THE UNIVERSITY OF ALBERTA

TEACHERS OF APPLIED ARTS AND TECHNOLOGY IN THE PROVINCE OF QUEBEC: A DEVELOPMENTAL STUDY

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE

DEGREE OF MASTER OF EDUCATION

DEPARTMENT OF INDUSTRIAL AND VOCATIONAL EDUCATION

EDMONTON, ALBERTA

FALL, 1972

ABSTRACT

This developmental study attempted to survey the various programs of study to qualify technical teachers in Canada. The specific purpose was to ascertain some of the elements of these programs necessary for developing a new program of study that could be used to prepare teachers of applied arts and technology in the Province of Quebec. The specific elements investigated in the study were work experience evaluation in a program of study and evaluation of work experience in terms of university credit. The Likert scale was used with a comprehensive opinionnaire to investigate the attitude of selected leaders in education and industry in Quebec.

The measured opinion of the selected leaders indicated a favorable reply to the value and accreditation of work experience in a technical teacher education program. Recommendations for the design of a technical teacher education program concludes the study.

ACKNOWLEDGEMENTS

My sincere gratitude is extended to the many people who helped in the preparation of this study. To Dr. H. R. Ziel, my program adviser and thesis supervisor, who assisted me through a very trying period; and to the other members of my thesis committee, Dr. James Gallagher and Dr. Madeleine J. Monod, I say "merci beaucoup!"

Sincere appreciation is accorded Mrs. Isabel Bince for typing and editing this study.

And finally, to my wife, Margaret, and to our children, for having waited for me so patiently, I express my deepest thanks.

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THE PROBLEM

Introduction

For more than eighty years Quebec's educational system had experienced relatively little change. Lay teacher groups and other groups interested in education had long pressed for a Royal Commission to review the educational structure of the province. Such a commission was not formed until 1960 when the National Union Government was elected out of office. At that time the new premier quickly formed a Royal Commission to review education. This commission was under the chairmanship of Monsignor A. M. Parent. The newly formed commission undertook to investigate the educational structure of the province in 1960. One of the major recommendations made in the final report of the commission was that a complete reconstructioning of the educational ladder of the province be made.

Following the publication of this report, every level of education was changed. Elementary education was reduced from seven to six years of schooling, secondary education became composite or "polyvalente" and a

post-secondary and pre-university level was created to answer the needs of the Province of Quebec. The integration of the existing colleges called seminaries, and the institutes of technology formed the recommended college and was designated as Collège d'enseignement général et professionnel (CEGEP).

For over a hundred years in the Province of Quebec, teachers were trained in provincial normal schools, but the Royal Commission on Education recommended that the responsibility of all teacher training be given to higher education. The priority given by the Department of Education to implement the recommendations of the Royal Commission was fulfilled by the universities for the first two levels: elementary and secondary; the vocational and pre-university level, the recommendation for the preparation of teachers has never been implemented. So there is no program of study specifically designed to prepare instructors, to teach in applied arts and technology at the CEGEP in the province of Quebec. However, the University of Quebec in Montreal has integrated the "Ecole Normale de l'Enseignement Technique" and this program which was designed for the system of education in the 60's is still offered in the university; and also McGill University

offered a non-degree program to technical teachers.

Statement of the Problem

The purpose of this study will be to determine the opinions of selected leaders from education and industry in the Province of Quebec toward the granting of university credit for work experience to applicants applying for admission to a university program of study for preparation of teachers of applied arts and technology.

Objectives of the Study

This investigation will have the following major objective: To determine the opinion that selected leaders from education and industry in the Province of Quebec have toward granting university credit for work experience in apprenticeable and non-apprenticeable trades.

It will also have the following secondary objectives: (1) To determine the opinions that the participants involved in the study have towards the selected model for preparing vocational and technical education teachers; (2) To determine the percent of university credit that the selected leaders involved in the study feel should be given for trade or field

experience; and (3) To determine if the model of teacher education selected for this investigation has possible application in higher education in the Province of Quebec.

Population

The following groups will make up the population for this research investigation: (i) Selected leaders from universities in the Province of Quebec who give direction to a teacher education program; (ii) Selected directors of studies of CEGEP where the options of applied arts and technology are offered; (iii) Selected leaders from business and industry who have a responsibility for employing technology graduates from CEGEPs.

Procedure of the Study

The approach of Guba and Clark to the stated problem will be used and described as a developmental study, because it may bring a solution to the existing problem.

A survey of literature of programs of studies for technical and vocational teacher education in Canada will be done to identify the various principles involved in each program.

From a review of the literature one educational

program will be selected to serve as a model for the purpose of the study. This suggested model program,[1] having been compared with the other programs, will be used to develop a comprehensive instrument opinionaire that will be sent to participants in order to obtain their recommendations in some of the objectives of this study.

Correspondence will be initiated with each person of the population sample requesting them to participate in the study by completing and returning a research instrument. Analysis will be made of each opinionaire. The research findings, conclusions, and recommendations for further research will be reported.

Significance of the Study

At the time of the study, the educational ladder of the Province of Quebec was incomplete because it did not have a university program specifically designed to prepare technical teachers for the fields of applied arts and technology. Once this study is brought to a successful conclusion, it could make a contribution towards meeting the above need. It may also help to fulfil one of the recommendations made in the Parent Report--that teacher training (education) be under the

jurisdiction of higher education (university).

The study will have additional significance because it may be applicable to universities throughout the province as well as those universities in other provinces or countries who do not have a program of studies for the preparation of teachers who will teach in institutes of technology or colleges of applied arts.

Definition of Terms

Post-secondary education or college level education. It is difficult to say exactly at which grade secondary education ends thoughout Canada, since British Columbia now offers a grade 13, which is called senior secondary (British Columbia Education 99th Report, 1971); whereas since 1969 in Quebec, the last year of secondary education is grade 11 and in Alberta and Ontario, grade 12 is the end of secondary or high school education. Therefore, for the purpose of this study we will define post-secondary education or college education as the period of time in which a student, after completing his secondary education, spends in studying to become a technician or to achieve the requirement of university entrance.

Technical education. For the purpose of this study and to indicate a level of reference in the educational system, the following definition will be used: Technical education is that education offered in post-high school curricula that generally are one to three years in length, are terminal in nature and not designed to lead to a baccalaureate degree, and are offered in a variety of institutes of technology. It is mainly concerned with the teaching of applied sciences and the skills required for the practice of a trade or profession.

Developmental study. Development study can be defined as a comprehensive investigation directed towards the formulation of solutions to operating problems and to the engineering of those solutions into useful form.

Curriculum vs. program of studies. There are many definitions of curriculum and program of studies in Canada and in the United States. For the benefit of the readers, the following definition will help clarify one point. It is quoted from Innovation in Higher Education Canadian Case Study: New College System in Canada (Cecily Watson, 1971).

> Curriculum is an omnibus term used by educators to signify all factors pertaining to the teaching/learning process of an educational institution. Thus in its broadest sense it includes programs of study and the subject contents of the courses which make up the programs; the testing theory behind the sequencing of material, the size and nature of the instructional group, the actual methods of teaching, the kind and use of teaching aids; even the organization and management of the institution in which the teaching and learning is taking place and the kind of space and facilities provided.

On the other hand, in a recent paper prepared by Dr. Hersom of the Faculty of Education, University of Alberta for the Alberta Teachers' Association, she mentioned that there are so many definitions of curriculum that it is difficult to apply it to a specific purpose and she continued by saying that we must look for a concept rather than a definition and try to define it by its contents. Looking at the elements of the curriculum we realize that there is a program of studies, a program of activities and a program of guidance. Learning takes place when those three elements really interact. Therefore for the purpose of this study the following definition of program of studies will be used: It is the list of courses placed in numerical and logical order to guide a student towards a fixed objective within a definite period of time.

The following definitions are taken from the Encyclopedia of Education (1971) and are listed here to

clarify some of the ambiguity in post-secondary education.

Business education. Business education is education that takes place at the secondary and post-secondary level in the field of administration--clerical work to meet the managerial needs of commerce, government and industry.

