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The Changing Teacher Labor Market in Canada: Patterns and Conditions

Access to current and reliable teacher labor market information can benefit many groups: governments involved in developing and implementing policies related to resource allocation and manpower planning; university education faculties involved in preservice certification programs for teachers; teacher federations involved in the professional development of teachers; school districts involved in resource deployment; schools involved in the planning and delivery of quality programs and services to students; and students concerned about the quality and breadth of programs. Finally, the uncertainty of the labor market and the need for career planning information are issues critical to teacher education students. This study examines the nature and scope of the changing teacher labor market in Canada and assesses the quality and value of teacher labor market information to information users. The study found that, with few exceptions, school districts in Canada were experiencing a general surplus of teachers. It was also discovered that teacher labor market information was useful to different groups for different reasons. Students were more likely to use the information than executives, and students were more inclined than executives to support a policy that relates the selection of students to teacher demand conditions.

Plusieurs groupes peuvent bénéficier de l'accès à de l'information actuelle et fiable sur le marché du travail des enseignants: les gouvernements impliqués dans le développement et la mise sur pied de politiques sur l'allocation de ressources et la planification de la main d'oeuvre; les facultés universitaires de pédagogie qui offrent des programmes de formation préalable des enseignants; des fédérations d'enseignants impliquées dans le développement professionnel des enseignants; les districts scolaires impliqués dans la mobilisation des ressources; les écoles impliquées dans la planification et l'offre de programmes et de services de qualité aux étudiants; et les étudiants soucieux de la qualité et de l'envergure des programmes. L'incertitude du marché du travail et le besoin d'information sur la planification de carrière constituent des questions d'importance cruciale pour les étudiants en pédagogie. Cette étude analyse la qualité et l'envergure du marché du travail des enseignants en évolution et évalue la qualité et la valeur de l'information sur le marché du travail des enseignants. Les chercheurs ont trouvé que, à quelques exceptions près, les districts scolaires au Canada connaissaient un surplus d'enseignants. Ils ont également appris que l'information sur le marché du travail des enseignants s'avérait utile à différents groupes pour des raisons différentes. Par rapport aux administrateurs, les étudiants étaient plus portés à se servir de l'information et à appuyer une politique qui lierait la sélection des étudiants aux conditions entourant la demande d'enseignants.

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This article reports on a study of teacher labor markets in Canada. The purpose of the study was to assess current and future teacher demand conditions and trends in Canada and to determine whether information related to such conditions and trends is capable of satisfying the information requirements of education organizations and teacher education students.

Changing demographics and local economies are bringing new challenges to the task of understanding teacher labor markets. Some of these challenges include: the ability to attract talented young people into the teaching profession; the capacity to produce and communicate quality teacher labor market information, both for young people considering teaching as a career and for educational planners and policy analysts; the ability to produce highly skilled young teacher education graduates; the ability to match the mobility of the teacher work force with the patterns of population growth; and the ability to ensure that all schools, regardless of the social and economic circumstance of their particular communities, are able to attract high quality teachers. A sophisticated economy needs highly skilled people, and most of these skills are acquired in the classroom.

We begin with a brief review of the major teacher labor market studies, focusing particular attention on Canadian studies. The methods are then outlined, followed by a summary and discussion of the major findings and conclusions.

Related Literature

Although the issue of teacher demand and supply may be arcane in comparison with other educational research agendas, its significance is felt because of its effects on other issues such as teacher education programs, teacher recruitment and retirement, and career development. Of the many teacher demand and supply studies completed in the United States and Canada, most were regionally based—at the state or provincial level—and most focused primarily on local shortages. In the US, studies at the state level tended to center around future critical teacher shortages, either in specific fields (e.g., mathematics, science) or in geographic regions (e.g., state, urban/rural). For the most part, these studies were based on assumptions about increasing demand—manifested in such items as enrollments, curriculum offerings, student preferences, and retirement policies—and inadequate supply. Among the problems addressed by the studies were the difficulty of recruiting qualified teachers, teacher attrition, and market trends. Few studies investigated conditions of decreasing demand. Several national studies were completed, but again, they focused on shortage conditions. Indeed, the largest teacher demand survey out of the US, *Teacher Demand and Shortage Survey*, is premised on the notion that the supply of teachers will be insufficient to meet future demand for new teachers (Choy, Medrich, Henke, & Bobbitt, 1992).

