A STUDY OF SELECTED FACTORS ASSOCIATED WITH THE SUPPLY OF AND DEMAND FOR PUBLIC SCHOOL TEACHERS AND ADMINISTRATORS IN THE PROVINCE OF NEWFOUNDLAND AND LABRADOR FOR THE SCHOOL YEAR 1985-1986

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ABSTRACT

The importance of reliable information about teacher supply and demand has been well established. In recent years, the educational system has undergone a dynamic shift from a chronic shortage of teachers to an apparent surplus. The impact of this change has implications for planning and development by university faculties, government planners, teacher recruits and school administrators.

The literature and related research regard teacher supply and demand as critical to the total planning process. Researchers have concluded that the problem is not so much surpluses and shortages in absolute terms but short term variances in geographic regions and subject areas. The purpose of this study was to identify factors associated with the supply of and demand for teachers and administrators in order to demonstrate potential regional and academic imbalances. More specifically, this study was an attempt to identify the reasons for job vacancies, the subject and administrative areas and geographic locations encompassing teacher demand, and the characteristics of the potential and actual supply of new teachers.

An instrument was designed to obtain data relative to job vacancies in individual schools and school districts, and the individuals who filled those jobs. Results of the analysis of data revealed a general surplus of teachers.

Over 6,600 applications were received for 569 vacancies for teachers and administrators between September 1, 1985 and August 31, 1986. On the other hand, a shortage was evident in educational therapy and potential shortages in guidance and music.

The findings of this study strongly suggest that the teacher workforce is a dynamic enterprise. Considerable movement of teachers took place between schools, districts and provinces potentially creating jobs for those not in the workforce.

The study found that there were vacancies in all regions of the Province, including the most isolated and the most urban. Contrary to what might have been expected, highly qualified personnel were hired in rural areas and inexperienced personnel were hired in urban centers. Demand increased inversely with community size; the highest vacancy rates being in communities with a population of less than 500. It was found that demand was highest in Labrador (15.8 percent), the most isolated region of the Province.

It was found that school districts were seeking both generalist and specialist employees. Demand was greatest for educational therapists (53 percent) and French Immersion teachers (44.6 percent), while little demand was experienced for administrators (3.2 percent).

Females comprised the majority of teachers hired and males comprised the majority of administrators hired. Four

percent of new employees had no university degree and eight percent had at least a Master's degree. The median educational experience for all new employees was two years.

Finally, it was found that 41.5 percent of new employees hired were already teaching at the time and 22.7 percent came directly from Memorial University. Teachers were hired from other teacher training institutions, from other educational institutions outside the Province, from other occupations, and from the ranks of the unemployed.

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CHAPTER 1

INTRODUCTION

Education is a labour-intensive service in that the major portion of its funding is expended in direct salaries and wages. Teachers are considered to be essential personnel in education because they, through various means of instruction, deliver the required programs and services to schools. That is to say, the quality of education is contingent to a large degree on the quality of its teachers. Walter (1987) described the value of teachers to the educational process in the following way:

> The value of teachers to our society cannot be overstated. They are the backbone of the educational community. Their resourcefulness and intelligence are the best tools we have to refine and nurture young people's minds. Using wisdom and ingenuity in the way a sculptor uses a chisel, teachers have the awesome power to transform uncertain, unknowing children into confident and knowledgeable adults. (p. 1)

Watson and Quazi (1973) suggested that if one were to observe the status of teachers in relation to their performance and governance in schools, one could gauge the performance of education in general. The influences that impact upon teachers impact upon education in general.

The sixties and seventies were periods of rapid expansion in the number of teachers throughout North America. The United States Department of Commerce (1985)

reported that the number of teachers in that country increased 52 percent from 1960 to 1980. For Canada, during this same period, Statistics Canada (1971, 1985) reported a 34 percent increase in the number of teachers, while for the Province of Newfoundland and Labrador, it reported that the number of teachers increased 94 percent. In addition, new curricula were being designed. Environmental studies, special education, French Immersion, and computer studies all required highly specialized instructional staff. During this time educational policy was dominated by the problem of meeting critical shortages of well-trained teachers.

By the 1980's, however, the expansion of the educational system in North America had slowed and in some areas even reversed. The decline in enrolments, first observed in 1972, was accompanied by a concomitant decline in resources and intergovernmental aid (Sherman, 1983). Educational decision-makers began voicing concerns about an aging, immobile, and expensive teacher workforce (Grambs, 1980).

The implications of this dynamic shift from expansion to contraction were articulated for Newfoundland and Labrador by Crocker and Riggs in the Task Force on Education (1979):

> One of the most dramatic features of change in the educational system in recent years has been the swing from a chronic shortage to an apparent surplus of teachers. In fact, perhaps no other aspect of change better illustrates the lag between educational policy implementation and

> the pace of social change. It would appear that the policies on increasing teacher supply and teacher quality, implemented during the 1960's began to have their major impact just at the time when declining enrolments were beginning to bring about a substantial reduction in the demand for teachers. (p. 210)

These changes were not confined to Newfoundland and Labrador. Throughout North America, educational jurisdictions were faced with surpluses and shortages of qualified teachers (Roth, 1981). A renewed interest appeared in recent years because of newspaper and journal headlines announcing imminent, critical teacher shortages. The Wall Street Journal (Mackay-Smith, 1985), for example, provided information on rising student enrolments and declining university graduates, while focusing on specific areas where critical shortages existed. Florida, Texas, and New Jersey were identified as locations where teachers were needed. During the same period, Time ("And now, a teacher shortage," 1985) reported shortages in the most populous sunbelt states, particularly California. On the other hand, The Futurist ("Jobless Teachers," 1986) reported that in West Germany the number of school-age children declined so significantly in recent years it projected that one out of five teachers would be out of work by 1990.

In the past, researchers have reported surpluses of teachers (Ward, 1975; Jones, 1981; Bendelow, 1985), while others have reported shortages (Herman, 1978; Housman and Livermore, 1978; Musemeche and Adams, 1978; Illinois State

Board of Education, 1981, 1983; Olstad and Beal, 1981). Accurate information relating to teacher supply and demand is critical if appropriate policies are to be developed to address significant fluctuations in the demand for teachers. Although numerous studies have been conducted in Canada and the United States concerning aggregate teacher supply or demand, this researcher was unsuccessful in locating any study dealing exclusively with the balance which exists between the supply of and demand for teachers in specific geographical areas and educational specialties. Such an investigation would provide further illumination of the dynamics of teacher employment.

Statement of the Problem

The conditions which affect teacher supply and demand are extensive and complex. The supply of and demand for teachers and administrators are influenced by demographic, social, and economic imperatives, and are further complicated by imbalances among subject areas, administrative specialties, teaching levels, and geographic regions (Crocker and Riggs, 1979). Housman and Livermore (1978) contended that teacher demand is primarily caused by teachers leaving the system rather than by program expansion. They concluded that, because of current economic trends and declining student enrolments, not many new science and mathematics teaching positions have been

created. Burgess (1977) asserted that the problem was not one of surpluses and shortages in absolute terms, but rather short-term variances in certain geographical regions and some subject areas. Williams (1979) suggested that the:

> planner who is faced by actual or anticipated surpluses or shortages of teachers should closely examine the factors causing the imbalance and consider ways in which it may be corrected. (p.71)

Studies of the supply of and demand for teachers in the Province of Newfoundland and Labrador, using quantitative methods, project the demand for places based upon enrolment projections and demographic information (Choudhury, 1982). A number of researchers have reported on the generic differences between supply and demand (Staple, 1971; Stapleton, Bulcock, Clifton and Paschke, 1978a; Crocker and Riggs, 1979), while Warren (1979) has reported on the supply of unemployed teachers, and Cramm and Cluett (1979) have reported on the employment and deployment patterns of first time teachers.

The major purpose of this study was to identify factors associated with the supply of and demand for public school teachers and administrators in the Province of Newfoundland and Labrador in order to demonstrate potential regional and academic imbalances. The literature and related research regard supply and demand information as invaluable to the total educational enterprise.

More specifically, the general purpose of this study

was to provide answers to the following research questions:

1. What are the reasons for job vacancies in the educational marketplace?
2. Are full-time or part-time teachers being hired?
3. Are candidates being found for all vacant positions?
4. To what teaching grade levels are new jobs being assigned?
5. What is the relationship between job vacancy and language of instruction?
6. In what subject, specialty, and administrative areas are educators being hired?
7. What is the relationship between school districts and the demand for teachers and administrators?
8. What are the relationships between community size and school size, and the demand for teachers?
9. What is the relationship between geographic distribution of the population and the demand for teachers and administrators?
10. Are employers generally satisfied with the quality of candidates being interviewed?
11. What are the attributes of those being hired in terms of age, sex, residency, degree held, teaching certificate, and years of educational experience?
12. Are new teachers and administrators being recruited from universities, other teaching positions, or from other activities?

Theoretical Framework

The lack of unifying research in the study of teacher supply and demand has resulted in theory being borrowed from the field of economics. Although no specific theory was found which was formulated in a fashion to explain the particular problem in question, the theory of stocks and flows is considered to have general applicability to this study. In particular, the works of Williams (1979), Zabalza, Turnbull and Williams (1979), and Choudhury (1981; 1982), lay the groundwork for the conceptualization of the specific elements to be studied.

Teachers represent a significant component of skilled manpower, and are viewed as an economic entity (Williams, 1979). The manpower requirements approach to planning, as described by Choudhury (1982), considers:

> the flow of fresh labour into the labour market [to be] determined by a demographic flow of manpower required to replace withdrawals, disability and net out-migration, and is therefore referred to as replacement demand. (p. 36)

Teacher demand then can be described as the filling and unfilling of positions in the teacher workforce resulting from demographic conditions, personal circumstances, and policy decisions.

Teacher supply is also a function of stocks and flows. Zabalza, Turnbull and Williams (1979) define supply as the flow of two groups of teachers: those who enter the

workforce and those who remain in it. Warren (1979) included unemployed teachers as part of supply. Williams (1979) described teacher supply as comprising stocks and two types of flows: outflows - death, retirement, resignation, dismissal, and redesignation - and inflows - returners, new teachers, and re-entry teachers. Williams defined returners as those who return after a temporary absence from teaching and re-entry teachers as those who return after having resigned or retired.

Supply and demand are functions of stock variables - chacteristics of the stock of teachers - and demographic flows. The set of relationships that influences demand stocks and flows is illustrated in the model presented in Figure 1.

The stock of teaching positions at any one time is influenced by losses from it and additions to it. Losses are the result of three general factors: (1) demographic conditions such as death, or retirement at the stipulated age, (2) personal decisions by teachers to resign or to retire prematurely, and (3) policy decisions by employers to dismiss teachers or to declare positions redundant. In the case of redundancy, the position is eliminated from the stock of teaching positions; in other cases a decision is made to either replace or eliminate the position. If the decision is made to replace, it is deposited into a stock of vacant positions along with any newly created positions.

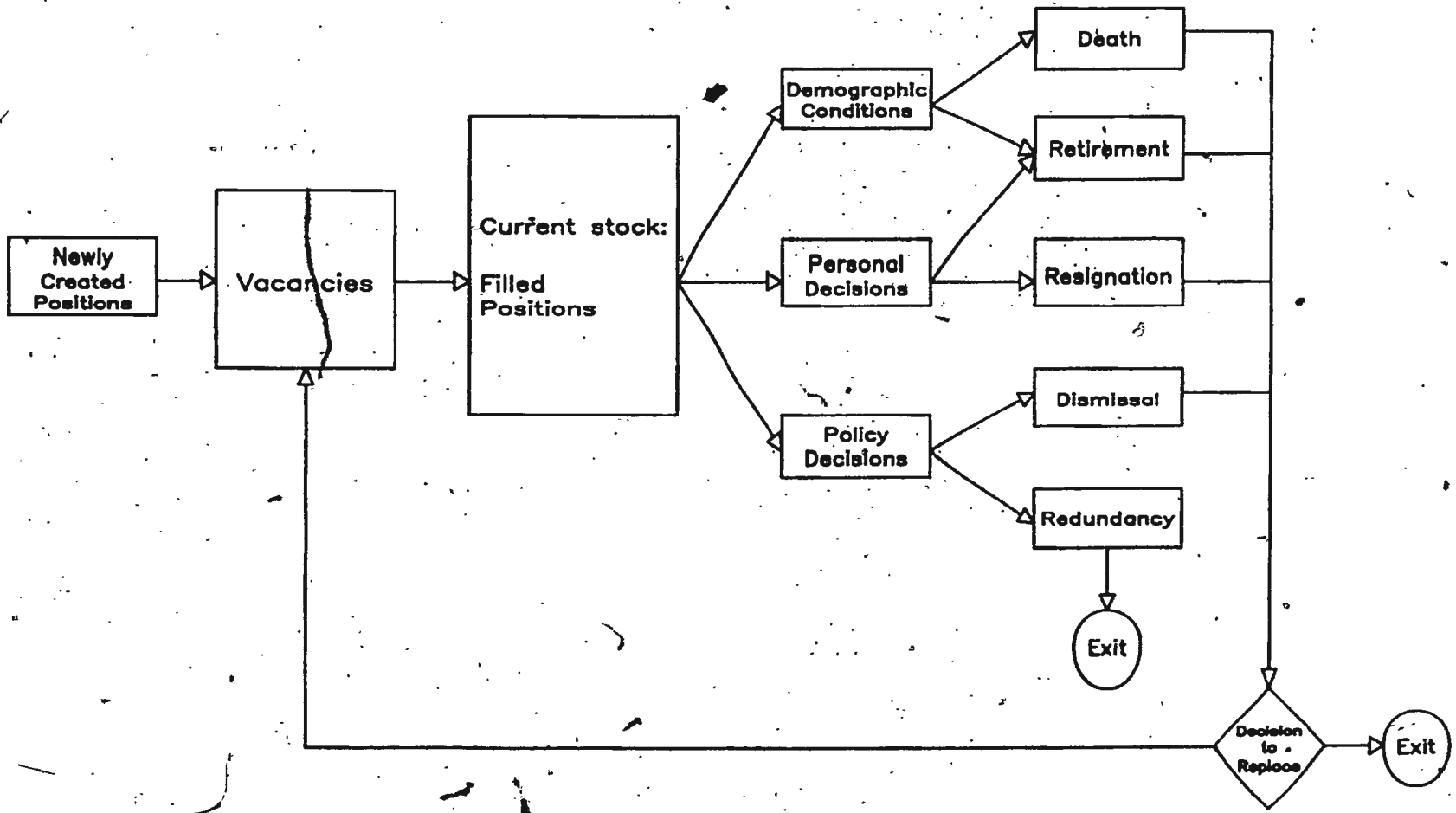


Figure 1. Conceptual model of demand flows at time (t).

The set of relationships that influences supply stocks and flows is illustrated in the conceptual model presented in Figure 2. The stock of teachers at any one time is influenced by inflows and outflows. Inflows begin with a potential supply of teachers, although it ultimately originates from the secondary school system (Warren, 1979). The potential supply is comprised of four groups: university students, teachers not in the Newfoundland and Labrador public school system, those employed in other occupations, and those unemployed. As individuals in these groups become qualified to teach, or actively pursue a teaching career in the public school system, they enter a reserve pool. Each year some succeed in entering the stock of employed teachers while others leave the reserve pool to pursue other goals.

The stock of teachers is comprised of an inactive component - those who do not change responsibilities - and a dynamic component - those who have been reassigned, and those who move to new positions within school districts and between school districts.

Outflows from the stock of teachers are the result of: (1) demographic conditions resulting in death or retirement, (2) personal decisions resulting in retirement or resignation, and (3) policy decisions resulting in dismissal or redundancy. In the cases of death and retirement, the individual is permanently lost to the system; in other cases a decision is made to leave the

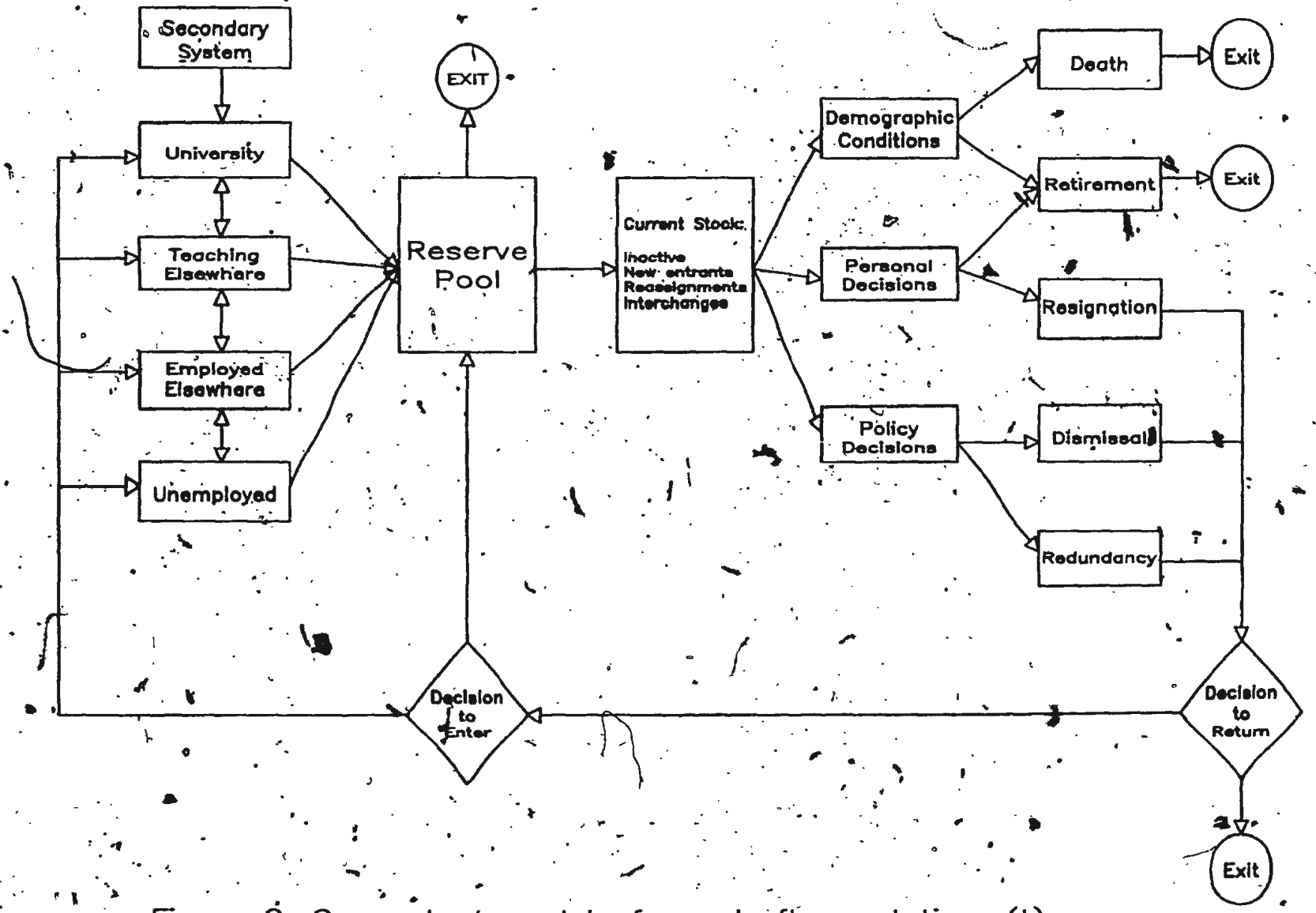


Figure 2. Conceptual model of supply flows at time (t).

system, or return to either the potential supply or the eligible reserve pool.

