction of the provincial governments. Within the provinces there is a further decentralization of control, for education within communities is regulated by local boards. This system of separate provincial and local control has naturally resulted in diversified programs of education throughout the Dominion. As a result the effects of the war on education may vary from place to place. However, because of the spirit of co-operation which exists among the various provincial and local educational departments, the similarity of the changes resulting from the impact of the war is more pronounced than their differences.

In English-speaking Canada there are three levels of education, those of elementary and secondary schools and that of higher education. On the elementary and secondary levels there is a system of public schools financed mainly by local school authorities but assisted by provincial grants. There are also private schools financed not out of public funds but through private endowments and fees. On the level of higher education there are numerous colleges and universities which are both publicly and privately endowed. The educational system in French-speaking Canada is not in strict conformity with these three levels, but they can be distinguished.

The war has effected changes which on the one hand are common to all the different types of institutions and which on the

other hand are peculiar to the particular type of institution.

SHORTAGE
OF
TEACHERS

Since the beginning of the war there has been an increasing shortage of teachers on all levels of education in Canada. Many of them have left school to enter the armed services, war industry or government work. To counteract the teacher shortage in the elementary and secondary levels the provinces have temporarily relaxed their requirements for diplomas, offered accelerated or special summer courses leading to temporary certificates and encouraged former teachers, especially married women, to return to the profession. Besides offering accelerated courses, many departments of education have had to relax their requirements by accepting as teachers those with academic but not professional qualifications.

In order not to lose teachers to war industries, higher salaries have been offered. The median salary (x) for teachers in all publicly controlled schools in Canada has risen gradually in most provinces during the war years. The following table presents the median salaries together with the total numbers of such teachers in eight provinces (Quebec omitted) for the years 1939-42:

Prince Edward Island	Nova Scotia	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
(1939 teachers -- Median salary)							
667	3,409	2,767	21,721	4,100	7,415	5,963	4,076
\$483	609	550	1,019	707	552	861	1,297
(1940 teachers -- Median salary)							
665	3,429	2,782	22,003	4,262	7,422	5,887	4,145
\$482	612	541	1,034	715	608	865	1,302
(1941 teachers -- Median salary)							
654	3,349	2,756	21,829	4,155	7,353	5,797	4,185
\$422	627	588	1,055	748	710	881	1,321
(1942 teachers -- Median salary)							
657	3,447	2,770	21,680	4,171	7,203	6,044	4,096
\$474	638	608	1,085	783	725	935	1,331

The median salary for the above eight provinces as a group has shown a corresponding increase during the war years, as is indicated by the following table:

	1939	1941	1942
Teachers	50,118	50,078	50,068
Median salary	\$854	881	915

(x) The median salary is a point in the wage scale taken in relation to the total number of teachers. Roughly 50% of all teachers receive less than the median salary while 50% receive more than the median salary.

Complete statistics are not available for the year 1943, but indications are that the increase in salaries between 1942 and 1943 is more than the increase of the first three war years combined. For example, the median salary in Manitoba in rural schools of one room in 1942 was \$637. In 1943 it was \$732.

In 1943 the shortage of teachers became so serious that National Selective Service undertook measures to relieve it. By order-in-council on July 17, 1943, teachers were frozen in their profession. Under the order a teacher must continue at the teaching profession during the school year and may not leave to take other full-time employment, except in agriculture, unless under permit from Selective Service. Such permits are issued only in rare cases where the teacher's services happen to be more urgently needed than in the teaching profession. Teachers may still, however, leave school to join the armed services without a permit. They may also engage in temporary employment during summer vacations and in part-time employment during the school year so long as such work does not interfere with their teaching hours.

At present the shortage in the teaching profession has shifted from one of quantity to one of quality. Public elementary and secondary schools are now suffering from a shortage of qualified teachers rather than from a shortage in the number of teachers. During the academic year 1943-44 more than 100,000 Canadian children were taught by teachers with less than full professional qualifications. Since the war began, more than 5,000 stop-gap instructors have been employed. About 635 classrooms have been closed. As a result, there has been a noticeable lowering of standards throughout the Dominion, particularly in rural elementary schools. Forty per cent of the one-room rural schools in one province are now in the hands of youth fresh from high school. The work of the secondary schools has also suffered, especially since 1942, in the charge of persons with little or no training or experience in the subject fields of science and mathematics. In one province it has been estimated that the efficiency of teaching mathematics in the high schools has deteriorated at least 25%.

Some conception of the reduced efficiency of teaching on the elementary and secondary school levels is gained by directing attention to the tenure of teachers. The percentage of the total teaching group which has had one year's experience or less at the close of a school year indicates the rate of total net turnover in the profession. This turnover should be rapid enough only to facilitate the cultural and professional growth of the teachers. Beyond this it reduces the efficiency of the schools which are forced to accept an unduly large proportion of inexperienced teachers or teachers with very brief experience.

The rate of total net turnover in the teaching profession on the elementary and secondary school levels in Canada has risen considerably during the war years. Comparable statistics for the period are not available, but as early as 1941 the percentage of teachers who had one year's experience or less at the end of the school year ranged in rural schools from 27 in one province to 10.32 in another; in city schools, from 8.6 to 0; in all schools, from 24.5 to 7.6. For the whole Dominion the percentages were: Rural schools 13.3%, city schools 3%, all schools 10.2%.

Although teachers on the university level have never been subject to compulsory military service under the mobilization regulations, most universities are at present understaffed. Many staff members have entered the armed services voluntarily. Many have gone into war research projects which could not be conducted at their own universities. Many have gone into important government work for the duration of the war.

The drain on university staffs has been particularly heavy in the fields of science, economics and psychology, but there are few departments that have not suffered severely.

WARTIME
EMPLOYMENT
OF
STUDENTS
AND
TEACHERS

Students and teachers on the three levels of education in Canada have been helping to relieve the manpower shortage in industry and agriculture by accepting temporary and part-time employment. National Selective Service has been especially concerned to absorb into essential employment all teachers and students during summer vacations. Special attention is being given to employment on farms, and many of the provinces, through their departments of education, have shortened the school term by closing earlier and reopening later in order to permit teachers and students to work on farms. Many high schools now open as late as October 1. Furthermore, students of better than average ability are allowed to leave school earlier and to return to school later than the others if they attain a certain minimum standing. Provision is made for these students to catch up on the work they miss by means of intensive courses.

In some cases, secondary and even elementary school pupils have been organized into farm service forces by provincial government on a Dominion-provincial equal-cost basis. On one occasion university students were organized into groups of harvesters to work in the wheat fields of the western provinces. In October, 1942, when the government sent out a plea for help to save the Saskatchewan wheat crop, 4,000 easterners responded to the call. Half of these were students.

For a limited period of time before the end of the academic term, officials of local employment and Selective Service offices are located at universities and colleges to advise and direct students to summer employment. Arrangements are made to supply the students with the permits required before they can seek or accept employment.

Under these arrangements, special attention is given to the placement of science and engineering students by the Wartime Bureau of Technical Personnel. It is considered in the national interest that such students should engage in summer employment essential to the prosecution of the war, while at the same time it is desirable that summer work should advance the technical training of such students. With these ends in view, the Wartime Bureau of Technical Personnel compiles lists of available positions. The lists are restricted to positions in essential industries and are made up from the applications for student help received by the bureau from employers. Although there is no intention on the part of the Wartime Bureau of Technical Personnel to find employment for students or to allocate them to positions, its efforts in compiling the lists help to guide and supplement the efforts which the students, universities and employers are willing to make in order to put the long summer vacation to the best use.

Part-time war work is engaged in largely by pupils on the secondary school level. The type of work is relatively non-essential. Wartime conditions have supplied students from the ages of 12 to 18 years with a variety of after-school and week end employment in shops, hotels, restaurants, messenger services, places of amusement, street trades, domestic service and many other odd jobs. More than ever, pupils in rural areas are engaged in part time work on farms.

STUDENT
ENROLMENT

Increasing numbers of students have left the secondary schools before graduating in order to join the armed services or to accept relatively unskilled jobs in industry to which they are lured by the prospect of high wages. A comparison of the enrolment figures for the ages of 14 to 18 years and over reveals a steady decline in the school attendance of both boys and girls during the war years. The following table shows the number of pupils, 14 years of age and over, who were registered in the schools of eight provinces (Quebec excepted) during the first three years of the war:

Age	14	15	16	17	18	19 and over
1939-40	125,418	107,374	76,187	51,333	29,695	18,841
1940-41	124,630	101,593	70,435	46,710	26,053	15,486
1941-42	122,643	98,458	66,906	43,609	23,033	12,148

Both boys and girls are included in this table since there is little difference in the operation of their enrolment.