Cooperative education. Cooperative education is a unique plan of educational development designed to enhance self-realization and self-direction by integrating classroom study with planned and supervised experience in educational, vocational, or cultural learning situations outside of the formal classroom environment. Simply stated, cooperative education is based on the principle that well-prepared individuals can be developed most effectively through an educational pattern which, at periodic intervals, places them in the world beyond campus. The essential ingredients are that the experimental phase is considered a degree requirement and that the institution assumes the responsibility for integrating it into the educational process.

Community colleges. The community colleges are those institutions which offer a two-year program which

can be either pre-university or transfer and occupational. Transfer programs are sometimes parallel programs to the university. Occupational programs prepare students for job entry immediately upon graduation and may be shorter or longer than two years depending on the training needed for a particular occupation.

Home economics education. The study of the laws, conditions, principles and ideals which are concerned on the one hand with man's immediate physical environment, and on the other hand with his nature as a social being and is the study especially of the relationship between the two factors.

Industrial or trade education. In general the trade and industrial education is concerned with occupations ranging from the highly skilled to those which are less complex and which border upon unskilled occupations. In a sense, trade and industrial education has become a catchall for education in a variety of occupations, including machinist, practical nurse, policeman, dental assistant, landscape architect, foreman and supervisor.

CEGEP. CEGEP is the abbreviation for College d'enseignement général et professionel. It is actually

a combination of community colleges and institutes of technology for post-secondary education recently created in the province of Quebec (1968) to meet the challenge of the post-industrial years. The programs extend for two years for the pre-university options and three years for the applied arts and technology family.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

In the past decade it was relatively easy to identify those institutions whose primary role was that of training teachers. Many of these institutions were known as Normal Schools. It was expected that individuals graduating from a normal school would join the force of the teaching team in public education.

During the first half of this century and also in the 60's, most of the normal schools were transformed or integrated into universities. Their curricula were expanded to include courses in areas which were not required of in-service teachers. As more and more young people clamored for education, colleges and universities began to admit individuals who were not always interested in becoming teachers but for a variety of other reasons wanted a college education or university degree. Also as a result of the wartime and postwar "baby boom" of the 40's, there was a flood of students entering the higher education institutions to a breaking point. With the increase in the number of institutions

of higher education and in the spread of academic offering, it is becoming more difficult to identify these institutions which specialize in education per se.

This chapter will survey the various programs in vocational and technical education across Canada and identify the various principle or philosophy involved in each program. The findings will be used to develop an opinionnaire that will be discussed further in the methodology.

The Needs of Quebec

Before analyzing the systems in the various provinces, a review of some of the elements of teacher training as stated by the Royal Commission of Inquiry in Education in the Province of Quebec is necessary. We will try to identify in other programs scme of the principles needed for the opinionnaire. In Chapter IV, Volume II, entitled "The Pedagogical Structure of the Educational System," the Commission stated:

> Even the most flexible school organization with methods and programs best adapted to pupils and the finest schools with the latest equipment will not in fact, improve the educational system of Quebec so long as the teachers themselves have neither the training nor the ability needed to communicate the fullest benefit to their pupils. The training and improvement of teachers lie at the heart of educational reform.

In order to achieve these recommendations, the basic

principles listed below for all levels (elementary, secondary, vocational and pre-university) must be considered as standard for admission.

(a) The future teacher must be a student of university calibre. The candidate for the teaching procession must, moreover, possess personal qualities similar to those of a student wishing to undertake studies in social service, psychology or medicine.

(b) The teacher for secondary levels must above all be required to have a balanced personality, personal serenity and maturity. Adolescents are particularly sensitive to these qualities in their teachers.

(c) In the training of teachers the balance to be maintained between scientific, literary or artistic culture, and professional training is very important.

(d) The professional training of teachers requires theoretical courses as well as supervised practice teaching and training.

Considering the above standard or principles the Commission made the following recommendations:

1. That teacher training be under the jurisdiction of higher education.

2. That the 13th year of scholarity be required for admission to university centres for teacher training.

3. That the university diplomas required for teaching at the pre-university and vocational level be:

(a) The "Diplome d'études superieures"
(b) The "license specialisee," the "license d'enseignement secondaire," and the "license d'enseignement technique" to which must be added the attendance requirement completed or on the way to being completed or the "Diplome d'étude superieure."

Some of these recommendations have been implemented in general education, but since 1968 the whole system of trade schools (secondary) and institutes of technology (post-secondary) has been integrated into secondary education to form the "Polyvalente" and to classical colleges to form the CEGEP as recommended by the Royal Commission. The Commission looked at all the levels of training and recommended specifically that specialists in home economics, technical, or commercial subjects should be given instruction either in practical skills, in applied sciences, or in subjects with emphasis on their technical utilization. The acquiring of the experience in industry, business, or office work must be a prerequisite for enrolment at the university. The Faculty of Education must organize in cooperation with the Faculties of Home Economics, Pure Science, and Applied Science, a program of studies leading to the "License" or Bachelor Degree as a minimum for teaching

at CEGEP (College d'enseignement général et professionnel).

Keeping in mind the above recommendations and taking into consideration the principles and philosophy involved, the following programs will be surveyed: The University of Alberta, British Columbia, Saskatchewan, Toronto, McGill, Althouse and Red River Colleges and the New Brunswick Institute of Technology programs.

The University of Alberta Program

The federal government with its Technical and Vocational Assistance Act of 1960 provided large sums of money for construction of building and capital equipment specifically designed for Vocational and Technical Education. More teachers were needed and the Government of Alberta asked the University of Alberta to develop a program of studies for the preparation of teachers for Vocational Education within the existing provincial teacher certification policies and practice.

The following assumptions of Vocational Teacher Education were expressed by Dean Coutts of the Faculty of Education at the Canadian Vocational Association Convention in May 1968:

> If vocational teaching and vocational education in general are to have the status they deserve in a modern society, with its increasingly important

technological underpinning, it seems to me that the following assumptions must be accepted:

1. All teachers (elementary, secondary, vocational) must be professional equals. In teaching, all are first class citizens.

2. Admission to all teacher education programs must be based on equivalent educational and personal requirements.

3. All teachers must follow a program that leads to a university degree and certification. This does not preclude the use of technicians and other supporting staff to provide complementary types of service.

4. The certificate of Qualification as a journeyman or its equivalent represents a specialization that equates to the teaching major in an academic subject.

5. There is more to teaching than the subject to be taught: general education, educational foundations, curriculum and instructional methods, adequacy of performance as demonstrated through student teaching and internship.

6. The vocational teacher must be adaptable with a full understanding of basic principles related to the vocational or cluster of vocations for which he is giving instructions.

7. The program of preparation of the vocational teacher must combine studies in the humanities, the social sciences, the natural and physical sciences, and the technologies as a means of assisting toward an understanding both of man and of society.

8. There must be an immediate and long range pool of candidates from which to draw.

9. There must be equal pay for equal teacher preparation and experience.

The above criteria for teacher training were the guidelines to develop the three plan programs at the University of Alberta. The admission requirements for

the future teacher is the same as other candidates preparing to teach in the secondary schools except that the candidates for vocational education must have industrial competencies. The major admission requirement is matriculation or its equivalent, like all other B.Ed.'s.

Plan H. The prerequisite for this plan is the trade craft, business or engineering preparation including a journeyman's certificate or its equivalent and industrial experience. This trade qualification must be approved by an admission sub-committee within the Faculty of Education. The provincial Department of Education, the Apprenticeship Board, the Alberta Teachers' Association, the Department of Industrial and Vocational Education, and the Dean of the Faculty compose the sub-committee. Their role is to evaluate the candidate's trade qualification and field experience. Upon the committee's approval, the candidate is allowed four courses (24 semester hours) credit toward the four year program requirement. The credit is given as the equivalent of subject matter specialization. The second year of the Plan H program is the first time the student attends university. During that year, the student takes basic courses in educational foundations, administration, psychology, student teaching, and vocational education.

The latter consists of an introduction to vocational education and vocational curriculum and instruction. The practical field teaching experience takes place during the first year at the university. Student teaching is absolutely necessary for a student to be eligible for any type of certification. Some courses from other faculties within the university can be approved to complete a specific program. Upon completing these courses the student can apply for conditional certification and may begin teaching in secondary schools of the province. Some students may elect to teach in a secondary school on a full time basis and complete their degree through summer sessions or by taking evening credit courses. The two other years include vocational courses related to the educational program in industry, labor, industrial and vocational specialization and science courses. On completion of these four years of study the student qualifies for a Bachelor of Education degree from the University of Alberta.