The relationship between the supply stocks and demand stocks is illustrated in Figure 3. Supply and demand cannot be viewed as a single entity, one is an adjunct to the other. At any one point in time, therefore, imbalances can occur. These may be regional imbalances, academic imbalances, or administrative imbalances. A positive imbalance occurs when the supply of teachers exceeds the demand; a negative imbalance occurs when the supply of teachers falls short of required demand.

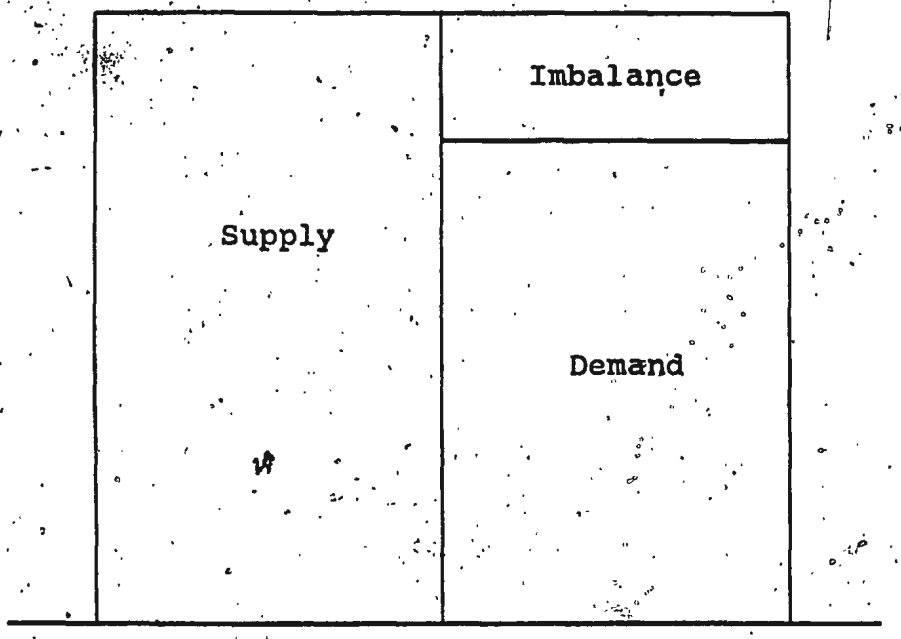


Figure 3. Conceptual model of the relationship between supply stocks and demand stocks.

Significance of the Study

Issues in education which command considerable public attention are related to economic growth and quality of services (OECD, 1984). In the past, the attention of educators has been focused on declining enrolments, resource allocation, taxation, accountability, and public confidence. The demands for speech pathologists and science teachers, on the other hand, garnish little visibility, but are vitally important to government agencies, teacher training institutions, administrators, teachers, and teacher recruits.

Few issues, for example, affect the prospective teacher recruit as greatly as that of accessibility into the teaching profession, inasmuch as the ultimate goal of every such person is employment. It is the uncertainty of the job market, the need to specialize, the ability to adapt and innovate skills, the need for increased mobility, and the need for career planning which are the issues critical to prospective teachers. Information on the demand for specific teaching assignments could be supplied to teacher recruits to assist them in understanding the teacher job market.

University education faculties and teacher training institutions would also benefit from information regarding teacher demand. Institutions could reassess traditional programs having few employment opportunities, and direct

energies toward the identification of demand trends. The availability of detailed demand information would further assist these institutions in responding to regional and provincial needs, in addition to their own organizational needs. Finally, these institutions could provide valuable employment data and career information to prospective teachers as they formulate and pursue their career objectives (Neppl, 1983).

It is anticipated that the results of this study will have significance for principals, supervisors, and superintendents. Indications of this have already been provided by superintendents -- a number of whom have sent unsolicited commendations of support (see Appendix B). Watson and Quazi (1973) provide an example of how demand information impacts upon the functions of schools. They state:

> an oversupply of teachers in some subject area or some level of a system might well lead administrators and board officials to create a new educational service (in order to minimize the number of regular teachers to be dismissed). (p. 189)

The distribution of public money to the educational sector is the responsibility of government. It is essential, therefore, for departments of government to have access to detailed supply and demand information to ensure that the proper courses are developed and prescribed, to ensure that the allocation of teachers is equitable, to

supply career information to guidance personnel, and to assist with forecasting and financial planning related to the costs of teachers' salaries and services. Zabalza, Turnbull and Williams (1979) contend that such information:

> is needed in a situation of surplus as well as in a situation of shortage if a given supply of teachers is to be efficiently allocated, [and is also needed] if the structure of the teaching force is to conform to planned requirements and if equilibrium is to be achieved between supply and demand, thus eliminating the tendency to surplus. (p. 6)

The departments responsible for post-secondary education could also use this information in fulfilling their goals and objectives. Such detailed information is crucial for occupational forecasting and labour market planning; not just for the teaching profession but for numerous professions. For example, a shift to certain sciences and industrial education courses in the high schools would significantly impact upon career plans in all colleges and universities. It is imperative, therefore, that those responsible for the planning, development and funding of post-secondary programs be eminently aware of the patterns of teacher demand.

As far as could be determined, no analysis of job vacancies in order to quantitatively access the regional, academic and administrative imbalances of teacher demand in the Province has been completed. Stapleton, Bulcock, Clifton and Paschke (1978b) recommended the undertaking of

similar studies "so as to facilitate judicious decision making by individuals and by groups" (p. 10).

A conference on declining enrolments (Cluett & Buffett, 1979), recommended the collection of information capable of:

> predicting teacher demand broken down by major subject areas; for example, primary grades (K-3), elementary grades (4-6), and secondary school demands by mathematics/science, English/social studies and/or religion, French, physical education, music and industrial arts. (p. 76)

This study provides part of the background necessary for the development of projections of future teacher requirements.

Delimitations

The population of the study was confined to public schools in the Province of Newfoundland and Labrador which fall under the jurisdiction of the thirty-five school boards. Information was gathered through questionnaires distributed to superintendents during the fall of 1986.

This study made no attempt to address the occurrence of political, social, economic, or cultural factors which possibly influence the demand for teachers and administrators. Moreover, there was no attempt made in the study to identify or compare individual employees or schools, nor to assess the quality of teacher selection practices.

Limitations

The limitations which were not controlled by the researcher and could influence the results of this study were acknowledged as follows:

1. For various reasons, questionnaires for all new acquisitions may not have been completed.
2. Some of the information relating to specific jobs may not have been available to respondents.
3. It is possible that some of the respondents may have misinterpreted items in the questionnaire.
4. The survey instrument may not have been sufficiently sensitive to record the subtleties surrounding the issue of the quality of candidates. Quality is defined in terms of respondent satisfaction and not by some measure of teacher effectiveness.
5. Mathematical treatment of the data did not address the more complex problems of teacher demand; i.e. teacher effectiveness, hiring practices, or decision-making processes.
6. Although it was made clear to respondents that this was not an assessment of school district hiring practices, some may have been sensitive to that.

Assumptions

Certain assumptions were made in relation to the collection of data. One assumption was that respondents accurately interpreted the questions, had access to related information, and reported it correctly. The assumption was also made that items selected for inclusion in the questionnaire and the wording of the questions accurately represented factors which contributed to the supply of and demand for teachers.

Definition of Terms

Specialized terms endemic to the study of teacher supply and demand are defined as follows:

> Academic fields. Classroom assignment, general, art, business education, drama/theatre, English/literature, family studies, French, guidance, home economics, industrial education, library/resources, mathematics, music, physical education, religion, biology, chemistry, computer studies, earth science, environmental science, physics, and social studies. (Newfoundland Department of Education, 1986-1987)
>
> Administrators. District: superintendents, assistant superintendents and program coordinators. School: principals, vice principals and department heads.
>
> Community size. Refers to population of community in which school is located. Categories include:
>
> 1-499
> 500-999
> 1,000-2,499
> 2,500-4,999
> 5,000-9,999
> 10,000 or more
>
> (Newfoundland Statistics Agency, 1986)

Demand. The number of teaching and administrative jobs that are required to be filled at any one time. Absolute demand refers to the actual number of vacancies which arise, while relative demand refers to the number of vacancies in relation to selected demographic or geographic indicators.

Flows. The movement of teachers into, within and out of the system. Outflows occur due to retirement, resignation, dismissal, redesignation and death. Inflows comprise returners, new teachers, and re-entry teachers. (Williams, 1979)

Imbalance. The difference between supply and demand.

Instructional level. The teaching grade level within the public school system for which a teacher is assigned, i.e. pre-school, primary, elementary, junior high, senior high. (Newfoundland Department of Education, 1986)

Regions. (1) Avalon Peninsula, (2) South Coast and Burin Peninsula, (3) Central, Northeast Coast and Bonavista Peninsula, (4) West Coast and Northern Peninsula, (5) Labrador. (Newfoundland Statistics Agency, 1986)

School size. Refers to student enrolment. Categories include:

1-49
50-99
100-199
200-299
300-399
400 or more

(Newfoundland Department of Education, 1986)

Shortage. A negative imbalance in which the supply of teachers falls short of the required demand,

Special skills and programs. Special education, educational psychology, educational therapy, hearing impairment, physically handicapped, speech therapy, and visual impairment. (Newfoundland Department of Education, 1986-1987)

Stocks. The total number of teaching and

administrative positions filled at any one time. (Williams, 1979)

Supply. The number of persons holding a valid teaching certificate who are eligible to seek employment as teachers or administrators in the Province of Newfoundland and Labrador. (Williams, 1979)

Surplus. A positive imbalance in which the supply of teachers exceeds the demand.

Teacher workforce. The total number of teachers and administrators in the Province.

Vacancy. Any teaching or administrative position which met all of the following criteria: (1) it was vacant for any period between September 1, 1985 and August 31, 1986, (2) it was a permanent position, or a replacement position filled for a period of at least one year, and (3) it was advertized and applicants went through a required job competition.

Organization of the Study

This study was organized so that it could be presented in five chapters. Chapter 1 introduces the subject and states the problem. In addition it provides a theoretical framework, explains the significance of the study, outlines the delimitations and limitations, states the assumptions, defines the terms basic to the field of teacher supply and demand, and describes the organization of the study.

Chapter 2 presents a comprehensive review of the literature and related research which served as a general background for the study. It consists of four sections and a summary, and provides a broad view of the field of teacher

supply and demand.

Chapter 3 explains the methods and procedures involved in the study. It includes a description of the population, an explanation of the procedures used in conducting the study, the development of the instrument, and the method of data analysis.

Chapter 4 contains a statistical analysis of the data which were collected. This analysis was designed to identify factors contributing to the demand for and supply of teachers. More specifically, it was designed to show the demand in certain academic, specialist, and administrative areas, and to provide a profile of the teachers hired.

Chapter 5 consists of a summary, findings, conclusions, and recommendations. The summary includes the background to the study, the procedures used, and the general purpose of the study. The findings represent the major discoveries resulting from the statistical analysis of data. Conclusions are the relationships inferred directly from these findings. Recommendations for action and for further research are formulated from these inferences.

CHAPTER 2

REVIEW OF THE LITERATURE AND RELATED RESEARCH

This chapter presents a review of literature and related research pertinent to an understanding of teacher supply and demand. The chapter has been divided into four sections: (1) an examination of the dynamics of the labour market as it pertains to teacher supply; (2) a review of literature related to teacher supply and demand throughout North America (a) from an historical perspective and (b) from a current perspective; (3) an examination of the factors affecting teacher supply and teacher demand; and (4) an examination of the imbalances which occur between the supply and demand.

Dynamics of the Teacher Labour Market

Adam Smith considered the skills of the labour market to be the predominant force for economic progress (Cohn, 1979). Human capital theory (Becker, 1964) views educational choice as an act of investment. The activity of seeking employment in the teacher workforce, therefore, is seen to be an act of investment directed to increase human capital. Zabalza, Turnbull, and Williams (1979) in describing human capital assume that:

> the choice of occupation and the choice of workplace within an occupation, are viewed as

> acts of investment which are guided by their expected return. (p. 9)

In this framework, the composition and size of the teacher labour market are determined by the behavior of individuals within a social, political, educational, cultural, and economic environment.

Relationships between labour supply and the demand for skills and services are complex and difficult to identify. As a result, research on teacher supply and teacher demand has been quantitative, preferring to measure one or both. Sometimes the absolute differences between the two are considered. Carter and McCowan (1970) contend that essentially:

> research relating to teacher supply and demand has been limited in this respect since it has been descriptive with little effort devoted to [qualitative analysis]. (p. 7)

Qualitative teacher labour market studies, such as those completed by Berry, Noblit, and Hare (1985), are few.

Literature Related to Teacher Supply and Demand

Historical Perspectives (1900-1969)

Teacher supply and demand conditions have been reported on at various times in this century. Eliassen and Anderson (1930), Maaske (1951), and Kluender (1983), have examined the literature and reported the research findings

since 1900. They have identified a number of patterns and conditions of change.

Teacher supply has seldom been congruent with teacher demand since the 1920's. Maaske (1951) reported little public concern over the issue of teacher supply and demand prior to 1900. The problem, he contended, was unique to this century. He reported only a few short periods between 1920 and 1948 in which teacher supply and demand could be described as having been in balance.

Eliassen and Anderson (1930) reviewed 117 articles on teacher supply and demand between 1924 and 1930. They reported few variations among the fifty studies reviewed. Most of them identified an oversupply of teachers in most subject areas and in many regions of the United States. Some solutions to teacher surpluses which they proposed were: (a) improved teacher selection, (b) higher standards for teacher training, (c) improved certification methods, (d) more careful placement, and (e) inservice incentives to keep superior teachers in the classroom.

In 1967, a joint study by the International Bureau of Education and UNESCO found that 93 countries throughout the world were experiencing effects of teacher shortages at the secondary school level. Five of the conclusions reached from the study are presented below:

1. It appears that practically all countries are suffering from a shortage of secondary school teachers. In some cases the lack is qualitative

but in most cases it is both quantitative and qualitative.

2. Upper secondary education is the most severely affected by the shortage of teachers.

3. The subjects most affected are mathematics, modern languages and science.

4. ...the main causes of the shortage of secondary school teachers are the increase in population, the raising of the school leaving age, easier access to secondary education, wider possibilities of education and the encouragement to make use of them which increases [sic] enrolment figures and necessitates [sic] a larger number of teachers.

5. The prominence given to education by governments, employers and the population has done much to increase secondary school enrolment. (p. vii)

Kluender (1983) described four periods during which teacher supply and demand were distinctly out of balance: (a) 1920-1938 teacher surplus, (b) 1939-1959 teacher shortage, (c) 1965-1977 teacher surplus, and (d) 1977-1982 mixed conditions. She concluded that shortages and surpluses were directly related to shifts in the numbers of births, the birthrate and the resulting changes in the age structure of the population. Brodbelt (1973) asserted that such conditions were the result of a combination of declining birthrates, the doubling of college enrolment, and cutbacks in programs.

The recent past, Kluender (1983) contended, was

characterized by mixed supply and demand conditions. Shortages existed in some geographic regions and subject areas at the same time that surpluses existed in others.

Current Perspectives (1970-1985)

Since 1970, an era of expectation for an abundant supply of qualified teachers began (Graybeal, 1974). Imbalances between supply and demand were identified and studied. During this time, the work of Graybeal (1971, 1974); Watson and Quazi (1973); Lyon (1975); Williams (1979); and Zabalza, Turnbull, and Williams (1979) were particularly noteworthy. In addition, the National Center for Education Statistics (NCES), the National Education Association (NEA), and the Association of School College and University Staffing (ASCUS) have prepared regular reports on the subject. Stapleton, Bulcock, Clifton and Paschke (1978a), Crocker and Riggs (1979), and Warren (1979) have completed important research in the Province of Newfoundland and Labrador.

For the most part, research has had one of three foci. There have been micro-level studies involving (a) the identification and examination of significant factors affecting supply or demand, or both, and (b) the examination of the imbalances which occur within specific aggregations, such as science teachers or specialist teachers, and there have been macro-level studies involving (c) the development

of projections of future supply and demand conditions. Although it can be argued that some studies had more than one focus, for the most part each concentrated on one only. A summary of selected significant studies in each of these areas is presented in Table 1.

United States. Three groups in the United States have made major contributions to the understanding of teacher supply and demand. Each year, the Association of School College and University Staffing, under the direction of William S. Graybeal, surveys the placement officers in teacher training institutions throughout the United States requesting information on the numbers seeking employment. Placement officials are asked to rank the condition of teacher supply and demand and identify imbalances by subject area. The 1980 report shows fourteen areas of teacher shortage. Physics, mathematics, industrial arts, and speech correction are examples. The approach, however, is severely limited in that no effort is made to identify demand criteria, much less measure them.

The National Education Association, which occasionally publishes a report on teacher supply and demand, surveyed teacher training institutions in 1981-82 to determine the number of new graduates. However, no effort was made to measure demand criteria. Demand was estimated by combining data from other research with projected turnover rates (4.4

Table 1

The Focus of Selected Research into Supply and Demand Conditions since 1970

Research	Micro-level Research		Macro-level Research
	Supply/Demand Factors	Specific Aggregations	(Projections)
United States			
ASCUS[a]		Annual	
Carter & McCowan	1970		
Howe & Nearhoof		1972	
Olstad & Beal		1981	
NCES[b]			Annual
NEA[c]			Occasional
Rand	1984		
Canada			
COPS[d]			Annual
Lyon			1975
Statistics Canada	Annual		
Watson, et al.		1972	
Newfoundland			
Crocker & Riggs	1979		
Memorial University		1970	
Stapleton, et al.			1978
Warren	1979		

[a]Association of School College and University Staffing. [b]National Center for Education Statistics. [c]National Education Association. [d]Canadian Occupational Projection System.

percent). Significant findings from the 1981-82 report included:

1. The 1981 supply of 206,750 qualified teacher-applicants was more than adequate for the 109,550 jobs to be filled.
2. Mathematics and special education continue to have shortages of qualified applicants.
3. The 47,250 new graduates seeking to enter elementary school assignments far outnumber the 33,050 jobs open to them. (p. 15)

A third group, the National Center for Education Statistics, publishes an annual report on the condition of education. Included in the report are projections of teacher demand and the supply of teacher graduates. They are based on alternative sets of assumptions. The 1985 edition of the report revealed the following significant findings: (a) shortages were limited to certain fields and localities, (b) pronounced shortages will occur in all fields and localities in the next decade, and (c) almost 8 percent of all teachers in the schools were newly hired.

