



Saskatchewan  
Learning

# **Educator Supply and Demand in Saskatchewan to 2011**

**Board of Teacher Education and Certification  
Saskatchewan Learning  
May 10, 2007**

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Educator supply and demand in Saskatchewan to the year 2011

Includes bibliography.

ISBN 1-897211-17-1

1. Teachers – Supply and demand - Saskatchewan.

3LB 2833.4C2T42 2001

331.12/313711

## TERMS OF REFERENCE

This study was conducted by Saskatchewan Learning under the direction of the Board of Teacher Education and Certification (BTEC). The agencies represented on BTEC include First Nations University of Canada, Gabriel Dumont Institute, League of Educational Administrators, Directors and Superintendents, Saskatchewan Learning, Saskatchewan School Boards Association, Saskatchewan Teachers' Federation, The University of Regina and The University of Saskatchewan.

The purpose of this study is to assess the supply and demand for educators in Saskatchewan. The objectives of the study are:

1. to update the 2001 study *Teacher Supply and Demand in Saskatchewan to the Year 2006*. BTEC, 2001.
2. to assess the need for Saskatchewan K-12 educators from 2006-2011 with projections for broad areas (rural, urban, and northern) as well as specialized scenarios. Specialized scenarios include the following subject areas at the secondary level: Arts Education, Language Arts, Mathematics, Health and Physical Education, Natural Science, Practical and Applied Arts, and Social Sciences. Subjects not included in any one of these subject areas are grouped as Other. Also included are scenarios for selected educator types including: elementary teachers, Pre-K to 3 teachers and francophone teachers.
3. to assess the availability of educators in Saskatchewan to meet the above needs, and review and determine the implications of the external and internal circumstances that may influence the Saskatchewan situation.

## ACKNOWLEDGEMENTS

Saskatchewan Learning wishes to formally acknowledge the contribution of the Teachers' Superannuation Commission and the Saskatchewan Teachers Retirement Plan. The exchange of data between the pension plans and the TSS at the Department is an example of true partnership and mutual interest in educational research and leadership.

Saskatchewan Learning, Teacher Services also wishes to acknowledge the assistance of the following institutions and agencies which provided data and support for the study:

University of Regina

University of Saskatchewan

Information Technology Office

Saskatchewan Learning, Student Services

Saskatchewan Learning, Assessment and Accountability

Saskatchewan Learning, Independent Schools & Home-Based Education

Saskatchewan Learning, Curriculum and E-Learning

Saskatchewan Learning, Education Finance

## ABSTRACT

The Board of Teacher Education and Certification (BTEC) undertook this study to make projections of educator supply and demand to the year 2011.

It is projected that Saskatchewan will have a sufficient number of elementary educators and educators in most secondary areas to meet demand. There will continue to be a shortage of educators in some subject-specific areas at the secondary level, such as mathematics, physics and chemistry, some of the practical and applied arts. Educator demand continues to be greatest in northern and rural Saskatchewan.

These projections are based on a number of assumptions, including: a continuing decline in student enrolments; a constant student/educator ratio; a constant rate of educator retirement and turnover; a constant supply of education graduates; and a constant supply of educators from other sources. A change in any of these variables, such as a policy decision to increase the student/educator ratio or a change to the decline in student enrolments resulting from immigration with the upturn in the provincial economy, has potential impact on these findings.

While the supply of education graduates will remain constant, not all graduates enter the provincially funded K-12 system in Saskatchewan. Graduates may already be in the education system, further their studies in education or in another area, seek employment in First Nation-controlled schools or independent schools, or seek employment outside Saskatchewan.

Saskatchewan has relied on educators from other sources to meet some of the demand for educators. The study assumes that the number of educators entering or returning to the education system from outside the province, or from other activities, will remain relatively stable.

Other factors influencing the supply and demand for educators in Saskatchewan include: schools outside the provincially funded system such as First Nation-controlled schools and independent schools, and students who are registered in home-based education programs. Educator demand outside Saskatchewan and mobility of educators influences the supply. Contextual factors discussed in this report include: class size, multi-grade classrooms, distance education, gender and ethnicity of the teaching population, availability of educators teaching within their area of study.

Following the publication of *Educator Supply and Demand in Saskatchewan to the Year 2006*, the Board of Teacher Education and Certification made recommendations that resulted in the implementation of the following initiatives to support the recruitment and retention of teachers in Saskatchewan:

- amendment to *The Teachers' Superannuation and Disability Benefits Act* to allow teachers to teach past retirement without impacting their pensions;
- implementation of the Teacher Recruitment and Retention Initiative; and
- amendment to *The Teacher Certification and Classification Regulations, 2002* to establish the Additional Qualification Certificate.

The Collective Bargaining Agreement and its impact on retirement also influence supply of and demand for educators.

## DEFINITIONS

- Educator** Educators are professionals who hold valid Saskatchewan teacher's certificates and are employed by a school division to work in a professional capacity. This includes classroom teachers, principals and vice-principals, teacher-librarians, guidance counselors, special education personnel, consultants, directors, superintendents, and other instructional staff.
- Teacher** Teachers are educators employed to work in a professional capacity in one or more schools to provide direct instruction or services to students.
- School Division Types** For the purpose of educator counts, student counts, and student/educator ratios, Education Finance data are used. Educator counts after 2004 are from Teacher Services data. Prior to 2004, rural school divisions were defined as school divisions that had no schools in any of the following cities: Estevan, Humboldt, Lloydminster, Melfort, Melville, Moose Jaw, North Battleford, Prince Albert, Regina, Saskatoon, Swift Current, Weyburn, and Yorkton. Urban school divisions were defined as school divisions which had at least one school in one of the cities mentioned above. Exceptions were Weyburn Central School Division #73, Yorkdale School Division #36, and Thunder Creek School Division #78. They had schools in a city but were considered to be rural school divisions.

During the first round of division restructuring in 2004-2005, some school divisions were classified as urban/rural. These school divisions were mainly rural but included some schools in cities. This category was composed of Battlefords SD, Holy Family RCSSD, Holy Trinity RCSSD, Melfort-Tiger Lily SD, Melville-Deer Park SD, North West RCSSD, Saskatchewan Rivers SD, Sunrise SD, and York SD.

Further amalgamation of school divisions occurred in 2005-2006. The urban/rural classification was no longer used. Rural school division enrolments now include rural and urban schools within the following school divisions: Chinook SD, Good Spirit SD, Horizon SD, Living Sky SD, North East SD, Northwest SD, Prairie South SD, Prairie Spirit SD, Prairie Valley SD, Saskatchewan Rivers SD, South East Cornerstone SD, Sun West SD, and Englefeld PSSD. Urban school divisions are now composed of Lloydminster SD, Lloydminster RCSSD, Regina SD, Regina RCSSD, Saskatoon SD, St. Paul's RCSSD, Christ the Teacher RCSSD, Holy Family RCSSD, Holy Trinity RCSSD, North West RCSSD, and Prince Albert RCSSD.

The Division scolaire francophone #310 has schools in various cities, towns, and villages. It is also considered to be a rural school division.

The northern school divisions are not considered to be rural or urban. The school divisions in the northern region of the province include Northern Lights SD, Ile a la Crosse SD, and Creighton SD.