In Canada every province has in one way or another examined teacher demand and supply conditions. Two general methods have emerged: (a) a macro-level approach in which broad estimates of demand and supply were made based on demographic measures and teacher mobility patterns; and (b) a micro-level approach in which estimates of current and future demand were made based on employer surveys. Some of the issues identified in the studies

Table 1
Chronology of Major Teacher Supply and Demand Studies in Canada Since 1986 and Conclusions Reached Regarding Teacher Shortages

<i>Researcher</i>	<i>Year¹</i>	<i>Scale²</i>	<i>Level of Analysis³</i>	<i>Major Conclusions</i>
Atkinson & Monk	1986	Ont	macro	Demand for elementary teachers will increase 13%, and demand for secondary teachers will decrease 4% in the period 1984-1996. (p. 178)
Smith	1989	Ont	macro	Some boards will face declining demand, while others will be faced with hiring large numbers of teachers. There is likely to be a significant teacher shortage by the mid-1990s. (pp. 40-44)
CTF ⁴	1989	national	macro	Demand for teachers will reach over 30,000 by the year 2000. (p. 69)
Press	1990	Nfld	micro	Demand for new teachers will decline significantly over the next 10 years. Demand will be highest in mathematics, sciences and French, and lowest in social studies, physical education and music. (pp. 85-89)
Alberta Education	1991	Alta	micro	Teacher shortages will emerge over the next 3-5 years, particularly in certain subjects (e.g., French, sciences, music, and vocational education) and in urban centres. (pp. 11-12)
MTS&DTF ⁵	1991	Man	both	Demand for new teachers will be "strong" up to the year 2000. Rural and northern school districts will continue to experience shortages in areas such as French, music, and special education. (pp. 51-54)
Samson, Sullivan, & Uhl	1991	Maritimes	macro	Retirements will increase four-fold between 1991 and 2004. A general teacher shortage will emerge in 2001. (p. 95)
Horsman	1992	Sask	macro	Teacher surpluses exist at all grade levels and in both rural and urban areas. At the same time, shortages will emerge in some areas, such as French, sciences, and computer studies. (p. 44)
Newton et al.	1992	national	macro	A substantial demand for new teachers will begin to emerge by the year 2000 as large numbers of teachers reach retirement age. (p. 73)
CTF ⁴	1992	national	macro	Demand for teachers will reach 12,000 by the year 2000—down about 17,000 from the original (1989) estimate [see above]. Total teachers will increase 1% between 1991 and 2011. The largest gains will be in B.C. (9%) and Ontario (8%), and the largest losses will be in Newfoundland (-27%). (pp. 20, 84)
TS&DC ⁶	1993	B.C.	macro	About 25,000 new teachers will be required over the 10-year forecast period, 1992-2001. Most demand will be created in the urban areas. (p. 140)

Table 1 (continued)

<i>Researcher</i>	<i>Year¹</i>	<i>Scale²</i>	<i>Level of Analysis³</i>	<i>Major Conclusions</i>
Smith & McIntyre	1996	Ont	macro	A general teacher surplus exists. Total demand will increase from about 12,000 to 13,500 teachers between 1994 and 2004. (pp. 20-21)
Tremblay	1997	national	macro	A teacher surplus exists in all provinces. This situation will persist if pupil-teacher ratios remain constant and if universities continue to train teachers at current rates. (p. 70)

¹Year of publication.

²Refers to provincial or national level studies.

³Macro-level refers to time series models based on broad demographic, policy, and teacher mobility measures, and micro-level refers to single-stage designs based on employer surveys.

⁴Canadian Teachers' Federation (1989).

⁵Manitoba Teacher Supply and Demand Task Force (1991).

⁶(BC) Teacher Supply and Demand Committee (1993).

included teacher recruitment, teacher turnover, and staffing adjustments. A chronology of the major teacher supply and demand research completed in this country since 1986, including this study, and the conclusions reached regarding teacher shortages are presented in Table 1.