The research in each of the studies is flawed in that supply was treated in terms of new graduates only. No data, for example, were provided on the reserve pool of available or potential teachers. Moreover, only the aggregate demand in the entire United States was considered. In all cases, the figures provided on surpluses and shortages were, at

best, estimates of little practical value.

The work of Howe and Nearhoof (1972) is a significant regional study of teacher supply and demand. Employment data were collected from all school districts in the state of Iowa for the 1971-72 school year. An analysis of over 3,000 vacancies was completed and comparisons were made by school size and subject taught. Some of the major findings were: (a) that demand was decreasing in small schools and increasing in large schools, (b) that there was little teacher turnover, (c) that the number of people seeking jobs increased significantly, (d) that the greatest numbers of applicants were in the areas of social studies, physical education, and English, and (e) that the fewest applicants were in the areas of science, mathematics, and special education. However, the study failed to address adequately the sources of supply. Whether vacancies were filled with new graduates or with experienced teachers was not investigated.

A comprehensive analysis of teacher supply and demand was included in a study by the Rand Corporation (Darling-Hammond, 1984). The report concluded that unless there is a dramatic restructuring of the teaching profession, education will be faced with major shortages in the future. The study suggested that teaching is not an attractive career for talented individuals, and as other professions draw from the potential pool of graduates, the teaching profession will be

forced to recruit the least academically able.

Low salaries and a lack of professionalism allowed in the work structure were suggested by the Rand study as discouraging potential teacher candidates from entering the profession. It noted that supply was not responding to demand, even in those areas where shortages were widely publicized. In other words, opportunity for employment was not a sufficient reason for persons to choose teaching as a career.

The Rand study also suggested that current shortages of mathematics and science teachers are expected to grow into a more generalized shortage. Specific geographic differences were not reviewed in the study.

Other studies have been completed which have focused on specific components of teacher supply and demand. For example, Carter and McCowan (1970) identified and examined relevant variables. The Illinois State Board of Education (1985) focused on the imbalances between new and potential supply, and beginning and reentering demand. Kluender (1983) examined attitudes of policy-makers toward supply and demand issues. No significant studies were found on the effects of policy development and socio-economic change on supply and demand conditions.

Canada. Lyon (1975) projected the demand for teachers in the Province of Ontario. He confined his study to

teacher demand and particularly to the demand for beginning teachers. The purpose of the study was to project (a) the movement of teachers, (b) withdrawals of teachers from the system, and (c) acquisitions of teachers to meet future requirements. Data for the study were treated in aggregate. Two significant findings of the study were: (1) the demand for experienced and beginning teachers was declining, and (2) there was a growing trend toward early retirement. Two major weaknesses in the methodology used by Lyon were: (a) the supply of teachers, although alluded to, was not measured, (b) data were treated in aggregate and hence could not reveal regional or subject imbalances.

Watson, Quazi, and Jones (1972) carried out a detailed study of teacher supply and demand. The study included (a) projections of the demand for teachers in Ontario by grade and by subject, (b) estimates of teacher withdrawal and re-entry, (c) the effects of policy on the size of the teacher workforce, (d) assumptions about the quality of teachers and teacher training programs, and (e) projections of the demand for special education teachers. Major findings included: (1) a decrease in the demand for teachers in all subject areas, (2) a decline in the stock of teachers, and (3) an increase in the demand for new graduates. The major weakness of this study was that data were treated in aggregate, based upon projected provincial pupil/teacher ratios, and adjusted for subjects. Consequently, all subject areas showed similar

demand trends. This might be expected using this technique, since dissimilar data treated similarly will yield similar trends.

The Canada Employment and Immigration Commission (1983a) developed an occupational forecasting program entitled Canadian Occupational Projection System (COPS). An annual report on the supply of and demand for major occupations, including teaching is published. The system is based on economic outlook scenarios and labour mobility trends rather then demographics. Because the educational system is influenced to a large degree by demographics, the COPS program has been unable to forecast teacher demand accurately.

Statistics Canada regularly provides information related to components of teacher supply and demand. While recent studies on the subject of supply and demand have not been carried out, data on teacher retention, recruitment, and attrition are published regularly. For example, in Newfoundland and Labrador in 1985-86, 705 teachers were recruited to various positions. There were 329 recruited from university, 355 from other occupations or activities, and 21 from outside the Province.

Newfoundland and Labrador. Problems relating to the imbalances between teacher supply and demand in Newfoundland and Labrador have been recognized and studied since the late

sixties. In 1969, the Faculty Council of Education, Memorial University of Newfoundland, established a committee to investigate the reasons for the relatively small numbers of education students taking majors or minors in science. Rowe, Crocker, and Ogilvie (1970) examined the qualifications and working conditions of science teachers, and collected data on the nature of the supply problem. The report contained 43 observations and conclusions. Some of the more noteworthy include:

> 1. The age, experience and qualifications of science teachers indicate that qualified science teachers do not remain in the classroom.
>
> 2. The majority of our science teachers have very poor qualifications to teach science: 50% have no university degree.
>
> 19. The vast majority of science majors are considering graduate study or something other than teaching.
>
> 20. Science majors think that they would earn less as teachers than in the field they plan to enter. (pp. 6-7)

Stapleton et al. (1978a) undertook a major study to project future demand for teachers using a model developed by Bulcock and Clifton in 1976. The model, which followed closely the design used by Lyon (1975), assumes a relationship between enrolment and teacher demand. Changes in enrolment result in changes in the required number of teachers. A major weakness of this design is that the reliability of the teacher projections is dependent upon the

reliability of the enrolment projections. Moreover, the teacher projections were made in aggregate for the Province and not for individual school districts or regions, or for subject specialties. Supply data for the study were limited to estimates of the number of beginning teachers from Memorial University of Newfoundland required to fill projected demand. The findings, nevertheless, indicated several important trends: (1) student enrolment was declining, (2) student-teacher ratios were declining, (3) teacher movement was decreasing, (4) the holding power of the Faculty of Education, Memorial University of Newfoundland was increasing, (5) there was a growing reserve pool of trained teachers, and (6) three-quarters of the teaching positions filled annually were recruited directly from university.

Two studies were completed in 1979 which made significant contributions to the understanding of supply and demand status in Newfoundland and Labrador. The Task Force on Education (Crocker and Riggs, 1979) dealt with the effects of declining enrolments on the quality of educational services being delivered. Part of the study examined changing patterns in teacher supply and projected future requirements. Using a methodology similar to Stapleton et al. (1978a), they achieved similar findings.

Warren (1979) in investigating teacher supply, focused on the characteristics of the pool of unemployed teachers.

Warren found that many teachers were unemployed for reasons other than the lack of available jobs. They were unemployed,

> because they are under-qualified, because they want a part-time position only, or because they are unwilling or unable to make their services available where and when vacancies occur. (p. 53)

He found that most of the available, qualified supply were unwilling to move out of their region, were strongly committed to teaching as a profession, were willing to retrain if necessary, and were quick to blame government for the oversupply of teachers.

Factors Affecting Teacher Demand and Supply

A number of factors influence the supply of and demand for teachers at any particular time. This study will examine five groups of factors which largely determine the annual status of teacher supply and demand: (1) enrolment characteristics, (2) teacher workforce characteristics, (3) potential teacher characteristics, (4) policy initiatives, and (5) economic conditions. No claim is made that the list is exhaustive.

These factors cannot be viewed in isolation. Fawcett, Montgomery, McLaughlin, and Sieg (1974) offered the

following caveat:

> The exact composition of both inputs and outputs influence each other. It should be emphasized, however, that the effects of such factors, which by no means function in independent isolation, are not readily apparent; on the contrary, they may not be seen for a number of years. For example, the interests and aspirations of today's college graduates are the culmination of institutional policies, social pressures, and cultural transitions which were first manifested as much as a generation ago. (p. 241)

Nonetheless, more information can make it possible to measure the effect of various social, educational, demographic, and economic factors on teacher supply and demand.

Enrolment Characteristics

Teacher demand is influenced to a large degree by demographic characteristics, the allocations of teachers to school boards being based on the numbers and the characteristics of students (Newfoundland, Department of Education, 1970). Frequently, fewer students translates into fewer teachers. However, the characteristics of those students largely determine aggregate demand. For example, the Department of Education reported that while overall enrolment was declining, curriculum offerings and specialty programs such as French Immersion and special education, were expanding. As a result, the total teacher workforce

was expanding (Newfoundland, Department of Education, 1986; Press, 1986).

A complex set of input-output variables affect enrolment. Demographic variables, identified by Clifton and Bulcock (1979), include birth rates, fertility rates, child mortality rates, migration rates, and participation rates. Enrolment variables include migration rates, dropout rates, failure rates, and graduation rates. In addition, characteristics of the population such as community size, urban-rural distributions, and population density, can influence the size and characteristics of student enrolments.

Teacher Workforce Characteristics

The second group of factors affecting teacher supply and demand emanate from the characteristics of the teacher workforce itself. The gradual aging of the teacher workforce has been commented upon extensively. New teachers are being hired to meet replacement needs of those leaving or retiring (Grambs, 1980). Jackson (1979) identified two implications to this inevitable aging process:

> in the first place, the remaining teachers form a "block" which steadily shrinks in range of ages, and all of this "lump" will hit the pension fund like a huge iceberg within a 10 to 15 year period, which is guaranteed to strain the financial resources of even the soundest and strongest pension fund. The other effect is associated with this, but strangely enough is

> often completely overlooked. When this "block" is melted through retirements, we'll suddenly face a serious teacher shortage of dimensions even greater than the last one! (p..7,10)

Characteristics of Potential Teachers

The stock of teachers available to teach or preparing themselves to teach, includes candidates with teaching experience and candidates with none. Crocker and Riggs (1979) identified three components of this group: (a) new graduates, (b) returning teachers, and (c) migrants from other areas. The size and availability of the this group is also affected by such individual characteristics as age, sex, location, qualifications, experience, and mobility. Other variables include recruitment policies in teacher training institutions, enrolment patterns and attrition rates in those institutions, certification policies, and retirement policies.

The National Education Association (1983), a United States organization, outlined four conditions which influence the numbers seeking teaching jobs:

1. Attractiveness of teaching jobs compared with other employment opportunities on the basis of such criteria as beginning salaries, outlook for career salaries, working conditions, morale, location, and job security.

2. Availability of teaching jobs compared with other employment having comparable salary, working conditions, career outlook, occupational status, etc.

3. Individuals' awareness of the availability and attractiveness of jobs in teaching.

4. Individuals' degree of satisfaction and security with their present employment status compared with the likely satisfaction to be experienced in available teaching positions. (p. 7)

Policy Initiatives

Changes in the supply of and demand for teachers are frequently brought about by policy and planning initiatives. These initiatives can result in changes to the structure of the education system:

> concerning the introduction of new programs, such as special education programs, the extension of existing programs, such as preschool, kindergarten, and grade 12, and policies which will affect the student-teacher ratio within specific classrooms, schools, districts, or the whole Province. (Clifton and Bulcock, 1979, p. 44)

Examples of educational policies which have affected teacher supply and demand in Newfoundland and Labrador in recent years are (1) the allocation of teachers (Newfoundland, Department of Education, 1979), (2) program expansion in areas such as French language services and special services, (3) the reorganized high school program, (4) the introduction of new curriculum components, (5) capital works programs, and (6) changes to pension regulations.

Economic Conditions

Educational systems do not operate in a vacuum. They are influenced by other institutions which they influence in turn (Stapleton, Bulcock, Clifton and Paschke, 1978b). Education is only one of the many institutions requiring public funding. Consequently, the ability of the educational system to deal with supply and demand issues is related to the fiscal capacity of the governing body.

Statistics Canada (1986) reported that in 1984 Newfoundlanders spent 11.6 percent of personal income on education, while other Canadians spent on average 8.4 percent. Furthermore, the Province spent 10.9 percent of its Gross Domestic Product on education, while only 7.6 percent of the Gross National Product in Canada was spent on education. This suggests that supply and demand are influenced by a complex set of variables. Yet supply and demand are not autonomous and mutually exclusive; they are dependent on public policy and that policy largely reflects the level of education spending.

The Relationship between Demand and Supply

In reviewing the factors affecting the supply of and demand for teachers, it is evident there is frequently a

volatile relationship between the two. That relationship can at times be in balance or, more often than not, in a state of imbalance. The problem of modeling the relationship between the two is a thorny one and no satisfactory solution to the problem has yet been found.

Dynamic Equilibrium

According to Williams (1979), balance can be achieved in either of two ways: (1) at a particular point in time [static equilibrium], or (2) over successive years [dynamic equilibrium]. When the size of the teacher workforce and the size of the reserve pool each grow at relatively constant rates, and the flows to and from each are largely uniform, a dynamic equilibrium or balance is observed. However, when growth or decline is experienced, substantial surpluses and shortages of teachers or administrators can occur.

A dynamic balance between the two may not always be possible to maintain, nor may it be desirable. Clifton and Bulcock (1979), reason that a surplus of teachers is preferable. They contend:

> it may be much better to have an oversupply of well-educated teachers than to have an undersupply. It is difficult to argue that educating more teachers than is absolutely necessary for the school systems is either a waste of money or a waste of talent....Moreover, having an oversupply of teachers may also mean that the smaller and more inaccessible districts

> may have more applicants than they have positions to fill. (p. 46)

Surpluses and Shortages

Shortages and surpluses, when they become extreme, influence the education system in different ways. Teacher shortages can (1) seriously affect the delivery of programs and services, (2) restrict the movement of teachers into and out of the system, (3) limit the number and quality of subjects offered, (4) increase the workload of others within the system, and (5) adversely affect administrative services. Ultimately, these shortages can produce serious negative effects upon the school system.

Teacher surpluses, on the other hand, can (1) affect the delivery of teacher training programs, (2) affect the numbers and quality of those who choose to enrol in them, (3) positively affect the quality of the teacher workforce, and (4) increase the competition for available positions. These surpluses, therefore, have the potential to negatively affect the reserve pool of potential teachers.

Williams (1979) suggests an established goal of education, is to minimize the effects of these two negative forces. He further outlines a number of channels open to achieve this end. They include: (1) regulate school intake and enrolments, (2) alter the mechanisms for deploying teachers, (3) change the allocation of teachers regulations to raise or lower student-teacher ratios, (4) create new

policies relating to teacher retention and loss, (5) create new policies relating to replacement teachers and substitutes, and (6) regulate the output from teacher training institutions (Williams, 1979, p. 71).

Summary

The major problem of this study was to identify factors associated with the supply of and demand for teachers. This chapter has examined the educational, social, economic, demographic, and other literature related to the problem. Section one examined the dynamics of the teacher labour market. Section two reviewed the literature related to teacher supply and demand throughout North America (1) from an historical perspective, and (2) from the current perspective. Section three examined various factors affecting teacher supply and teacher demand. Section four examined the relationship between supply and demand.

CHAPTER 3

METHODOLOGY

The review of literature and related research regarding the demand for teachers did not provide complete data to respond to questions relating to teacher employment. Specifically, the research concerning Newfoundland and Labrador teachers focused on provincial aggregations. While this was important research, it did not reflect patterns and variations which occurred within the Province.

The purpose of this study was to identify factors associated with the supply of and demand for teachers and administrators in Newfoundland and Labrador. The literature did not reveal an instrument appropriate for such an examination. Consequently, it was necessary that an appropriate instrument be devised. This chapter explains the procedures followed to accomplish these ends and the methods used to analyze the data to achieve meaningful conclusions.

Population

Demand for teachers is related to the vacancies which occur in the school system. There are, however, two categories of vacancies: (1) permanent or temporary, and (2)

full-time or half-time. The consequence of this suggested a number of variations of teaching and administrative positions required by school boards. They can, for example, require: (a) a full-time teacher, (b) a full-time half unit or (c) a temporary replacement. The population of this study consisted of all vacant positions which were filled from September 1, 1985 to August 31, 1986. The study was limited to only those vacancies which were filled for a period of at least one year and occurred in either of the thirty-five school districts in Newfoundland and Labrador. The study did not investigate the demand for temporary positions contracted for a period of less than one year; neither did it examine the demand for substitute teachers.

There were several groups excluded from this study. Demand for positions in private schools, nursery schools, or post-secondary institutions was not considered.

Development of the Instrument

The survey instrument used in this study was a questionnaire. Additional information was collected from other sources. Data on school size were retrieved from the Department of Education, Directory of Schools (1986); data on community size were obtained from the Census of Canada

(1981); and data on urban-rural distributions and regional designations were obtained from the Newfoundland Statistics Agency (1986). The following steps were undertaken in the investigation.

1. Support for this study was solicited from the Department of Education, and from the Faculty of Education, Memorial University of Newfoundland since both of these organizations are affected by the changing demand for teachers. Letters of support are included in Appendix A.
2. It was realized that some information required for this study might not be available and that permission of school superintendents would have to be sought. In this regard, a form was devised and distributed to all superintendents on September 10, 1986 (see Appendix B). The purpose of this form was to assess the availability of data and to seek permission to administer a questionnaire. The results showed superintendents were unanimous in: (a) their support for the study, (b) their willingness to complete and return questionnaires, and (c) their desire to receive information concerning teacher supply and demand.
3. The instrument used in this study was a questionnaire administered to superintendents

(see Appendix C). Questionnaire items were developed after extensive review of the literature and related research studies.

4. The instrument was validated for content, format, and clarity of expression (see Appendix D).
5. The questionnaires were distributed October 24, 1986, and respondents were asked to complete one for each advertized vacancy and return them by November 30, 1986. All but two districts returned the questionnaires within the time period. A follow-up process was initiated with the two remaining districts. The last set of completed questionnaires was received on December 20, 1986, thereby ensuring that this study would accurately represent teacher supply and demand in the Province for the period in question.

The format of the questionnaire was considered crucial to the success of the study. Accordingly, in order to minimize the time requirement for completion by the respondents, and to maximize the number of returns and responses, items were deliberately kept as short and succinct as possible.

Data gathered in the survey were of three types - checklist items, scaled items, and open-ended responses. In most cases, respondents were required to check the appropriate responses or fill in the blanks which,

frequently, could be completed with a single word answer.

The instrument was designed to obtain certain factual data relative to vacancies in individual schools and school district offices. It comprised an introduction and four major components (see Appendix C). A description of the questionnaire and its development follows.