Complete records of the enrolment for the school year 1942-43 have not yet been compiled. The same tendency to decrease, however, is revealed by the following table which presents the enrolment figures for 53 high schools (about 5% of the total) representing all types of schools and all provinces except Quebec:

Age	15	16	17	18	19 and over
1939-40	4,992	4,594	3,383	1,860	1,088
1940-41	5,078	4,545	3,049	1,546	820
1941-42	4,650	4,095	2,675	1,306	722
1942-43	4,678	3,813	2,296	958	361

Comparable figures for Quebec are not obtainable for 1942-43. However, a decrease in enrolment similar to that during the first three years of the war in the other provinces is revealed by the following table which presents the Quebec figures, with the ages grouped for the years 1940-42:

Age	14-15	16-17	18 and over
1939-40	81,242	28,410	7,535
1940-41	77,731	25,977	7,141
1941-42	73,231	23,760	7,063

The enrolment in private as opposed to public, elementary and secondary schools, instead of decreasing, has increased considerably during the war years. Nearly all private schools are filled to capacity, and many of them have long waiting lists. More pupils than ever are being sent to private schools because of high wartime incomes; crowded public schools in over-populated areas; absence from the home on the part of parents who are in the armed services or in war industry; the lack of domestic help in the home. Also in the early years of the war the enrolment of private schools increased because many opened their doors to English war guest students.

The fact of an increased enrolment has resulted in a situation peculiar to private schools. These schools not only educate their students but they house and feed them as well. Private schools have had considerable difficulty in the last two respects because of the general lack of domestic help.

Student enrolment in Canadian colleges and universities is only slightly below the normal peacetime level. In some colleges it is even greater than normal. In all, there is a decrease of less than 10%.

The following table presents a review of the enrolment of full-time undergraduate students of the regular session by provinces for the academic years 1939-1942 inclusive:

	Maritime Provinces	Quebec	Ontario	Western Provinces	Canada
1939	3,236	10,943	12,316	8,873	35,388
1940	3,209	10,992	12,349	9,378	35,928
1941	3,089	10,859	11,777	9,114	34,839
1942	2,988	11,199	11,659	8,825	34,671

The relative stability in the total yearly enrolment during the war years tends to conceal several important changes. In the first place, the number of male students has decreased, while the number of women students has increased to a remarkable degree. The number of regular male students who have left college to enlist in the armed forces grows increasingly large and impressive. Secondly, the total student enrolment of men and women, particularly men, has during the last four years, shown a sharp decline in such fields as the humanities, education and law, while increasing numbers of students are presenting themselves for degrees in medicine, engineering and the physical sciences.

UNIVERSITY
STUDENTS
AND
NATIONAL
SELECTIVE
SERVICE

The more or less normal enrolment in Canadian universities during war years is not the result of a policy designed to spare the intellectual life of the country at the expense of the war effort. Educational leaders have at all times co-operated eagerly with the government in every contribution that could be made to the war effort. At the outset of the war Canadian universities offered their resources unreservedly to the government. Their scientific staffs, their professors trained in languages and the art of government their laboratories and equipment have remained at the disposal of the country since 1939.

The policy which has prevailed in respect of universities has been determined by the closest collaboration between the universities and the various departments of government concerned with the allocation of Canada's manpower. That policy is that, where it is in the national interest, educational interests will not be interfered with.

It is clear that National Selective Service has placed a definite importance on university training. Universities are recognized as being able to make a unique contribution to national efficiency in war as well as in peace. In realizing that trained scientific and technical men are needed for all the fighting forces as well as for war industry, National Selective Service has given due recognition to the fact that it is largely from the universities that such trained men come. At an increasing rate in the last five years, Canadian universities have been turning out engineers, medical men, scientists and research specialists for Canadian industry and the armed services.

The government's policy that, where it is in the national interest, educational interests will not be interfered with, clearly applies to those university students, whose courses lead them directly into war services. This policy, however, does not apply only to universities on the scientific and technical side. It applies to them also on the more purely academic side. Canadian universities have not been transformed from liberal arts colleges into occupational institutions. Enrolment in arts faculties is reduced, and their staffs have been depleted, but, except at the post-graduate level, the usual range of work is being carried on for the most part. Their situation reflects the attitude of the government as expressed in a published letter of the Prime Minister to the Canadian Social Science Research Council in 1943: "I wish to express on behalf of the government our recognition of the importance to our future as a nation, and to the cause for which we are fighting, of the maintenance of the liberal tradition of education in the humanities."

The responsibility of Canadian universities for the training of men and women during the present war must inevitably be augmented further by the fact that academic life all over the world is being seriously disturbed, and, in some places denied, especially

in occupied Europe and the Orient. The fact that the liberal arts course has remained open in Canada is thereby rendered all the more important. Canadian universities are making every effort consistent with national interests to continue their normal activities in the fields of instruction and research.

Canadian universities do have then a somewhat preferred position, based on the assumption that the student is best serving the national interests by educating himself before enlisting in the services. In return for his preferred position the college student must conform to strict military regulations.

Since the outbreak of war the military status of university students has been under constant consideration by the universities and the various government departments concerned with the allocation of manpower. Finally it was decided to set up a formal organization to consider and report on manpower problems affecting the universities in wartime. On December 27, 1943, the appointment of a University Advisory Board was announced with Arthur MacNamara, director of National Selective Service, as chairman; Dr. Sidney Smith, then president of the University of Manitoba, now executive assistant to the president of the University of Toronto, as vice-chairman, and H. W. Lea, director of the Wartime Bureau of Technical Personnel, as secretary.

Holding its initial meeting in Ottawa on January 6, 1944, the Board laid down the following policy in respect of university students:

1. Any male student of the age of 18½ years or more, who is subject to call under the National Selective Service mobilization regulations and who is enrolled in any of the following degree courses in any Canadian university or college shall be considered to be pursuing a course contributing to the prosecution of the war or in the national interest:

- (a) Medicine
- (b) Dentistry
- (c) Engineering or applied science
- (d) Architecture
- (e) Agriculture
- (f) Pharmacy
- (g) Forestry
- (h) Education
- (i) Commerce
- (j) Veterinary science
- (k) Specialized courses in mathematics, physics, chemistry, biology or geology or in courses which enable students to prepare and qualify for specialized courses in mathematics, physics, chemistry, biology or geology.

2. Any male student of the age of 18½ years or more, who is subject to call under the National Selective Service mobilization regulations and is enrolled in any degree course not enumerated in paragraph 1 above, will be considered to be pursuing a course essential to the national interest provided that in the regular session of 1943-44 he is in the upper half of all the students enrolled in the same academic year of his course as determined by the final examinations for the session.

3. Any male student of the age of $18\frac{1}{2}$ years or more who is subject to call under the National Selective Service mobilization regulations, who enrolls in 1944 for the first time in any degree course not enumerated in paragraph 1 above, will be considered to be pursuing a course essential to the national interest provided that in the regular session of 1944-45 he is in the upper half of all the students enrolled in the same academic year of his course as determined by the final examinations for the session.

4. Any male student permitted under paragraph 1, paragraph 2 or paragraph 3 above to continue his course shall be reported to the appropriate mobilization authorities under the National Selective Service mobilization regulations if he fails to do satisfactory academic work or fails to comply with the requirements of military training.

5. Any male student who has been required to leave a university or college by reason of the application of paragraph 2, paragraph 3 or paragraph 4 above and is subsequently rejected for military service by the mobilization board concerned, may be permitted by a university or college to resume his course provided that he presents a permit so to do issued by the appropriate National Selective Service officer.

6. No male student of the age of $18\frac{1}{2}$ years or more who is subject to call under the National Selective Service mobilization regulations, who is enrolled in a university or college for the regular session of 1943-44 and who is doing satisfactory academic work and complying with the requirements of military training, shall be called under the National Selective Service mobilization regulations until the end of the regular session of 1943-44.

7. No male student of the age of $18\frac{1}{2}$ years or more who is subject to call under the National Selective Service mobilization regulations, who had been enrolled in a university or college and subsequently ceases to attend a university or college for a period of one academic year or more shall be re-admitted to a university or college without the consent of the mobilization board concerned.

In short, no student "pursuing a course essential to the national interest" is liable to be called up under the National Selective Service mobilization regulations, provided he does satisfactory academic work and complies with the requirements of military training. In the former connection, up to January, 1944, about 2,500 students were dismissed from university for not being in good standing. In the latter connection a student may satisfy the compulsory military training requirements of the Department of National Defence by active membership in any one of the following organizations:

- (a) The Canadian Officers' Training Corps (C.O.T.C.).
- (b) The University Air Training Corps (U.A.T.C.).
- (c) The University Naval Training Division (U.N.T.D.).