The demand for teachers is a function of the size and nature of the student population, the characteristics of the existing labor force, and public policies affecting teacher allocations. Each of these factors has a significant effect on the nature and scope of the teacher labor market in any given place, in any given field, and in any given year. The effects of the baby-boom and baby-bust, for example, have had a significant effect on public school enrollments. Teacher demand can be expressed in terms of the number of new students and the desired ratio of students to teachers. Since 1983 total demand for teachers in Canada grew 13.2%: a result of increased student enrollment (9.6%) and other factors such as a 3.6% decrease in the teacher-pupil ratio.¹

The nature and scope of the teacher labor force itself has also had an effect on teacher demand. The average age of teachers increased from 34 to 42 years in the period 1972-1973 to 1993-1994. While the proportion of teachers below the age of 30 dropped from 44 to 12%, the proportion of teachers aged 45 or older grew from 20 to 41% during that period. This change in the age distribution of the teacher labor force will have significant effects on pension funds and eventually lead to increased demand for teachers (Jackson, 1979).

The issue of quality, particularly as related to attrition, is important when examining demand conditions. Changing the quality characteristics of teacher education graduates is an important strategy that will eventually alter the quality of the teaching force. Although changes to education policy or professional development initiatives can influence the quality of the teaching force, the potential for improving teaching quality in the field and the rate at which quality can be improved are dependent to a large degree on the quality of the supply of teacher education graduates. Gitomer, Latham, and Ziomek (1999)

note that “reformers charge that teaching does not attract high caliber students, and argue for higher academic standards for pre-service teachers, including more selective entrance requirements for colleges of education” (p. 4). Their research demonstrates that in the US “teachers in academic subject areas have academic skills that are equal to or higher than those of the larger college graduate populations” and that “teacher testing was found to positively influence the average SAT and ACT [standardized test] scores for the prospective teacher pool, while at the same time limiting the overall supply of teachers” (p. 3). Although we lack comparable data on Canada, the relatively high pay of teachers in Canada compared with that in the US (Lawton, Bedard, MacLellan, & Li, 1999; Nelson & O’Brien, 1993) suggests comparable conclusions would hold here, that is, that the quality of teachers is at least comparable to the population of college graduates as a whole and that increasing selectivity to raise the quality still further would reduce the supply available.

Methods

A two-phase approach was used. Phase I set out to gather information about the nature and scope of the teacher labor market in Canada. The first step involved the collection of research findings and documentary and archival evidence from studies completed in Canada and elsewhere. This was done as part of the preliminary preparations for establishing the parameters of the study and for identifying the nature of the research problem. The second step involved the administration of a survey on current and anticipated teacher demand conditions to English- and French-speaking school districts in Canada (completed in 1996).

Because of the vast range in sizes of school districts in Canada—from 13 to over 100,000 students—and to ensure a wide representation of school districts of all sizes, Probability Proportional to Size-Systematic (PPS-Systematic) sampling was used. Based on a random start and subsequent systematic selection, PPS-Systematic ensures that the probabilities of selection are proportional to size (Satin & Shastry, 1993). Samples were drawn from English-speaking boards in all provinces and territories and from French-speaking boards in Manitoba, Ontario, New Brunswick, and Quebec.² Because of the small number of school districts in some substrata such as Prince Edward Island or Manitoba (French), some larger samples were drawn. The total sample was large enough to allow contrast and comparison among different types of settings, but small enough to be manageable given the depth and intensity of investigation. Thirty-two percent of the 628 school districts in Canada (201) were included in the sample. A profile of the survey coverage, sample yields, and response rates by province and by operating language is presented in Table 2.

Phase II set out to assess the relative importance of teacher labor market information developed in phase I to key stakeholders who affect, or are affected by, teacher labor markets. The extent to which information is used by policy-makers and others is influenced both by perceptions of the quality of the source of the information—credibility, relevance, value, quality, content, and timeliness—and by how the information is used. The first step involved the preparation of a report on phase I titled *Teacher Demand in Canada*, which provided a summary and discussion of the findings of phase I of the research