Plan I program. This program was designed for recent graduates of vocational matriculation programs or graduates of Institutes of Technology who do not have the industrial experience or trade certification. The

program lasts five years. Every summer the candidate has to work 18 weeks in industry to gain his experience and trade qualification. Upon completion of the fifth year he receives a Bachelor of Education degree in Vocational Education. The student may apply to write the appropriate examination for trade qualification.

Plan Z program. This plan is specifically designed for holders of degrees in engineering or specialized degrees in science. Other holders having journeyman's qualification or its equivalent along with verified industrial experience is also admissable. Educational psychology, educational foundations, and educational administration are proposed courses offered to a candidate. He also takes a teaching specialization course in vocational education and a teaching seminar.

The above H, I, and Z programs are the responsibility of the Department of Industrial and Vocational Education. Two other plans administered by the Faculty of Education complete the possibilities of teaching training in the field of technology at the University of Alberta.

Plan J program. The Plan J program is offered to instructors of Alberta Institutes of Technology,

community colleges and agricultural and vocational colleges, who wish to receive professional training for their teaching duties. The educational courses are the same as plan H but there are more free options offered. Upon completion of the program, a Bachelor of Education degree is conferred.

The non-matriculated adult program. This program is designed for those who are older than 24 years old and who are seeking admission to the Faculty of Education. The prospective candidate is interviewed by the Faculty of Education and if found promising, he is recommended to Student Counselling for examination. After receiving a positive recommendation from the Student Counselling service, he is then admitted as a probationary student to a specially planned five course program. Upon meeting the program requirements the student is granted clear admission to the Faculty of Education and is given one year credit towards a four-year Bachelor of Education degree program.

Program of Industrial Education at the University of British Columbia and the University of Victoria

The program of teacher training for industrial education requires five years of studies for the degree of B.Ed. Some programs are designed towards producing

teachers who can train pupils in specific vocational skills; others attempt to give students some insight and understanding of the elements of modern technology.

The criteria used for the selection of candidates are worth mentioning:

> A good candidate should be keenly interested in and creative with materials and energy systems. He should possess the human characteristic of tool using and tool inventing to a high degree. To deal effectively with people, and particularly young people, he should be perceptive, considerate, lively, and humane. When we find someone who combines these qualities we usually find that he is of above average intelligence, so intelligence becomes a pointer in our selection (Expression II, February 1972).

These are two possible routes. The first one is the regular program and it is comparable to the program offered to teachers of science, mathematics, social studies, and the languages. It is a five year course that leads to a B.Ed. degree. It consists of a year of general education at college level, two years of technical training and two years of professional and academic courses and student teaching. The two years of technical studies is considered a bare minimum and additional studies above the B.Ed. level are available to interested students. This program must be fully completed before applying for certification from the Department of Education.

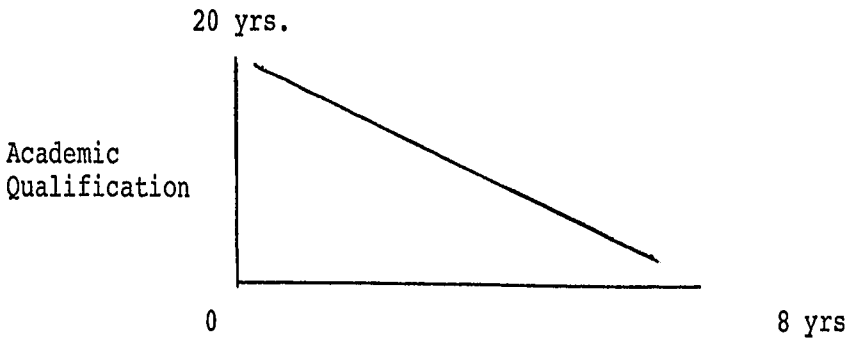
For the tradesmen who are 25 or older, a second route is offered. It consists of a technical phase of 21 units of credit and a professional phase of 9 units. This one year program allows a person to apply for an interim teaching license. This candidate must complete the remaining of the B.Ed. program during summer sessions. Depending upon his former education, i.e. high school or college diploma, the candidate may complete his program in eight or six years. Every summer a seven week program is offered for the candidates registered in the second route.

Ontario Vocational and Technical Teacher Training Program

This program, developed for teaching a technical subject in a college of applied arts and technology, is offered at the College of Education at the University of Toronto and at the Althouse College in London. The program differs in many ways from the ones offered at the University of British Columbia and the University of Alberta. The major differences are in the selection criterias and the type of diploma. The specific requirements for teaching a technical subject are five in number: Academic, Work Experience, Personality, Technical Proficiency Examination, and Attendance.

1. Academic: The Ontario grade 12 standing in either academic, technical or commercial is necessary.

2. Work experience: The work experience for admission to a technical program is confined to one subject. The work experience, except in special cases, must have been obtained subsequently to graduation from the highest level of education achieved by the candidate at the time of application. The minimum duration of such experience is as follows:



Work Experience

3. Interview: A personal interview with the director of the department is advisable.

4. Technical proficiency examination: These consist of two three-hour written examinations in theory and two three-hour practical or performance tests for a Vocational Certificate. Standing in the practical portion must be obtained before an applicant can be admitted to the program. Standing in the theory portion must be obtained before a certificate can be recommended.

5. Attendance: Provided that 1, 2, and 3 above are in order, the College will issue a Statement of Acceptability of the applicant. This, along with standing in the practical portion of the technical proficiency examination, will admit him to the full-time day program beginning about September 15th and ending May 15th. If successful, the candidate will be recommended for the Interim Type B or "Basic" Vocational Certificate named in his own subject.

The program is divided into four parts:

1. Teaching subjects: Methods of Teaching the Technical and Industrial Arts, and Principles and Practices of Technical Education.

2. Educational theory: Structural and Legal Bases of the Ontario School System, Educational Psychology as applied to Technical Education, History and Philosophy of Technical Education, and Curriculum Development.

3. Professional practice: Ten weeks of Observation-Practice Teaching in selected secondary schools.

4. English for Technical and Occupational Candidates; Mathematics; Introduction to Special Education.

5. Technical Proficiency Examination (the oral only).

Program Leading to the Bachelor of Education Degree for Technical Teachers at the University of Saskatchewan

All students, whether Industrial Arts or Vocational majors must satisfy the entrance requirements for the College of Education. Generally, entrance requires a complete Grade XII including English, Composition, and Social Studies. Persons entering the Vocational program may not count journeymen's certificates for part of the Grade XII requirements. Certain persons lacking complete Grade XII and who are at least 25 years of age may be admitted by arrangement with the Registrar under the University Adult Admission Procedure. Grade XII Mathematics and Sciences are required in order to proceed to the Bachelor of Education degree. Whether generalists (Industrial Arts) or specialists (Vocational) the technologies teacher for Saskatchewan schools requires trilateral qualifications. The three major components of the technical teacher's qualifications are Technical, Academic, and Professional. Persons entering the program for Vocational Teachers must have technical competence in the major area of technology where they propose to teach and must be acceptable to the Admissions Committee. Those having a journeyman's standing or a diploma in technology from a recognized technical

institute may be granted one year's credit toward the B.Ed. degree.

Industrial and Business Education Teachers Training Programs in Manitoba

In Manitoba, the training of industrial and business education teachers is carried out during the regular school year and during the summer months in the teacher education division of the Red River Community College. The industrial division of that Institute provides assistance by accepting trainees into shops and courses as required. The duration of the regular session is one year both for the industrial program and the business education program, provided that the candidate for the latter program has the necessary business experience and skills. Otherwise, inexperienced candidates entering the commercial teacher training course directly from high school are required to spend two years at the Institute. Most of the trainees who attend the summer session are employed by the vocational centres and the institutes of technology or applied arts. To qualify as vocational teachers, trainees are required to complete eight summer courses of which a maximum of four may be taken during any one summer. Upon successful completion of either the regular session or series of summer sessions, the

graduate is issued a certificate specifying the particular trade in which he is qualified to teach. He may be employed by schools offering vocational and industrial courses and by Provincial Trade Schools.