**Rural School** For the purpose of educator position types, assignments, class size, and educators carried forward, Teacher Services data and Student Services data are used. Rural schools are all schools outside of the thirteen major centres listed above regardless of the type of school division in which they are located.

**Urban School** For the purpose of educator position types, assignments, class size, and educators carried forward, Teacher Services data and Student Services data are used. Urban schools are all schools within the thirteen major centres listed above regardless of the type of school division in which they are located.

**Northern School** Northern schools are all of the schools included in the northern school divisions.

**K-12 School System** The provincially funded system includes all public, separate, and associated schools. It does not include First Nation-controlled schools, home-based education, independent schools, or unassociated historical high schools.

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# 1. INTRODUCTION

The Minister of Learning is responsible for all matters not by law assigned to any other minister, department, branch or agency of the Government of Saskatchewan relating to early learning and child care, elementary, and secondary education. As part of this responsibility, the minister must ensure the quality and quantity of educators for the Saskatchewan school system. The Board of Teacher Education and Certification is appointed by the minister to oversee teacher education and certification. In accordance with *The Education Act, 1995*:

**274** The Board of Teacher Education and Certification shall:

- (a) recommend to the minister and to the presidents of the universities a program for the education and training of teachers;
- (b) outline the general purposes and proposals that govern the program for the education and training of teachers;
- (c) specify the results that may be expected from implementation of the program mentioned in clause (a);
- (d) consider and review, both as a whole or in any or all of its phases, any existing detailed instructional program for the preparation of teachers, including the subject-matter of all courses of instruction;
- (e) report to the minister and to the presidents of the universities its findings, views and opinions with respect to the program mentioned in clause (d) and make any recommendations pertaining to the program that are considered advisable;
- (f) on the annual preparation of the estimates of expenditures of the universities, review those estimates insofar as they relate to appropriations on behalf of the colleges of education for the ensuing fiscal year;
- (g) with respect to special grants received from the department or from any other source for special projects relating to the education and training of teachers, make arrangements with the universities for the administration of the grants by the universities in any manner and subject to any terms and conditions that may be agreed on between the board and either or both of the universities;
- (h) review, from time to time, the regulations pursuant to this Act governing teachers' certificates;
- (i) recommend to the minister any changes in the regulations that it considers advisable; and
- (j) make recommendations to the minister with respect to the certification of any person whose status with respect to qualifications is referred to it.

**275** The Board of Teacher Education and Certification may:

- (a) arrange for studies or investigations of problems related to the education and training of teachers in Saskatchewan;
- (b) arrange for consultants to assist it in any studies considered necessary to the performance of any of the duties imposed on it by section 274;
- (c) submit proposals to the presidents of the universities with respect to staffing of the colleges of education of the universities; and
- (d) propose or recommend to the minister policies considered to be desirable to improve or expedite administration of the regulations governing teachers' certificates.

Since the inception of the Saskatchewan school system, the supply of educators has been an important aspect of the responsibility of the government and local school authorities. The government was directly responsible for teacher training while it operated the provincial normal schools. In 1964, the responsibility for teacher education was transferred to the university.

F. J. Gathercole conducted studies of teacher supply and demand in 1979 and 1983. Another study was not carried out until 1992 when K. Horsman was contracted by the Saskatchewan School Trustees Association Research Centre. This study established a model for future application to determine the on-going supply and demand situation. The study projected a general surplus of teachers.

Since 1992, there have been changes in teacher education programs and enrolments. The number of students admitted into teacher education programs has been reduced at The University of Saskatchewan and The University of Regina. Both universities have conducted major program reviews and implemented program changes. Most notably, The University of Saskatchewan has moved from a four-year direct entry teacher education program to a two-year post academic program.

Changes in programs offered in the elementary and secondary school system continue to influence the knowledge, skills and abilities required of educators in the province.

The data used for this study comes from eight major sources:

Education Finance Unit, Saskatchewan Learning  
Assessment and Evaluation Unit, Saskatchewan Learning  
Teacher Services System (TSS), Saskatchewan Learning  
Student Data System (SDS), Saskatchewan Learning  
Saskatchewan Teachers' Superannuation Commission  
Saskatchewan Teachers Retirement Plan  
University of Saskatchewan  
University of Regina

The Education Finance Unit of Saskatchewan Learning collects information on students and educators (Principals September Statistical Report). Students and educators are counted on September 30 of the school year. These numbers are considered official for purposes of grant calculations, indicators reports, and reports to the federal government.

The Assessment and Evaluation Unit monitors and reports on curriculum implementation, student learning and the K-12 school environment (enrolment projections).

The Teacher Services System (TSS) contains data collected directly from educators. Information on subject areas, educator types, initial training location, assignment, gender, age, experience, and educators carried forward was gathered from TSS.

Data on educator retirements were received directly from the Teachers' Superannuation Commission and the Saskatchewan Teachers Retirement Plan. Data on student registrations in subject areas were retrieved from the SDS.

Other studies that contribute to understanding the needs of students and the education system include: a review of Special Education, and *The Role of the Principal* conducted by Saskatchewan Learning, the Saskatchewan School Boards Association, the League of Educational Administrators, Directors and Superintendents, and the Saskatchewan Teachers' Federation. Recommendations arising from the report on the *Role of the School* and *Building Partnerships; First Nations and Métis Peoples and the Provincial Education System* may have an impact on student retention.

## **2. DESCRIPTION OF THE MODEL**

The model for this study is based on the model outlined in the 1992 study, *Teacher Supply and Demand in Saskatchewan to the Year 2001*, SSTA, 1992, by K. Horsman and *Educator Supply and Demand in Saskatchewan to the Year 2006*, BTEC, 2001.

Projections from the Teachers' Superannuation Commission and the Saskatchewan Teachers Retirement Plan were used to calculate the number of retiring educators.

The teacher requirements at the provincial level are represented by the following model:

### **1 Demand for Educators**

#### **1.1 Student Enrolment**

Actual and projected K-12 Student enrolment is calculated by taking the actual and projected live births in Saskatchewan multiplied by live births to grade one (and Kindergarten) cohort retention ratio and adding the per grade enrolment multiplied by the per grade enrolment cohort retention ratio.

#### **1.2 Student/Educator Ratio**

Student/educator ratio is equal to the ratio of total weighted K-12 student enrolment to the number of educators.

#### **1.3 Demand for Educators**

Demand for educators is equal to actual and projected weighted K-12 student enrolment divided by the student/educator ratio.

### **2 Supply of Educators**

#### **2.1 Number of Graduates from University**

Number of graduates from university is found by multiplying the progression ratio of the number of graduates from university who enter teaching by the sum of the number of graduates from The University of Regina and The University of Saskatchewan.

#### **2.2 Number of Educators from Other Sources**

The number of educators from other sources are the number of educators who were not teaching in Saskatchewan in the previous year. This does not include education graduates who gain employment in Saskatchewan within two years of convocation.



### **2.3 Number of Incoming Educators**

Incoming educators to active service is the sum of the number graduating from university and the number of educators from other sources.

### **2.4 Number of Educators Eligible to Retire**

This information was obtained directly from the Saskatchewan Teachers' Superannuation Commission and the Saskatchewan Teachers' Retirement Plan.