Table 2
Phase I: Survey Coverage, Sample Yields, and Response Rates

Province	Sample drawn			Sample yield	Response Rates		
	Total districts ¹	n	%		Districts	Enrollment	
British Columbia	73	22	30.1	18	81.8	86.6	
Alberta	57	18	31.6	12	66.7	79.1	
Saskatchewan	92	25	27.2	11	44.0	72.4	
Manitoba	English	47	12	25.5	7	58.3	51.3
	French	4	4	100.0	3	75.0	72.2
Ontario	English	126	35	27.8	27	77.1	76.4
	French	8	6	75.0	4	66.7	72.3
Quebec	English	13	2	15.4	2	100.0	100.0
	French	130	40	30.1	26	65.0	68.4
New Brunswick	English	12	5	41.7	3	60.0	54.5
	French	6	5	83.3	3	60.0	63.9
Nova Scotia	21	9	42.8	6	66.7	54.4	
Prince Edward Island	3	3	100.0	2	66.7	98.2	
Newfoundland & Labrador	27	11	40.7	10	90.9	85.6	
Northwest Territories	9	4	44.4	2	50.0	52.6	
Total	628	201	32.0	136	67.7	74.3	

¹As of 1994-1995 school year and as listed in the *CEA Handbook*.

(Press, 1997). The second step involved distribution of the report to key stakeholders along with a questionnaire focusing on the quality and value of the information contained in the report and its actual or potential use. The questionnaire (administered in 1997) and subsequent analysis drew from the work of Cousins and Leithwood (1993). Key stakeholders included executives of provincial and territorial education departments, deans of university education faculties, directors or superintendents of school districts, executive directors of teacher federations, and teacher education students. Because of time, financial, and logistical constraints, the teacher education student follow-up survey was limited to one university (Memorial University of Newfoundland). A profile of the survey coverage, sample yields, and response rates is presented in Table 3.

Results

Phase I: Assessing Demand

Phase I examined factors that affect the level and scope of teacher demand; the capacities, subjects, and skill areas in which teachers are currently being hired; and the existence of actual or perceived shortages. Information was examined by region: Atlantic, Quebec, Ontario, Prairies (including the Northwest Territories), and British Columbia. For comparative purposes three levels of school district enrollment change were examined based on relatively similar numbers in each category (see Table 4):

Table 3
Phase II: Survey Coverage, Sample Yields, and Response Rates

Organization (English only)	Population	Sample drawn		Sample Yield	Response Rate
		n	%		
Education Departments	11	11	100.0	10	90.9
Education Faculties	35	35	100.0	23	65.7
School Districts ¹	593	128	21.7	61	47.7
Teacher Federations	14	14	100.0	7	50.0
Other Agencies	n/a	12	-	2	16.7
Teacher Education Students ²	n/a	46	-	46	100.0
Total	-	246	-	149	60.1

¹Population estimates based on school district consolidations during the period between phase I and phase II of the study.

²Full-time undergraduate students.

1. *districts experiencing growth* (average annual enrollment growth greater than 1%);
2. *districts experiencing decline* (average annual enrollment decline greater than -1%); and
3. *districts with stable enrollments* (average annual enrollment change ranging from -1 to +1%).

Enrollment-driven demand for teachers since 1990, as reported by school districts, increased on average .87% per year. Over one third of school districts reported average annual enrollment growth of greater than 1%, whereas about one quarter reported average annual decline of greater than -1%. About 40% of school districts reported stable enrollments—average annual enrollments ranging from -1 to +1% (see Table 4). Over 83% of school districts in British Columbia reporting enrollment increases greater than 1% annually and 50% of school districts in the Atlantic region reporting enrollment declines greater than 1% annually. The primary reasons provided for these enrollment changes were migration, economic conditions, and fertility. There were significant differences in enrollment growth by school districts in different regions of the country, $X^2(8, N=131) = 42.20, p < .001$. Of the school districts reporting decline greater than -1% annually, almost 70% (69.2%) were in the Atlantic region and Quebec. By comparison, 65.9% of the school districts reporting growth greater than 1% annually were in British Columbia and Ontario.

The total number of teachers in Canada as reported by respondents increased on average 0.22% per year, with 45% of school districts in British Columbia reporting staffing increases greater than 1% annually and 83% of school districts in the Atlantic region reporting declines greater than 1% annually.