The introduction consisted of four items which provided general information about the job. The variables involved were as follows:

1. Job title.
2. School/district. Names were requested and then referenced with enrolment information from the Department of Education data base.
3. School name.
4. Address of school. Questions 2,3 & 4 were referenced with information from other data bases to provide comparative data by region, size of school, and urban-rural designation.

Part I was entitled Background. It comprised four items and was designed to examine the reasons leading to various job vacancies.

5. New position. Respondents were asked to indicate: (a) if the position were new and, if so, for what reason, and (b) if not, how long the position was vacant.

Questions 6 and 7 asked respondents about the reasons for

the vacancy.

8. Job status. Positions were grouped as full-time or half-time.

Part II was entitled Description. It consisted of six items describing the position. It included three sections - one dealing with teaching positions, one dealing with administrative positions, and one dealing with both teaching and administrative positions. In the latter case, respondents were asked to complete all three sections. The variables affecting teaching positions were as follows:

9. Responsibility. Respondents were asked to indicate if the major responsibilities included teaching, administration, or both.
10. Level. Responses were grouped in four categories: primary (K-3), elementary (4-6), junior high (7-9), and senior high (10-12).
11. Language of instruction. Two working languages were identified rather than placing French Immersion as a subject or specialist area. The future may well see French speaking science teachers as well as English speaking ones. Although the option for a third was not provided, several respondents indicated that several positions would be working in the language of Inutitut.
12. Academic and specialist area. Respondents were

provided with thirty areas for selection as identified in the Department of Education, Program of Studies (1986-1987). In addition, respondents were given the opportunity to provide their own response.

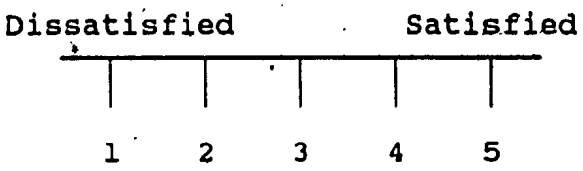
For administrative positions and other district office personnel, respondents were requested to indicate the nature of the duties: department head, vice principal, principal, program coordinator, assistant superintendent, and superintendent.

For both teaching and administrative positions, respondents were also asked to indicate the percentage of time assigned to each.

Part III was entitled Analysis. It consisted of two components. The first component inquired if the job was filled and requested the number of people who applied and were interviewed for the job in question.

15. Job filled. Respondents were asked to indicate if the position was filled. If it were not, certain supply shortages could be determined.

The second component was a qualitative assessment of applicants who were interviewed for the job. Respondents were asked to indicate general satisfaction using a five-point scale ranging from dissatisfied to satisfied. The degree of satisfaction was indicated as follows:



Part IV was entitled Characteristics. It comprised seven items which provided a profile of the characteristics of the successful candidates. The variables used were as follows:

24. Age (actual years).
25. Sex.
26. Residency at the time of hiring. This item was intended to identify the extent to which the demand for teachers is being filled by residents of the Province, residents of other Canadian Provinces, or residents of other countries.
27. Highest degree. In tabulating and analyzing the data, only the highest degree was considered.
28. Teaching certificate. Teaching grades range from one through seven. A grade one certificate is equivalent to a minimum of one successful year of teacher training; a grade seven is equivalent to a minimum of seven successful years of teacher training (Teacher Certification Regulations, 1972).
29. Total years of teaching and/or administrative experience (actual years).

30. Previous activity. Respondents were asked to identify the activity engaged in by the employee prior to the job in question.

Validation

Content validation, as described by Kerlinger (1986), consists of a logical analysis of the survey items in relation to the objectives and instructions for the instrument. To gain insight and reaction to the questionnaire, it was examined by, and discussed with, selected members of the Faculty of Education, Memorial University of Newfoundland, senior staff of the Department of Education, and superintendents. Each was asked to comment on the clarity, precision, and appropriateness of the questionnaire in relation to the research questions. Suggested modifications were made as deemed necessary. A copy of the letter, along with a list of the professionals who helped validate the questionnaire, is provided in Appendix D. A list of the research questions matched with the questionnaire items is provided in Appendix E.

Reliability

Instrument reliability was determined through a follow-up telephone conversation with an alternate to the

individual who provided information on the written questionnaire. A random check of four percent of the completed questionnaires was carried out to assist in the verification of the survey reliability. No significant deviations from the original questionnaire responses were found.

Instrument Response

There were 571 questionnaires returned representing all thirty-five school districts in Newfoundland and Labrador. All vacancies were advertized and applicants went through a required job competition. Only two questionnaires were not used; one because of incomplete data and one because the position was part of an exchange program and did not meet the criteria.

As indicated in Table 2, 529 (93 percent) of the vacancies which occurred in the Province were for teachers while 40 (7 percent) were for administrators. Twenty-six administrative vacancies contained teaching assignments.

The number of vacancies which were filled during the survey period is displayed in Table 3. There were 562 teachers and administrators hired in Newfoundland and Labrador between September 1, 1985 and August 31, 1986. Six teaching positions and one administrative position were not filled for various reasons. Four of the six teaching

Table 2

Vacancies by Area of Responsibility

Responsibility	Number	Percent
Teachers	529	93.0
Administrators	14	2.5
Teacher/administrators	26	4.6
TOTAL	**569**	**100.0**

Table 3

Filled and Unfilled Vacancies by Area of Responsibility

Responsibility	Filled		Unfilled	
	Number	Percent	Number	Percent
Teachers	**523**	**91.9**	**6**	**1.1**
Administrators	**13**	**2.3**	**1**	**0.2**
Teacher/administrators	**26**	**4.6**	**0**	**0.0**
TOTAL	**562**	**98.8**	**7**	**1.3**

positions not filled were for educational therapists.

A detailed analysis of the data and results of the study, based upon the 569 usable questionnaires, is presented in Chapter 4.

Method of Data Analysis

This section describes the method of data analysis followed in answering the research questions of this study. A codebook was created, a data-entry program was prepared, and an analysis management program was developed using the Statistical Analysis Package (Version 6.0) by Walonick Associates (1986). Responses to all 30 questions were coded and then entered in the computer using a keypunch emulator program. Additional data on geographic region, urban-rural designation, size of school and size of community, gathered from alternative sources, were then entered.

Each of the questions was analyzed in order. Frequencies, percentages, means and medians were presented as deemed appropriate.

Responses were then analyzed according to various subgroups represented. Crosstabs and banners were generated according to (1) job responsibilities, (2) size of school, (3) urban/rural distributions and geographic regions, (4) length of employment, and (5) demand criteria. Where available, the total number of teachers for certain subgroups was then gathered and vacancy rates calculated.

CHAPTER 4

PRESENTATION AND INTERPRETATION OF DATA

This chapter presents an analysis of the data gathered from the survey instrument and from other sources. The information is presented in five sections. Each section includes a summary and an analysis of the corresponding research questions as presented below:

Section		Research Question
1.	Characteristics of Demand	1,2,3
2.	Demand for Teachers and Administrators in Subject and Specialty Areas	4,5,6
3.	Demand for Teachers and Administrators by Selected Geographic and Demographic Characteristics	7,8,9
4.	Satisfaction with Teachers and Administrators Seeking Employment in the Educational Marketplace	10
5.	Characteristics of the Supply of New Teachers and Administrators	11,12

Data were obtained from 569 usable questionnaires returned by administrators from thirty-five school board offices. Since all respondents did not reply to every item on the questionnaire, the total number of cases varies from one table to another. Findings are presented and analyzed in both narrative and tabular form.

Characteristics of Demand

There were 569 vacancies reported in the school system during the survey period. Most positions were filled. Some were new positions and others were replacement, some were full-time and others were part-time. This section uses frequencies and percentages to describe and analyze the reasons why such vacancies occurred, their status, and whether or not they are being filled.

Research question 1

What are the reasons for job vacancies in the educational marketplace?

Vacancies occurred because of new demand and replacement demand. Table 4 reveals the reasons for the advertizement of 569 new and replacement positions. Of the total number of vacancies, 142 (25 percent) were newly created positions resulting from policy decisions either initiated provincially, such as the introduction of educational therapy, or initiated at the district level, such as the expansion of French Immersion programs. Sixty-eight percent of the newly created positions were in special education and French Immersion. In addition, 427 (75 percent) were replacement positions resulting from the movement of teachers to and from existing jobs.

Analysis of the replacement positions shows that while all were for a year or more, some were permanent positions

Table 4

Job Vacancy by Cause

Cause	Number	Percent
New positions	142	25.0
Permanent replacement positions		
Redundancy	1	0.2
Dismissal	12	2.1
Reassignment	77	13.5
Resignation	185	32.5
Retirement	19	3.3
Death	1	0.2
Temporary replacement positions		
Leave of absence	129	22.7
Sick leave	3	0.5
TOTAL	**569**	**100.0**

and others temporary replacements for teachers on leave. The largest number of vacancies was created as a direct result of teacher resignation. No attempt was made to ascertain the reasons for 185 resignations; nevertheless, it can be assumed that a significant number obtained other teaching or administrative positions and remained part of

the teacher workforce. Seventy-seven (13.5 percent) positions were created by the reassignment of teachers from one school to another within the same district, or from one position to another within the same school.

T. Jones, Supervisor of Teachers' Pensions, Department of Education (personal communication, January 8, 1987) reported that, during the survey period, 70 positions in the Province were vacated due to retirement. Of that number, only 19 positions were replaced. This indicates that school boards did not replace all of their retiring teachers that year and used retirement to absorb possible layoffs resulting from declining enrolment.

Temporary leaves were granted to 129 (22.7 percent) teachers and administrators, and three were granted for long-term sick leaves. Most temporary leaves were granted for educational purposes according to H. Noseworthy, Director of Finance, Department of Education (personal communication, January 15, 1987).

Research question 2

Are full-time or part-time teachers being hired?

Of the 549 questionnaires indicating job status, 483 (88 percent) were for full-time positions and 66 (12 percent) were for part-time positions. Ninety-three percent of replacement positions were full-time while 74.6 percent of new positions were full-time. All part-time positions

were for teachers rather than for administrators.

One part-time position was replaced due to redundancy. It is unclear as to why a position would be replaced if the previous position was redundant. The question was either wrongly interpreted by the respondent, or the original position was replaced by one with a different emphasis. For example, a business education teacher might have been replaced with a music teacher.

Research question 3

Are candidates being found for all vacant positions?

Vacant replacement positions were generally filled quickly and took, on average, less than one month to be replaced. Ninety-six percent were filled within two months from the time of vacancy and another three percent were filled within 12 months. Three positions had been vacant for more than one year and one position had been vacant for 48 months.

In 98.9 percent (562) of the vacancies for both teachers and administrators, qualified candidates were found. Only seven positions remained vacant at the end of the survey period, four educational therapists and one for each of guidance, music and program coordinator. The fact that vacancies remained unfilled indicates a real or potential shortage of some sort.

Demand for Teachers and Administrators in Subject and Specialty Areas

There were 569 teaching and administrative vacancies. Of that number, 529 (93 percent) were for teachers and 40 (seven percent) were for administrators. Demand was measured in absolute terms as total vacancies, and in relative terms as vacancies per 100 teachers (vacancy rate). The vacancy rate for teachers, excluding principals and vice principals, was 7.4 percent, for administrators was 3.2 percent, and for all educators was 6.8 percent.[1]

Of the 529 teachers, 175 were special education teachers, 140 had general classroom assignments and the remaining 214 were hired for specific subjects or specialty areas. This section examines the grade levels of new teachers, and the demand for subject teachers, French Immersion teachers, special education personnel, and administrators. Frequencies and percentages are used to describe and analyze teaching grade levels for new jobs, demand by language of instruction, and demand in various subjects and specialty areas.

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[1]Vacancy rates may vary slightly because survey data were not always comparable with data supplied from the Newfoundland, Department of Education.

Research question 4

To what teaching grade levels are new jobs being assigned?

Demand for teachers in various grade levels is presented in Table 5. The data indicate that 527 teachers were assigned to various grade levels. Of that number, 254 (48.2 percent) were assigned to primary and elementary grades. The largest proportion of part-time teachers (63.6 percent), was assigned to the primary and elementary grades.

The largest number of vacancies (148) was concentrated at the senior high level, of which 94.6 percent were full-time positions. Thirty-six positions had responsibilities for ten or more grades.

Table 5

Vacancies by Grade Level and by Status

Grade Level	Status		Total
	Full-time	Part-time	
Primary	97	31	128
Elementary	73	11	84
K - 6	40	2	42
Junior high	77	12	89
Senior high	140	8	148
10 or more grades	34	2	36
TOTAL	461	66	527

Research question 5

What is the relationship between job vacancy and language of instruction?

Instruction is provided in this Province in at least three languages other than English. They are French, Inutitut and Innu. Instruction in French is offered in a number of areas in the Province through two programs: (a) Immersion, and (b) French as a first language. Innu and Inutitut, as first languages, are offered only in native communities of Labrador. Given these circumstances, respondents were asked to indicate the language of instruction for each vacancy, in order to determine the subject areas of those hired independent of language of instruction.

The results, presented in Table 6, show that the number of vacancies for teachers hired to work in English was high (92.8 percent), yet relative demand, as described through vacancy rates, was quite low (6.2 percent). On the other hand, relative demand for teachers hired to teach in French was exceptionally high at 44.6 percent. One teacher was hired to teach in Inutitut.

French Immersion has been offered in this Province since 1975 and most programming has been concentrated at the primary levels. As a result, vacancies were generally confined to the primary grades. Thirty-five (95 percent) of the vacant positions in French Immersion were assigned general subject teaching in a single classroom.

Table 6

Teachers, Teacher Vacancies and Vacancy Rates by Language of Instruction[a]

Language	Provincial Total		Teacher Vacancies		Vacancy Rate
	f	%	f	%	%
English	7,917	98.8	489	92.8	6.2
French	83	1.0	37	7.0	44.6
Inutitut	5	0.1	1	0.2	20.0
Innu	7	0.1	–	–	0.0
Total	8,012	100.0	527	100.0	6.6

[a]Includes principals and vice principals.

Others were given added assignments such as subject teaching in French and social studies. Only one position was assigned a single subject (music) to be taught in French.

Research question 6

In what subject, specialty, and administrative areas are educators being hired?

Demand for Subject Teachers

Generalist teachers accounted for a large proportion of the demand by school districts. As shown in Table 7, 131 vacancies occurred for teachers with general classroom

Table 7

Vacancies by Subject Area and by Grade Level

Subject area	Grade level				Total
	Pri.	Elem.	Jr. High	Sr. High	
Classroom assignment[a]	57	41	27	6	131
Subject area					
Art	-	3	3	3	9
Biology	-	1	1	14	16
Business education	-	-	-	1	1
Chemistry	-	1	1	7	9
Computer studies	-	1	-	8	9
Drama/theatre	-	-	-	3	3
Earth science	-	1	2	3	6
English/literature	-	1	10	31	42
Environmental science	-	1	1	3	5
Family studies	-	-	-	4	4
French[b]	28	4	4	1	37

Table 7 (concluded)

Subject area	Grade level				Total
	Pri.	Elem.	Jr. High	Sr. High	
French (subject)	4	16	11	18	49
Guidance	-	-	-	11	11
Home economics	-	-	1	11	12
Industrial education	-	-	4	3	7
Inutitut[b]	1	-	-	-	1
Library/resources	-	2	1	4	7
Mathematics	-	-	5	28	33
Music	3	17	5	5	30
Physical education	1	3	5	16	25
Physics	-	1	-	7	8
Religion	-	-	4	22	26
Social studies	-	-	6	21	27

[a]Excludes immersion programs. [b]Language of instruction.

assignments, excluding French Immersion teachers. A substantial proportion of that number (75 percent) were clustered at either the primary or elementary levels, and less than five percent were in small all-grade schools. Few classroom assignments were available at the senior high levels.

Subject areas such as English, French, mathematics and music experienced the greatest absolute demand for teachers. On the other hand, little demand for other subject areas such as business education, drama/theatre, environmental science, family studies and Inutitut was experienced. No data on the number of subject teachers in the Province, in order to generate relative demand for subject teachers, were available.

Column totals are not provided in Table 7 and subsequent subject tables. Duplication of some subject areas occurred giving little meaning to such totals.

Table 8 shows the number of positions which were assigned to teach one or more subjects and special education. Sixty (11.4 percent) respondents indicated multiple subject assignments. In most cases the assignments were in similar subject areas. For example, chemistry, computer studies and physics was a typical combination, as was English and drama. However, a few unusual combinations were noted, for example, art, French, guidance, music and physics. Two hundred positions had either classroom or

Table 8

Teacher Vacancies by Number of Required Subject Assignments

Assignments	Teacher vacancies	
	Number	Percent
Special Education	175	33.1
1 subject	153	29.0
2 subjects	34	6.4
3 subjects	18	3.4
4 subjects	5	1.0
5 subjects	1	0.2
6+ subjects	2	0.4
Classroom[a]	140	26.5
Total	528	100.0

[a]Includes immersion teachers.

multiple assignments, while 328 positions were assigned only one subject or specialty. Clearly, a majority (62.1 percent) of vacancies required a high degree of specialization, either to teach in one subject area or to work in a special education program, yet a significant proportion (37.9 percent) were given general assignments.

Demand for Special Education Personnel

Special education programs expanded considerably in 1985-1986. Of the 175 special education vacancies, 77 (44 percent) were newly created. Further, 86 percent (30) of educational therapist positions were new, suggesting perhaps an exceptional year. On the other hand, a large number (86) of regular special education positions were replaced. This suggests a great deal of movement among those teachers. Vacancies for regular special education personnel accounted for 70 percent of the total special education positions, while the remaining 30 percent was split among six categories of specialist personnel.

Absolute and relative demand for each of the special education categories is presented in Table 9. Regular special education teachers and educational therapists experienced the greatest number of vacancies, together accounting for 89.7 percent. However, all positions experienced higher than average relative demand. Positions in educational psychology, educational therapy, and physically handicapped had vacancy rates exceeding 25 percent. Moreover, the vacancy rate for educational therapists was so high (53 percent) that over half the 66 positions for educational therapists in the Province were vacant during the survey year.