### **2.5 Number of Educators Retiring**

The projections were based on the number of educators eligible to retire with an unreduced pension.

### **2.6 Number of Educators Leaving for Other Reasons**

The number of educators leaving for other reasons is the product of the number teaching last year to the percent of educators leaving for other reasons. The projection methodology is an extrapolation of historical data.

### **2.7 Educators Carried Forward**

Educators carried forward is the number teaching last year minus the number of educators retiring and the number leaving for other reasons.

### **2.8 Supply of Educators**

The supply of educators is equal to the total of the incoming educators (those educators who were not teaching in Saskatchewan in the previous year) to active service and the educators carried forward (those educators teaching in the previous year who continue teaching in the subsequent year).

## **3 Educator Requirements**

The educator requirement is the surplus or shortage of educators which will occur as a result of the factors of supply and demand. This value is equal to the supply of educators (the number of educators that will be available to the K-12 education system) minus the demand for educators.

### 3. EDUCATOR SUPPLY AND DEMAND IN SASKATCHEWAN TO 2011

#### 3.1 Demand for Educators in Saskatchewan

##### 3.1.1 Student Enrolment

Data on historic and projected student enrolments were taken from a report prepared by Saskatchewan Learning, Capacity Building and Accountability Branch (*Enrolment Projections 2004-2005 to 2013-14*, Saskatchewan Learning, February 2004).

The following figure demonstrates the historical student enrolment in schools funded by Saskatchewan Learning. Enrolments in First Nation-controlled schools, home-based education, unassociated historical high schools, independent schools, and Alberta students in Lloydminster are not included.

**Figure 3-1: Student Enrolment in Saskatchewan 1991-2006**

<b>Year</b>	<b>Enrolment</b>	<b>Year</b>	<b>Enrolment</b>
<b>1990-1991</b>	196 566	<b>1998-1999</b>	190 899
<b>1991-1992</b>	195 936	<b>1999-2000</b>	188 594
<b>1992-1993</b>	196 235	<b>2000-2001</b>	184 494
<b>1993-1994</b>	195 951	<b>2001-2002</b>	181 101
<b>1994-1995</b>	195 282	<b>2002-2003</b>	177 575
<b>1995-1996</b>	194 603	<b>2003-2004</b>	174 263
<b>1996-1997</b>	193 922	<b>2004-2005</b>	171 052
<b>1997-1998</b>	192 650	<b>2005-2006</b>	167 132

Source: Saskatchewan Learning. (2006). *Education Finance Unpublished Data*. Regina, SK.

The enrolment decreased by 3 920 between 2004-2005 and 2005-2006 and by 23 767 since the 1998-99 school year. Other trends can be seen, on the next page, when enrolments are assigned to school division types. The enrolments in rural Saskatchewan show a significant decrease while the enrolments in urban and northern Saskatchewan show more stability.

**Figure 3-2: Student Enrolment by Type of School Division 1999-2006**

<b>Year</b>	<b>Rural</b>	<b>Urban</b>	<b>Urban/Rural</b>	<b>Northern</b>	<b>Provincial</b>
<b>1998-1999</b>	74 153	111 195		5 548	190 899
<b>1999-2000</b>	72 356	110 727		5 536	188 594
<b>2000-2001</b>	69 692	109 205		5 597	184 494
<b>2001-2002</b>	66 438	109 223		5 442	181 101
<b>2002-2003</b>	64 456	107 511		5 408	177 575
<b>2003-2004</b>	62 445	106 553		5 265	174 263
<b>2004-2005</b>	58 903	83 686	23 228	5 235	171 052
<b>2005-2006</b>	83 549	78 461		5 122	167 132

Note: Numbers are for September 30<sup>th</sup> of each school year.

Due to amalgamations, school division classification has changed in the last three years. School division types are defined on page v.

Source: Saskatchewan Learning. (2006). *Education Finance Unpublished Data*. Regina, SK.

**Figure 3-3: Projected Student Enrolment in Saskatchewan 2007-2011 (based on available data prior to restructuring in 2005-06)**

School division restructuring effective January 2006 had a major impact on the rural urban classification. The report *Enrolment Projections 2004-2005 to 2013-14* was prepared prior to restructuring. The provincial total is used for projections of educator supply and demand.

<b>Year</b>	<b>Rural</b>	<b>Urban</b>	<b>Northern</b>	<b>Provincial Total</b>
<b>2006-2007</b>	57 004	101 895	5 500	164 399
<b>2007-2008</b>	55 211	99 639	5 500	160 350
<b>2008-2009</b>	53 563	97 013	5 500	156 076
<b>2009-2010</b>	52 299	94 812	5 500	152 611
<b>2010-2011</b>	51 256	92 614	5 500	149 370

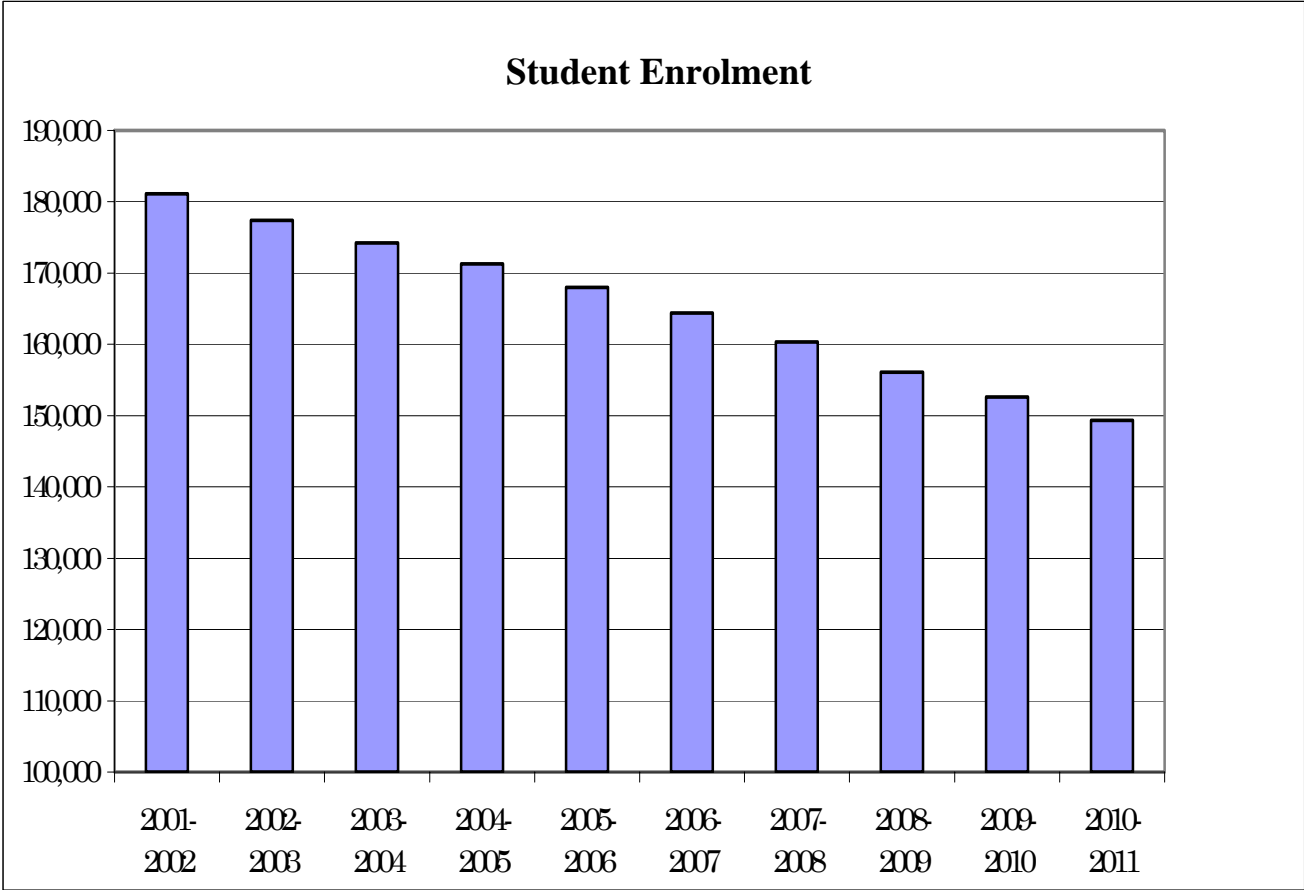
Note: These figures are based on the *Blended Flatline – Adjusted 5-Year Average CRR Flatline Method*. Data sources were Statistics Canada’s medium-growth rate scenario. See Appendix 5 for a detailed description.