Besides the regulation under which he must take military training in order to obtain a postponement of his military service, the university student is restricted in a number of other ways. Once he enters a course at a university, college or school he may not change that course unless the university, college or school authorities and the district officer commanding of the military district in which the institution is situated agree that the change is in the national interest or will aid in the prosecution of the war.

On graduation, no student may pursue post-graduate studies in any subject, unless in the opinion of the universities or college authorities and the district officer commanding, the pursuit of such studies is in the national interest or will aid the prosecution of the war.

Further, no Canadian student may pursue a course of studies outside Canada if such a course of studies is available at a Canadian university, unless

he has been pursuing such a course outside Canada, in which case he may be permitted to continue his course of studies to its normal completion, subject, wherever possible, to those regulations which would normally apply if he were at a Canadian university. The National Selective Service Mobilization Board may permit a student to leave Canada and may grant him a postponement order to pursue a course of studies leading to a degree at a university, college or school outside Canada if it is in the national interest or will aid in the prosecution of the war.

The foregoing regulations apply generally to all students. Special regulations apply to certain types of students. Some students continue their studies as members of the armed forces. Medical and dental students fall in this category. At the beginning of their clinical work (24 months before the end of internship) medical students are enlisted as privates in the Royal Canadian Army Medical Corps, go into uniform and receive private's pay and subsistence allowance. After their internship, they go immediately to training schools for R.C.A.M.C. officer rank and are then posted to overseas service. A similar program is in effect for dental students who are enlisted in the Royal Canadian Army Dental Corps. The government has set up the Canadian Medical Procurement and Assignment Board with regional committees whose business it is to see that all medical men in the country are serving to best advantage, whether in the armed services or to meet essential civilian demands.

The science student also is subject to special regulations. A science student is one who is pursuing a full time course of studies the successful completion of which places him in the class of technical personnel. Such courses are as follows:

Engineering:

- | | |
|-----------------------|-------------------|
| 1. Agricultural | 7. Forest |
| 2. Ceramic | 8. Geological |
| 3. Chemical | 9. Mechanical |
| 4. Civil | 10. Metallurgical |
| 5. Electrical | 11. Mining |
| 6. Electro-mechanical | 12. Physics |

Other Scientific Courses:

1. Agricultural science
2. Architecture
3. Forestry
4. General science courses (where the student spends more than half his time on scientific and mathematical subjects)
5. Honor science courses where the student majors in such courses as:
 - (a) Mathematics - physics
 - (b) Physics - chemistry
 - (c) Chemistry
 - (d) Biology
 - (e) Geology - mineralogy
 - (f) Biochemistry
6. Veterinary science
7. Home economics or household science courses.

The number of science students is under constant supervision in order to adjust the supply of technical personnel to the demand for them in industry and the armed forces. Before a student is permitted to begin or continue work as a science student he must make a declaration indicating whether or not he wishes to volunteer for service in the armed forces as a technical officer. The armed forces are canvassed as to the number and types of technical personnel they will need. If the number of volunteer students is not sufficient, any science student may be requested to accept status in the reserve army and undergo such military studies and duties as are required.

Every student who completes a course as science student and who has not volunteered for service in the armed forces must accept employment in such essential work as the minister of labour may require and remain in such employment so long as required. The employment of such technical personnel is strictly controlled, and neither the prospective employer nor employee may take the initiative in arranging for any particular employment. The employment must be arranged through the Wartime Bureau of Technical Personnel whose task it is to effect the most efficient distribution of technical personnel in relation both to the armed forces and to industry.

At the close of 1943 arrangements were completed to facilitate the selection of technical personnel for the armed forces from university science students graduating in 1944.

Travelling boards representing the technical branches of the navy, army and air force, together with officials of the Wartime Bureau of Technical Personnel, visited the various universities early in 1944 for the purpose of interviewing graduates for technical appointments.

Prior to the visit of the travelling boards, all students who indicated one of the services as their first preference were medically examined. While the boards were chiefly concerned with interviewing the 1944 graduates for all three services, a number of 1945 graduates in engineering, mathematics and physics was required by the navy and the army for summer training during the 1944 vacation, and these were selected at the same time.

The needs of civilian industry for technical personnel from the 1944 graduates were considered after the selection for the armed forces.

Women students as well as male students take war service training. In the early years of the war such training was on a voluntary basis, but now at most universities it is compulsory. Women must devote at least three hours a week to courses that are designed to prepare them for national service in time of war.

Particular emphasis is placed on health, and physical education forms the basis of all war service programs for women. In addition, most universities require women to study first aid or home nursing with the St. John Ambulance Association, usually in their first or second years. In their upper years they must choose from a variety of war service courses. These include basic training for all services in co-operation with the navy, army and air force, conducted by university units of the Red Cross Corps; special courses in such subjects as air raid precautions, gas and chemical warfare, firefighting, signalling, telegraphy, motor mechanics for transport driving, and other technical skills; sewing and knitting in the Red Cross workroom; canteen work; hospital work; social service work; Children's Aid work; Girl Guide leadership training.

With a few exceptions, all university women take one or more of these optional war service courses each year. The exceptions include students who are physically unfit, part-time students, married students who have home responsibilities, students who are already engaged in part-time war work and students in certain professional courses.

CHANGES IN
ELEMENTARY
AND
SECONDARY
SCHOOL
CURRICULA

Not all of the changes in Canadian educational institutions in the last four years can be attributed directly to the impact of the war. The war has brought to a climax a long struggle between educational objectives which has, in the last decade, effected changes which have been merely highlighted by the war. Especially is this true in respect of the changes which have taken place in recent years in the curricula and the extra-curricular activities of schools on the elementary and secondary school levels.

Within the lower grades of the elementary school systems, there is an increased emphasis on the subject matter relating to

religious instruction, health and nutrition, democratic citizenship and patriotism. Students of the upper elementary grades are given longer periods of instruction in matters relating to agriculture or shop work to make them more useful during summer holidays and in spare time throughout the year.

Certain protagonists have long been emphasizing the fact that a high school curriculum should train students for careers in commerce, industry, agriculture, etc., as well as for academic careers. Under the pressure of war with its varied educational demands the curriculum has been expanded into a diversified program. Old courses have been given new direction, and many optional subjects have been added with a view to allowing students a greater choice of studies. Health as a school subject has been emphasized to a much greater degree than before. Art has replaced the more formal drawing. English is now being taught more from the standpoint of appreciation than from the historical and didactic point of view. Geography and history are being merged with economics and civics in courses of social studies. Courses are being added to train students with practical interests in commerce, industry, agriculture, home economics.

The type of curriculum which is coming increasingly to be adopted is outlined in the Report of the Survey Committee of the Canada and Newfoundland Education Association. In actual operation, it consists of five departments, each of which prepares students for distinct objectives: (a) College preparatory department to prepare students to enter universities, normal school, etc. (b) Department of commerce to prepare students to enter the world of business. (c) Department of agriculture to prepare the students of the country to become good farmers. (d) Department of trades and industry to prepare boys to enter the mechanical trades. (e) Department of home economics to prepare girls for home-making and other occupations usually followed by women. Certain courses fundamental to each department are compulsory. These include English, health and social studies. In addition to these courses, each department has its own subjects peculiar to the needs of the students in it.

The composite school in which this curriculum obtains has the following programs of study:

College Preparatory	Commerce	Agriculture	Industry	Home Economics
English	English	English	English	English
Health	Health	Health	Health	Health
Social studies	Social studies	Social studies	Social studies	Social studies
Algebra	Correspondence	Chemistry	Algebra	Nutrition
Geometry	Business law	Soils and fertilizers	Geometry	Cooking
Physics	Bookkeeping	Animal husbandry	Chemistry	Textiles and dressmaking
Chemistry	Typing	Field husbandry	Drafting	Art
French	Shorthand	Farm bookkeeping	Choice of metal work	Interior decoration
Latin	Office practice	Farm mechanics	Wood work (building construction)	French
		Farm management	Electricity	Household management

In the regular work of the secondary schools a definite attempt is made to train students for entrance into active war work. Projects of vocational courses within composite schools, or the more purely vocational schools, are often directly connected with some phase of the war. In several schools, for example, students make model air planes according to blueprints of actual combat planes for use in R.C.A.F. schools. Other students are taught the fundamentals of metal work or woodwork in the school shops. Art classes include scale drawing and simple blueprint designs as an introduction to drafting. Mathematics, physics and chemistry courses are designed to prepare students for enlistment or to enter essential war industry. These courses of study are not new, but the subject matter chosen and the projects undertaken have been changed to meet the demands of war.