Table 9

Teachers, Teacher Vacancies and Vacancy Rates by Special Education Position

Position	Provincial Total		Teacher Vacancies		Vacancy Rate
	f	%	f	%	%
Regular Special education	992	87.3	122	69.7	12.3
Educational psychology	21	1.9	6	3.4	28.6
Educational therapy	66	5.8	35	20.0	53.0
Hearing impaired	5	0.4	1	0.6	20.0
Physically handicapped	27	2.4	7	4.0	25.9
Speech therapy	18	1.6	3	1.7	16.7
Visual impaired	8	0.7	1	0.6	12.5
Total	1137	100.0	175	100.0	15.4

Demand for Administrators

Table 10 shows the distribution of administrative vacancies by position. Of the 40 positions available, the demand for administrators with teaching responsibilities was greater than the demand for administrators without such responsibilities. Twenty-three (85 percent) vacancies for principals and vice principals included teaching

Table 10

Non-teaching Administrators and Teaching Administrators by-Position

Position	Non-teaching Administrators		Teaching Administrators		Total	
	f	%	f	%	f	%
School administration						
Principal	4	10.0	14	35.0	18	45.0
Vice principal	-	-	9	22.5	9	22.5
District administration						
Program coordinator	9	22.5	2	5.0	11	27.5
Other	1	2.5	1	2.5	2	5.0
Total	14	35.0	26	65.0	40	100.0

responsibilities. Even two program coordinator positions had teaching responsibilities incorporated. The two "other" positions were program developers assigned to a district office.

Demand for administrative positions is presented in Table 11. The greatest number of vacancies occurred among principals and accounted for 45 percent of the total administrative positions available. On the other hand, relative demand for program coordinators was highest (4.6 percent). In all positions, demand for administrators (3.2 percent) was less than demand for teachers (7.4 percent).

Table 11

Administrators, Administrative Vacancies and Vacancy Rates by Position

Position	Provincial Total[a]		Administrative Vacancies		Vacancy Rate
	f	%	f	%	%
School Administration					
Principal	550	44.5	18	45.0	3.3
Vice principal	334	27.0	9	27.5	2.7
District Administration					
Superintendent	32	2.6	0	0.0	0.0
Assistant superintendent	79	6.4	0	0.0	0.0
Program coordinator	240	19.4	11	22.5	4.6
Other	N/A	N/A	2	5.0	-
TOTAL	1235	100.0	40	100.0	3.2

[a]Excludes "Other".

Demand for Teachers and Administrators by Selected Geographic and Demographic Characteristics

Teacher demand is influenced by various geographic and demographic factors. Teachers frequently move into or out of an area because of the characteristics of that area; more specifically its location, population, size, services and accessibility. This section uses frequencies, percentages and medians to examine teacher demand in relation to school districts, community size, school size and geographic regions.

Research question 7

What is the relationship between school districts and the demand for teachers?

Demand by School District

Teachers do not seek to move into or out of a school district because of its size but rather because of its location, accessibility and services, or for educational or personal reasons.

Vacancies occurred in all thirty-five school districts. Table 12 presents the number of full-time and part-time vacancies for each school district. There appear to be few patterns among districts. St. John's and Gander, for example, had school districts with both high and low numbers of vacancies, and Ramea Integrated School Board had three times the number of vacancies as its larger neighbor,

Table 12

Full-time and Part-time Vacancies by School District

District	Full-time[a]		Part-time		Total	
	f	%	f	%	f	%
INTEGRATED						
101 Vinland	18	3.6	1	1.5	19	3.3
102 Straits of Belle Isle	15	3.0	5	7.6	20	3.5
103 Deer Lake	12	2.4	2	3.0	14	2.5
104 Green Bay	9	1.8	2	3.0	11	1.9
105 Exploit's Valley	9	1.8	1	1.5	10	1.8
106 Notre Dame	11	2.2	1	1.5	12	2.1
107 Terra Nova	42	8.3	4	6.1	46	8.1
108 Cape Freels	8	1.6	1	1.5	9	1.6
109 Bon-Tri-Placentia	9	1.8			9	1.6
110 Avalon North	10	2.0	2	3.0	12	2.1
111 Avalon Consolidated	19	3.8			19	3.3
112 Burin Peninsula	15	3.0	3	4.5	18	3.2
113 Bay D'Espoir	14	2.8	2	3.0	16	2.8
114 Port aux Basques	7	1.4			7	1.2
115 Bay of Islands	27	5.4	2	3.0	29	5.1
116 St. Barbe South	15	3.0	1	1.5	16	2.8
117 Labrador East	22	4.4			22	3.9
118 Labrador West	26	5.2	1	1.5	27	4.7
126 Burgeo	2	0.4	1	1.5	3	0.5
127 Ramea	6	1.2			6	1.1
129 Conception Bay South	16	3.2	2	3.0	18	3.2
201 Pentecostal Assemblies	13	2.6	5	7.6	18	3.2
301 Seventh Day Adventist	4	0.8			4	0.7
ROMAN CATHOLIC						
501 Bay St. George	5	1.0			5	0.9
502 Burin Peninsula	7	1.4	1	1.5	8	1.4
503 Conception Bay Centre	4	0.8			4	0.7
504 Conception Bay North	15	3.0			15	2.6
506 Exploit's-White Bay	9	1.8	6	9.1	15	2.6
507 Ferryland	6	1.2			6	1.1
508 Gander-Bonavista-Conn.	13	2.6			13	2.3
509 Humber-St. Barbe	20	4.0	5	7.6	25	4.4
510 Labrador	30	6.0	1	1.5	31	5.4
511 Placentia-St. Mary's	8	1.6	3	4.5	11	1.9
512 Port au Port	17	3.4			17	3.0
514 St. John's	40	8.0	14	21.2	54	9.5
TOTAL	503	100.0	66	100.0	569	100.0

[a]Includes two positions filled 3\4 time.

Burgeo Integrated School Board.

Examination of the data in Table 13 provides a different picture of demand. It presents a summary of teachers, vacancies and vacancy rates by school district. Five of the eight highest district vacancy rates were for districts with all or part of their precinct in Labrador. The mean for those five districts was 15.0 percent. Another, Ramea Integrated School Board, is located on an island and accessible only by boat. At the other extreme, St. John's Roman Catholic School Board, which had the highest number of vacancies, had a relatively low vacancy rate of 4.9 percent. The vacancy rate for the entire Province, including both teachers and administrators, was 6.8 percent.

Research question 8

What are the relationships between community size and school size, and the demand for teachers?

Demand by Community Size

A demand existed for both teachers and school administrators in communities of all sizes. For example, a teacher was hired in a community with a population of 32 and teachers were hired in the largest communities. As shown in Table 14, the largest number of vacancies occurred in communities of less than 1,000 and greater than 10,000. Seventy-one percent were in communities with a population of

Table 13

Teachers, Vacancies and Vacancy Rates by School District

District		Total Teachers	Vacancies	Vacancy Rate
		#	#	%
	INTEGRATED			
101	Vinland	118	19	16.1
102	Straits of Belle Isle	151	20	13.3
103	Deer Lake	185	14	7.6
104	Green Bay	214	11	5.1
105	Exploit's Valley	285	10	3.5
106	Notre Dame	225	12	5.3
107	Terra Nova	417	46	11.0
108	Cape Freels	100	9	9.0
109	Bon-Tri-Placentia	359	9	2.5
110	Avalon North	534	12	2.3
111	Avalon Consolidated	652	19	2.9
112	Burin Peninsula	217	18	8.3
113	Bay D'Espoir	137	16	11.7
114	Port aux Basques	152	7	4.6
115	Bay of Islands	337	29	8.6
116	St. Barbe South	124	16	12.9
117	Labrador East	175	22	12.6
118	Labrador West	133	27	20.3
126	Burgeo	38	3	7.9
127	Ramea	26	6	23.1
129	Conception Bay South	173	18	10.4
201	Pentecostal Assemblies	407	18	4.4
301	Seventh Day Adventist	30	4	13.3
	ROMAN CATHOLIC			
501	Bay St. George	133	5	3.8
502	Burin Peninsula	259	8	3.1
503	Conception Bay Centre	98	4	4.1
504	Conception Bay North	151	15	9.9
506	Exploit's-White Bay	187	15	8.0
507	Ferryland	133	6	4.5
508	Gander-Bonavista-Conn.	184	13	7.1
509	Humber-St. Barbe	274	25	9.1
510	Labrador	215	31	14.4
511	Placentia-St. Mary's	215	11	5.1
512	Port au Port	244	17	7.0
514	St. John's	1095	54	4.9
	TOTAL	8377	569	6.8

Table 14

Teachers, Teacher Vacancies and Vacancy Rates by Community Size[a]

Community Size	Provincial Total		Teacher Vacancies		Vacancy Rate
	f	%	f	%	%
1-499	1164	14.5	114	20.8	9.8
500-999	1337	16.7	114	20.8	8.5
1000-2499	1554	19.4	93	17.0	6.0
2500-4999	1140	14.2	69	12.6	6.1
5000-9999	701	8.8	36	6.6	5.1
10,000 +	2116	26.4	121	22.1	5.7
Total	8012	100.0	547	100.0	6.8

[a]Includes principals and vice-principals.

less than 5,000, and 41.7 percent occurred in communities with a population less than 1,000. On the other hand, relative demand generally decreased with size. The large number of vacancies (121) in communities over 10,000 produced a vacancy rate of only 5.7 percent.

The demand for subject and specialty teachers in relation to community size varied considerably. As indicated in Table 15, the median community size in which

Table 15

Vacancies by Subject and Specialty Area by Community Size

Subject/specialty	Community Size						Median
	1-499	500-999	1000-2499	2500-4999	5000-9999	10,000 plus	
Classroom assignment[a]	31	36	24	12	5	14	830
Subject/specialty							
Art	3	-	2	-	1	3	2,292
Biology	3	6	2	1	-	2	764
Business education	-	-	-	-	-	1	83,770
Chemistry	-	1	2	2	-	4	4,395
Computer studies	2	3	3	-	-	1	938
Drama/theatre	-	1	1	-	-	1	1,043
Earth science	2	1	-	-	-	3	6,026
Educational psychology	-	-	-	-	-	1	24,339
Educational therapy	4	3	5	8	5	10	4,254

Table 15 (continued)

Subject/specialty	Community Size						Median
	1-499	500-999	1000-2499	2500-4999	5000-9999	10,000 plus	
English/literature	4	12	8	1	2	10	1,292
Environmental science	2	-	-	-	-	3	11,538
Family studies	1	1	1	-	-	1	1,036
French[b]	1	-	1	3	4	28	11,538
French (subject)	8	10	5	7	3	13	2,484
Guidance	1	2	3	2	2	1	1,968
Home economics	1	1	4	2	1	3	2,160
Industrial education	-	2	-	3	-	1	2,932
Inutitut[b]	-	1	-	-	-	-	938
Library/resources	-	2	1	2	1	1	2,861
Mathematics	7	7	4	3	1	7	1,142
Music	2	7	5	9	2	5	2,861
Physical education	6	6	4	2	-	5	966
Physically handicapped	3	-	-	-	2	2	5,335

Table 15 (concluded)

Subject/specialty	Community Size						Median
	1-499	500-999	1000-2499	2500-4999	5000-9999	10,000 plus	
Physics	-	3	3	-	-	2	1,380
Religion	2	7	6	1	1	6	1,105
Social studies	2	9	6	1	-	5	1,105
Special education	32	34	24	14	7	10	912
School administration							
Principal	4	6	5	-	1	2	890
Vice principal	-	4	3	1	-	1	1,142

[a]Excludes immersion programs. [b]Language of instruction.

vacancies occurred in biology, classroom teaching, computer studies, physical education and special education was less than 1,000. Conversely, the median community size for vacancies in chemistry, earth science, educational therapy, environmental science, French Immersion and physically handicapped was greater than 4,000. The median community size in which vacancies occurred for principals was 890 and for vice principals was 1,142.

Demand by School Size

The demand for teachers and school administrators in relation to school size exhibited a different trend from that by community size. As presented in Table 16, the number of vacancies increased with school size; the larger the school the greater the demand. This would be expected since more teachers would tend to produce more vacancies. However, in relative terms, demand decreased with school size. Schools with enrolments of 50-99 experienced exceptionally high demand (14.7 percent). Further, schools with enrolments of less than 50 also experienced higher than average demand. One vacancy arose in a school with an enrolment of 14 students. The greatest number of teachers (38.1 percent) were in schools of more than 400 students, yet vacancy rates there were smallest (5.5 percent).

Table 16

Teachers, Teacher Vacancies and Vacancy Rates by School Size[a]

School Size	Provincial Total		Teacher Vacancies		Vacancy Rate
	f	%	f	%	%
1-49	163	2.0	15	2.7	9.2
50-99	435	5.4	64	11.7	14.7
100-199	1329	16.6	91	16.6	6.9
200-299	1544	19.3	96	17.6	6.2
300-399	1491	18.6	112	20.5	7.5
400 +	3050	38.1	169	30.9	5.5
Total	8012	100.0	547	100.0	6.8

[a]Includes principals and vice principals.

While school size is frequently related to physical location, accessibility, and availability of services, large schools are not always located in large communities. Several large schools existed in small but strategically located communities.

The demand for subject and specialty teachers showed little variance with school size. As indicated in Table 17,

Table 17

Vacancies by Subject and Specialty Area by School Size

Subject/specialty	School Size						Median
	1-49	50-99	100-199	200-299	300-399	400+	
Classroom assignment[a]	8	27	27	12	22	26	184
Subject/specialty							
Art	-	-	1	2	1	5	459
Biology	-	1	4	4	4	1	227
Business education	-	-	-	-	-	1	669
Chemistry	-	-	1	1	3	4	375
Computer studies	-	1	3	1	2	2	224
Drama/theatre	-	-	1	-	-	2	406
Earth science	-	-	1	1	-	4	459
Educational psychology	-	-	-	-	1	-	393
Educational therapy	-	-	5	6	7	17	396

Table 17 (continued)

Subject/specialty	School Size						Median
	1-/ 49	50- 99	100- 199	200- 299	300- 399	400+	
English/literature	-	3	7	8	6	13	308
Environmental science	-	1	-	1	-	3	407
Family studies	-	-	-	-	2	2	409
French[b]	-	0	1	4	9	23	475
French (subject)	1	1	5	12	13	14	336
Guidance	-	-	-	2	3	6	400
Home economics	-	-	-	3	5	4	374
Industrial education	-	-	-	-	2	4	502
Inutitut[b]	-	-	-	-	1	-	308
Library/resources	-	-	1	2	1	3	311
Mathematics	-	3	5	5	6	10	304
Music	-	2	4	7	6	11	336
Physical education	-	2	6	5	6	4	280
Physically handicapped	-	1	2	-	2	2	304

Table 17 (concluded)

Subject/specialty	School Size						Median
	1–49	50–99	100–199	200–299	300–399	400+	
Physics	–	–	3	1	1	3	299
Religion	–	2	1	5	8	7	337
Social studies	–	3	2	4	8	6	321
Special education	4	21	23	25	25	23	227
School administration							
Principal	4	4	4	1	2	3	113
Vice principal	–	1	2	3	1	2	252

[a]Excludes immersion programs. [b]Language of instruction.

the median school size in which vacancies occurred in biology, classroom teaching, computer studies and special education was less than 250, while for vacancies in art, earth science, French Immersion and industrial education the median school size was greater than 450. The median school size in which vacancies occurred for principals was 113 and for vice principals was 252.

Research question 9

What is the relationship between geographic distribution of the population and the demand for teachers and administrators?

One factor which influences teacher demand is the physical location of the job within the Province. Different regions have different degrees of attractiveness which, in turn, influences their ability to retain teachers and attract qualified ones to replace those who leave. Factors, such as the availability of services, accessibility to the region, distances to and from services, and the economic stability of the region, impact upon teacher demand in each region.

Demand by Region

For the purpose of comparing effects on teacher demand, the Province was partitioned into five geographic regions. They were based upon established economic regions

used by the Executive Council of the Government of Newfoundland and Labrador, and Statistics Canada. The regions, shown in Figure 4, include: (1) Avalon Peninsula, (2) South Coast and Burin Peninsula, (3) Central, Northeast Coast and Bonavista Peninsula, (4) West Coast and Northern Peninsula, and (5) Labrador.

Table 18 shows the demand for teachers by region. The Avalon region had approximately one-quarter of all vacancies and a vacancy rate of 4.5 percent. Conversely, the West

Table 18

Teachers, Teacher Vacancies and Vacancy Rates by Region[a]

Region	Provincial Total		Teacher Vacancies		Vacancy Rate
	f	%	f	%	%
Avalon	3040	37.9	136	24.6	4.5
South	905	11.3	62	11.2	6.9
Central	2110	26.3	125	22.6	5.9
West	1376	17.2	139	25.1	10.1
Labrador	581	7.3	92	16.6	15.8
Total	8012	100.0	554	100.0	6.9

[a]Includes principals and vice principals.

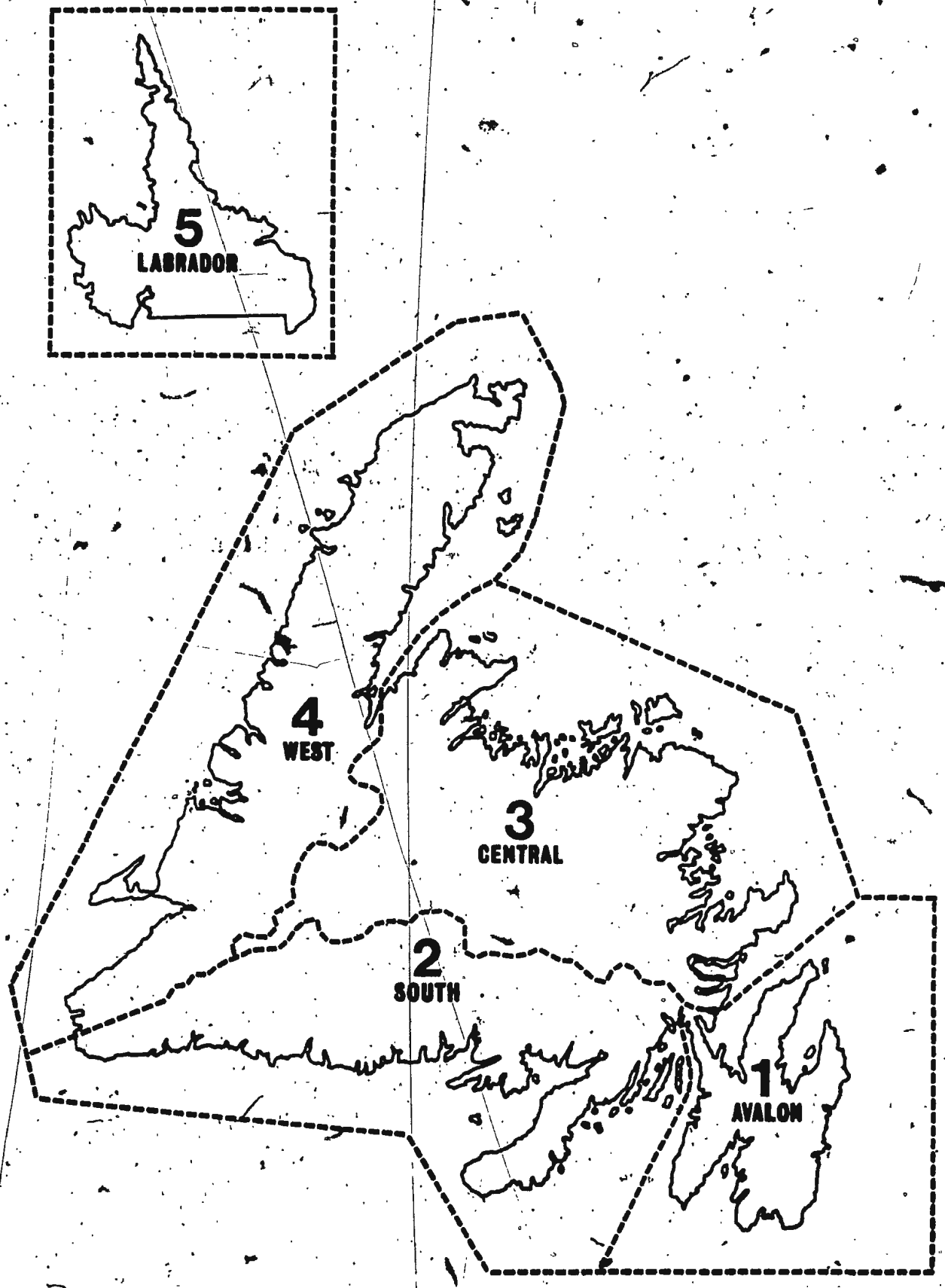

FIGURE 4: Geographic regions of Newfoundland and Labrador

region also had one-quarter of all vacancies yet a vacancy rate of 10.1 percent. The Labrador region experienced the highest vacancy rate (15.8 percent).