School division types are defined on page v. These enrolment projections were based on the school division types in effect before restructuring occurred.

An average enrolment of 5 500 between 1999-2003 was used in the study *Enrolment Projections 2004-2005 to 2013-2014*. A decline in northern enrolments has however occurred in 2004, 2005 and 2006 in the provincially funded school system.

Source: Saskatchewan Learning. (February 2004). *Enrolment Projections 2004-2005 to 2013-14*. Regina, SK

**Figure 3-4: Actual and Projected Enrolments in Saskatchewan 2002-2011**



Educators are professionals who hold valid Saskatchewan teacher's certificates and are employed by a school division to work in a professional capacity. This includes classroom teachers, principals and vice-principals, teacher-librarians, guidance counselors, special education personnel, consultants, directors, superintendents, and other instructional staff. Numbers in the following table are full-time equivalent educators (FEE). An educator teaching half-time is considered to be 0.5 FEE.

**Figure 3-5: Number of Full-time Equivalent Educators (FEE) 1997-2006**

Year	FEE
1996-1997	11 123
1997-1998	11 103
1998-1999	11 319
1999-2000	11 249
2000-2001	11 185
2001-2002	11 451
2002-2003	11 371
2003-2004	11 350
2004-2005	11 233
2005-2006	11 535

Note: Numbers are for September 30<sup>th</sup> of each school year.  
Numbers include all provincially funded schools and historical high schools.

Source: Saskatchewan Learning. (2005). *Education Finance Unpublished Data*. Regina, SK.  
Saskatchewan Learning. (2006). *Teacher Services Data* Regina, SK.

### 3.1.2 Student/Educator Ratio

The second major element of educator demand is the student/educator ratio. The student/educator ratio is determined by dividing the full-time equivalent student enrolment by the number of full-time equivalent educators. Kindergarten students are considered to be half-time equivalent students.

**Figure 3-6: Student/Educator Ratio in Saskatchewan 1999-2006**

Year	Actual Student Enrolment	Full-time Equivalent Enrolment (Weighted Enrolment)	Full-time Equivalent Educators	Student/Educator Ratio
1998-1999	190 899	184 366	11 319	16.3
1999-2000	188 594	182 224	11 249	16.2
2000-2001	184 494	178 461	11 185	16.0
2001-2002	181 101	175 116	11 451	15.3
2002-2003	177 575	171 674	11 371	15.1
2003-2004	174 263	168 741	11 350	14.9
2004-2005	171 052	165 592	11 233	14.7
2005-2006	167 132	161 856	*11 535	14.0

Note: Numbers are for September 30<sup>th</sup> of each school year.  
\*Improved record keeping and auditing procedures have resulted in an increase in the number of central office staff that are completing the educator profile.

It is important to note that student/educator ratio differs from student/teacher ratio. Since educator includes non-classroom teachers such as principals and directors, student/educator ratio does not reflect class size. See figure 6-8 for information concerning class size. Student/educator ratio is used in this report to help predict educator demand based on projected student enrolment.

### 3.1.3 Educator Demand

The student/educator ratio (ser) fluctuates as shown in the preceding table. This study makes three projections concerning ser: one projection assumes that the student/educator ratio will increase slightly each year, the second projection assumes that the ser will remain constant at 14.0 and the third projection assumes that the ser will decline slightly each year.

The provincial model for projecting educator demand is:

$$\text{Demand} = \text{Projected Full-time Equivalent Enrolment} / \text{Projected Student/Educator Ratio}$$

**Figure 3-7: Projected Demand for Educators 2007-2011**

Year	Projected Enrolment	Projected Weighted Enrolment	Projected Student/Educator Ratio	Projected FE Educator Demand
assuming an increasing student/educator ratio from 14.1 to 14.5				<b>(increasing ser)</b>
<b>2006-2007</b>	164 399	159 025	14.1	11 278
<b>2007-2008</b>	160 350	155 213	14.2	10 930
<b>2008-2009</b>	156 076	150 990	14.3	10 559
<b>2009-2010</b>	152 611	147 556	14.4	10 247
<b>2010-2011</b>	149 370	144 333	14.5	9 954
assuming a constant student/educator ratio of 14.0				<b>(constant ser)</b>
<b>2006-2007</b>	164 399	159 025	14.0	11 359
<b>2007-2008</b>	160 350	155 213	14.0	11 087
<b>2008-2009</b>	156 076	150 990	14.0	10 785
<b>2009-2010</b>	152 611	147 556	14.0	10 540
<b>2010-2011</b>	149 370	144 333	14.0	10 310
assuming a decreasing student/educator ratio from 13.9 to 13.5				<b>(decreasing ser)</b>
<b>2006-2007</b>	164 399	159 025	13.9	11 441
<b>2007-2008</b>	160 350	155 213	13.8	11 247
<b>2008-2009</b>	156 076	150 990	13.7	11 021
<b>2009-2010</b>	152 611	147 556	13.6	10 850
<b>2010-2011</b>	149 370	144 333	13.5	10 691

Note: Enrolment is weighted by dividing the Kindergarten enrolment by two. Kindergarten students are considered to be half-time students.

## **Summary of Educator Demand**

Student enrolment is projected to decrease by 18 000 students between 2005-06 and 2010-11. A slight increase each year in the student/educator ratio would cause the number of educators required to decrease from 11 278 (2006-2007) to 9 954 (2010-2011) which corresponds to 1 324 fewer educators. If the student/educator ratio remains at 14.0, the number of educators required after 5 years would be 10 310 which is a decrease of 1 049 educators. A slight decrease each year in the student/educator ratio would cause the number of educators required to decrease to 10 691 which is a decrease of 750. Significant decreases in both student enrolment and the number of educators required are projected.

The current upturn in the provincial economy will increase in-migration and may slow the decline in student enrolment.