Cadet training, for some years abolished in many of Canada's secondary schools, has been revived. Each of the armed forces has cadet corps in operation, and the provincial departments of education have shown great willingness to assist the cadets of the three services. In the past such assistance has not always been uniform. While some schools conducted an army, navy or air force cadet corps, others have instituted defence training programs combining the main features of the basic training of all three services. The high schools of Ontario are examples of the latter, while those of British Columbia are examples of the former. In most provinces girls as well as boys take compulsory defence training of a sort adapted to them.

Recently an attempt has been made to integrate the various cadet training programs of the three services. An inter-service cadet committee has been established and a training syllabus drawn up that combines the chief features of the basic training programs of the cadets of the navy, army and air force. The syllabus, designed for a four-year course, is as follows:

<u>First Year</u>	<u>Third Year</u>
First aid	Chart reading
Ship recognition	Use of maps (2)
Air raid precautions	Signalling (3)
Fundamentals	Aircraft recognition
<u>Second Year</u>	<u>Fourth Year</u>
Signalling (1 & 2)	Option A:
Compasses	Signalling (4)
Aircraft recognition	Basic Navigation
Use of maps (1)	Air maps
	Use of maps (3)
	Option B:
	Navigation
	Meteorology
	Principles of flight

This combined syllabus is now being considered by the various provincial departments of education and is expected to go into effect in a considerable percentage of Canada's secondary schools for the academic year 1944-45. The course will require 40 to 50 hours of instruction a year to be given during school hours.

EXTRA-CURRICULAR ACTIVITIES The war activities carried on in elementary and secondary schools are many and varied. Thousands of pupils have taken part in salvage drives by making door to door canvasses and carrying the bundles to school to a total of many tons. Under the direction of teachers, many students have taken care of Victory gardens on school grounds and at home. First aid, air raid precautions and other community war work are closely linked with the regular work of the schools. War charities and war savings campaigns have met with astounding success. It is significant that the highest per capita contribution of any Canadian community to the Red Cross campaign in 1942 came from a small Alberta village where the collection was in charge of the local school.

In the fall of 1943, Ontario teachers and students in rural areas made a unique contribution to the war effort. With the co-operation of the Department of Education, the Department of Agriculture organized rural school children and teachers along with farmers in a campaign to collect milkweed for experiments in making synthetic rubber. Pupils in rural schools co-operated by stripping milkweed leaves, drying them at home and taking them to school. The teachers were made responsible for assembling the material, weighing it and attending to its transportation to a central point or points. The district school inspector then forwarded the material to Ottawa where the National Research Council established a pilot plant to conduct the experiments in making synthetic rubber. Thousands of pounds of milkweed leaves were collected by the children. Collections began early in August and continued well into the fall. The government paid for the material at the rate of three cents a pound plus a small bonus for especially dry, high quality material. Cheques were sent to the inspectors to be distributed to each teacher. The money was used for school purposes, the Red Cross or in a few cases, paid to the individual pupil at the discretion of the teacher.

In addition to contributing to the war effort through their schools, Canadian pupils are also making a vast contribution through such organizations as the Junior Red Cross, Boy Scouts, Girl Guides, etc.

Two last effects of the war on elementary and secondary education must be mentioned. Since the war there has been an increasing demand for more attention to vocational guidance for students on the secondary school level. Many urban school staffs now include psychologists and teacher-counsellors. The problems of individual talents and aptitudes are studied sympathetically with a view to eliminating the social waste caused by vocational and professional misfits in the occupational world. Study of current opportunities and trends in occupation forms the basis of intelligent selection of training for future citizenship.

On February 15, 1944, it was announced that the three national engineering and scientific institutes which sponsored the Wartime Bureau of Technical Personnel in the Department of Labour had undertaken to organize committees of counsellors across Canada to provide vocational guidance to pupils and advice in regard to scientific and engineering courses to parents and secondary school staffs. The three national institutes are the Engineering Institute of Canada, the Canadian Institute of Chemistry and the Canadian Institute of Mining and Metallurgy.

The national committee set up to supervise the counsellor work consists of representatives from the three institutes. Committees of counsellors are being established in leading urban centres wherever feasible. Already local committees have begun work in some centres. The services of the counsellors are given voluntarily, and their work is correlated with the national interests and with existing National Selective Service regulations.

On and below the level of elementary education, the war has brought forth a type of program relatively new to Canada beyond the experimental stage. This program is designed to solve the problems of the day care of children of women who are employed in war industries. This problem has been particularly acute in central Canada.

Taking the initial step in providing for the care of such children, the Dominion Government obtained authority through an order-in-council passed July 20, 1942, to establish child-care facilities for war-working mothers in any province requesting such aid on a Dominion-provincial equal-cost basis. Under the agreement, provincial ministers of public welfare establish provincial advisory committees which in turn establish local committees. These committees have general supervision over the operation of day care projects and work in close conjunction with local Selective Service officer, where war working

mothers may register for the day care of their children. The local committee collects information and reports to the provincial advisory committee concerning the needs of the community.

Ontario and Quebec signed agreements with the federal government in July and August, 1942, respectively. The province of Alberta was the third to sign in September, 1943.

Under the agreements, there are three types of day care provided for the children of women engaged in essential industry: The day nursery, the school project and the foster day care program.

Up to June, 1944, 28 day nurseries had been approved, most of them in Ontario and Quebec. These units are designed for pre-school children from two years of age to the age (usually six) at which a child begins school in his particular locality. There must be 20 or more such children requiring care in the particular locality before the local committee can set up a day nursery. A charge of 35 cents is made for the first child of a family plus 15 cents for each additional child. However, where the two parents are employed on an average wage basis, the fee is 50 cents a child.

Day nurseries operate at the convenience of the locality. Usually they open at 7.30 a.m. and do not close until 6 or 6.30 p.m. when the mothers can take their children home. During the day the children eat, sleep and play at regular hours under constant supervision. At each unit there is a full-time paid director or person in charge who has been adequately trained in nursery education, and a second full-time paid person adequately trained as an assistant. Additional personnel may be composed of voluntary workers recruited from women's voluntary services, church organizations, recreational and educational groups in the community.

The establishment and supervision of day nurseries is the primary concern of the local committee set up by the provincial advisory committee. The school project is the responsibility of the local public and separate school boards which receive applications for school care from the local offices of National Selective Service. The local board of education may establish a project in any school where, on the basis of the applications, there are at least 20 children requiring day care. A charge of 25 cents is made for the first child of a family plus 10 cents for each additional child.

The school project is designed to provide day care for school-age children during non-school hours (for example, 7.30 to 8.30 a.m., 12.10 to 1.10 p.m. and 4 to 6 p.m. during school days and from 7.30 a.m. to 6 p.m. on Saturdays and holidays when necessary). During these hours the children indulge in constructive recreational activities under qualified supervision. These include craft work, music, stories, games, drills and the like. Light lunches are served both in the morning and the afternoon in addition to the noon-day meal. Up to June, 1944, 33 school projects had been approved in Ontario and Quebec.

The actual operation of a school project is in the hands of a supervisor, usually the principal, who may appoint assistant supervisors from his teaching staff as the need arises. Teachers are, of course, paid for their additional work in connection with the school project. If necessary, qualified supervisors may be hired by the school board.

In establishing foster day care programs, the local committees make use of the facilities of the local Children's Aid Society. This type of program is designed to provide day care for such children as neither the day nursery nor the school project can accommodate (for example, children with physical or mental handicaps or highly nervous children). At present there is no public demand for foster day care, and no such programs have been established.

The primary object of all day care centres, including both pre-school and school units, is to provide adequate supervision for the children of women who are employed in such industries as are defined by National Selective Service from time to time as essential. However, applications for day care may be accepted from women employed in non-essential industries if there is a definite need.

At first not more than 25% of the children in any day care centre could be accepted from mothers working in other than war industry. In April, 1944, however, an amendment in respect of Ontario, and in May, 1944, one in respect of Quebec stated that the Minister of Labour may agree to share with the province the expenses of any centre where more than 25% of the children were those of mothers in non-war plants. Priority of course is still accorded children of mothers in essential industry.

VOCATIONAL
SCHOOL
CURRICULA

Vocational schools have naturally received an added impetus because of the wartime demands for industrial training. The war has not effected changes in the curricula to any marked degree. The general program of subjects has been built up and expanded over a period of years as a result of experiment and experience in co-ordinating manpower supply with industrial demands rather than as a direct result of war requirements. Certain phases of practical work, however, such as welding, radio, airplane mechanics and draughting (which has in many cases been extended to girls) have received added impetus on account of the war.

In one respect Canada's vocational schools are closely related to the war effort. They help to provide facilities for the training of industrial manpower under the Dominion-provincial war emergency training program.