Table 19 shows a comparison of the vacancies by region and by urban/rural distribution. Urban is defined as any community or census agglomerate having a population of 5,000 or greater.[2] A complete list of urban communities and the regions in which they are located, is provided in Appendix F. Over 60 percent of all vacancies were in communities with a population of less than 5,000 (rural). The Avalon region had a higher proportion of urban vacancies while the South, Central and West regions had high proportions of rural vacancies. In fact, 92 percent of the vacancies in the South region were in rural communities.

A comparison of vacancy rates for urban and rural areas in each region is presented in Table 20. With the exception of the Central region, rural areas generally experienced greater demand than urban areas. Lower than average demand was experienced in the Avalon region and in urban communities of the South region. Demand in rural Labrador was exceptionally high (22.9 percent).

The number of vacancies by region, including teachers

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[2]Total vacancies for urban areas may not match those for communities having a population of 5,000 or greater. A number of small towns are located inside urban metropolitan areas. For example, the town or Torbay, which has a population of 3,394, is part of the St. John's metropolitan area and therefore is considered urban.

Table 19

Vacancies by Urban/rural Designation by Region

Region	Urban		Rural	
	f	%	f	%
Avalon	91	16.6	41	7.5
South	5	0.9	57	10.4
Central	28	5.1	96	17.5
West	46	8.4	92	16.8
Labrador	46	8.4	46	8.4
Total	216	39.4	332	60.6

Table 20

Teachers and Vacancy Rates by Urban/rural Designation by Region

Region	All Teachers		Vacancy Rates	
	Urban	Rural	Urban	Rural
Avalon	2143	897	4.3	4.6
South	146	759	3.4	7.5
Central	353	1757	7.9	5.5
West	605	771	7.6	11.9
Labrador	380	201	12.1	22.9
Total	3627	4385	6.0	7.6

and other district personnel with assigned instructional duties, is presented in Table 21. It shows that most positions were in demand in each of the regions. Mathematics, music, physical education and special education teachers are examples. French, industrial education and music teachers, and speech therapists were in greatest demand in the Avalon region, while chemistry and home economics teachers were in greatest demand in the Central region. Educational therapists, English and mathematics teachers were in greatest demand in the West region.

The number of vacancies for administrators by region is shown in Table 22. The greatest number was in the Central region with 50 percent of the principals and 33 percent of the vice principals coming from that area. Forty-five percent of the demand for program coordinators came from the Avalon region.

Analysis of the success in filling teacher vacancies by region shows that only the Avalon region found qualified candidates for all available jobs. On the other hand, three (two percent) of the vacancies were not filled in the West region.

Table 21

Vacancies by Subject and Specialty Area by Geographic Region[a]

Subject/specialty area	Region					Total
	Avalon	South	Central	West	Lab.	
Classroom assignment[b]	33	19	27	28	24	131
Subject						
Art	1	1	3	3	1	9
Biology	2	1	6	4	3	16
Business education	1	–	–	–	–	1
Chemistry	1	–	5	3	–	9
Computer studies	3	1	2	2	1	9
Drama/theatre	1	–	3	–	–	4
Earth science	2	1	–	2	1	6
English/literature	7	1	11	13	10	42
Environmental science	2	2	–	–	1	5
Family studies	–	–	4	–	–	4

Table 21 (continued)

Subject/specialty area	Region					Total
	Avalon	South	Central	West	Lab.	
French[c]	13	-	8	6	10	37
French (subject)	11	7	9	12	12	51
Guidance	-	1	4	6	-	11
Home economics	1	1	5	3	2	12
Industrial education	4	-	1	-	2	7
Inutitut[c]	-	-	-	-	1	1
Library/resources	3	-	1	3	-	7
Mathematics	6	2	5	14	6	33
Music	11	4	9	4	2	30
Physical education	5	4	5	5	6	25
Physics	4	-	3	1	-	8
Religion	3	3	8	8	4	26
Social studies	2	1	12	8	5	28

Table 21 (concluded)

Subject/specialty area	Region[a]					Total
	Avalon	South	Central	West	Lab.	
Specialty						
Educational psychology	1	1	2	2	-	6
Educational therapy	8	4	6	13	4	35
Hearing impaired	-	-	-	1	-	1
Physically handicapped	4	-	-	2	1	7
Special education	25	18	35	29	15	122
Speech therapy	3	-	-	-	-	3
Visual impaired	-	1	-	-	-	1

[a]Includes employees assigned to schools and/or district offices.
[b]Excludes immersion programs. [c]Language of instruction.

Table 22

Vacancies for Administrators by Position by Region

Position	Avalon	South	Central	West	Labrador
School administration					
Principal	2	1	9	4	2
Vice principal	2	-	3	3	1
District administration					
Program coordinator	5	2	3	1	-
Other	-	1	-	1	-
Total	9	4	15	9	3

Satisfaction with Teachers and Administrators Seeking Employment in the Education Marketplace

There were over 6,600 applicants for the 569 available jobs; an average of 12 candidates for each. This section examines the general satisfaction of respondents with the teachers and administrators who applied and were interviewed for these jobs. More specifically it examines the number of applicants, the preference for more candidates, and the quality of those selected for interviews. Frequencies and percentages are used to describe and analyze general satisfaction.

Research question 10

Are employers generally satisfied with the quality of candidates being interviewed?

Satisfaction with Available Supply

This section describes the number of teachers who applied for positions, the numbers who were interviewed, and the general satisfaction with the applications. The average number of applicants by region is shown in Table 23. The Avalon region had the greatest number of applicants per vacancy (14.0) while the Labrador region had the fewest per vacancy (9.9). One job in the South region had 60 applicants. All regions, therefore, had a general surplus of applicants.

Table 23

Applicants per Vacancy, Preference for More Applicants, and the Number Interviewed by Region

Response	Avalon	South	Central	West	Labrador	Total
Number of applicants per vacancy						
Minimum	1	0	1	0	1	0
Maximum	51	60	56	50	45	60
Mean	14.0	13.0	10.9	10.7	9.9	11.6
Preference for more applicants						
YES (percent)	49.3	57.8	70.4	68.1	58.4	61.3
NO (percent)	50.7	42.2	29.6	31.9	41.6	38.7
Number interviewed						
Mean	3.9	3.8	3.1	2.6	4.2	3.4

The average number of applicants interviewed for each position was 3.4. The fewest number interviewed was in the West region (2.6) and the largest number was in Labrador (4.2). It is unclear if the high numbers interviewed in the Labrador region were a result of a general surplus of teachers for that region, that teachers did not mind the expense of travel to that region for interviews, or that employers were recruiting directly at university campuses. One respondent interviewed 25 candidates for a single position.

All respondents, with the exception of those in the Avalon region, preferred to see more applicants. This would indicate that while an average of three candidates were interviewed for each vacancy, an adequate number of qualified candidates may not have been available. Seventy percent of respondents in the central region indicated they would have preferred more.

Satisfaction with Candidates Interviewed

This section uses frequencies, percentages and means to determine the level of satisfaction with respect to the teachers and administrators who were interviewed for jobs in the teaching profession. Satisfaction was measured on a five-point scale ranging from 1=Dissatisfied to 5=Satisfied. It was based upon each of six criteria, namely: academic qualifications, teaching experience, administrative

experience, written applications, interviews, and references.

Table 24 shows the number of responses for each criterion. Respondents were neutral when evaluating the experience of candidates that were interviewed. Teaching experience had the lowest mean response satisfaction rate (3.0), while administrative experience was rated a little better having a mean response of 3.2. Respondents were slightly more satisfied with the academic qualifications (mean response of 3.8) and generally satisfied with the written applications, interviews and references.

The general satisfaction of respondents by geographic location provides a different result. Table 25 presents mean responses by region for each of the six criteria. The results indicate that respondents in the Avalon region were generally satisfied with those who were interviewed, which would indicate the availability of more experienced candidates. On the other hand, respondents from the Labrador and Central regions were dissatisfied with the amount of teaching experience, which would indicate the availability of less experienced candidates. In the Labrador and South regions, respondents were generally dissatisfied with the candidates' administrative experience. All regions seemed satisfied with the applications, interviews and references.

Table 24

General Satisfaction with those Interviewed for Teaching and Administrative Positions using Selected Criteria

Criteria	Dissatisfied			Satisfied		Total	
	1	2	3	4	5	Number	Mean
Academic qualifications	6	60	98	192	146	502	3.8
Teaching experience	59	135	111	137	61	503	3.0
Administrative experience[a]	3	5	12	6	6	32	3.2
Written applications	-	5	101	279	114	499	4.0
Interviews	-	5	95	254	119	473	4.0
References	-	2	76	297	127	502	4.1

[a]Administrative positions only.

Table 25

General Satisfaction with those Interviewed for Teaching and Administrative Positions by Region using Selected Criteria

Criteria	Mean response by region				
	Avalon	South	Central	West	Labrador
Academic qualifications	4.0	4.1	3.4	3.9	3.6
Teaching experience	3.4	3.0	2.9	3.2	2.1
Administrative experience[a]	4.0	2.0	3.3	3.0	2.0
Written applications	4.2	4.3	3.6	4.0	3.9
Interviews	4.1	4.5	3.7	4.1	3.9
References	4.2	4.5	3.7	4.1	4.0

[a]Administrative positions only.

Characteristics of the Supply of New Teachers and Administrators

Of the 569 vacancies in the Province in 1985-1986 only seven (1.2 percent) positions could not be filled. As a result, 522 teachers and 40 school and district administrators were hired. This section examines two research questions, one dealing with the characteristics of new employees and the other with their previous activities. More specifically it examines the general characteristics of new teachers by specialty and region, the characteristics of new administrators by position and region, and the activities of new employees immediately prior to employment. Frequencies and percentages are used to describe and analyze supply.

Research question 11

What are the attributes of those being hired in terms of age, sex, residency, degree held, teaching certificate, and years of educational experience?

General Characteristics of New Employees

Table 26 provides a profile of the 562 new teachers and administrators hired, by sex, age, residence, degree held, certificate held, and years of educational experience. Females were hired for 71.4 percent of the available positions. Teaching positions were filled primarily by females (75.3 percent), while administrative positions were

Table 26

New Teachers and Administrators by Sex, Age, Residence, Degree Held, Certificate Held, and Years of Experience

Characteristic	Teachers		Administrators		Total	
	Number	Percent	Number	Percent	Number	Percent
Sex						
Female	393	75.3	8	20.0	401	71.4
Male	129	24.7	32	80.0	161	28.6
Age (years)						
Under 20	-	-	-	-	-	-
20-29	367	70.7	15	38.5	382	68.5
30-39	120	23.1	20	51.3	140	25.1
40-49	30	5.8	4	10.3	34	6.1
50 or more	2	0.4	-	-	2	0.4

Table 26 (continued)

Characteristic	Teachers		Administrators		Total	
	Number	Percent	Number	Percent	Number	Percent
Residence at the time of hiring						
Newfoundland	460	88.1	38	95.0	498	88.6
Other province	61	11.7	2	5.0	63	11.2
Elsewhere	1	0.2	-	-	1	0.2
Degree held						
None	21	4.0	1	2.5	22	3.9
Bachelor's	458	87.9	25	62.5	483	86.1
Master's	40	7.7	14	35.0	54	9.6
Doctorate	2	0.4	-	-	2	0.4
Certificate held						
Less than IV	13	2.5	-	-	13	2.3

Table 26 (concluded)

Characteristic	Teachers		Administrators		Total	
	Number	Percent	Number	Percent	Number	Percent
IV	76	14.6	1	2.6	77	13.8
V	300	57.6	11	28.2	311	55.5
VI	109	20.9	15	38.5	124	22.1
VII	18	3.5	12	30.8	30	5.4
Other	5	1.0	-	-	5	0.9
Years of educational experience						
None	200	38.3	3	7.7	203	36.2
1-3	171	32.8	6	15.4	177	31.6
4-6	54	10.3	7	18.0	61	10.9
7-9	42	8.1	8	20.5	50	8.9
10 or more	55	10.5	15	38.5	70	12.5

filled primarily by males (80 percent).

The median age of all new employees was 26 years. The greatest number of teachers was in the age group 20-29 (70.7 percent) while the greatest number of administrators was in the age group 30-39 (51.3 percent). This indicates that a significant number of young, [new] teachers are getting jobs. At the other extreme, however, one teacher was 62 years of age at the time of hiring.

Eighty-nine percent of new employees were located in Newfoundland at the time they were hired. Of the remainder, 61 teachers and two administrators came from elsewhere in Canada, and one teacher came from France. These data refer to residence at the time of hiring rather than to birthplace or citizenship.

Most new employees had a university degree; however, 3.9 percent had none. Several of the 22 employees who had no degree were hired in specialist positions. Those holding at least a Master's degree accounted for 8.1 percent of teachers and 35 percent of administrators.

Thirteen new employees had less than the expected Grade IV teaching certificate. The Newfoundland Teacher (certification) Regulations (1972), provide that a teacher with a Grade III teaching certificate or less may be hired only if a Grade IV certified teacher is unavailable. Further, the hiring of a teacher below Grade III level requires Ministerial approval. Five teachers recorded under

the "other" category were licenced to teach in a specific area, for example, music. Eighty-three percent of teachers and 97 percent of administrators had at least a Grade V certificate.

The median educational experience of all new employees was two years. Two hundred (38.3 percent) of the 562 teachers hired had no professional educational experience. Some of those may have had some substitute teaching; however, none had enough to qualify as one full year. About 29 percent of new teachers had four or more years experience, and 38.5 percent of new administrators had ten or more years experience.

New Teachers by Specialty and Region

Five hundred twenty-two teachers were hired during the survey period. Table 27 provides a profile of new teachers by subject and specialty area. Frequencies and medians are used to describe sex, age and experience for each area.

Few subject or specialty areas had equal numbers of females and males hired. What are often regarded as traditional areas for women, art and home economics, remained unchanged, as did industrial education for male teachers. Mathematics, physical education and the sciences had proportionately more male teachers hired. Over 80 percent of classroom teachers, educational therapists, French teachers, and special education teachers were female.

Table 27

New Teachers by Sex, Age and Years of Experience by Subject and Specialty Area[a]

Subject/specialty area	Total	Sex		Median Age	Median Experience
		Female	Male		
Classroom assignment[b]	122	105	17	25	1
Subject area					
Art	9	8	1	23	1
Biology	14	6	8	23	0
Business education	1	1	-	48	3
Chemistry	9	3	6	27	0
Computer studies	9	4	5	26	1
Drama/theatre	4	2	2	35	11
Earth science	6	2	4	27	3
English/literature	37	24	13	25	2
Environmental science	5	1	4	26	1
Family studies	4	4	-	30	6.5

Table 27 (continued)

Subject/specialty area	Total	Sex		Median	Median
		Female	Male	Age	Experience
French[c]	37	34	3	24	0
French (subject)	48	39	9	24	1
Guidance	10	6	4	29	3.5
Home economics	12	12	-	25	2
Industrial education	6	-	6	30	3
Inutitut[c]	1	1	-	45	0
Library/resources	7	6	1	33	2
Mathematics	29	9	20	26	1
Music	30	21	9	25.5	1
Physical education	23	7	16	26	1
Physics	8	3	5	25	0
Religion	23	12	11	25.5	2
Social studies	24	14	10	25.5	1

Table 27 (concluded)

Subject/specialty area	Total	Sex		Median Age	Median Experience
		Female	Male		
Specialty area					
Educational psychology	5	2	3	37	9
Educational therapy	29	24	6	29	2
Hearing impaired	1	1	-	26	1
Physically handicapped	7	5	2	31	2
Special education	121	102	19	25	1.5
Speech therapy	3	2	1	31	0
Visual impaired	1	1	-	29	0
All Teachers				25	1

[a]Includes employees assigned to schools and/or district offices.
[b]Excludes immersion programs. [c]Language of instruction.

The median age of teachers was 25 years. The youngest teachers hired tended to be in the areas of art, biology, French and French Immersion. The two oldest teachers were instructing in business education and Inutitut. These two subject areas were anomalies since the samples were small (one) and both had considerably older and less experienced teachers than all others. Educational psychologists were generally older (median 37 years) than other specialist teachers.

The median teaching experience was one year. Biology, chemistry, French, physics, speech therapy and visual impairment were areas where new teachers tended to have no experience. In family studies, drama and educational psychology new teachers had higher than average professional experience.