## **3.2 Supply of Educators in Saskatchewan**

Educator supply depends on five factors. Educator supply is increased by the number of educators carried over from the previous year, the number of educators who enter the teaching force directly from Saskatchewan universities, and the number of educators from other sources. Educator supply is decreased by the number of educators who retire, and by the number of educators who leave for other reasons.

### **3.2.1 Number of Education Graduates from University**

The 2001 study projected that the number of education graduates from Saskatchewan universities would remain at 670 per year throughout the projection period (2001-2006). This has been the case as enrolments of education students at Saskatchewan universities have remained relatively stable through to 2005.

Not all graduates of Saskatchewan universities enter the teaching force in Saskatchewan. Education graduates may:

1. already be teaching in the system and cannot be considered part of a new supply.
2. choose not to enter the teaching profession.
3. choose to teach outside the province.
4. choose to return to university for additional training.

Figure 3-8 demonstrates the number of education graduates who received employment in the provincially funded K-12 school system. The following are not included: graduates who received employment in First Nation-controlled schools or in independent schools, and graduates who teach on a substitute basis. Graduates who do not gain immediate employment will enter the teaching force as educators from other sources (figure 3-10). For the purposes of this study, it is assumed that 20% of education graduates will not be available for employment as new educators.



**Figure 3-8: Number of Education Graduates from Saskatchewan Universities 1994-2005**

Year of Convocation	<sup>1</sup> U of R Grads Employed in Sask. K-12 System Within 2 years	<sup>1</sup> U of S Grads Employed in Sask. K-12 System Within 2 years	<sup>2</sup> Total Grads	Total Grads Employed in Sask. K-12 System	**Grads Already Teaching, On Leave, Continuing Studies, etc. (20%)	Number of Grads Available for Employment	Percent of Available Grads Employed in Sask. K-12 System
1994	145	300	1 085	445	282	803	55.42%
1995	142	235	1 018	377	265	753	50.07%
1996	136	273	999	409	260	739	55.35%
1997	170	185	712	355	185	527	67.36%
1998	130	184	683	314	178	505	62.18%
1999	124	212	692	336	180	512	65.63%
*2000	154	241	716	395	143	573	68.94%
2001	124	211	696	335	139	557	60.14%
2002	189	226	700	415	140	560	74.12%
2003	160	180	675	340	135	540	62.96%
2004	153	174	715	327	143	572	57.17%
2005	152	137	670	289	134	536	53.92%
<b>Average</b>							<b>61.11%</b>

\* 26% between 1994-1999 and 20% between 2000-2005.

Note: A graduate follow-up survey is undertaken by the universities. The 2004 survey results did not include the percentage of graduates already teaching, on leave, continuing studies, etc. The average of the 1994-1999 data and the percentage of graduates not employed in 2004 were used.

Graduates of the universities include the students in the following programs: ITEP (Indian Teacher Education Program); NORTEP (Northern Teacher Education Program); SUNTEP (Saskatchewan Urban Native Teacher Education Program); YNTEP (Yukon Teacher Education Program); SIFC (Saskatchewan Indian Federated College); and the First Nations University of Canada (formerly SIFC). Students in the Baccalaureate program and Bachelor of Music in Music Education are also included.

\*\*Only those graduates who received permanent or temporary employment as new educators in the provincially funded K-12 system and historical high schools are included. Graduates employed by First Nation-controlled schools or by independent schools in Saskatchewan are not included. Substitute teachers are not included.

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

<sup>2</sup>University of Regina. (2006). Regina, SK. University of Saskatchewan. (2006). Saskatoon, SK.

Between 1994 and 2005, on average, 61% of the graduates of Saskatchewan universities who were available for employment were employed as educators in the provincially funded Saskatchewan education system. The remainder of the graduates teach in First Nation-controlled schools or independent schools, teach outside the province, are substitute teaching, or work outside the field of education. It is difficult to project how many graduates will receive teaching positions in the province. One can assume that more educators will enter the teaching force in Saskatchewan if more teaching positions become available. At the same time, an educator shortage in specialized subject areas in other provinces may draw more graduates

from Saskatchewan. As the number of education graduates receiving employment in provincially funded schools has remained fairly constant for this period of time, it is projected that 20% of graduates will continue to be unavailable for employment in the school system, and 61% of the graduates available for employment will receive employment within two years in the provincial school system.

**Figure 3-9: Projected Number of Education Graduates from Saskatchewan Universities 2007-2011**

<b>Year</b>	<b><sup>1</sup>Projected Number of U of R Graduates</b>	<b><sup>2</sup>Projected Number of U of S Graduates</b>	<b>Total Graduates</b>	<b>Graduates available for employment</b>	<b>Graduates Entering the K-12 School System (61%)</b>
<b>2007</b>	300	370	670	536	327
<b>2008</b>	300	370	670	536	327
<b>2009</b>	300	370	670	536	327
<b>2010</b>	300	370	670	536	327
<b>2011</b>	300	370	670	536	327

Source: <sup>1</sup>University of Regina. (2006). Regina, SK.

<sup>2</sup>University of Saskatchewan. (2006). Saskatoon, SK.

### **3.2.2 Number of Educators from Other Sources**

The number of educators from other sources is determined by counting educators obtaining employment who were not employed in Saskatchewan in the previous year. Those education graduates who gain employment within two years of convocation are not included.

Many educators employed in Saskatchewan receive their training outside the province. The TSS holds information on the degrees of each educator. The location of the universities where educators completed their degrees is used to identify the origin of incoming educators. Recognizing that some Saskatchewan residents may attend university outside the province, the location of teacher training is the indicator used to determine the source for Saskatchewan educators. The following table indicates the location of the university for all newly employed educators over the fourteen-year period between 1992-1993 and 2005-2006.

**Figure 3-10: Educators From Other Sources 1993-2006**

<b>Year</b>	<b>*SK</b>	<b>BC</b>	<b>AB</b>	<b>MB</b>	<b>ON</b>	<b>QB</b>	<b>NS</b>	<b>MAR</b>	<b>Other</b>	<b>Total</b>
<b>1993</b>	293	5	26	29	17	17	4	6	23	420
<b>1994</b>	221	3	24	21	13	7	5	6	12	312
<b>1995</b>	241	2	29	22	12	5	4	1	22	338
<b>1996</b>	402	8	28	40	14	7	4	2	24	529
<b>1997</b>	379	10	29	28	25	10	5	7	28	521
<b>1998</b>	656	11	51	44	18	9	3	10	41	843
<b>1999</b>	688	4	56	65	25	19	13	13	43	926
<b>2000</b>	544	12	53	47	19	11	5	15	38	744
<b>2001</b>	650	13	76	38	21	16	9	24	31	878
<b>2002</b>	782	10	48	41	23	13	10	18	29	974
<b>2003</b>	798	19	40	39	21	16	9	14	35	991
<b>2004</b>	804	20	48	35	16	11	4	12	31	981
<b>2005</b>	778	7	60	41	20	8	1	13	30	958
<b>2006</b>	994	11	64	34	10	5	5	15	42	1,180
<b>Average</b>										<b>754</b>

Note: MAR includes educators from Newfoundland, New Brunswick, and Prince Edward Island.

OTHER includes educators from other countries including U.S.A.