The Dominion-provincial war emergency training program, inaugurated in June, 1940, developed out of the Dominion-provincial youth training program. Both programs were conducted under the Youth Training Act, 1939, until this act expired on March 31, 1942. Further legislation was enacted on August 1, 1942, under the title, Vocational Training Co-ordination Act. This act provides for the carrying on of whatever types of training are needed for the war effort and for the continuation of approved projects formerly carried on under the Youth Training Act. It also provides for various types of training which may be desirable in the post-war period.

The war emergency training program is conducted by means of agreements between the Dominion and provincial governments. Agreements are in effect with all provinces except Prince Edward Island. As no suitable training facilities are available and as there is very little demand for industrial workers in Prince Edward Island, trainees from there receive their training at the centres in Nova Scotia or New Brunswick.

The Dominion government bears virtually the entire cost of the war emergency training program. Provincial governments pay certain administrative charges and 50% of the cost of machinery and equipment.

The war emergency training program conducts several types of projects: Full-time pre-employment courses lasting from two to six months; part-time training, mostly of a technical nature, for persons already employed in industry, to facilitate their upgrading and promotion; training in plant schools in industrial establish-

ments lasting from two weeks to three months and given chiefly in occupations for which training cannot be given in vocational schools because of the lack of specialized equipment. In addition, job instructor training, job relations training and job methods training are made available to foremen, supervisors, etc.

Weekly subsistence allowances are paid to trainees to enable them to undergo full-time pre-employment training. These allowances for civilians are as follows:

- Single trainees living at home, \$5.
- Single trainees living away from home, \$7 to \$9.
- Heads of families living at home, \$13.
- Heads of families living away from home, \$18.

Travelling expenses of trainees from their homes to a training centre and to employment are paid when necessary. Further, all trainees in full-time pre-employment classes are now covered for medical aid and permanent disability under the Workmen's Compensation Act.

Special mention should be made of the full-time pre-employment courses for men honorably discharged from the armed forces. The war emergency training program forms an important part of the rehabilitation program of the Department of Pensions and National Health. Acting on the principle that, in a world which demands specialized skills, the citizen most useful to the community as well as to himself is the one who has specialized training, the Department decided to give full-time vocational training to any and every discharged serviceman who needs it and who is considered by age, aptitude and inclination as likely to benefit from such training.

Under the war emergency training program the ex-serviceman is given preference over the civilian in his need for vocational training. Such training is given to him free of charge for a period equivalent to his length of service with a maximum of 12 months. If service is longer than 12 months he may continue beyond the 12-month period if necessary to effect re-establishment. While being trained, the ex-serviceman receives maintenance allowances on a scale determined by the Department of Pensions and National Health. A single man gets \$60 a month, and a married man \$80 a month. Further, in the case of a married man, these maintenance benefits are supplemented by allowances for children on the same scale as that which operates under the Dependents' Allowance Board.

In addition to industrial classes for civilians and ex-servicemen, the war emergency training program also conducts courses for tradesmen in the armed forces. Enlisted men are selected and follow a syllabus drawn up by their respective services. The courses last from three to eight months, those for the navy being substantially longer than those for the other services.

On March 31, 1944, the war emergency training program completed the fourth year of its operation. From its inception up to that date, the gross enrolment in all types of industrial training courses was as follows:

Training in industry.....	213,118
Army tradesmen.....	40,295
Navy.....	7,429
R.C.A.F. tradesmen.....	64,184
Rehabilitation (discharged persons from the forces).....	3,059
Total.....	<u>328,085</u>

In addition to the measures which have been taken to train men and women for the war effort under the war emergency training program, the

Dominion-provincial youth training program has been continued. Since the war the training under this program has been closely related to the war effort. It comprises chiefly agricultural and rural training for young men and women.

Rural homecraft, home nursing and home economics form the general pattern of training for women, while training for men is given in farm mechanics and certain general and specialized types of agricultural work. Occupational and apprenticeship training is also given in a number of provinces, and, in addition, classes in citizenship and physical training.

Enrolment for agricultural and rural training of the above types in the fiscal year 1942-43 was 11,998 and in 1943-44, 3,116. Main reason for the decrease was that, due to the shortage of farm labor, many of the young people could not be spared from their farm duties to take the courses.

STUDENT
AID

A part of the peacetime youth training program which has been geared to meet the needs of war relates to student aid. In the fiscal year, 1943-44, 1,918 university students received such aid, chiefly in those courses which supply the trained men needed by the armed services and war industries.

Of the total number assisted, 402 students studied medicine, and 84 dentistry. Students in these courses had to be in the second or later years in their work in order to receive aid. In engineering, 582 students, and in science, 226 students were assisted. Engineering and science students are assisted, if they qualify, in any year of their course. Those helped in engineering were registered in civil, metallurgical, electrical, chemical or mechanical courses. In science, registrations were in mathematics, physics or chemistry.

Although the scheme is aimed primarily to help students in medicine, dentistry, engineering and science, a limited amount is available for students in home economics, agriculture, nursing and teaching in Prince Edward Island, Quebec and the four western provinces. As many as 435 prospective teachers and 189 in miscellaneous essential courses were also assisted.

To qualify for financial assistance, students, except those intending to enter the teaching profession, must be registered in a full-time course leading to a degree in a recognized university. Moreover, they have to have better than average academic standing. If they should fail to maintain the university's standards, they must, except in special cases, withdraw from the university. They must, furthermore, be in need of the assistance in order to continue their courses. Finally they must sign an agreement to make their services available either in the armed forces or in industry on graduation.

Determination of the types and numbers of students to be assisted is made on the recommendation of the Wartime Bureau of Technical Personnel of the Department of Labour. Individual students are selected by a committee for each province or university on the bases of academic merit and financial need. New students entering science and engineering courses from secondary schools are selected on the same bases by high school principals in co-operation with the Wartime Bureau of Technical Personnel.

In some cases student aid is given by means of an outright grant, in others as a loan, and in some others by a combination of both. Arrangements between the Dominion and each of the provinces (except Ontario) place the assistance on a 50-50 basis between the Dominion and the provinces. In the case of Ontario, as that province did not contribute, federal assistance was given in each case as a loan to the individual student.

The amount of financial assistance is graded according to the need of the individual student with a maximum of \$300 in any one year. In the fiscal year 1943-44 a total of \$200,000 was given jointly by the provinces and the Dominion in the form of grants, while the provinces lent an additional \$40,000 and the Dominion an additional \$180,000. In order to speed the graduation of doctors and dentists, the universities have accelerated the courses in these two faculties by shortening the summer vacation period. This entails additional cost for which the universities are reimbursed by the Dominion government. Besides the student aid which is available to civilians under the youth training program, student aid on college level is also available to men and women honorably discharged from the armed forces under the rehabilitation program of the Department of Pensions and National Health.

Many men and women in the armed forces enlisted either before they reached college level or during their university careers. Many others are obtaining matriculation or university credits while on active service through the Canadian Legion Educational Services. Under the rehabilitation program, these men may receive college educations free of charge for a period equivalent to their length of active service with the armed forces. Furthermore, ex-servicemen with college degrees may pursue post-graduate studies on similar terms. Moreover, they will receive maintenance allowances while going to school at the rate of \$60 a month for a single man and \$80 a month for a married man. Further in the case of a married man, these maintenance allowances are supplemented by allowances for children on the same scale as that which operated under the Dependents' Allowance Board.

According to preferences shown by men and women in the armed services, it has been estimated that from 40,000 to 60,000 plan to attend university after the war is over. Some of those discharged since the war began have already availed themselves of the educational benefits offered them under the rehabilitation program of the Department of Pensions and National Health.

In order to get a college education free, ex-servicemen and women must demonstrate their ability to handle the work. They must present certificates of educational standing and a statement of eligibility for admission from a recognized university. In respect of these formal requirements, some modification may be necessary. They have to be adjusted reasonably to the capacity of men and women who have experienced the mental disruption and physical hardship of the battlefield. The formal admission requirements, accordingly, are not so high as to admit only the ultra select, but on the other hand they are not so low as to admit incompetents. Further, the serviceman is obliged to meet the required university standards as he proceeds in his course. Should he fail to do so, he is automatically dismissed from the university.

CHANGES IN
UNIVERSITY
CURRICULA

As a result of the impact of war university curricula have undergone a variety of changes. New courses have been added, and old courses accelerated.

In May, 1942, at a conference with the government, the universities were informed that the number of engineers and scientists being turned out was far below the needs of the immediate future, and it was agreed to speed up science courses. In the practical field of engineering and similar courses, it was decided that nothing could be gained by eliminating the training which the students obtain in the war plants, in the mines and in construction operations during the summer months. It was therefore impractical to accelerate the courses by eliminating the summer vacation. Another method was adopted. More students were admitted to the courses than is advisable under normal conditions, so that classes are now crowded to over-capacity. To obtain more engineering students, very able men with only junior matriculation standing are selected for an eight-weeks intensive summer course in mathematics, physics and chemistry. These students are then rushed into the first year of applied science. In this way a year is saved, since the admission to applied science is normally senior matriculation standing.