Table 28 provides a summary of selected characteristics for each region of the Province. All regions hired more female teachers than male teachers. The Avalon region had the highest proportion (81 percent females), while the Labrador region had the lowest at 69 percent females. The median age of new teachers was highest in the Avalon region (27 years), while lowest in the Labrador region (24 years). The Labrador region had the highest proportion of new teachers whose residence at the time of hiring was outside Newfoundland. The Labrador region also had the highest proportion of new teachers with

Table 28

New Teachers by Sex, Age, Residence, Degree Held, Certificate Held, and Years of Experience by Region

Characteristic	Region				
	Avalon	South	Central	West	Labrador
Sex					
Female	107	45	82	98	61
Male	25	15	32	30	27
Age (years)					
Under 20	-	-	-	-	-
20-29	84	50	77	85	71
30-39	35	9	32	33	11
40-49	13	-	4	8	5
50 or more	-	-	1	-	1
Median age	27	25	25	26	24

Table 28 (continued)

Characteristic	Region				
	Avalon	South	Central	West	Labrador
Residence at the time of hiring					
Newfoundland	127	53	100	108	72
Other province	5	7	14	19	16
Elsewhere	-	-	-	1	-
Degree held					
None	3	2	4	5	7
Bachelor's	112	55	101	112	78
Master's	17	3	8	9	3
Doctorate	-	-	-	2	-
Certificate held					
II[a]	-	-	-	-	3
III	2	1	1	4	2

Table 28 (concluded)

Characteristic	Region				
	Avalon	South	Central	West	Labrador
Certificate held (continued)					
IV	12	16	17	13	18
V	66	33	71	75	55
VI	40	9	19	31	10
VII	9	-	4	5	-
Other	3	1	1	-	-
Years of educational experience					
None	37	25	49	49	40
1-3 years	38	26	28	44	35
4-6 years	26	5	8	10	5
7-9 years	17	3	9	13	-
10 or more years	14	2	17	15	7
Median experience	3	1	1	2	1

[a]Memorial University of Newfoundland T.E.P.L. [native teachers] program.

no university degree. The Avalon region had the highest proportion of new teachers with Masters' degrees and, analogously, the highest teaching certificates. The median experience of new teachers was lowest in the South, Central and Labrador regions (1 year) and highest in the Avalon region (3 years).

New Administrators by Position and Region

Forty new administrators were hired during the survey period. Table 29 provides a profile of those administrators. Frequencies and medians are used to describe the characteristics of administrators by sex, age and experience.

Approximately 80 percent of the new administrators hired were male. Only three of 18 new principals hired were female.

The median age of administrators was 31.5 years. Vice principals were, on average, the oldest at 32 years, while program coordinators were the youngest (median age of 29.5 years). Vice principals were also the most experienced (median educational experience of 9 years).

Analysis of the characteristics of new administrators by region was somewhat difficult because of the low numbers involved. However, several patterns were evident. As shown in Table 30, all regions hired more male administrators than female. The West region hired the highest proportion of

Table 29

New Administrators by Sex, Age, and Years of Experience by Position Held

Subject/specialty area	Total	Sex		Median Age	Median Experience
		Female	Male		
School administrators					
Principal	18	3	15	31	7.5
Vice principal	9	2	7	32	9
District administrators					
Program coordinator	10	2	8	29.5	7.5
Other	2	1	1	31.5	3
All Administrators	39	8	31	31.5	7

Table 30

New Administrators by Sex, Age, Residence, Degree Held, Certificate Held, and Years of Experience by Region

Characteristic	Region				
	Avalon	South	Central	West	Labrador
Sex					
Female	2	-	3	3	-
Male	7	4	12	6	3
Age (years)					
Under 20	-	-	-	-	-
20-29	3	1	5	4	2
30-39	5	3	7	4	1
40-49	1	-	-	-	-
50 or more	-	-	-	-	-
Median age	32	32.5	32	30	29

Table 30 (continued)

Characteristic	Region				
	Avalon	South	Central	West	Labrador
Residence at the time of hiring					
Newfoundland	8	4	15	8	3
Other province	1	-	-	1	-
Elsewhere	-	-	-	-	-
Degree held					
None	-	-	1	-	-
Bachelor's	4	3	8	7	3
Master's	5	1	6	2	-
Doctorate	-	-	-	-	-
Certificate held					
II	-	-	-	-	-
III	-	-	-	-	-

Table 30 (concluded)

Characteristic	Region				
	Avalon	South	Central	West	Labrador
Certificate held (continued)					
IV	-	1	-	-	-
V	1	2	3	2	3
VI	3	-	6	6	-
VII	5	1	5	1	-
Other	-	-	-	-	-
Years of educational experience					
None	-	1	-	1	1
1-3 years	2	-	4	2	-
4-6 years	1	1	2	2	1
7-9 years	3	-	4	1	-
10 or more years	3	2	6	3	1
Median experience	8	9	8	6	5

female administrators at 33.3 percent. The South region tended to hire the oldest administrators (median age 32.5 years), while the Labrador region tended to hire the youngest (median 29 years). The median years of experience showed a similar trend. The South region tended to have the most experienced administrators (median 9 years), and the Labrador region tended to have the least experienced administrators (median 5 years). The median experience for all new administrators was 7 years.

Research question 12

Are new teachers and administrators being recruited from universities, other teaching positions, or from other activities?

Prior Activities of New Employees

This section examines the activities of new employees immediately prior to their employment. Frequencies and percentages are used to describe the activities of both teachers and administrators. Survey results are presented in Table 31.

Many teachers and administrators (41.5 percent) were teaching at the time they were hired. Over one quarter (26.2 percent) of the new teachers hired were unemployed at the time and another 32.2 percent were hired directly from universities. In total, nearly 60 percent of the new teachers were not teaching at the time they were hired.

Table 31

New Teachers and Administrators by Activity Immediately Prior to Employment

Activity	Teachers		Administrators		Total	
	Number	Percent	Number	Percent	Number	Percent
Unemployed	136	26.2	2	5.0	138	24.7
University						
Memorial	122	23.5	5	12.5	127	22.7
Elsewhere	45	8.7	-	-	45	8.1
Teaching						
Within district	84	16.2	20	50.0	104	18.6
In province	95	18.3	12	30.0	107	19.1
Elsewhere	20	3.9	1	2.5	21	3.8
Other employment	17	3.3	-	-	17	3.0

Seventy-four percent of teachers and administrators recruited and hired from universities came directly from Memorial University of Newfoundland. T. G. Morgan, Assistant Registrar, Memorial University of Newfoundland (personal communication, January 8, 1987) reported that during the Fall, 1985 and Spring, 1986 convocations at Memorial University, 624 students graduated with education degrees. Of that number, 127 (20 percent) found teaching jobs. Many of the graduates from Memorial University, however, did not become part of the supply actively seeking employment because: (1) some were part-time students and already employed as teachers, (2) some were on leave-of-absences from teaching and had jobs to return to, (3) some would return to university for further studies, (4) some would teach in other sectors of the education marketplace outside of public schools, and (5) some would decide not to teach at that time. While the precise numbers for each are unknown, nonetheless, given the current economic conditions, employment opportunities for education graduates from Memorial University were nonetheless considerable.

Eighty-four teachers were recruited from within the same district. From comments provided by respondents, many were either employed full-time, part-time, or substitute teaching in the district at the time of hiring. Fifty percent of administrators were hired from within the school district.

There were 65 teachers who came from outside the Province. It is unclear whether these were former Newfoundlanders, other Canadians, or citizens of other countries. Of the 65 who came from elsewhere, 45 were attending universities elsewhere and 20 were teaching elsewhere. In addition, a number included in the "other" category also came from outside the Province. Some of the responses in that category included:

- mining in Ontario
- self-employed music teaching in Nova Scotia
- French monitor
- registered nurse
- prime minister's office
- speech pathologist
- provincial government employee
- retired

One half of the new administrators were previously employed by their same school board. Another 30 percent were working with other school boards in the Province.

Regional comparisons of the activities of teachers and administrators prior to employment are presented in Tables 32 and 33. The Central region hired a higher proportion of its new teachers (40.4 percent) from the ranks of the unemployed than did any other region. Labrador at 9.1 percent had the lowest proportion from the unemployed. The West region had a high proportion (51.6 percent) of its teachers come directly from teaching jobs while only 26.3 percent did in the Central region. Seven percent of the new teachers hired in the Avalon region came from jobs outside

Table 32

New Teachers by Activity Immediately Prior to Employment by Region

Activity	Region					Total
	Avalon	South	Central	West	Labrador	
Unemployed	50	12	46	20	8	136
University						
Memorial	20	14	31	26	31	122
Elsewhere	3	9	4	15	14	45
Teaching						
Within district	13	5	19	34	13	84
In province	32	18	6	25	14	95
Elsewhere	4	1	5	7	3	20
Other employment	9	-	3	1	4	17
Total	**131**	**59**	**114**	**128**	**87**	**519**

Table 33

New Administrators by Activity Immediately Prior to Employment by Region

Activity	Region					Total
	Avalon	South	Central	West	Labrador	
Unemployed	-	-	2	-	-	2
University						
Memorial	-	1	1	2	1	5
Elsewhere	-	-	-	-	-	-
Teaching						
Within district	6	-	9	5	-	20
In province	2	3	3	2	2	12
Elsewhere	1	-	-	-	-	1
Other employment	-	-	-	-	-	-
Total	9	4	15	9	3	40

the teaching profession.

Summary

This chapter examined the patterns of supply and demand among teachers and administrators for a one year period from September 1, 1985 to August 31, 1986. It began by examining (1) the characteristics of demand, (2) the kinds of vacancies which arose, (3) where they occurred, (4) the numbers who sought employment and the general satisfaction with the candidates, and (5) the characteristics of the supply of new teachers and administrators.

CHAPTER 5

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a synopsis of the findings of the study and conclusions which have been drawn from the findings. Recommendations for further research and other recommendations prompted by the findings of this study, are also presented.

Summary

The importance of reliable information about teacher supply and demand has been well established. In recent years, the educational system has undergone a dynamic shift from a chronic shortage of teachers to an apparent surplus. This is particularly true because of rising expectations for education coupled with declining enrolments, increasing levels of education among teachers and administrators, increasing competition for scarce financial resources coupled with rising costs, consolidation of schools, and other contributing factors. The impact of these changes has implications for planning and development by university faculties, government planners, teachers, teacher recruits and school administrators. Research in the area of teacher supply and demand is intended to assist all educators

involved in the education process.

The literature and related research regard teacher supply and demand as critical to the total planning process. Researchers have concluded that the problem is not so much surpluses and shortages in absolute terms but short term variances in geographic regions and subject areas. The purpose of this study was to identify factors associated with the supply of and demand for teachers and administrators in order to demonstrate potential regional and academic imbalances. More specifically, this study was an attempt to identify the reasons for job vacancies, the subject and administrative areas and geographic locations encompassing teacher demand, and the characteristics of the potential supply and actual supply of new teachers.

An appropriate instrument was not discovered in the literature, consequently one had to be devised. The survey instrument developed was a questionnaire entitled "Job Access 1985 - 1986." It was designed to obtain data relative to job vacancies in individual schools and districts, and the individuals who filled them. Sufficient copies were distributed to each school district for each vacancy in Newfoundland and Labrador from September 1, 1985 to August 31, 1986.

There were 569 out of 570 usable questionnaires returned, representing all 35 school districts. Only one questionnaire was unable to be used resulting in a 99.8

percent response. Data were coded and then analyzed and presented in tabular and narrative form. Frequencies, percentages and means were used to describe relationships among variables.

Findings

Data were presented and analyzed under the following headings: (1) characteristics of demand, (2) demand for teachers and administrators in subject and specialty areas, (3) demand for teachers and administrators by selected geographic and demographic characteristics, (4) satisfaction with teachers and administrators seeking employment in the educational marketplace, and (5) characteristics of the supply of new teachers and administrators. A summary of the findings as they relate to each of the research questions follows.

What are the reasons for job vacancies in the educational marketplace?

1. There was a total of 569 vacancies in the Province from September 1, 1985 to August 31, 1986. All vacancies were advertized and applicants went through a required job competition.

2. Seventy-five percent of all vacancies were

replacement positions and 25 percent were newly created positions.

3. Sixty-eight percent of the newly created positions were in the expanding areas of special education and French immersion.

4. Thirty-one percent of positions vacated for various reasons were temporary in nature -- for a minimum period of one year.

5. Nineteen of the 70 positions left vacant by retiring teachers were replaced.

6. The largest number of vacancies (185) was caused by teachers resigning.

Are full-time or part-time teachers being hired?

7. Eighty-eight percent of all vacancies were full-time positions. Ninety-three percent of replacement positions and 74.6 percent of new positions were full-time.

8. All available part-time positions were for teachers rather than for administrators.

Are candidates being found for all vacant positions?

9. The majority of vacancies (98.9 percent) were filled with qualified candidates.

10. Most vacancies were filled within two months of being advertized. Three positions had been vacant for at

least one year.

11. Demand for educational therapists could not be completely filled; four of the 35 positions were left vacant. In addition, a position for each of guidance, music and program coordinator was not filled. Real or potential shortages may exist in these areas.

To what teaching grade levels are new jobs being assigned?

12. There were 527 teaching positions assigned to various grade levels, ranging from a single grade to multiple grades.

13. Of that number, 254 (48.2 percent) were assigned to primary and elementary, 89 (16.9 percent) to junior high, and 148 (28.1 percent) to senior high.

14. Thirty-six teachers had assignments covering ten or more grades.

What is the relationship between job vacancy and language of instruction?

15. Ninety-three percent of the teaching vacancies were in English and seven percent were in languages other than English, namely French and Inutitut.

16. The vacancy rate for French Immersion teachers was exceptionally high at 44.6 percent. One teacher was assigned to instruction in Inutitut.

17. Eighty-seven percent of the positions in

immersion were given classroom assignments at the primary and elementary levels. One was hired to teach music in French.

In what subject, specialty, and administrative areas are educators being hired?

18. Generalist teachers accounted for a large proportion of the demand by school districts. A substantial proportion of that number (75 percent) were clustered at either the primary or elementary levels.

19. The greatest numbers of subject teacher vacancies were in English, French, mathematics and music.

20. The fewest number of vacancies were in business education, drama/theatre, environmental science, family studies and Inutitut.

21. There were 175 special education personnel required. Of that number, 70 percent were for regular special education teachers and the remainder distributed among six specialist areas.

22. Thirty of the 35 vacancies for educational therapists (86 percent) were new positions created through expansion.

23. Of the 40 administrative positions required, 18 (45 percent) were for principals, 9 (22.5 percent) for vice principals, and 11 (27.5 percent) for program coordinators.

24. Over 85 percent of the positions for principals

and vice principals included teaching responsibilities.

What is the relationship between school districts and the demand for teachers and administrators?

25. Vacancies occurred in all 35 school districts.

26. Most of the highest vacancy rates were in districts having all or part of their jurisdiction in Labrador.

27. School districts in eastern parts of the province had some of the lowest vacancy rates.

What are the relationships between community size and school size, and the demand for teachers?

28. Sixty-four percent of the vacancies occurred in communities with a population of less than 1,000 (41.6 percent) and greater than 10,000 (22.1 percent).

29. The vacancy rate was greatest in communities with a population of less than 500, and least in communities with a population greater than 5,000.

30. The median community size for vacancies in biology, classroom teaching, computer studies, physical education and special education was less than 1,000.

31. The median community size for vacancies in chemistry, earth science, educational therapy, environmental science, French Immersion and physically handicapped was greater than 4,000.

32. The vacancy rate for teachers generally decreased with school size. The vacancy rate was greatest in schools with an enrolment of less than 100, and least in schools with an enrolment greater than 400.

33. The median school size for vacancies in biology, classroom teaching, computer studies and special education was less than 250.

34. The median school size for vacancies in art, earth science, French Immersion, and industrial education was greater than 450.

What is the relationship between geographic distribution of the population and the demand for teachers and administrators?

35. The number of vacancies was greater (61 percent) in rural communities than in urban communities. The vacancy rate was greatest in rural Labrador (22.9 percent).

36. Vacancy rates in urban areas were least in the Avalon and South regions.

37. Most subject and specialty positions were in demand in all regions.

38. Positions for French, industrial education and music were greatest in the Avalon region, and for educational therapists, English and mathematics in the West region.

39. The number of vacancies for administrators was greatest in the Central region.

Are employers generally satisfied with the quality of candidates being interviewed?

40. Over 6,600 applications were received for 569 available jobs. An average of 12 candidates applied for each vacancy. One vacancy had 60 applicants, while several had none.

41. In all regions except the Avalon, more than half the respondents would have preferred more applicants.

42. An average of 3.4 candidates were interviewed for each job. For one position 25 candidates were interviewed.

43. Respondents were generally satisfied with the written applications, the interviews, and the references supplied by candidates.

44. In the Labrador region respondents were generally dissatisfied with the teaching experience and administrative experience of candidates.

What are the attributes of those being hired in terms of age, sex, residency, degree held, teaching certificate, and years of educational experience?

45. Seventy-five percent of new teachers hired were female and 80 percent of administrators were male.

46. The median age of new teachers hired was 25 years and of new administrators was 31.5 years.

47. The residence of 12 percent of new teachers hired was outside the Province at the time of hiring.

48. Four percent of new teachers hired held no

university degree.

49. The median teaching certificate of new teachers hired was Grade V. Eighty-three percent had a Grade V certificate or higher.

50. The median educational experience of new teachers hired was one year.

51. Over 200 new teachers and administrators hired had less than one year professional experience.

52. The Avalon region recruited the most experienced and qualified teachers while the Central, Labrador and South regions recruited the least.

Are new teachers and administrators being recruited from universities, other teaching positions, or from other activities?

53. Thirty-eight percent of new teachers hired were teaching at the time.

54. Seventy-three percent of teachers recruited directly from universities came from Memorial University of Newfoundland.

55. Over three percent of new teachers hired were employed in occupations outside of education and 26 percent were unemployed at the time.

56. The Labrador region recruited the largest proportion of its teachers (19.5 percent) from outside the Province, while the Avalon region recruited the smallest (5.3 percent).

Conclusions

The following conclusions were reached as a result of the findings of the study.

1. There was a general surplus of teachers in Newfoundland and Labrador in 1985-1986. Over 6,600 applications, an average of 12 per job, were submitted by potential teachers and administrators. Few jobs remained unfilled at the end of the survey period.

2. A shortage of educational therapists was observed; however, it is doubtful there will be a long-term shortage since it is a highly specialized program for a limited number of students, and when fully implemented few new openings will arise. Potential shortages were observed in areas where (a) not all positions were filled, (b) the average number of applicants per job was small [less than six], and (c) respondents overwhelmingly preferred more applicants [more than 80 percent]. Given these criteria, guidance and music are two examples of potential shortages.

3. The teacher workforce was a dynamic enterprise in 1985-1986. Considerable movement of teachers took place between schools, districts and provinces potentially creating jobs for those not in the workforce. In addition to the movement within the system, jobs were created through

program initiatives, unadvertised within-school reassignments, and short-term replacements.[1] Accordingly, the demand for teachers during the survey period was quite good.

4. French Immersion and special education were two areas which greatly expanded and contributed to the availability of new jobs. As these two program areas continue to expand, they will remain dominant areas of teacher demand in the short term.

5. A large proportion of teachers hired was expected to be skilled in one subject area or special education. On the other hand, a large number of new teachers had classroom assignments and had to generalize at the expense of specializing in one or two areas. It was evident that school districts were seeking both specialists and employees who were adaptable and flexible.