These are distinct educators and not full-time equivalent educators.

\*These educators received their teacher training in Saskatchewan but they did not have a teaching contract in the previous year. They may have been substitute teaching, teaching outside the K-12 system, working outside the field of education or retired educators returning to teaching.

Due to improved data collection, some educators who did not previously submit an educator profile have been added in 2006.

Source: Saskatchewan Learning. (2006) *Teacher Services Data*. Regina, SK

Over the past fourteen years, an average of 754 educators were hired each year from other sources. This number has increased to an average of 1 017 educators in the past five years. For the purpose of this study, it is assumed that there will continue to be a supply of educators available from outside the province and from within the province, and that 1 017 educators will be available each year to accept positions in Saskatchewan.

If the supply in other provinces is reduced, Saskatchewan may not be able to attract as many educators as required. Educators from within the province include substitute teachers, educators from First Nation-controlled schools and independent schools, those educators who were not employed by school boards in the previous year and retired educators returning to teaching.

### 3.2.3 Number of Incoming Educators

The number of incoming educators is determined by adding the number of graduates entering the K-12 funded school system and the number of educators from other sources.

**Figure 3-11: Incoming Educators 2007-2011**

Year	Graduates from University Expected to Enter the K-12 Funded School System	Number From Other Sources	Incoming Educators
2006-2007	327	1 017	1 344
2007-2008	327	1 017	1 344
2008-2009	327	1 017	1 344
2009-2010	327	1 017	1 344
2010-2011	327	1 017	1 344

Note: These numbers are based on two assumptions: 61% of education graduates from Saskatchewan universities available for employment will receive employment in the Saskatchewan K-12 system, and a constant supply of 1 017 educators from sources other than recent graduates of Saskatchewan universities.

### 3.2.4 Number of Educators Eligible to Retire

Saskatchewan educators are members of one of the two provincial teacher pension programs. Data on the number of educators retiring from each plan have been gathered from the two pension plans.

See Appendix 6 for retirement criteria.

The Saskatchewan Teachers' Superannuation Commission and the Saskatchewan Teachers Retirement Plan have identified the number of educators who will be eligible to retire in each of the next five years. See figure 3-12.

### 3.2.5 Number of Educators Retiring

Not all educators retire when they become eligible.

The Educator Service Award can be used to identify educators who intend to retire. Between 2002 and 2006 an average of 6.8% of those educators actually returned to teach. Between 1997 and 2006 that average was 6.4%. See figure 3-13.

Saskatchewan educators belong to one of two pension plans. The Saskatchewan Teachers' Superannuation Commission administers the Saskatchewan Teachers Superannuation Plan. This plan applies to all educators who began teaching in Saskatchewan prior to July 1, 1980 and who did not transfer to the Saskatchewan Teachers Retirement Plan. The Saskatchewan Teachers Retirement Plan is administered by the Saskatchewan Teachers' Federation. This plan applies to all educators who started teaching in Saskatchewan after July 1, 1980. It is

expected that all members of the Saskatchewan Teachers Superannuation Plan will retire by 2011-2012.

A salary increase will improve the highest average salary in the pension calculation. Some educators may delay retirement and wait for a salary increase. Legislation repealing the 60 day rule came into force on July 1, 2001. Retired teachers are now allowed to teach full-time without reduction in pension.

There are a number of other factors that might influence an educator's decision to choose to retire. The Saskatchewan Teachers' Superannuation Commission estimates that 94.7% of educators will not retire at their first unreduced eligibility date. As there is a backlog of educators who do not retire at the earliest retirement date, the number of educators becoming eligible to retire in the Saskatchewan Teachers Superannuation Plan is very close to the numbers who actually retire. For the purpose of this study, it is assumed that the number of educators retiring will equal the number of educators becoming eligible to retire.

In the Saskatchewan Teachers Retirement Plan, there are over 660 educators eligible to retire. This number includes educators eligible for a reduced pension. However, the number of educators that are expected to retire is low. Most educators postpone retirement until they receive an unreduced pension. The number of educators expected to retire in this plan, over the next five years, was projected by plan administrators.

The following table demonstrates the number of educators who are expected to retire in each of the next five years. In terms of full-time equivalents, the number of retirements would be less because some educators are employed on a part-time basis. An average of 536 educators are expected to retire annually.

**Figure 3-12: Number of Educators Expected to Retire (period ending June 30) 2007-2011**

<b>Year</b>	<b>Educators Expected to Retire – TSP</b>	<b>Educators Expected to Retire – STRP</b>	<b>Total Projected Retirements</b>
<b>2007</b>	473	57	530
<b>2008</b>	495	42	537
<b>2009</b>	497	73	570
<b>2010</b>	458	76	534
<b>2011</b>	338	173	511
<b>Average</b>			<b>536</b>

Note: Retirements are distinct educators and not full-time equivalents.

Source: Saskatchewan Teachers Retirement Plan. (2006). Saskatoon, SK.  
Saskatchewan Teachers' Superannuation Commission. (2006). Regina, SK.

**Figure 3-13: Retired Educators Returning to Teaching 1997-2006**

<b>Year</b>	<b>Received Award</b>	<b>Returned to work</b>	<b>Percentage Returning</b>
<b>1996-1997</b>	328	23	7.0%
<b>1997-1998</b>	337	17	5.0%
<b>1998-1999</b>	303	14	4.6%
<b>1999-2000</b>	378	17	4.5%
<b>2000-2001</b>	358	32	8.6%
<b>2001-2002</b>	359	31	8.3%
<b>2002-2003</b>	309	31	9.6%
<b>2003-2004</b>	369	21	5.6%
<b>2004-2005</b>	340	22	6.2%
<b>2005-2006</b>	282	13	4.4%
<b>Average</b>			<b>6.4%</b>

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

### 3.2.6 Number of Educators Leaving for Other Reasons

The number of educators leaving for reasons other than retirement is calculated by subtracting the number of retirements and the number of educators carried forward (educators who do not leave) from the total number of educators in the previous year. Each year a number of educators leave the school system for reasons other than retirement. Raising families, furthering education, changing occupations, and moving out of the province are the main reasons for leaving. The TSS requests that educators complete a Teacher Separation Form when they leave their position. The form requests educators to give the reason for termination. More often than not, however, the form is completed on behalf of the educator by the school division administration. Hence the information is incomplete. In order to project the number of educators that may leave their positions, many factors must be considered. The overall provincial economy is probably the single most important factor. The following table indicates the percentage of educators that have not returned in the following year to teach in Saskatchewan. It does not show educators that move from one school division to another. This methodology is used to establish a historical leaving rate that can be extrapolated into the future.

**Figure 3-14: Number of Educators Leaving for Other Reasons 2001-2006**

<b>Year</b>	<b><sup>1</sup>Educators in Previous Year</b>	<b><sup>1</sup>Educators Carried Forward</b>	<b><sup>2</sup>Retire-ments TSC</b>	<b><sup>3</sup>Retire-ments STRP</b>	<b>Left for Other Reasons</b>	<b>% Leaving for Other Reasons</b>
<b>2000-2001</b>	12 184	10 942	473	17	752	6.17%
<b>2001-2002</b>	12 101	10 876	464	30	731	6.04%
<b>2002-2003</b>	12 132	10 748	456	27	901	7.43%
<b>2003-2004</b>	12 058	10 777	441	28	812	6.73%
<b>2004-2005</b>	12 038	10 685	440	30	883	7.34%
<b>2005-2006</b>	11 909	10 659	426	29	795	6.68%
<b>Average</b>						<b>6.73%</b>

Note: Educator counts are based on educator profiles submitted in October of each year. These are distinct educators, not FEE.