In February, 1942, it was decided to speed up medical courses by eliminating the summer vacation. In June, 1944, however, most universities discontinued the accelerated course in medicine beginning with those students who entered the course in the fall of 1943. Experience had shown that, in this field particularly, efficiency on the part of students and teachers was being sacrificed to speed. The accelerated course will continue, however, for those students who began the course before the fall of 1943.

At some universities other courses have also been accelerated. In the summer of 1941-42, one university instituted a special 12-weeks summer session, which began on June 15, and courses were offered covering a very wide academic range. It was provided by regulation of the faculty that students who successfully completed a full program of two courses in the summer session would be exempt from approximately one-half of a normal year's academic work. A student who attends regularly throughout three normal sessions and two wartime summer sessions would thus be enabled to fulfil all the requirements for a bachelor of arts, science or commerce degree during a period of three calendar years. At present many universities have adopted this method of accelerating arts courses.

Actual changes in university curricula effected by the war have been largely in science courses for the benefit of industry and the armed forces, but nearly every department in Canadian universities has related its work to the war effort. Medicine, engineering, dentistry, forestry, nursing, occupational and physical therapy are obviously so related. In the faculty of arts, the pure sciences and mathematics and physics, English, history and modern languages are definitely making a war contribution. Economics and commerce are linked with the home front as well as with certain phases of overseas activities. The faculty of education is seeking to supply the need for teachers in the schools. Special courses of lectures, in addition to regular academic programs, have sought to state the fundamental issues of the war, its ultimate causes and the economic and financial problems involved.

About one extremely important phase of university work in relation to the war effort, that is, research, little can be said.

For reasons of security, details about research work on war projects cannot be given. Suffice it to say that programs of research on war problems for the government have been and are being conducted in many departments such as bio-chemistry, chemistry, physics, hygiene, medicine, pathology, electrical engineering, astronomy, psychology. These are but examples. A large part of the time of many members of faculty is now given to this work. Large corps of competent junior investigators are busy in many laboratories.

Many of these researches are of a confidential nature, and the investigators are sworn to secrecy. They are carried on for the government directly or through the National Research Council which provides the funds for the assistants to university staff members and for necessary material and equipment. The National Research Council acts as a liaison group co-ordinating the armed services on the one hand and the universities on the other. When the story is finally written, the work of the council and the universities in furthering the war effort through research will be a notable chapter.

According to the needs of industry, the science courses at most universities have received new emphasis and assumed modified direction under the Departments of Defence and of Munitions and Supply. Almost every university in the Dominion has instituted new science courses for the benefit of the armed forces. Nearly every campus is dotted with student sailors, soldiers and air-men preparing themselves for technical work in the services.

In October, 1940, a call from the Canadian government for volunteers for special radio service revealed the fact that technically trained persons of this sort were not available. In March, 1941, negotiations were begun with Canadian universities with a view to having them undertake special radio training for the armed services. Since that time the universities have been giving special courses in radio for the training of radio technicians in the navy, army and air force. The courses in radio mechanics constitute one of the more important contributions of Canadian universities to members of the armed services. Other courses for enlisted men include mathematics for air and marine navigation, meteorology and dentistry for dental technicians. The work shops and engineering laboratories have been used in a number of ways for wartime training. Members of the army have come regularly to be trained in welding, smithing and iron-making.

At the request of the Department of National Defence, Canadian universities have instituted a special army course providing general fundamental training for potential officers of the technical services. Conditions of eligibility require that candidates have senior matriculation standing or its equivalent. Only men between the ages of 17 and 22 years, in medical category A, are accepted. They are enlisted as privates in the army, and, after taking the required basic military training, they are posted to various universities. The course is of eight months' duration and emphasizes mathematics, physics and English for army needs. The government pays the cost of their training and maintenance while, in addition, they receive the regular pay of their rank. At the end of their training they go on active service.

A special feature of this army course is that the universities have agreed to grant to men who successfully pass the course a year's credit towards a science degree. After the war, these soldier students will be able to go on from where they left off, assisted by benefits available to them under the rehabilitation program of the Department of Pensions and National Health. Thus the Canadian university army course gives properly qualified men an opportunity to prepare for commissions in the active service and at the same time to begin work towards university degrees while in training.

A similar course has been designed for members of the air force. Pre-air crew courses of the R.C.A.F. are given at eight universities. Designed for men whose previous education is not up to junior matriculation standing, they supply instruction in mathematics, science and other subjects. R.C.A.F. officers

act as instructors, and the courses last from four to eight weeks.

Courses in all matters relating to government have received added impetus from the war in all Canadian universities. In most cases old courses have been revised and new ones established in view of the probable demands for experts in this field during the immediate post-war period. Special emphasis is placed on comparative studies of the municipal system of Canada, the United Kingdom, the United States, pre-war France, Switzerland and other European countries. Pursued against a background study of economics and political science, these courses are becoming more and more designed to train men for the important work of reconstruction in Europe after the war.

The great need for such men has been recognized, and, on December 6, 1943, the Royal Military College at Kingston opened a special course under the joint auspices of the Departments of National Defence and External Affairs. This civil administration staff course is designed to train Canadian officers for active posts in the local administration of conquered enemy territory and allied territory freed from enemy occupation.

Civil administration subjects taught in the course are designed to give an understanding of political and economic conditions and of certain technical questions which civil affairs officers will require in their work. Military subjects are included to ensure the co-operation of civil administration officers with operational staff. The importance of this course may be judged from the fact that the advance of allied forces in Europe gives rise to problems of administration and organization, including aid, relief and reconstruction, which require immediate attention long before local civil authorities can be established to assume responsibility.

The first civil administration course of about two months' duration consisted of 24 selected officers from the navy, army and air force between 35 and 50 years of age with ability and experience in the field of administration. Similar courses have been given at Wimbledon, England, the University of Virginia and Columbia University. Several Canadians have been trained in England and are now working as civil affairs officers. Canadians in the United Kingdom will continue to attend the Wimbledon course, while the course at the Royal Military College will be held for officers now in Canada.

Although the government defrays the expenses of all members of the armed forces who are also students at university, the universities themselves provide the accommodation - classrooms, quarters and messing. In many cases civilian students are not able to obtain accommodation in the school dormitories and dining halls because these have been given over to the navy, army and air force. In all cases the increased activities of the universities in relation to the armed services have been integrated with the normal academic activities which have suffered inconvenience rather than curtailment.

In addition to the courses which Canadian universities have instituted for the armed services, several other new courses have been given as a result of the war.

Special war courses have been given by Canadian universities in the field of personnel management. Sponsored by the government, these courses, begun in the summer of 1942, formed part of the Department of Labour's direct attack on the many labour administration problems in new and rapidly expanding war industries. The courses were established for persons already employed who were potentially available for personnel work in war industry. Special preference was given to applicants sponsored by companies engaged in war production.

The courses required four weeks' full-time study under experienced personnel managers lent by industry. The four weeks' study, however, was spread over a period of from three to four months so that, in the pauses between classes, the students would have the opportunity to apply the lessons

to their work in their own plants. No tuition or other fees were charged for these courses, and the Department of Labour paid the necessary travelling expenses of all selected applicants who successfully completed the course. Living expenses were paid either by the students themselves or by the firms which sent them.

Another special war course has been given for architects by Canadian universities. In this course, qualified architects were especially trained in the elements of structural detailing to equip them for war emergency work. This course was instituted at the request of the Wartime Bureau of Technical Personnel which was confronted in 1942 with a considerable demand for architects to do structural detailing in steel, reinforced concrete or wood. The courses were of 10 weeks' duration and were free for those qualified to attend.

In August and September, 1943, a number of Canadian universities offered a special course for educational and other selected officers of Canada's three armed services whose task is to help servicemen and women to follow world events. The course was arranged with the universities by a joint committee composed of the directors of education of the navy, army and air force, representatives of the Canadian Association for Adult Education and of the Canadian Legion Educational Services.

The principal aim of the course was to give instruction in discussion group techniques and to make available the latest information on current affairs. The courses were general and not intended to present any particular social, economic or political theory. They were sub-divided under five headings: "What We Are Fighting For," "The War Today," "The Contestants in the Struggle," "What of the Future" and "Method of Conducting Progress of War Classes and Current Events Discussion Groups."

The findings of the physical examination of recruits by the Department of National Defence have given considerable impetus to primary and secondary school medical inspection and have made health education and nutrition "priority subjects" in the school curriculum. To provide qualified instruction for the subject of health education, a new university course has been established in one university leading to the degree of bachelor of physical and health education. The course covers three years and is designed to train men and women as instructors of the proper exercise and healthful living habits necessary to maintain general health and to develop physical, mental and emotional co-ordination.