6. School districts were using attrition to soften the impacts on the teacher workforce resulting from of declining enrolment. During the survey period, the Newfoundland, Department of Education reported that 70 teachers retired; however, only 19 of the vacant positions created were replaced due to retirement.

7. School districts were generally satisfied with all aspects of the candidates seeking employment with the

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[1]Short-term jobs are those available for a period of less than one year. There were 251 such jobs identified from the first survey instrument.

exception of educational experience. Since 200 of the new teachers hired had no educational experience, this conclusion would be expected.

8. All regions of the Province, including the most isolated and the most urban, experienced teacher demand. Although teacher turnover was proportionately much greater in the more isolated areas, jobs were available in all areas. Highly qualified personnel were hired in rural Newfoundland and inexperienced personnel were hired in urban centers.

9. Teaching positions continued to be the rampart of the females while administrative positions remained the bastion of the males.

10. Memorial University of Newfoundland did not produce sufficient teachers to fill all available positions. Teachers were hired from other training institutions, from other educational jurisdictions outside the Province, and from other occupations to fill the required demand. On the other hand, many graduates from Memorial University of Newfoundland did not find jobs, presumably because their area of expertise or preferred location was in areas where the demand was least -- other things being equal. Admittedly, it is difficult to project specific areas of teacher shortage and direct students to those areas early enough in their career training.

Recommendations

Recommendations were made on the basis of the findings and conclusions. They are divided into two sections: (1) recommendations for further research, and (2) other recommendations.

Recommendations for further research

1. It is recommended that a follow-up to this study be undertaken to determine the existence of trends and project possible imbalances in the supply of teachers.
2. It is recommended that a study be undertaken regarding the deployment of new teachers to ascertain the match between training and deployment.
3. It is recommended that a study be undertaken to ascertain the reasons why teachers are recruited from outside the Province and from other occupations.
4. It is recommended that a study be undertaken to examine the implications of increased growth in educational therapy and French language training on the teacher workforce, teacher training, and the financial resources of the Province.

5. It is recommended that a study be undertaken to determine the number of unsuccessful teacher candidates, their qualifications, expectations and needs.
6. It is recommended that a study be undertaken to examine the effects of district and provincial policy initiatives in relation to teacher supply and demand.
7. It is recommended that a study be undertaken to ascertain the causes of teacher mobility and the effects upon teacher supply and demand.
8. It is recommended that an annual study be undertaken to ascertain the numbers of education graduates from Memorial University actively seeking employment and their resulting employment patterns.

Other recommendations

9. The Department of Education should monitor the number of vacancies on an annual basis.
10. The Department of Education should produce an annual report on teacher demand and disseminate relevant information to all sectors of the education system.
11. Memorial University of Newfoundland should direct

increased attention to demand trends and the dissemination of relevant information to students as part of its career planning process.

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APPENDIX A

SUPPORT DOCUMENTATION

Box 130
Marine Drive
Torbay R.R. #1
Nfld. A0A 3Z0

Dr. B.T. Fradsham
Director
School Services Division
Department of Education
St. John's, Nfld.

Re: Study on Teacher Demand in Newfoundland

Dear Dr. Fradsham:

I am a graduate student in Educational Administration at Memorial University of Newfoundland. I am in the process of developing my thesis as partial fulfilment of the requirements for the degree.

The topic for my thesis is entitled "A Study of the Effects of the Demand for Elementary and Secondary Teachers in the Province of Newfoundland and Labrador, with Projections to 2001". It would be important to me to know how useful such a study would be to the Department of Education. If you feel such a report (or a condensed version) would be of use in this province, would you kindly indicate so in a brief response to this letter.

Harold Press

1986 01 14

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF EDUCATION

P O BOX 4750
ST JOHN'S, NFLD.
A1C 5T7
1986 01 21

Mr. Harold Press,
Box 130,
Marine Drive,
Torbay R.R. #1,
Nfld.
AOA 3ZO.

Dear Harold:

I am pleased to hear of your progress in pursuing graduate studies at Memorial University and particularly pleased that you have chosen to do your thesis in the area of Supply and Demand of Teachers in Newfoundland and Labrador.

We continually hear that there is an over-supply of teachers. While we feel that this is not the case, we have no hard data to refute this argument. Furthermore, we are not able to accurately project the number of teachers needed for certain subject areas and for certain geographical areas within the province.

The Department of Education is therefore most interested in your study; as no doubt will teachers themselves, school boards and other educational agencies in the province. I am therefore most pleased to endorse your efforts and to offer any support that may be useful to you.

May I wish you every success.

Yours sincerely,

B.T. Fradsham, Ed.D.,
Director of School Services.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Faculty of Education
Office of the Dean

Telex. 016 4101
Tel (709) 737-8587.8

January 22, 1986

Mr. Harold Press
Box 130
Marine Drive
Torbay, R.R. #1
Newfoundland
A0A 3Z0

Dear Mr. Press:

Thank you for your letter re Study on Teacher Demand in Newfoundland.

I think the study would be most useful and await your results.

Yours sincerely,

L. D. Karagianis, Ed.D.
Dean

LDK/bp

APPENDIX B

SURVEY INSTRUMENT 1

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Administration

Telex: 016-4101
Tel.: (709) 737-7647/8

September 10, 1986

Mr. Harold Press is presently completing the requirements for the Master of Education degree at Memorial University of Newfoundland.

A questionnaire has been developed to gather the data for this study. Analysis of these data will reveal the demand for teaching positions in various subject and speciality areas, and for administrative positions throughout all regions of the Province.

This information is important to the Department of Education and to Memorial University of Newfoundland which are responsible for funding, prescribing, and delivering teacher training programs. It is also important to you and your school district for planning and program development; to guidance personnel for career counselling; and to prospective teachers requiring information on job hirings.

The purpose of this letter then is: (1) to determine the availability of information; and (2) to request your assistance in completing forthcoming questionnaires.

In this regard, would you complete the enclosed form by September 19th and return it in the enclosed self-addressed, stamped envelop. It should only take a few minutes of your time.

Thank you for your consideration in this matter.

Dr. B.T. Bradsham
Assistant Deputy Minister
Department of Education

Dr. D.L. Treslan
Associate Professor
Faculty of Education

REPLY FORM

1. School District _____

2. Please indicate the approximate number of vacancies filled in your school district from September 1, 1985 to August 31, 1986.

   _____

3. I, or one of my senior administrative staff, will be willing to spend a few minutes to complete a short questionnaire pertaining to each vacancy.

   YES ___ NO ___

4. I would like to receive the results for my school district.

   YES ___ NO ___

5. I would like to receive the results for the entire Province.

   YES ___ NO ___

6. An annual report on the demand for teaching positions is important.

   YES ___ NO ___

7. Comments:

   _____

   _____

   _____

Signed: _____

Date: _____

Comments by Superintendents:

Reply Form

1. It is important for teacher training institutions to ascertain the personnel needs as identified by school boards and then attempt to train personnel to fill these needs. I look forward to the results and recommendations of this study. Very timely topic.

2. Most of the vacancies were created by: (1) teachers taking leave, (2) illness, and (3) filling of department approved units for extra special education, TMR, or educational therapy units.

3. There is a dearth of information on the teacher job market. Any reliable information would be an asset: (1) in school counselling, (2) in services offered by the university, and (3) in recruitment and placement.

APPENDIX C

SURVEY INSTRUMENT 2

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Administration

Telex: 016-4101
Tel.: (709) 737-7647/8

24 October 1986

Mr. Robert Mesher
Superintendent
Vinland Integrated School Board
Box 129
St. Anthony, Newfoundland
A0K 4S0

Dear Mr. Mesher:

In a letter dated September 10, 1986, you were asked to participate in a study of teacher supply and demand conditions which Mr. Harold Press is doing as part of the M. ED Program at Memorial University.

We genuinely appreciate that you have endorsed the study and agreed to participate, as have all the other 34 districts.

Copies of the questionnaire developed for the study are enclosed with this letter. As you indicated, there were approximately 25 vacancies in your school district between September 1, 1985 and August 31, 1986. One questionnaire should be completed for each vacant position advertized, whether or not is was filled, if it met the following criteria:

1. It was a permanent position,
2. It was a replacement position for a minimum of one year, or
3. It was a long-term substitute position for a minimum of one year.

Do not complete questionnaires for temporary or replacement positions of less than 1 year.

The questionnaire is short and can be completed with minimal effort. It should be completed by the senior administrator responsible for staffing, or some individual who participated in the selection process.

I hope that the information can be collected before the end of November. If you or your staff experience any difficulty in meeting this objective, Mr. Press will be willing to visit your district and assist in any way possible.

If you have any questions, he can be reached at 576-5169 during working hours.

A copy of the results and findings will be sent to you when the study is completed.

Dr. B.T. Fradsham
Assistant Deputy Minister
Department of Education

Dr. D.L. Treslan
Associate Professor
Faculty of Education

JOB ACCESS

1985-1986

This questionnaire is designed to focus on the demand for various teaching and administrative positions and the attributes of those who were successful in filling those positions for the school year 1985-1986. It is not meant as a qualitative assessment of the selection process. Most responses will require a simple check (✓).

Please complete one questionnaire for each permanent and long-term replacement position. Do not complete forms for any position filled for a period of less than one year.

1. Job Title: _____

2. School District: _____

3. School Name: _____

4. Address of School: _____

_____

PART I: BACKGROUND

5. Is this a new position? YES ☐ NO ☐

If yes, briefly outline the reasons for creating this position and then proceed to PART II. _____

_____

_____

If no, how long has this position been vacant? Months ☐☐

6. Indicate if previous employee has:

a.	left permanently	( )
b.	taken a temporary leave of absence	( )
c.	been granted long-term sick leave	( )
d.	other (specify) _____	( )

7. If permanent, indicate reason.

a.	Redundancy	( )
b.	Dismissal by employer	( )
c.	Reassignment by employer	( )
d.	Resignation by employee	( )
e.	Retirement	( )
f.	Death	( )
g.	Other (specify) _____	( )

8. What is the status of this position?

a.	Full-time	( )
b.	Half-time	( )
c.	Other (explain) _____	( )

PART II: DESCRIPTION

9. What is the primary responsibility of this position?

a.	Teaching (complete A)	( )
b.	Administration (complete B)	( )
c.	Administration & teaching (complete A,B,C)	( )

A. TEACHING

10. To which level has this position primarily been assigned?

a.	Primary (K - 3)	( )
b.	Elementary (4 - 6)	( )
c.	Junior High (7 - 9)	( )
d.	Senior High (10 - 12)	( )

11. In which language will this position be working?

a.	English	( )
b.	French	( )

12. To which academic or specialist area(s) is this position assigned? If possible indicate one area only. Otherwise, indicate those areas which were advertized.

1.	Classroom assignment	( )
2.	Generalist area	( )
3.	Subject teaching:	
a.	Art	( )
b.	Business Education	( )
c.	Drama/Theatre	( )
d.	English/Literature	( )
e.	Family Studies	( )
f.	French (subject)	( )
g.	Guidance	( )
h.	Home Economics	( )
i.	Industrial Education	( )
j.	Library/Resources	( )
k.	Mathematics	( )
l.	Music	( )
m.	Physical Education	( )
n.	Religious Education	( )
	Science:	
o.	Biology	( )
p.	Chemistry	( )
q.	Computer Studies	( )
r.	Earth Science	( )
s.	Environmental Science	( )
t.	Physics	( )
u.	Social Studies	( )
4.	Special Skills/Programs:	
a.	Special Education	( )
b.	Educational Psychology	( )
c.	Educational Therapy	( )
d.	Hearing Impaired	( )
e.	Physically Handicapped	( )
f.	Speech Therapy	( )
g.	Visual Impaired	( )
5.	Other (specify) _____	( )

B. ADMINISTRATION

13. What is the nature of this assignment?

a. Department Head	( )
b. Vice Principal	( )
c. Principal	( )
d. Program Coordinator	( )
e. Assistant Superintendent	( )
f. Superintendent	( )
g. Other (specify) _____	( )

C. ADMIN/TEACHING

14. Indicate the percentage of time assigned to:

a. Administration	☐☐ %
b. Teaching	☐☐ %

PART III: ANALYSIS

15. Was a candidate chosen for this job? YES ☐ NO ☐

16. How many people applied for this position? ☐☐☐

Would you have preferred to have had more? YES ☐ NO ☐

17. How many candidates were interviewed for this position? ☐☐

When answering the following questions, please keep in mind the candidates who were interviewed for the job. On a a scale of 1 to 5, CIRCLE the number which represents your general satisfaction with each of the following.

		Dissatisfied				Satisfied
18.	Their academic qualifications	1	2	3	4	5
19.	Their years teaching experience	1	2	3	4	5
20.	Their administrative experience (if required)	1	2	3	4	5
21.	Their written applications submitted	1	2	3	4	5
22.	Their interviews	1	2	3	4	5
23.	Their references supplied (written or oral)	1	2	3	4	5

PART IV: CHARACTERISTICS

The following questions apply to the candidate chosen for this job.

24. Age at the time of hiring? ☐☐

25. Sex?

a. Female ( )
b. Male ( )

26. Residence at the time of hiring?

a. Newfoundland ( )
b. Other Canadian province ( )
c. Other (specify) _____ ( )

27. Highest degree held at the time of hiring?

a. No degree ( )
b. Bachelor's ( )
c. Master's ( )
d. Doctorate ( )

28. Teaching certificate held at the time of hiring?

I	II	III	IV	V	VI	VII	Other
☐	☐	☐	☐	☐	☐	☐	_____

29. Years educational experience at the time of hiring? ☐☐

30. Indicate the major activity engaged in by the employee immediately prior to this job.

a. Unemployed ( )
b. Attending university (MUN) ( )
c. Attending university (elsewhere) ( )
d. Teaching/administration (same district) ( )
e. Teaching/administration (Province) ( )
f. Teaching/administration (elsewhere) ( )
g. Other (specify) _____ ( )

Please return all completed forms to:

Harold Press
Department of Education
Confederation Building, West Block
Box 4750
St. John's, Newfoundland
A1C 5T7

29 December 1986

Mr. Harold Stapleton
Assistant Superintendent
St. John's Roman Catholic School Board
Belvedere, Bonaventure Avenue
St. John's, NF
A1C 3Z4

Dear Harold:

May I take this opportunity to express my sincere appreciation for your assistance with the Job Access questionnaire. I understand that it was distributed at a very busy time of the year for both you and your staff. For this reason I am greatful to you for your assistance.

Preliminary results indicate that over 569 positions, either full-time or part-time, permanent or temporary, were filled during the survey period. This represents a turn over of about 7 percent of the total teaching force. I will distribute final results to you and Bill upon completion.

Please convey my sincerest appreciation to any of your staff who may have assisted in any way.

May I take this opportunity to wish you and your staff a peaceful and prosperous new year.

Best wishes,

Harold Press

HP:js

APPENDIX D

INSTRUMENT VALIDATION

Box 130
Marine Drive
Torbay, RR#1
A0A 3Z0

September 16, 1986

Dear:

In partial fulfill of the requirements for the degree Master of Education in Educational Admistration at Memorial University of Newfoundland, I am proposing a study entitled "A Study of Selected Indicators which Influence the Supply of and Demand for Public School Teachers and Administrators in the Province of Newfoundland and Labrador for the School Year 1985-1986."

A questionnaire has been developed to gather data for this study. A copy is enclosed. The questionnaire, referred to as "JOB ACCESS 1986" will provide data on each job vacancy for the year beginning September, 1985 through August, 1986. Analysis of these data will reveal the demand for teaching and administrative positions throughout the Province.

You can help me validate the questionnaire by scrutinizing it for clarity, readability, and format, and recommending any modifications which you feel are necessary.

Please return the questionnaire with your comments and suggestions to me at the above address.

Thank you for your consideration in this matter.

Harold Press

List of participants who assisted in validating the survey instrument.

Department of Education

Dr. B. T. Fradsham
Assistant Deputy Minister
Educational Operations

Barbara Hopkins
Women's Educational Services Consultant

Dr. L. Perry Fagan
Director, Evaluation and Research

Gary Hatcher
Director, School Services

Sam McGrath
Assistant Director, School Services

Faculty of Education

Dr. F. Riggs
Associate Professor
Curriculum

Dr. T. Boak
Associate Dean

Superintendents

Dr. Maxwell Trask
Burin Integrated

Mr. Nathan Cutler
Bay D'Espoir Integrated

Mr. William Whelan
St. John's Roman Catholic

Mr. Roy Belbin

Pentecostal Assemblies Board of Education

Dr. Ron Sparkes
Labrador Integrated

APPENDIX E

CROSS REFERENCE OF RESEARCH QUESTIONS WITH THE QUESTIONNAIRE ITEMS

The following is a cross reference of the thirty survey questions with the twelve thesis questions.

Thesis Questions	Survey Questions
1	5-7
2	8
3	5,12,15
4	10
5	11-13
6	1,9-14
7	2,8
8,9	1-4,9,11-14
10	1-4,9,13,14,16-23
11	1-4,9,11-14,24-29
12	1-4,9,13,14,30

APPENDIX F

LIST OF URBAN COMMUNITIES

List of communities and census agglomerates with a population of 5,000 or more.

Census agglomerate	Community	Population	Region
St. John's CMA	St. John's	83,770	1
	Mount Pearl	11,543	1
	Metro Area	24,485	1
	Wedgewood Park	1,226	1
	Hogan's Pond	129	1
	Lawrence Pond	46	1
	Paradise	2,861	1
	Goulds	4,242	1
	Petty Hr/Maddox Cv	853	1
	Torbay	3,394	1
	Flatrock	808	1
	Pouch Cove	1,522	1
	Conception Bay S.	10,856	1
	St. Thomas	448	1
	Portugal Cove	2,361	1
	St. Phillips	1,365	1
	Foxtrap	2,292	1
	Seal Cove	497	1
		154,820	
Carbonear CMA	Carbonear	5,335	1
	Harbour Grace	2,988	1
	Victoria	1,870	1
	Bryant's Cove	380	1
	Salmon Cove	768	1
		12,983	
Corner Brook CMA	Corner Brook	24,339	4
	Gillams	488	4
	Hughes Brook	128	4
	Irishtown	742	4
	Meadows	656	4
	Pasadena	2,685	4
	South Brook	477	4
	Steady Brook	377	4
	Summerside	848	4
		32,269	
Grand Falls	Grand Falls	8,765	3
	Windsor	5,747	3
		14,512	
Labrador City	Labrador City	11,538	5
	Wabush	3,155	5
		14,512	

Census agglomerate	Community	Population	Region
Bay Roberts	Bay Roberts	4,512	1
	Spaniard's Bay	2,125	1
		6,637	
Marystown		6,299	2
Gander		10,404	3
Stephenville		8,876	4
Channel-Port aux Basques		5,988	2
Happy Valley-Goose Bay		7,103	5