Source: <sup>1</sup>Saskatchewan Learning. (2006) *Teacher Services Data*. Regina, SK.

<sup>2</sup>Saskatchewan Teachers' Superannuation Commission. (2006). Regina, SK.

<sup>3</sup>Saskatchewan Teachers Retirement Plan. (2006). Saskatoon, SK.

The 2001 study reported an average of 4.78% of educators leaving the teaching profession for reasons other than retirement in the period from 1996-2000.

From 2001 to 2006 that number rose to 6.73%. This figure could be impacted by individuals teaching after retirement and leaving a second time. They would not be counted as retirees in that year.

### 3.2.7 Educators Carried Forward

The number of educators carried forward is calculated by subtracting the number of educators retiring and leaving for other reasons from the number of educators employed.

**Figure 3-15: Saskatchewan Educators Carried Forward 2007-2011**

<b>Year</b>	<b>Projected FEE</b>	<b>Expected to Retire</b>	<b>Leave for other Reasons 6.73%</b>	<b>Total FEE Carried Forward to Next Year</b>
assuming an increasing student/educator ratio from 14.1 to 14.5				
<b>*2005-2006</b>	11 535	455	795	10 285
<b>2006-2007</b>	11 278	530	759	9 989
<b>2007-2008</b>	10 930	537	736	9 657
<b>2008-2009</b>	10 559	570	711	9 278
<b>2009-2010</b>	10 247	534	690	9 023
<b>2010-2011</b>	9 954	511	670	8 773
assuming a constant student/educator ratio of 14.0				
<b>*2005-2006</b>	11 535	455	795	10 285
<b>2006-2007</b>	11 359	530	764	10 065
<b>2007-2008</b>	11 087	537	746	9 804
<b>2008-2009</b>	10 785	570	726	9 489
<b>2009-2010</b>	10 540	534	709	9 297
<b>2010-2011</b>	10 310	511	694	9 105
assuming a decreasing student/educator ratio of 13.9 to 13.5				
<b>*2005-2006</b>	11 535	455	795	10 285
<b>2006-2007</b>	11 441	530	770	10 141
<b>2007-2008</b>	11 247	537	757	9 953
<b>2008-2009</b>	11 021	570	742	9 709
<b>2009-2010</b>	10 850	534	730	9 586
<b>2010-2011</b>	10 691	511	720	9 460

\* denotes actual number, not projected number



### 3.2.8 Mobility of Educators within Saskatchewan

Educators who move from one school division to another are included in the educators carried forward total. A study of how educators move from one type of school to another indicates where educator shortages may occur.

**Figure 3-16: Mobility of Educators Within Saskatchewan 2002-2006**

<b>Year</b>	<b>Urban to Rural</b>	<b>Rural to Urban</b>	<b>Urban to Northern</b>	<b>Northern to Urban</b>	<b>Rural to Northern</b>	<b>Northern to Rural</b>
<b>2001-2002</b>	47	110	0	8	2	14
<b>2002-2003</b>	43	100	6	8	3	8
<b>2003-2004</b>	42	66	2	3	2	4
<b>2004-2005</b>	44	83	0	1	2	1
<b>2005-2006</b>	44	68	0	3	1	3

Note: Numbers are distinct educators, not FEE. Urban schools are all schools within any of the thirteen major centres in Saskatchewan. Comprehensive schools are also considered to be urban schools. Northern schools are all of the schools in the northern school divisions: Creighton #111, Ile a la Crosse #112, and Northern Lights #113. All other schools are considered to be rural schools. School types are defined on page v.

Source: Saskatchewan Learning. (2006) *Teacher Services Data*. Regina, SK.

Educators are migrating from northern Saskatchewan to rural and urban Saskatchewan at a decreasing rate. The enrolment in northern Saskatchewan is expected to decrease slightly in the next five years, but there is expected to be a high demand for educator replacement in the north. Migration from rural Saskatchewan to urban Saskatchewan is greater than migration in the opposite direction. Rural school divisions may experience some difficulty replacing educators who retire, migrate within the province, or leave for other reasons.

### 3.2.9 Supply of Educators

The supply of educators equals the number of incoming educators plus the number of educators carried forward.

**Figure 3-17: Supply of Educators 2007-2011**

Year	Incoming Educators	FE Educators Carried Forward	FE Educator Supply
assuming an increasing student/educator ratio from 14.1 to 14.5			
2006-2007	1 344	10 285	11 629
2007-2008	1 344	9 989	11 333
2008-2009	1 344	9 657	11 001
2009-2010	1 344	9 278	10 622
2010-2011	1 344	9 023	10 367
assuming a constant student/educator ratio of 14.0			
2006-2007	1 344	10 285	11 629
2007-2008	1 344	10 065	11 409
2008-2009	1 344	9 804	11 148
2009-2010	1 344	9 489	10 833
2010-2011	1 344	9 297	10 641
assuming a decreasing student/educator ratio of 13.9 to 13.5			
2006-2007	1 344	10 285	11 629
2007-2008	1 344	10 141	11 485
2008-2009	1 344	9 953	11 297
2009-2010	1 344	9 709	11 053
2010-2011	1 344	9 586	10 930

### Summary of Educator Supply

The number of retirements is remaining stable and the number of education graduates from university is constant. The number of incoming educators from other provinces and from outside Canada has increased slightly (figure 3-10). The number of educators from the Saskatchewan pool (includes retirees returning to work, substitute teachers, those working outside the provincially funded system, or working outside the field of education) has increased in the last five years and is substantially higher than the 14-year average. It is difficult to state with certainty if these sources will continue to supply educators at their current rates. Increased educator demand outside of Saskatchewan may reduce this supply. Anecdotal reports indicate the number of substitute teachers available is decreasing (as they become part of the supply for full-time teaching positions).

### 3.3 Educator Requirements in Saskatchewan 2007-2011

The basic model for projecting Educator Requirements is:

$$\text{Educator Requirements} = \text{Educator Supply} - \text{Educator Demand}$$

If demand is greater than supply, the resulting negative number would indicate a shortage of educators. Conversely if supply is greater than demand, the resulting positive number would indicate an over supply of educators. All three scenarios in figure 3-18 demonstrate a surplus of educators over the next five years.