The subject of health and physical fitness has also received added emphasis in the education of college students. Physical training programs at Canadian universities have been purposely adapted to the needs of a country at war. After World War I physical training was made compulsory for most first and second year college students, so that the programs in effect at the outbreak of hostilities in the present War only required intensification.

At one typical university, the program in physical training for the last 25 years has encouraged all the fundamental activities of calisthenics, apparatus, matwork, rope-climbing, wall-bar exercise and class combat activities in boxing and wrestling. The aquatic program has included "learn to swim" classes, intermediate swimming, speed swimming and life-saving.

With improved physical fitness as the aim, the program at this university was intensified in 1942, with increased emphasis on strength and endurance activities. The required program has been extended to include activities which were only optional before the war.

Because the present theatres of war include many combat areas on and around water, experimental work has been done in connection with the aquatics program. University standards in swimming and life-saving have been raised and adapted to meet urgent wartime needs.

Physical training programs are in effect in all Canadian universities, with modifications for women students. These programs, aiming to develop and to maintain general physical fitness as a means of improving the general functional efficiency of the individual, definitely prepare students, mentally as well as physically, for entrance into the armed services.

ADULT
EDUCATION

The war has had a notable effect at the level of post-school education. The necessity for public instruction concerning the issues of the war and the problems of the post-war world has stimulated adult education projects generally.

Canadian universities have been making a distinctive contribution to adult education through their summer courses and correspondence courses. Twelve of the 19 degree-conferring institutions have such courses and regularly give credit in various subjects toward a bachelor of arts degree and, in some cases, a master's degree.

The extension activities of all universities have assumed as part of their task the interpretation of the war, the issues involved in it and the problems of the post-war world.

The extension departments of most universities cooperate with various organizations devoted to the education of adults. Two such organizations are the Workers' Educational Association and the Canadian Association for Adult Education. The W. E. A., with the co-operation of the universities, has established evening classes, week-end conferences and seasonal schools throughout the Dominion. Study courses include economics, public speaking and administrative labour problems, international affairs and cultural arts.

The Canadian Association for Adult Education, established in 1935, is a national organization for the co-ordination of all existing agencies engaged in the education of adults. Through conferences, the use of radio for adult listening groups and leadership training courses, the C. A. A. E. has, during the last years, steadily increased public interest in informal adult education as a means of improving public morale and of broadening the understanding of and interest in public issues of a national and international character.

One example of this work on a national scale is seen in the national farm radio forum, financed and directed by the C.A.A.E. in co-operation with the Canadian Federation of Agriculture and through the services of the Canadian Broadcasting Corporation. The farm radio forum, first presented in 1940-41, is concerned to promote discussion of the various problems which beset Canadian farmers in their important work of producing food. These problems have been highlighted by the war, and the farm forum has been especially significant in promoting critical study of them. It has also stimulated co-operative action in the use of farm help and equipment and in the organization of credit unions.

Another example of the work of the C.A.A.E. is the highly successful Community Life Training Institute centred in Simcoe County, Ontario. The educational activities of this county-wide plan, which was started in 1937, have now been adopted by three other counties in Ontario. The plan of action in Simcoe County calls for the use of rural schools as centres of night-school studies leading to community improvement. The C.A.A.E. has enlisted the support of the departments of education, farm organizations, Women's Institutes, school teachers and leaders of the churches.

Another venture of the C.A.A.E. is the citizen's forum, the promotion of which may be attributed directly to the war. Designed as an urban counterpart to the national farm radio forum, the citizens' forum is an organization composed of thousands of small groups of persons actively interested in considering the problems affecting the post-war order of society. Citizens' forum committees representing various educational and civic bodies have been established in all provinces and in many towns and cities to organize the discussion groups or local forums. These local forums are being supplied with a series of 20 printed pamphlets by the Canadian Association for Adult Education. These pamphlets form a complete study group course in themselves, but they were written to accompany and supplement the Canadian Broadcasting Corporation's weekly broadcast, "Of Things to Come." This program, first offered in 1942, presents outstanding speakers on the various problems which Canada will face in the post-war world such as health, social security, employment, public and private enterprise, agricultural and industrial development, international relations. These broadcasts, along with the study material distributed by the C.A.A.E., provide a basis for discussion in the individual groups which compose the citizens' forum.

EDUCATION
FOR THE
ARMED FORCES
FORCES

The most outstanding adult education project during the war years is the program of education that has been developed for the armed forces. For the first time in the history of Canada an educational program, identical in the nine provinces and extending beyond Canadian borders to Newfoundland, the United Kingdom and even into Italy and Germany, is in operation. The responsibility for that program is now shared by the three armed services and the Canadian Legion. Courses are available also to members of the Royal Navy and of the air forces of the United Kingdom, Australia and New Zealand who are based in Canada, as well as to the Canadian Fire Fighters, British prisoners of war and Canadian civilians interned abroad.

At the outbreak of war the Canadian Legion set up the Canadian Legion Educational Service (CLES) under the authority of the Department of National Defence and offered to the three armed forces assistance in providing educational and recreational services. The specific objectives were threefold: To provide the men and women of the forces with the higher academic and technical qualifications required for modern mechanized warfare; to provide long-range preparation for demobilization and re-establishment in civilian life; to maintain the morale of the forces during periods of inactivity by providing constructive study and recreational activities.

Set up by the minister of national war services in 1940, a national committee on education of the Canadian Legion War Services is composed of representatives of the Canadian Association of Adult Education, the Canadian and Newfoundland Educational Association, the Department of Pensions and National Health, the directors of education of the three armed services and two representatives of the Canadian Legion. Regional sub-committees have been formed in 12 areas of Canada and in Newfoundland, with prominent local educationists as chairmen. Administrative headquarters for the program are in Ottawa and work in close relationship with the Department of National Defence and with provincial educational authorities.

Educational organizers were appointed for each military district in Canada, and provision was made for overseas services. These organizers have university education or its equivalent, with teacher training experience where possible. The Department of National Defence co-operated by providing educational officers from the commissioned ranks of units in both Canada and the United Kingdom to assist in the organization of field services. The activities of these officers include registration of students, individual tests and appraisal of the students' educational status, organization of classes, helping instructors in teaching methods and actual instruction.

Every course or educational project for service personnel is originated by the education officers of the services themselves. If the project is of a non-service nature it is then discussed with the CLES regional committee on education, and the probable cost and equipment needs estimated. The proposal is then scrutinized by the National War Services Funds Advisory Board, and its recommendations are passed to the minister of national war services. This board, composed of civilian volunteers, was set up to supervise the budgets of other civilian volunteer groups (in this case, the Canadian Legion) which operate on grants from the Department of National War Services.

Once the proposal has been approved, the Legion grants funds, books, teachers or other facilities, and the educational project is put in operation by the service interested.

Canadian and British universities co-operate readily with the Canadian Legion. Men stationed in Canada and the United Kingdom are often able to attend local night classes or short courses at a university situated in their military district. In this case members of the staff give their time and energy as a war service. The facilities of university extension departments have frequently been used by the Legion in conducting its correspondence courses.

A considerable part of the Legion's educational program is conducted by means of correspondence courses. These are always voluntary, for the most part free and are of four main types: Elementary school, high school (including academic, commercial, technical and vocational), university and special service courses. On satisfactory completion of a year's credit in the subject, a certified record is entered in the serviceman's permanent military record at National Defence Headquarters.

Sixty-seven text booklets have been prepared by the CLES with the help of provincial authorities; more than 227,800 of them have been distributed free. Total registration from the three services up to the end of March, 1944, was 75,700, and 195,000 papers have been corrected; 2,380 students have already received certificates; and more than 1,000 a month are currently signing up for studies. Courses in virtually every subject are provided. Enrolment is highest in technical courses, but academic courses, especially on the junior matriculation level, are popular.

Ten Canadian universities have co-operated in supplying correspondence courses at greatly reduced rates. Fees vary from \$2 to \$10 for each course, and the student must buy his own books. Credits for work done are, broadly speaking, interchangeable among Canadian universities. During four years up to February, 1944, 5,385 students enrolled in university courses - 3,021 from the air force, 1,501 from the army, and 873 from the navy.

Provided jointly by the CLES and the service concerned are classroom courses in a large number of subjects. During 1942 and 1943, 6,956 classes were held, many attended by members of more than one service. Attendance at these classes was more than 160,800.

To supplement the work of the Legion's educational services and to provide reference library material, a modern library system has been established with headquarters at Ottawa. Approved works on technical and cultural subjects

have been selected by professional librarians and authorities in the navy, army and air force for distribution to the various military districts. These libraries function under recognized library science systems and receive the co-operation and assistance of the librarians' associations. The library service includes more than 300 different textbooks and 71,324 reference books in French and English.