Demand for specific capacities, subjects, and skills by school districts was also measured. For each area respondents were asked to indicate the level of

Table 4
 Percentage of School Districts by Average Annual Rate of Change in
 Enrollment between 1990/91 and 1995/96 by Region (N=131)

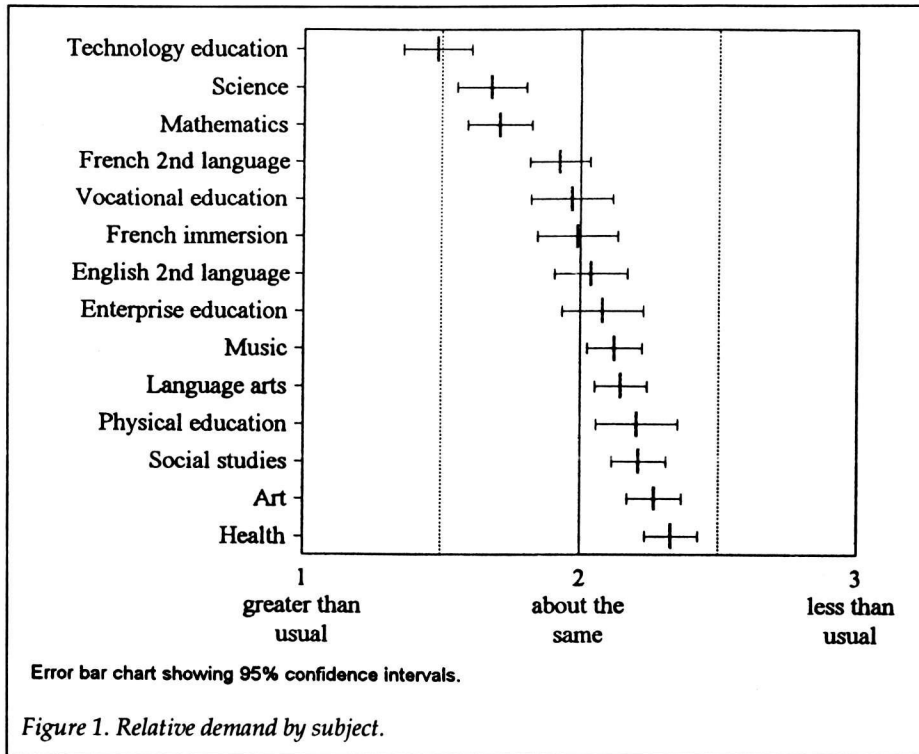
Region	Decline >-1%	Stability -1%-+1%	Growth >+1%
Atlantic Region	50.0	50.0	-
Quebec	35.6	35.7	28.6
Ontario	9.7	38.7	51.5
Prairie Region	23.3	50.0	26.7
British Columbia	-	16.7	83.3
Total	24.4	39.7	35.9

demand—*greater than usual, about the same, or less than usual*—and then to identify three areas (i.e., capacity, subject, or skill) that in the next three years would probably be the most difficult to fill. Capacity demand is that broad category of professionals who work at the school and school district levels, including special needs teachers, resource teachers, specialists, and administrators. Over one third (35.7%) of school districts reported that they were experiencing greater than usual demand for special education teachers. Demand for special education teachers was highest in British Columbia and the Prairies and lowest in the Atlantic region. Demand was generally stable in Quebec and Ontario. A number of school districts (22.6%) reported difficulties in recruiting administrators, particularly for the position of school principal. Several respondents indicated that recruiting principals was more of a job satisfaction issue than a supply problem. One director from Ontario noted, “We have a number of highly qualified teachers who could move into school administration but who won’t because of the stress and long hours associated with the job.” Demand for administrators was highest in the Atlantic region and Ontario and lowest in Quebec. Demand for all other capacity areas was reported as generally unchanged in the last few years with over 85% of school districts reporting demand for positions in these areas as either unchanged or less than usual.

Subject demand was greatest in the areas of technology education, science and mathematics. For all other areas demand was either the same or less than usual. Among the priorities identified by school districts that would be hard to fill over the course of the following three years were technology education, science mathematics, special education, vocational education, and school administrators (see Figure 1).

Demand for most subject specialists (e.g., music, French immersion, social studies) was found to be similar at both elementary and secondary levels. However, for mathematics, science, and special education, demand was primarily at the secondary level.

Shortages of teachers were reported in only a few school districts. Of the 136 school districts responding to the survey, 98.5% reported that they did not currently have a teacher shortage and 92.4% reported that they did not expect



to have a teacher shortage in the next five years. With few exceptions districts were experiencing a general surplus of teachers. The exceptions were in British Columbia and were limited to certain specialty areas. However, it would be unwise to conclude that there is, or will be, a teacher shortage in British Columbia. One superintendent from British Columbia responded as follows: "There is a small shortage only in certain specialties and subjects." Another summed up the issue this way: "Any shortage is about quality. We have an abundance of applicants, even for specialty areas, but we have to maintain a very aggressive recruiting program to get high quality teachers."