The program is divided into two. The first part is to increase the theoretical knowledge of the trade and the selected science and the second part of the program is for learning how to teach effectively.

Technical and Vocational Teacher Training Program in the Maritimes (New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland)

In the Atlantic region, the provinces have pooled their resources together and have established, at the New Brunswick Technical Institute in Moncton, a training centre that serves all four provinces. Candidates for the one-year course in both business teacher training and industrial teacher training must have considerab' experience in their respective fields. On the other hand, there is a two-year business teacher training cours available to those who enter the course directly from high school. Graduates from these courses are qualified to teach in the secondary schools where certification is required, and they receive preference in the trade schools and technical institutes over other applicants. The

two-year industrial teacher training program provides instructors for the industrial arts program of the junior grade. In addition to the regular session, there is a summer session for those working toward qualification as well as for those teachers wishing to improve their qualifications.

Technical, Vocational and Business Education of McGill University in Quebec

Education development in the last decade has changed the appearance and substance of education in the Province of Quebec. A greater emphasis has been given to the welfare of the student in learning environment. The panorama of orama of opportunities in the field of academic, business and technical-vocational education provides the student with a full spectrum of courses in order to achieve in technical society. Teacher training in technical-vocational and business education at McGill is devoted to the development of those qualifications which will prepare eligible applicants to practice successfully in a student-centered educational milieu.

The admission requirements are slightly different than those of the College of Education in Ontario. A candidate must have the equivalent of 13 years of scolarity; this means in Quebec a Grade XI high school

leaving certificate plus a two-year course in a recognized professional training institution in a specific subject (University, Business College, Technical and Professional Institutes and Trade School). A candidate with a journeyman's paper and satisfactory work experience or a candidate with six years field experience in the occupational field may apply. Each individual case will be studied following the interview.

The curriculum is centered on organization, teaching methods, and student teaching. Psychology, history and philosophy of education, and communications complete the program. Optional courses are offered by the Faculty of Education as well as other faculties. This teacher training program innovates in the field of technology. For teachers who need up-grading in their technical knowledge through industry, credit courses can be taken on an in-plant training scheme. The program is developed, supervised, and evaluated by the industry and the University. A written report and an oral examination of the teacher's experience and learning are required for the evaluation. This system serves two purposes: 1) it up-grades the teacher, and 2) it establishes communication between industry and education.

This program leads to a Diploma in Technical Educational from the University. Upon application, the Department of Education will issue a teaching permit. A great number of teachers use the facilities of McGill University to complete this Diploma.

Research on Program Design

The first part of the review of literature gives an overview of the various programs of studies of technical and vocational teacher education in Canada. Before selecting one of the programs as a model for the developmental study, a review of the principles in teacher education research seems desirable. One of the most recent publications is: "Research in Teacher Education: A Symposium" edited by B. Othanel Smith for the American Educational Research Association (1971). This study gives a comprehensive view of contemporary issues and research in the effectiveness of modern principles of teacher training. The various concepts used in designing programs for teacher education were elaborated by Dr. S. T. C. Clarke of the University of Alberta. In his survey of model programs he identified three important factors: the presage factors, process factors and product factors. For the purpose of the present study, a definition of

the "presage factors" will be done to clarify some of the aims in teacher education programs as a first step, and secondly express the views of some of leading authorities in the field of technical education.

The presage factors, which are defined as decisions proceding the design of a program, are of primary importance for the teacher educators. It is a guide in program designing and it can also be used to evaluate existing programs. There are six presage factors: context cybernation, extend of lead, control, boundaries and selection.

The first factor, "context" refers to the future stage of the world, the nation, education, teaching and the profession itself.

> Decisions about the context for which teachers are being prepared must be made in advance of planning a program of teacher education (Clarke 1971).

The second factor is called "cybernation" and refers to the ability of the candidate to adjust himself or to the flexibility of the program to correct itself. If education is to be dynamic there must be a mechanism in the design for periodic examination and upgrading of the program (otherwise it would not be dynamic). Teachers must be educated to be continually self-reniewing in the future world of education.

The third factor is called the "extend of lead."

In its simplest form it is the one, five, ten, or longer look into the future.

> The extend of lead is the gap between what exists and the state of affairs for which teachers are being produced (Clarke, 1971).

So every program should have explicitly or implicitly an extend of lead to consider the future. The "factor control" refers to "who decides what" in designing programs in teacher education. Colleges of education must not be the only decision makers. Student, community, social agency, and others must also express their views on the future of education, and also on teacher training.

"The boundaries of teacher education, particularly the arrangements made to incorporate the one half or three quarters of the time which general education, subject matter and related disciplines receive a total integrated program for the preparation of teachers, is a crucial prior decision" (Clarke 1971).

The last presage factor is the selection. The population to be educated is a big factor in planning a program of teacher education. "Because the personality of the individual is the vehicle through which his teaching behaviors are manifested, there are some individuals not fit to be teachers in the sense that institutions do not have the competence, time or money

required to bring about the requisite personality development" (Clarke 1971).

The identification of various principles of technical education is essential after having studied the various presage factors in designing programs of studies. Dr. Clarke, in his book, mentioned the prospect for research on teacher education programs are bright. In the field of technical teacher education, the prospects are brighter. The newly created CEGEP in Quebec, the College of Applied Arts and Technology of Ontario (CAATS) and the Colleges of Alberta were studied by Cecily Watson at the request of O.E.C.D. (Organization for Economic Co-operation and Development).to find out and report innovations in post-secondary education. One of the tasks was to find out the various innovations in the staffing of the new colleges, but since data were not available at the time this assignment was never fulfilled as planned. However, in another study be O.E.C.D. Roger Gregoire noted the lack of adequate qualifications of technical teachers.

A disquieting number of vocational schools are operating with teachers whose qualifications do not satisfy the national standards (Gregoire, 1967). This interesting report does not suggest any method for

improving technical teacher training but reminds the reader that means must be found for upgrading their qualifcations in order to keep pace with the constant evolution of technology, and this should be done in close contact with industry.

The International Labor Organization (ILO) through one of its agencies, C.I.R.F. (Centre international d'information et de recherche sur la; formation professionnelle), has published in 1964 The Report on Training Vocational Teachers and its conclusions are worth mentioning.

In most countries participating in ILO there is a distinction between teachers of general subjects, teachers of theoretical subjects and teachers of trade practice. It is obvious that there is a trend towards raising the social and professional status of vocational education teachers as a whole, due in part to the shortage of these teachers. Unless radical measures are taken, this shortage will increase considerably in the years to come. The present prescribed qualifications (Senior High School and three to four years of apprenticeship) have to be increased in the near future. Teachers undoubtedly require a high educational level in order to grasp complex theoretical principles and information and to adjust to

rapid changes in the subject matter of their instruction. It is increasingly common in many countries for teachers of technical subjects to be required to be university graduates. Team teaching, program instruction and audio-visual innovations are all new processes that require a more professional technical teacher.

Closer to us, in the United States, the American Council on Education, after the passage of the Vocational Education Act in 1963, sponsored the publication of Grant Venn's book: Man, Education, and Work. The purpose of this book was to improve the climate of public and educational understanding in the fields of post-secondary and vocational and technical education. The new technology, the development of vocational education in secondary and post-secondary schools, the actions of Government, and a series of recommendations are the main headings of the book.

Grant Venn says that the greatest handicap to the improvement and expansion of vocational and technical education is the rarity of qualified teachers. This is a general concensus. Vocational education will be as good as those who teach it. Higher education must assume leadership in the preparation of vocational and technical teachers.

The problem of preparing teachers of technical education courses is best stated briefly by a recent publication, Foundation of Vocational Education by Rupert N. Evans from University of Illinois at Urbana-Champaign:

> "There are very few teacher education programs designed to prepare staff for technical education. In some cases vocational and technical teachers are taught together for professional courses, e.g. teachers of engineering technicians are grouped with trade teachers. Some of this is desirable; indeed all vocational teachers need some courses in common. But technical education, particularly in the junior college, has problems for which teachers need special preparation. Traditional vocational teacher education programs hardly recognize that the community college exists."

In this chapter, I have tried to identify the problems and look at different alternatives as a basis for constructive future planning in the field of technical teacher education.