During about the first two years of the war, education for the Canadian armed services, apart from their service training, was solely the responsibility of the CLES. Since the second year of the war, however, each service has set up its own educational establishment - each one separate and distinct from the others and administered separately from auxiliary services. All continue to make use of the educational facilities developed by the Legion.

It remains a CLES task to make available the text-book courses and library books to supplement them and to provide for services for the merchant marine. The CLES now is able to direct more attention to the longer-range problem of assisting in preparation for demobilization and rehabilitation.

A new series of courses, strongly vocational in emphasis, is being planned, and collaboration is being arranged with the agencies responsible for the administration of rehabilitation measures. Further emphasis on work at the university level is also in view, with special attention to the needs of prisoners of war.

The CLES has been made the only official Canadian agency for the dissemination of educational material to prisoners of war. It sends university courses, outlines and texts.

To the end of 1943, 334 of these courses had been sent. Prisoners do not pay for their university courses. More than 5,000 reference books have been sent by the CLES to libraries or individuals, in addition to more than 102,000 CLES text booklets. The CLES sends material to all allied prisoners, although organizations in other countries share the work.

The Directorate of Naval Education, Royal Canadian Navy, was organized in 1941. Methods of teaching are adapted to ship's routine, which is exactly the same for ships ashore as for ships at sea. In large ships there is a schoolmaster (education officer) of the rank of sub-lieutenant or higher; in smaller ships a petty officer or leading hand may act as schoolmaster.

Ashore or at sea, the sailor and Wren may carry on with their courses. These are mainly "school subjects" as distinguished from such "professional subjects" as seamanship, torpedoing, etc. Newly enlisted men may take courses at an elementary level to prepare for more advanced special training work at the coasts. Examinations are conducted at three levels: Educational tests I and II and higher educational test. The last includes papers in general knowledge, history, geography, mathematics, physics, mechanics and navigation. Certificates for having passed these tests are necessary for promotion to higher rank in the service.

Schoolmasters are expected to take a general interest in the intellectual welfare of the men and to conduct discussion groups on current affairs. The navy also has a remarkable library service operated by a headquarters naval library committee. It maintains base libraries on each coast which lend books to ships leaving port and replace them by different selections when the ships return.

In the R.C.A.F. directorate of personnel, an education section was established in March, 1942. There are now 300 education officers of whom 80 are overseas. In almost all cases these are university graduates with teaching experience in secondary schools. A large part of the work of these officers is arranging for courses to enable men to remuster from ground crew to air crew. The syllabus of pre-entry training for air crew emphasizes mathematics and science.

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Education officers are also in charge of the organization of trade improvement classes in the ground trades which are open to all airmen and airwomen who have not reached the highest grouping in their trade. The actual courses are given by tradesmen rather than teachers.

In addition to acting as general educational counsellor to all air force personnel on the station, education officers are responsible for seeing that group discussions on current events are conducted regularly. They are also ex-officio members of the library committee on each station. Libraries are built up by each unit and now contain an estimated total of more than 200,000 books. There is, however, no comprehensive plan of assistance in the selection and procuring of books for the various stations.

In February, 1943, a directorate of army education was established which parallels the directorate of personnel selection set up in 1941. The plan calls for a district education officer with the rank of major in each military district in Canada and other full-time officers to work with him, and for a sub-director overseas with the rank of lieutenant-colonel and other officers attached to the various formations there.

Even before the establishment of the new directorate, much educational work was done in the army. One of the most important of these was a trades training program, including latterly the recruitment of 17-year-olds for extended training in private school or college plants taken over for the purpose. In connection with basic training at certain centres there was special instruction for men who had received little or no formal schooling.

Army recruits at basic and advanced training centres are, as a rule, considered to be too busy to take on extra courses and are not permitted to do so. When they are posted to camps or overseas, however, they are free to enrol. Special lectures have been arranged for the Veterans' Guard and for disposal companies. These are usually courses which will provide a certain amount of knowledge of use to men after discharge.

The education directorate is represented on the officer appraisal board and provides an educational test for officer candidates when the usual academic diplomas have not been obtained. Refresher courses are sometimes found to be required, especially in mathematics.

Provision is also made for a variety of activities to meet leisure time interests of the men - lectures, discussion groups, educational films, directed reading, etc. There are 299 unit libraries in Canada well stocked with books provided by the Canadian Legion and other organizations.

Many groups and organizations in various United Nations have been considering the problem of educational reform and reconstruction in the post-war world.

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and the People's Peace." A second group, the United States Committee on Educational Reconstruction, in conjunction with the Institute of International Education, has also been active in the field of educational reconstruction.

Of all the efforts in this respect, two conferences, one in London, England, the other at Harper's Ferry, West Virginia, are most significant. In November, 1942, in London was convened the conference of allied ministers of education under the chairmanship of Rt. Hon. R. A. Butler, President of the Board of Education. This conference has been sitting once every two months since then. The ministers of education of all the governments-in-exile are members of the conference on which the Board of Education, the British Council, the Foreign Office and the Scottish Education Department are also represented. In May, 1943, Rt. Hon. Vincent Massey, high commissioner for Canada in the United Kingdom appointed a Canadian observer to the conference, D. V. Le Pan. The United States, the Soviet Union, China and other dominions are also represented by observers.

The problems which this conference is considering are primarily those connected with the task of re-establishing the system of education in the occupied countries of Europe after the war. These problems include the provision of books and periodicals to devastated national and university libraries; the recovery from Germany of the scientific equipment and art treasures which have been stolen; the possibility of training teachers for service in Europe; the publication of new school text-books to replace the partisan tracts prescribed by the Nazis.

The conference has done a great deal of preliminary spade-work. Information has been pooled about the present state of education and educational facilities in the various occupied countries, and rough estimates have been made of the damage which has been done and of the replenishments which will be needed.

In issuing a statement concerning the conference on August 10, 1943, Mr. Massey made specific requests as to Canada's participation in the work of educational reconstruction:

"Canadian participation in the work of the conference is warmly sought. It is hoped that Canada will be able to provide some of the educational supplies which will be urgently needed. Specifically, I have been asked to inquire whether Canada would be prepared to restock the national and university libraries in Europe which have either been censored and pillaged by the Nazis or have been gutted by military action. The books and periodicals required would fall into four classes:

- "(a) standard works to replace those which have been destroyed,
- "(b) books published during the war (these, of course, have not been available to European libraries),
- "(c) government publications and the periodicals of scientific and learned societies,
- "(d) books about Canada or by Canadians. (This category of books stands on a somewhat different footing from the other three, since in the case of most European libraries it would represent an addition rather than a replacement. The allied ministers, however, have especially asked that attention be paid to this possibility).

"It has also been suggested that, because of the shortage of paper, both here and in the occupied countries, and because of the dislocation of the publishing trade, arrangements might be made in Canada to publish the text-books which will be necessary."

The particulars of Canada's participation in the proposals of the conference cannot be determined in detail. Canada has, however, pledged its co-operation.

This London conference is limited in scope. Its members have been limited to representatives of the European allies. Its work has been connected with only one of the problems of world-wide educational reconstruction, that of the occupied countries of Europe. Realizing its limitations, the conference has looked forward to a United Nations organization in which all the United Nations would be represented by members. Such an organization has already been proposed.

In the United States approximately 30 educational associations with special interest in international education have joined in forming a liaison committee for international education to study the educational needs of the post-war world and to aid in the co-ordination of their respective activities. At a meeting of the committee in May, 1943, action was taken to invite an educator from each of the United Nations and associated nations and of neutral nations to join in forming an International Education Assembly, a co-operative body in which the representatives of the various countries should participate as equals. As a result, educators from 26 nations participated in the first meeting of the assembly at Harper's Ferry, West Virginia, in September, 1943.

Among the 63 participants was Canada's representative Dr. Norman A. MacKenzie, president of the University of British Columbia and chairman of the Wartime Information Board.

The conclusions reached at the Harper's Ferry conference have been formulated in a document of proposals entitled "Education for International Security." This document includes proposals (1) for the formation of a permanent international organization for education and cultural development as well as a temporary organization to deal with the immediate post-war educational problems; (2) for the rebuilding of the educational and cultural facilities and services in the devastated United Nations; (3) for the reconstruction of education in the Axis countries, and (4) for education for world citizenship. The detailed proposals relating to these four general topics have been formally endorsed by the Liaison Committee for International Education.

Canada is co-operating with this liaison committee. After Dr. MacKenzie's participation in the Harper's Ferry conference, permanent liaison for Canada was arranged. As liaison officer Dr. J.E. Robbins of the education statistics branch of the Dominion Bureau of Statistics has been appointed to maintain contact with the committee.