Whether surpluses or shortages of teachers exist depends on a number of conditions, not the least of which is the nature and scope of both supply and demand. During conditions marking a general surplus of teachers, for example, there may be shortages of qualified teachers in certain program areas, in certain skill areas, in certain geographic locations, or in certain types of schools. The trick is to match the skills, qualifications, experiences, ambitions, and expectations of employees (supply) with the mission, goals, objectives, and requirements of employers (demand). When the match is close, supply and demand are viewed as being in balance.

Phase II: Using Demand Information

The purpose of phase II was to investigate research questions related to the quality and value of teacher labor market information and to determine if quality and value account for its usefulness to information users such as executives of educational organizations and teacher education students. Respondents were provided with an analysis of the labor market information

assembled in phase I and asked to comment on its quality and value. Quality and value were measured by categories of factors that influence the nature and extent of the use of information. Factors seen to influence quality include thoroughness, quality, interest, and organization, and factors seen to influence value include relevance, timeliness, value, significance, and appropriateness. Respondents rated each of these factors on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree).

Using the general utilization framework developed by Cousins and Leithwood (1993), two measures associated with the use of information were developed. Each focused on the respondent as the primary user of the information. The first measure, referred to as *use rating*, consisted of a set of hierarchically ordered descriptors of reported use of the teacher labor market information. The scale was intended to accommodate all potential uses:

1. I am not likely to use the information at all.
2. I am likely to use the information a small amount.
3. I am likely to use the information a moderate amount.
4. I am likely to use the information a considerable amount.

Respondents selected the option that corresponded to their perceived degree of use of the information contained in the *Teacher Demand* report. The lowest level of use corresponded to the absence of any use of the information (nonuse), whereas the highest level of use corresponded to the transformation of the information into a form meaningful to the individual. The average rating on this four-point scale was 2.63 ($SD=.82$) with 1 corresponding to the lowest possible level of use and 4 corresponding to the highest.

The second measure, referred to as *use composite*, was a scale variable based on the following three items:

1. I have learned a great deal from the information.
2. I have changed my thinking as a result of the information.
3. I anticipate making decisions based on the information.

Respondents rated each item on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). As with the use rating variable, the use composite uses a hierarchical structure. It is anticipated that respondents are likely to *learn* before they *change their thinking*, and to *change their thinking* before they *make decisions*. The use composite variable was the average rating of the three items. The mean of the use composite variable was 2.29 ($SD=.77$) and its internal consistency was judged satisfactory (Cronbach's $\alpha=.716$).

Both executives from educational organizations and teacher education students reported being satisfied with the quality and value of the teacher labor market information. Both predictor variables correlated with one another and with both dependent variables (use). The means of the two predictor variables were: quality 3.46 ($SD=.66$) and value 3.32 ($SD=.65$). Table 5 shows that the use rating and use composite variables were highly intercorrelated. This was not unexpected in that the type of use (learn, change thinking, or make decisions) would generally be related to the degree of use (small amount, moderate amount, or considerable amount). The correlation coefficients between quality and use were fair to moderate (.265 for use rating and .272 for use composite) given that one of the predictors was a composite constructed from multiple variables. The correlation between value and use was stronger, having correla-

Table 5
Descriptive Statistics and Pearson Correlations Among Dependent and Predictor Variables

Variable	Mean	SD	N	Min	Max	Alpha	Correlations			
							1	2	3	4
<i>Use</i>										
1 Use Rating	2.63	0.82	144	1	4	–	–			
2 Use Composite	2.29	0.77	143	1	4	.716	.723*	–		
<i>Predictors</i>										
3 Quality	3.46	0.66	142	1	4	.811	.265*	.272*	–	
4 Value	3.32	0.65	141	1	4	.889	.452*	.519*	.606*	–

* $p \leq .01$

tion coefficients of .452 for use rating and .519 for use composite. The positive direction of the relationships meant that the higher the quality and value of the information, the greater the perceived use. A moderate to strong relationship between quality and value (.606) meant that the higher the quality of the information, the greater its value.