CHAPTER 3

METHODOLOGY

The survey of various technical teacher education programs across Canada was completed through the facilities of the library of the Faculty of Education at the University of Alberta. To complement and update the shelved information, at the Faculty library, letters asking for pertinent details were sent to other select universities (see Appendix A). Using Dr. S. C. T. Clarke's factors in teacher's program design and specifically the "presage factor," all the various programs were compared and one was selected as a model program. This model program was then confronted with the needs of the Province of Quebec in technical teacher education. Various methods were investigated to ascertain interested peoples' attitude toward the suggested model program in general and, in particular, on the subject of work experience vis-a-vis university credit. The Q-sort technique as explained by Cronbach and used with a comprehensive opinionnaire would have been valuable to eliminate a possible ambiguity in the statements and also to evaluate the various opinions in an order of priority.

The Delphic Methodology pioneered by Dr. Olaf Helmer at the Rand Corporation would also have been very accurate in measuring the opinions of experts. In a recent study undertaken by Dr. S. C. T. Clarke, Director of Summer Session & Evening Credit Program, and Dr. H. T. Coutts, former dean of the Faculty of Education, both of the University of Alberta, the Q-sort Technique and the Delphic Method described above were combined by these two researchers to design a comprehensive instrument to determine the Goals of Teacher Education. This instrument was probably the most efficient for that type of survey. However, money, time, and personality directed this researcher away from utilizing a similar methodology to obtain the same degree of effectiveness.

Therefore the following method was employed for this study. A group of leaders from education and industry were chosen to answer an opinionnaire based on the Likert Attitude Scaling Method. The Likert procedure may have its disadvantage but it is certainly less expensive and less time consuming than the other methods mentioned above. According to A. N. Oppenhein, in his Book Questionnaire Design and Attitude Measurement (1968), he says:

Likert's primary concern was with unidimensionality,

making sure that all items would measure the same thing.

He also wanted to eliminate the need for judges by getting subjects in a trial sample to place themselves on an attitude continuum for each statement, running from strongly agree, to agree, uncertain, disagree and strongly disagree.

These five attitude responses were given simple weights of 5,4,3,2 and 1 for scoring purposes after more simple scoring methods had been shown to possess no advantage. The procedure to develop the opinionnaire was initiated from the selected model,[1] and thirty statements of opinion reflecting the various principles involved in the program, were further examined. The various elements of the model program listed below was the basic reference to elaborate the 30 opinions:

First Year:

Trade training as verified by a recognized Certificate of Qualification as a Journeyman for a designated trade or equivalent for a non-designated trade. The trade qualification is to be approved by an admissions sub-committee comprised of the Dean of Education, the Chairman of the Division of Industrial and Vocational Education, the University Admissions Secretary, the Chairman of the Provincial Apprenticeship Board, the Supervisor of Vocational Education of the Department of Education.

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[1] Plan J - B.Ed. degree in Voc. Ed. at U of A.

Second Year

1.	Ed. Fdn. 201	(2-0;2-0)
2.	Ed. Adm. 261	(2-0;2-0)
3.	Ed. Voc. 203	(2-0;2-0)
4.	Ed. Psy. 276	(3-0;3-0)
5.	English 210	(3-0;3-0)
6.	Ed. Voc. 280	(4-0;4-0)
7.	Ed. CI 300	(100 hours)

Third Year

1.	Ed. Psy. 476	(3-0;3-0)
2.	Phil. 240, 260, 352, or 354	(3-0;3-0)
3.	Ed. Voc. option	(3-0;3-0)
4.	Junior Arts/Science	(3-0;3-0)
5.	Junior Arts/Science	(3-0;3-0)

Fourth Year

1.	Ed. Fdn. 492	(3-0;3-0)
2.	Ed. Voc. option	(3-0;3-0)
3.	Senior Arts/Science	(3-0;3-0)
4.	Senior Arts/Science	(3-0;3-0)
5.	Senior Arts/Science	(3-0;3-0)

Notes:

1. One Arts or Science sequence to be directly related to vocational education.
2. One Arts or Science sequence to provide an element of general education.
3. The framework component for Plan J, "College Model," is given below.

	Components	Number of Course Equivalents
a.	Non-Education courses	4
b.	Teaching the Specialization (If a student holds a Journeyman's Certificate he will receive credit for up to four courses in the area of teaching specialization).	6

Components	Number of Course Equivalents
c. Student Teaching (Half course equivalent supervised by N.A.I.T.: half course equivalent supervised by Faculty of Education.)	1
d. Curriculum and Instruction (Same as in other Secondary Education plans with emphasis on teaching of adults.)	1
e. Basic Education Courses (One full course equivalent in Educational Foundations; one in Educational Administration and two in Educational Psychology.)	4
f. Free Options	4
	20

The following statements or opinions were taken out of the model program and the reviewed literature:

Desire to teach, interest in students, and ability to communicate are essential characteristics for teacher education candidates.

A Committee composed of Labor, University and Department of Education should evaluate the pre-requisite of all candidates.

Admission to all technical teacher education programs should be based on equivalent educational and personality requirements as outlined by the University.

A journeyman certificate must be a pre-requisite for entrance to a technical teacher education program.

The recruiting of technical teachers should take place in the world of work rather than the academic world.

To gain sufficient professional skills to teach in technology, three to eight years in industry is necessary.

Five years experience in industry could be equivalent to one university academic year.

All teachers in the field of technology must be graduated from a university.

PhD degree in Science does not orient a teacher to teach at the level of applied arts and technology.

A bachellor degree in engineering with one year in educational science should be granted a teaching permit.

A diploma from an Institute of Technology and a journeyman's certificate could be accredited to one year in a four-year program.

Adult psychology rather than the child psychology approach is indicated for all courses at college level.

Educational sciences, basic sciences and applied sciences should share equally in teacher training programs.

The academic year for a technical teacher training program should be twelve months instead of eight months.

After completing the first year at university, a candidate should receive a teaching permit.

Student teaching experience should be offered in the first year of university education.

To keep up-to-date with the ever-changing technology, teachers must have the opportunity to return to industry.

Cooperative education for technical teachers could be beneficial to both.

Technical teacher education should be the responsibility of a university.

The technical teacher training program should last 2 years.

Technical teacher education should be done at the college level.

There should be an opportunity for a technical teacher to choose a program of educational sciences that is prepared for his own field of specialization.

For a technician, applied fundamental science should be taught in the first year of a university program.

Industrial instructors should be accepted on any program prepared for technical teachers.

In schools of applied arts and technology an exchange of training personnel should be established with industry.

Courses in labor relations should be organized for future teachers of technology.

In-service training for colleges should be supervised by a university professor.

All college teachers should have a teaching permit as required for secondary schools.

Psychopedagogy should be the only science from education recommended for a technican who wants to become a technical teacher.

Certification of technical teachers must be the responsibility of the college of applied arts and technology.

Keeping in mind the objectives of the study, eleven statements were finally selected and further reviewed by several experts in the Faculty of Education to eliminate ambiguity.

Candidates for admission to a technical teacher education program should be recruited from business and industry.

Candidates who are accepted for a technical teacher education program should have not less than five years of pertinent work experience.

In an apprenticeable trade, a journeyman certificate must be a prerequisite for admission to a technical teacher education program.

Industrial experience should be considered and university credits should be given for such experience.

Work experience, educational foundations, basic and applied sciences should be the basic components of a technical teacher education program.

Pertinent work experience in applied arts or technology should be credited 25% of the total program of study in technical teacher education.

In a technical teacher education program a greater emphasis must be placed on the principles of adult education.

Provision should be made for technical teachers to return periodically to industry for up-grading and up-dating.

Supervised periodical in-plant training for technical teachers should be accredited.

Supervised student teaching experience should be offered in the first university year of technical teacher education programs.

After completing the first year at the university, successful candidates should receive a temporary teaching permit.

Selection of Panel

The Likert Scaling Method asked for a minimum number of one hundred respondents to make the survey more relevant. But by using the panel technique, as described

by Fred N. Kerlinger, the same conclusion could be reached in a shorter period and at a lower cost. Therefore a panel of experts for this study were selected from two fields: education and industry. In the field of Educational Sciences, six experts were selected from the universities in Quebec which have Schools or Faculties of Education (see Appendix B). Ten other experts were selected from Colleges of Applied Arts and Technology. The remaining ten panelists were selected from business and industry on the basis that five were directors of personnel from primary industry and five were directors of personnel for secondary industry all of whom employed graduates from colleges. The Manpower Information and Analysis-Booklet for College Graduates was used to determine these industries.

Administration

The developed opinionnaire was mailed to the selected leaders with a covering letter (see Appendix C). In order to insure as many responses as possible, a followup telephone call was made to the various participants in the study.

CHAPTER 4

PRESENTATION OF FINDINGS OR ANALYSIS OF DATA

Introduction

The purpose of this study was to determine the opinions of selected leaders from education and industry in the Province of Quebec towards the granting of university credit for work experience to applicants applying for admission to a university program of study for preparation of teachers of applied arts and technology. Also, the study investigated the following secondary objectives:

1. The measured opinion that the participants involved in the study had towards the selected model for preparing vocational and technical education teachers;
2. The percent of university credit that selected leaders involved in the study felt should be given for trade or field experience; and
3. The possible application of selected model of technical teacher education program in higher education in the Province of Quebec.

This chapter will measure the opinion of the selected leaders on the various objectives stated above.

Using the Likert Scale to obtain a favorable or unfavorable attitude, a score of one was given to "strongly disagree," two was given to "disagree," three to "undecided," four to "agree," and five to "completely agree." The opinionnaire included positive, negative, and neutral statements. The correlations of all the various figures should answer the various objectives of the study. Figure 1 shows the various measured opinions stated by the selected leaders.

It must be noted that a median or mean value is not necessarily the midpoint between the two extreme scale scores. This median could be the result of many factors which would more or less balance each other--a luke-warm response, lack of knowledge, or lack of attitude in the respondent, or the presence of both strongly positive and strongly negative responses--and which suggest that the scale is not unidimensional (See Figure 2).

Evaluation of Work Experience and Model Program

To evaluate the measured attitudes of the selected leaders in education and industry on work experience and the model program, as stated in the opinionnaire, a graphic representation of their score is shown in Figure 3.

Name

Date

Page of

Phone

Universities, Industries & Colleges	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
	S. disagree	Disagree	Undecided	Agree	S. Agree	S. disagree	Disagree	Undecided	Agree	S. Agree	S. disagree	Disagree	Undecided	Agree	S. Agree	S. disagree	Disagree	Undecided	Agree	S. Agree	S. disagree	Disagree	Undecided	Agree	S. Agree	S. disagree	Disagree	Undecided	Agree	S. Agree	S. Disagree	Disagree	Undecided	Agree	S. Agree	S. disagree	Disagree	Undecided	Agree	S. Agree	S.Disagree	Disagree	Undecided	Agree	S. Agree	S. Disagree	Disagree	Undecided	Agree	S. Agree	S. Disagree	Disagree	Undecided	Agree	S. Agree										
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Total 27			1	1	6				8	9				8	9				9	6			1	0	2				8	8				8	8			1	2	2			1	1	6				8	0				8	3										
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Figure 1. Results of the Opinionnaire

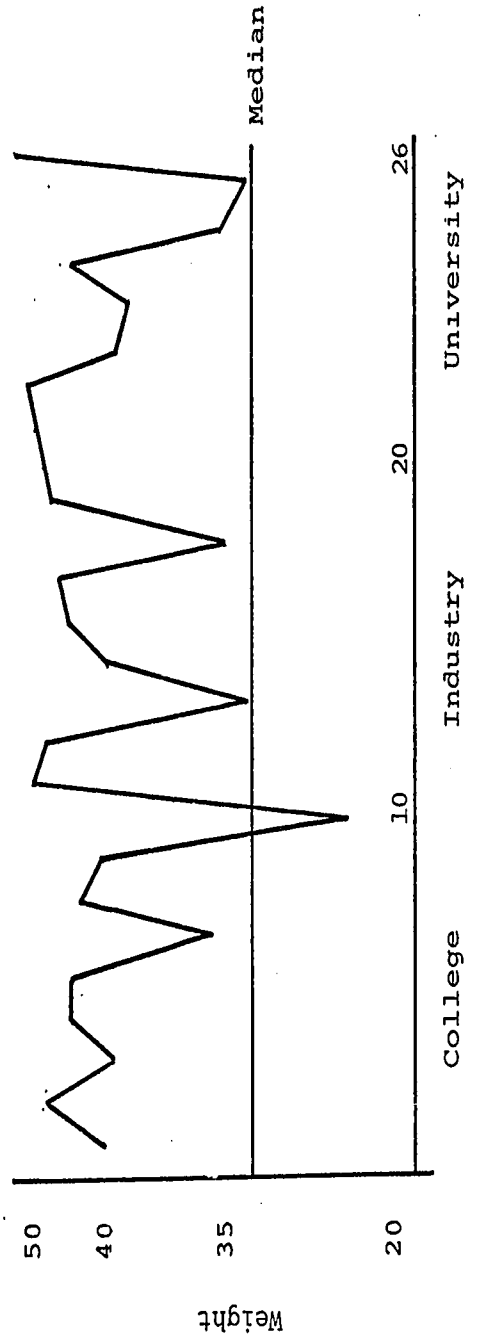

Figure 2: Respondent's Trend by Category

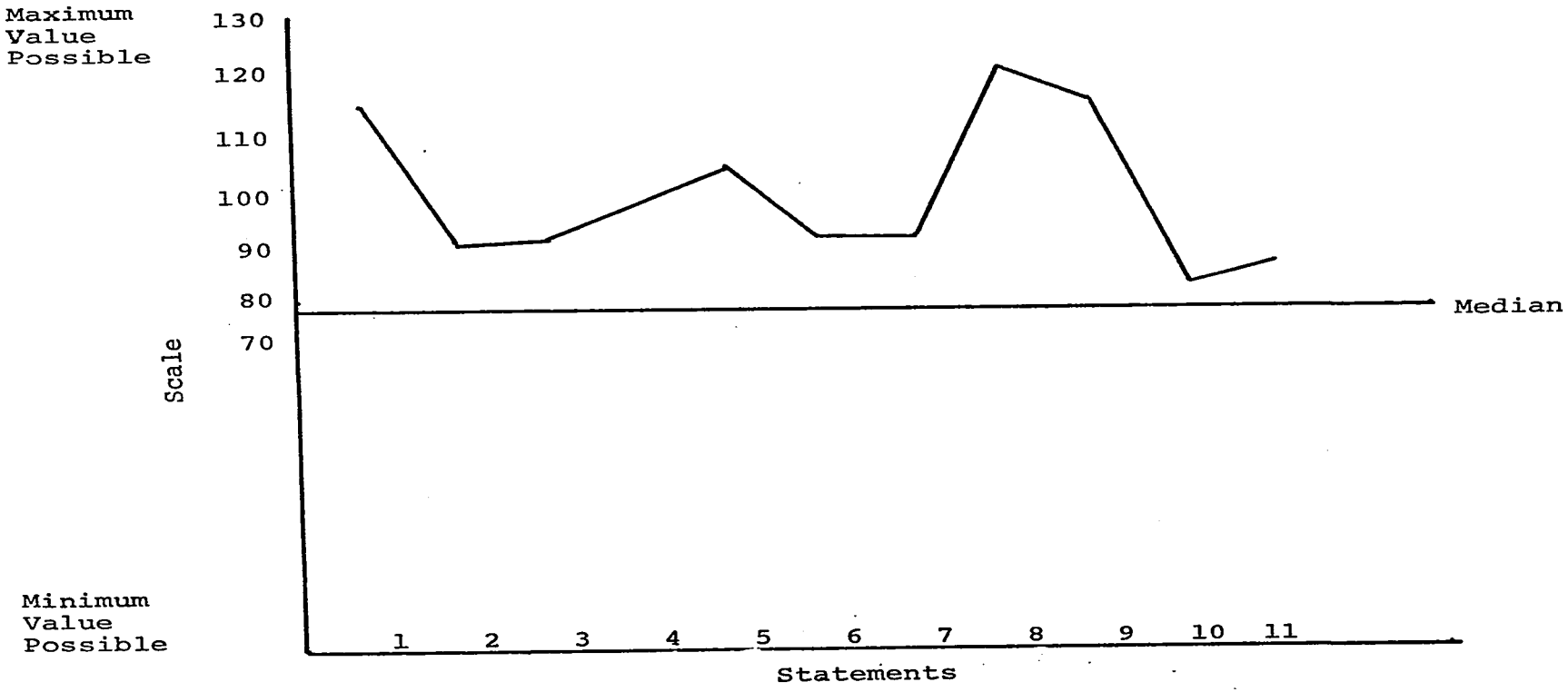

Figure 3: Accumulative Value of Each Statement for All Respondents

Since a weight value of three has been given to "undecided" a favorable answer will be represented above the mean line and an unfavorable answer below the mean line.