Different groups were likely to use the information to varying degrees and for different purposes. When asked to indicate how they might use the teacher demand information, respondents provided a variety of responses ranging from using the information to share with others to assist in decision-making, to using it as the basis for further research. Based only on the frequency of responses received, government executives were more likely to use teacher labor market information for sharing information and to support existing policies. University executives were more likely to use the information to share with faculty members, students, and new applicants. School district executives indicated that they too were likely to use information for sharing and as support for their policies. Although these findings indicate that the impact of information sharing is substantial, this by itself is not enough. How knowledge is used ultimately determines its impact (Hirsch, 1995).

Students reported using available labor market information in a variety of ways. Most uses centered on career planning: information needed to enable students to plan the next stage in their careers. One of the reasons for this, it can be argued, is that students stand to gain personally from the information. For most students the immediate goal is to seek access to the education work force, and any information assisting with this quest is perceived as helpful. Most comments by students centered around the need for career information, such as helping to decide what to do next, how to strengthen qualifications, and where and in what areas to seek employment. One student said the information would help "in deciding where to apply for jobs in Canada and in focusing my final courses toward achieving that goal."

Discussion

Taken together, information from the two phases of the study suggest two primary themes that are of importance both to the interested parties and, more

important, to the general public. These themes concern the proper balance between supply and demand that will be of greatest overall benefit and the continuing need for relevant data on the supply of, and current and future demand for, trained teachers. Although the focus of this study was educator demand, the separation of demand and supply is difficult for any discussion of labor market implications. Labor markets involve much more than the exchange of labor services for the payment of wages, that is, government regulations, collective agreements, employer policies, and cultural conditions (Ehrenberg, 1994). Issues such as labor market shortages, recruitment difficulties, the composition and size of the available labor pool, and teacher education policies help define the relationship between labor market supply and demand.

Benefits of a Moderate Teacher Surplus

The existence of a general teacher surplus in Canada provides opportunities for schools and school districts to improve education. Learners are the primary beneficiaries of teacher surpluses. A larger labor surplus from which to recruit educational staff means wider selection. Assuming good recruitment practices are used, wider selection means better quality, and better quality means better education for learners. The extent to which a teacher surplus can have this effect is determined by the number of new openings. Employment opportunities will be greatest for those who carefully match their skills, qualifications, and interests with the needs of school districts.

Teacher surpluses afford opportunities for school districts, teacher education institutions, and provincial governments to examine their education policies, particularly those with respect to teaching and learning, applications of technology, and the nature of schooling. Frequently public policy in this area is a three-way process, with one agency developing policy (government), another training the workers (universities), and another implementing the program (school districts). One director of education provided an example to illustrate how fragmented the structure is:

The Ministry of Education responds to public concerns about the lack of access to computers by children in schools today, and develops a policy on the use of computers in schools; the Faculty of Education responds to the same public concerns and develops courses about the use of technology; and school boards are left with teachers who know little about computers or what computers can do in the classroom.

A general surplus provides schools and school districts with more competition, a broader selection of candidates, and more flexibility in deployment. At the same time, however, increased bumping and lay-offs, particularly in jurisdictions exposed to downsizing and enrollment declines, can mean less flexibility, fewer options, and a loss in quality.

Maintaining a moderate surplus appears to be a rational policy for governments, universities, and school districts. Such a surplus would provide, among other things, better selection on the part of employers. However, the question of what constitutes a reasonable surplus would remain. A reasonable surplus can be best defined as one that provides an adequate supply of qualified candidates in all fields and in all regions without creating an exceedingly large

supply of trained teachers who would be unlikely to find opportunities to practice their chosen profession and may remain unemployed or underemployed throughout their working years.

Need for Timely Labor Market Information

The value of timely labor market information to both executives and teacher education students has already been stated. The importance of teacher labor market information appears to be related in part to the nature of organizations and persons and the types of decisions that are required to fulfil their goals. Information has implications for governments, universities, school districts, and teacher education students.

Governments. Governments face a number of key challenges. Should they continue to fund universities at current levels when in certain provinces—especially the Atlantic provinces—trained teachers will have to seek work in other provinces or outside Canada if they wish to obtain teaching jobs? Should provinces tie university grants to current labor market conditions as some provinces now do with colleges? Should they continue to subsidize the training costs of large numbers of students who leave the province for work elsewhere? What can they do to ensure that all schools, regardless of the wealth of their particular communities, are able to attract highly qualified teachers? Better labor market information is required if governments are to address these challenges. Particular attention should be paid to the characteristics of the individuals in the profession who experience unemployment and/or underemployment for prolonged periods as this information may shed light on appropriate admission policies and curriculum for faculties of education and provide guidance to those admitted for studies.

Universities. Key challenges face university education faculties as well. Should there be a moratorium on new entrants until at least a portion of the group of trained teachers who are without jobs or who have only part-time or temporary work can find permanent positions? What are the effects of reducing enrollments on faculties themselves? Many faculties argue that not all graduates find or seek employment in the public school system. In fact 15% of women and 32% of men who graduated with teaching degrees in 1994 found their initial job outside the public school system (Guppy & Davies, 1996). Nevertheless, it can be argued that university teacher education programs ought to broaden their singular emphasis on public school teaching in order to ensure the relevance of the preparation to other sectors where instruction and learning processes are central. Teacher education has value beyond classroom teaching, but more research is necessary in this area before appropriate changes can be made to teacher education programs to recognize fully alternative employment opportunities.

School districts. Implications for school districts would seem to depend on individual conditions. Districts experiencing surpluses of teachers would tend to have fewer concerns about teacher quality and supply and thus have less need for labor market information. On the other hand, districts experiencing shortages may have to alter recruitment and hiring practices, perhaps seeking teachers in other provinces; reexamine professional development policies; revise personnel deployment strategies; or seek alternative funding sources. In

these cases, school districts would be well advised to provide professional development opportunities for teachers to facilitate redeployment to program areas that are hard to fill.

Although schools and school districts with large pools of candidates maintain certain advantages, they also have challenges. Bumping and high turnover mean that it is harder to retain teachers. In an effort to retain teachers, especially those in their early years of teaching when attrition is high, induction programs to provide support to beginning teachers should be considered. Notwithstanding the general surplus of teachers, geographically remote regions sometimes experience difficulties in recruiting teachers in certain program areas. Frequently the result is an increase in out-of-field teaching (the teaching of subjects in which the teacher has little or no training). The capacity of faculties of education to produce new graduates who have the skills in these program areas and the desire to work in remote regions compounds the problem. Even if teachers are available, demand is limited.

Students in training. Teacher education students comprise a group that can be seriously affected by labor market fluctuations. Access to the teaching profession is the initial goal of students. Low demand and the uncertainty of the labor market is a cause for concern in that they impede the achievement of this goal. Low demand means more competition. More competition requires creative planning, extensive research, and better and more focused skill development. Graduates need to position themselves to enter a competitive job market.

Low demand for teachers does not explain why large numbers continue to apply for entry into teacher education programs. The reasons for a high level of interest in the 1990s may have had more to do with previous demand studies and the media attention they received. It is likely that headlines in *The Globe and Mail* such as "Teacher shortage of 30,000 predicted" (Picard, February 21, 1989) and "Teaching jobs to open up, Statscan says" (Galt, May 31, 1997), may do more to sway opinions than do the more modest claims evident in research on which they are reporting. The challenge for teacher education students is to identify and build on those skills that are transferable, not only in the profession, but in other related sectors as well. The need for up-to-date national data is critical if the decisions taken in regard to the preparation of our next generation of teachers are to be appropriate for both individual persons and for the educational system as a whole.

Conclusion

This research grew out of a desire to understand better the concept of teacher demand and the potential labor market for future teachers in Canada. Changing demographics and local economic conditions are bringing new challenges to the task of understanding teacher labor markets. Some of these challenges include: the ability to attract talented young people into the teaching profession; the capability of producing and communicating quality teacher labor market information, both for young people considering teaching as a career, and for educational planners and policy analysts; the ability to produce highly skilled young teacher education graduates; the ability to match the mobility of the teacher work force with the patterns of population growth; and the ability

to ensure that all schools, regardless of the social and economic circumstances of their particular communities, are able to attract highly qualified teachers. We cannot be assured of a better public education system without proper attention to these challenges and a genuine commitment to excellence.

Notes

1. Derived from various sources: Statistics Canada, *Education in Canada* (1997 and other years); and British Columbia Ministry of Education, *Inter-provincial Education Statistics Project* (1998 and other years).
2. Because the Yukon territory does not have school boards, it was omitted from this phase of the study. The territory has instead local school committees and councils.

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