Comparison of Opinion Between Education and Industry

For the purpose of this study, an interesting comparison of measured opinions among the three groups involved in the study is represented in Figure 4. Since a weight value of three has been given to "undecided," a mean value of thirty-three on the scale used on the graph will represent a neutral position for each group; any value above the mean line will be considered favorable and any value below the mean line as unfavorable.

Two of the statements in the opinionnaire, five and six, were directly worded toward the purpose of the study:

Statement six. Pertinent work experience in applied arts or technology should be credited 25% of the total program of study in technical teacher education. This refers to the main objective of this investigation.

Statement five. Work experience, educational foundations, basic and applied sciences should be the

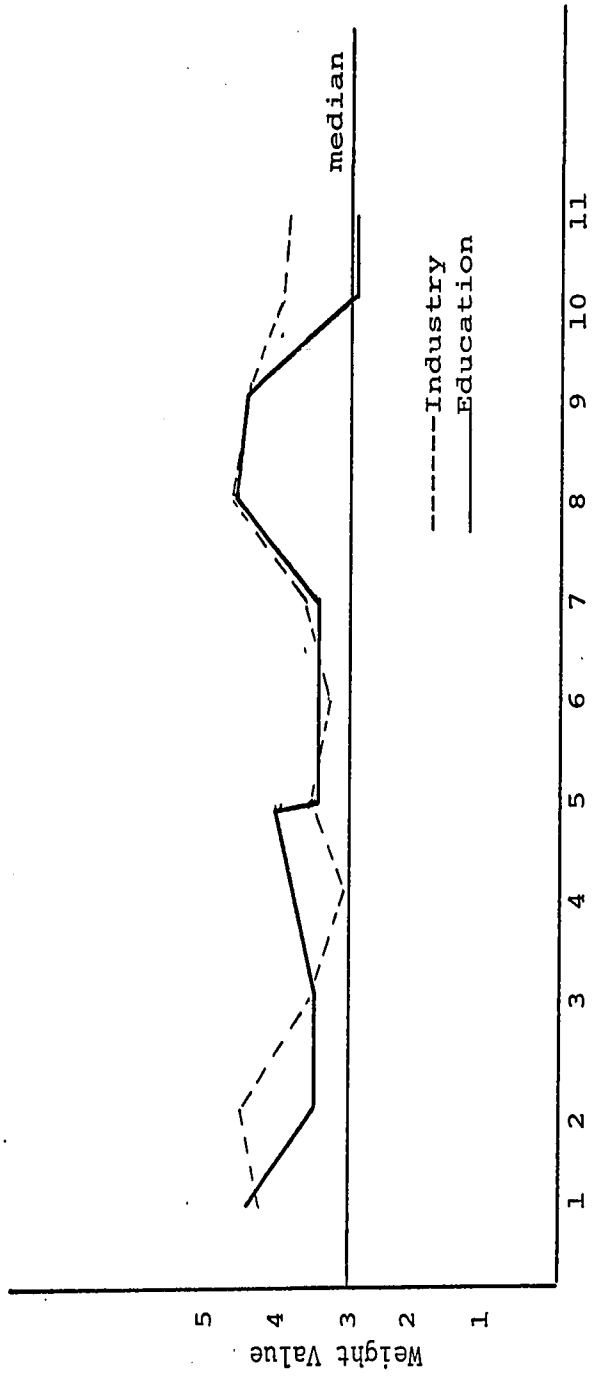

Figure 4. Comparison Between Education and Industry

basic components of a technical teacher education program. This refers to a secondary objective; the selected model program of study.

The different attitudes of the participants on these two important questions are illustrated in Figure 5. The solid line represents the attitude of the participants for the eleven statements, the short dotted line is used for statement six; the long dotted line for statement 5.

Conclusion

Another of the writer's main objectives in this study was to consider the possible applications in implementating the proposed model program of study for the preparation of technical teachers in the Province of Quebec. The analysis of data and the implications of the study will partially answer this last objective and will be dealt with in Chapter 5.

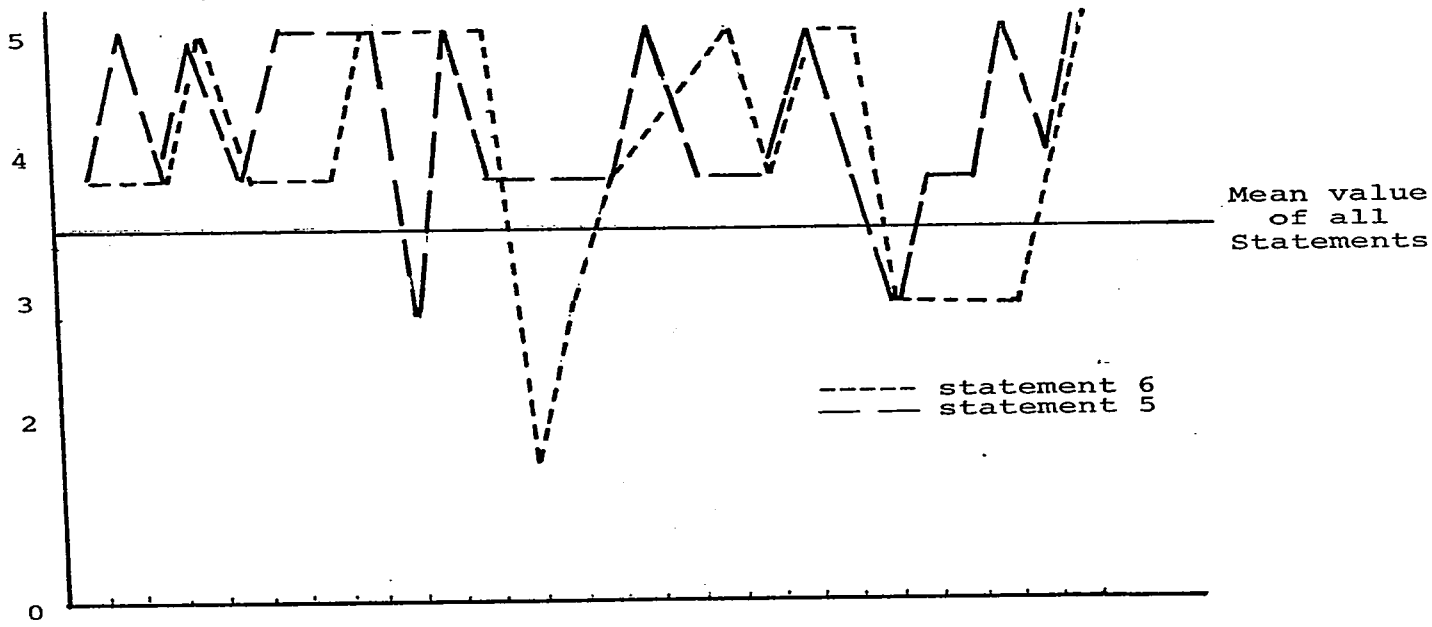

Figure 5. Attitude of Respondents to Questions 5 & 6

CHAPTER 5

SUMMARY, FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS

The final chapter of this thesis presents a summary of the study, some implications and recommendations. Comments and implications which have become noticeable as a result of the study are treated in the second section of this chapter and finally, recommendations for further study complete the study.

Summary of the Study

This developmental study attempted to survey the various programs of study to qualify technical teachers in Canada. The specific purpose was to ascertain some of the elements of these programs as valuable for developing a new program of study that could be used to prepare teachers of applied arts and technology in the Province of Quebec. The specific elements were work experience evaluation in a program of study and evaluation of work experience in terms of university credit. The various factors used in designing programs of teacher education as expressed by Clarke (1971) were used to select a model program for the purpose of this study.

Elements of this model program were evaluated by an opinionnaire sent to selected leaders in education and industry in the Province of Quebec. Consequently, the possible implementation of a program of study for teachers of applied arts and technology was ascertained.

Conclusions

The measured opinion of the selected leaders indicated a favorable answer to work experience as part of a program of study for technical teachers. The opinions of some of the selected leaders against the journeyman certification has influenced negatively, the score of this particular objective. These remarks were indicated in the space reserved for this purpose in the opinionnaire.

The attitude of the selected leaders expressed for the evaluation of work experience and its accreditation in a program of study is clearly shown in Figure 4. This favorable answer can be explained by the trend felt by Cecily Watson (1971). This trend, or pattern, can be seen in the Annual Report of the Ministry of Education of the Province of Quebec. The number of students in colleges in the last three years has increased approximately four times, from 4,847 students

3. Opportunity to develop basic understanding of educational foundations including a specific adult approach in psychology.
4. Opportunity to become familiar with school curriculum and the various learning technology.
5. Opportunity to translate theories into practice through student teaching and internship.

Recommendations

As described in Chapter 3, the number of programs offered in Canada to qualify technical teachers are very limited. The research in this particular field is non-existent. The physical and human resources of the Faculty of Education of the University of Alberta has made this study possible, and the door is open for further research. The conclusions of this study indicate some specific fields of technical teacher education where data are inadequate.

In her book, Watson (1971) complains about the lack of data in technical teacher education. It is recommended that data for existing programs be gathered and published in an Educational Journal across Canada.

The guidelines in program design were investigated by Clarke (1971). Three factors must be taken

into consideration before developing a program of teacher education:

1. The presage factors, or decisons that must be made prior to designing a program;
2. The process factors or the treatment proposed; and
3. The product factors or the actual behavior produced.

Clarke says that these guidelines can also be used to evaluate existing programs. Considering the above factors, a revision of applied and basic science options of the program of study identified as Plan J of Vocational Education leading to a Bachelor degree of Education, is recommended.

The levelling of university registration, the rising of the new community colleges, and the new roles recommended by the Worth Commission for community colleges are factors which influenced the writer to recommend wider publicity for Plan J of the Department of Vocational Education of the Univderisty of Alberta.

For this study there were numerous difficulties encountered in the evaluation of journeyman certification. It is recommended that a research project for this purpose be undertaken by the Department of Manpower and

Immigration. It is also recommended that the research and development undertaken in the Department of Industrial and Vocational Education at the University of Alberta be published in the Canadian Vocational Association Journal annually.

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APPENDICES

APPENDIX A

APPENDIX B

Les universités

Université du Québec
Siège social
2525, boul. Laurier
Québec 10
651-7220

Université du Québec à Chicoutimi
980, rue Jacques-Cartier est
Chicoutimi
549-4354

Université du Québec à Montréal
C.P. 350, Succ. B
Montréal 110
866-5500

Université du Québec à Trois-Rivières
C.P. 500
466, rue Bonaventure
Trois-Rivières
379-1740

C.E.U. Rimouski - Université du Québec
300 avenue des Ursulines
Rimouski
723-1986

École nationale d'administration publique
31, rue Mont-Carmel
Québec 4
522-1411

Institut national de la recherche scientifique
2050, boul. Saint-Cyrille
Québec 10
688-1220

Université Bishop's
Lennoxville
569-9551

Université de Montréal
C.P. 6125
Montréal
343-6776

Université de Sherbrooke
Cité universitaire
Sherbrooke
569-7431 loc. 431

Université Laval
Cité universitaire
Québec 10
656-2272

Université McGill
Montréal 110
392-5349

Université Sir George Williams
1435 Drummond Street
Montréal 107
879-2862

APPENDIX C

OPINIONAIRE ON WORK EXPERIENCE AS PART OF A MODEL PROGRAM
FOR TECHNICAL TEACHER EDUCATION

INSTRUCTIONS: 1- For each statement listed below, express your attitude on the scale from strongly agree to agree, uncertain, disagree and strongly disagree, by making a check (✓) in the box reserved at the end of each statement. 2- If you have any comments write them in the space reserved on the right. 3- Return your answer as soon as completed in the self-addressed envelope attached.*

NO.	OPINIONS	Strongly disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly agree 5	COMMENTS
1	Candidates for admission to a technical teacher education program should be recruited from business and industry.						
2	Candidates who are accepted for a technical teacher education program should have not less than five (5) years of pertinent work expérience.						
3	In an apprenticeable trade, a journeyman certificate must be a prerequisite for admission to a technical teacher education program.						
4	Industrial experience should be considered and university credits should be given for such experience.						
5	Work experience, educational foundations, basic and applied sciences should be the basic components of a technical teacher education program.						
6	Pertinent work experience in applied arts or technology should be credited 25% of the total program of study in technical teacher education.						
7	In a technical teacher education program a greater emphasis must be placed on the principles of adult education.						
8	Provision should be made for technical teachers to return periodically to industry for up-grading and up-dating.						
9	Supervised periodical in-plant training for technical teacher should be accredited.						
10	Supervised student teaching experience should be offered in the first university year of technical teacher education program.						
11	After completing the first year at the university, successful candidates should receive a temporary teaching permit.						

*If you wish to receive a copy of the results of this study, please indicate by making a check ( )

Signature . . . . . .

OPINIONNAIRE SUR LA VALEUR DE L'EXPERIENCE INDUSTRIELLE EN TANT QUE PARTIE INTEGRANTE D'UN PROGRAMME MODELE POUR LA FORMATION DES MAITRES DE L'ENSEIGNEMENT PROFESSIONNEL

MARCHE A SUIVRE: 1- Veuillez exprimer votre attitude au sujet de chacune des opinions ci-dessous en cochant dans les carreaux prévus à cette fin selon que vous êtes: tout à fait opposé, opposé, indifférent, d'accord ou tout à fait d'accord. 2- Si nécessaire vous pouvez ajouter des commentaires dans les espaces prévus à cette fin. 3- Retourner le document dès que vous l'aurez complété dans l'enveloppe affranchie ci-jointe.

NOS.	OPINIONS	Tout à fait opposé 1	Opposé 2	Indifférent 3	D'accord 4	Tout à fait d'accord 5	COMMENTAIRES
1	Le recrutement de candidats pour la formation des maîtres pour le secteur professionnel devrait avoir lieu dans le monde de l'industrie et des affaires.						
2	Un minimum de cinq (5) ans d'expérience industrielle pertinente devrait être exigée pour les candidats acceptables au programme de formation des maîtres du secteur professionnel.						
3	Dans les professions ou métiers régient par la loi de l'apprentissage la carte de compétance devrait être un pré-requis pour l'admission au programme de la formation des maîtres du secteur professionnel.						
4	L'expérience industrielle ou professionnelle devrait être évaluée en terme de crédits universitaires dans un programme d'étude pour la formation des maîtres du secteur professionnel.						
5	Dans un programme de formation des maîtres pour le secteur professionnel, les composantes du programme d'études devraient être: l'expérience industrielle, la psycho-pédagogie, les sciences fondamentales et les sciences appliquées.						
6	L'expérience industrielle devrait être accrédité pour au moins 25% du programme total de formation des maîtres du secteur professionnel.						
7	C'est sur les principes psychologiques et pédagogiques s'appliquant aux adultes qu'il faudrait orienter le programme de la formation des maîtres du secteur professionnel.						
8	Les professeurs de l'enseignement technique et professionnel devraient pouvoir retourner périodiquement dans l'industrie afin de se recycler.						
9	Des stages industriels coordonnés par les responsables de la formation des maîtres du secteur professionnel, devraient être accrédités à un programme d'études.						
10	L'expérience pratique d'enseignement devrait avoir lieu durant la première (1) année du cours universitaire.						
11	Un permis temporaire d'enseignement devrait être émis aux candidats qui ont réussi avec succès leur première (1) année universitaire.						

Si vous désirez recevoir une copie des résultants de cette étude, cochez ici. ☐

Signature . . . . . .