**Figure 3-18: Projected Educator Requirements in Saskatchewan 2007-2011**

Year	FE Educator Supply	FE Educator Demand	Surplus (+) Shortage (-)
assuming an increasing student/educator ratio from 14.1 to 14.5			
2006-2007	11 629	11 278	+ 351
2007-2008	11 333	10 930	+ 403
2008-2009	11 001	10 559	+ 442
2009-2010	10 622	10 247	+ 375
2010-2011	10 367	9 954	+ 413
assuming a constant student/educator ratio of 14.0			
2006-2007	11 629	11 359	+ 270
2007-2008	11 409	11 087	+ 322
2008-2009	11 148	10 785	+ 363
2009-2010	10 833	10 540	+ 293
2010-2011	10 641	10 310	+ 331
assuming a declining student/educator ratio from 13.9 to 13.5			
2006-2007	11 629	11 441	+ 188
2007-2008	11 485	11 247	+ 238
2008-2009	11 297	11 021	+ 276
2009-2010	11 053	10 850	+ 203
2010-2011	10 930	10 691	+ 239

Note: These numbers are based on the following assumptions:

1. the Blended Flatline – Adjusted 5-Year Average CRR Flatline Method correctly projects student enrolment.
2. 61% of education graduates from Saskatchewan universities available for employment will obtain employment in the funded K-12 system.
3. there will be a constant supply of 1 017 educators from other sources.
4. an average of 536 educators will retire each year.
5. 6.73% of educators will leave for reasons other than retirement.

## Summary and Analysis

Student enrolment is projected to decline, especially in rural Saskatchewan, over the next 5 years. Provincially, student enrolment will decrease from 164 399 in 2006-2007 to 146 480 in 2010-2011 for an average decrease of 3 600 students each year.

Assuming an increasing student/educator ratio, the decrease of almost 18 000 students from 2006-2007 to 2010-2011 will result in a reduction in educator demand of 1 324 educators over the next 5 years (2007-2011). If the student/educator ratio remains at 14.0, the reduction in educator demand would be 1 049 educators. If the student/educator ratio decreases, the reduction in demand would be 750 educators.

The number of education graduates from Saskatchewan universities has decreased from a high of over 1 000 in the early 1990s to 670 in the year 2005. The number of graduates is expected to remain constant at approximately 670 each year of the study (2007-2011). Historically, 61% of those graduates available for employment (327) gain immediate employment in the provincially funded K-12 school system. At the same time, the projected number of educators retiring will remain constant at 536 after the 2006-2007 school year.

The number of educators from other sources in the past five years has risen significantly over the thirteen-year average. It is expected that 1 017 educators from sources other than recent graduates from Saskatchewan universities will be available for employment for each year of the study.

All three scenarios in figure 3-18 demonstrate a surplus of educators over the next five years. However, migration of educators within Saskatchewan to urban centres suggests continuing pressures for rural and northern divisions to fill positions.

#### **4. TEACHER SUPPLY AND DEMAND IN SELECTED SUBJECT AREAS**

Classifying educators by subject area presents challenges. Two options considered are classification of educators according to their major or minor area of study and classification by the subjects they are teaching.

Regarding classification according to the major or minor area of study, some educators teach entirely within their major or minor area of study, many educators teach other subjects as well, and some educators teach entirely outside their major or minor area of study. Some educators, such as administrators and special education teachers, do not teach any subjects at the secondary level. Also, educators may upgrade after they apply for their teaching certification, and may acquire a major or minor that would not be recorded on the TSS.

The second method of classification considered is classification according to subjects being taught by the educator. This method also presents a challenge for classifying educators by subject area as many educators teach more than one subject. For example, an educator may teach Chemistry 30, Mathematics 20, Mathematics A30, Biology 20, and Social Studies 30. If educators were classified according to the subjects they teach, then this educator would be placed in the Mathematics group, the Natural Sciences group, and the Social Science group. Prior to 2005-2006 this information was collected from educators through completion of the educator profile and recorded on the TSS. From 2005-2006 onward the information is derived from the actual registration of students in courses on the SDS.

Of the two methods considered, the classification of educators by subject taught is deemed to be a more reliable method of determining future need for educators in specific subject areas.

It has been demonstrated in figure 3-6 that the student/educator ratio has declined in each of the last seven years resulting in a ratio of 14.0 in 2005-2006. This is the ratio that is used in the remainder of the study to project educator demand in each subject area. To obtain the projected total number of educators, the Projected FEE (figure 3-7) is increased by 5.78% which is the average of the proportion of FEE's to distinct educators between 2001-2002 and 2005-2006.

The percentage of secondary students compared to the total provincial student enrolment is expected to decrease from 27.54% in 2005-06 to 26.55% in 2011-2012 (a drop of 0.99% over 5 years or 0.17% per year). For the purpose of this study, it is therefore assumed that the relative demand for secondary teachers will also decrease by 0.17%.

## 4.1 Secondary Arts Education

### 4.1.1 Demand for Secondary Arts Education Teachers

The demand by students for secondary Arts Education courses has increased over the past few years. Secondary Arts includes Band, Choral, Music, Art, Drama, Visual Art, and Dance. The data on student registrations as reported in the SDS in the area of Arts Education is presented below.

**Figure 4-1: Secondary Arts Education Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	5.4%	5.5%	5.5%	5.6%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct Arts Education teachers as reported in the TSS and SDS is shown in the following table.

**Figure 4-2: Secondary Arts Education Teachers as a Percentage of Total Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No. of Secondary Arts Education Teachers</b>	449	460	427	450	448	462
<b>Arts Education Teachers as a % of Secondary Teachers</b>	11.64%	11.81%	10.90%	11.58%	11.56%	11.77%
<b>Arts Education Teachers as a % of Total Educators</b>	3.71%	3.78%	3.52%	3.74%	3.76%	3.82%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Secondary Arts Education teachers comprised an average of 3.72% of total educators over the past six years and 3.82% in 2005-2006.

**Figure 4-3: Demand for Secondary Arts Education Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Number of Secondary Arts Education Teachers
2005-2006	12 094	3.82 %	462
2006-2007	12 016	3.81 %	458
2007-2008	11 728	3.81 %	447
2008-2009	11 408	3.80 %	434
2009-2010	11 149	3.79 %	423
2010-2011	10 906	3.79 %	413

#### 4.1.2 Supply of Secondary Arts Education Teachers

**Figure 4-4: Percentage of Secondary Arts Education Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Total Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	449	409	18	22	4.90 %
2001-2002	460	412	19	29	6.30 %
2002-2003	427	380	17	30	7.03 %
2003-2004	450	403	18	29	6.44 %
2004-2005	448	402	18	28	6.25 %
<b>Average</b>					<b>6.18 %</b>

Note: These are distinct teachers, not full-time equivalent teachers.

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Arts Education Teachers in figure 4-2. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers - (Total Teachers Carried Forward + Retirements)

The average percentage of secondary Arts Education teachers leaving for other reasons over the past five years was 6.18%. For the purpose of this study, this average is used to calculate the number of secondary Arts Education teachers expected to leave in the future for reasons other than retirement.

**Figure 4-5: Secondary Arts Education Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Secondary Arts Teachers</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN*6.18%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	462	17	29	416
<b>2006-2007</b>	458	20	28	410
<b>2007-2008</b>	447	20	28	399
<b>2008-2009</b>	434	22	27	385
<b>2009-2010</b>	423	20	26	377
<b>2010-2011</b>	413	19	26	368

Note: Number Eligible to Retire was calculated based on the percentage of Arts Education Teachers in figure 4-3. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

#### **4.1.3 Secondary Arts Education Teacher Requirements**

**Figure 4-6: Secondary Arts Education Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	458	416	42
<b>2007-2008</b>	447	410	37
<b>2008-2009</b>	434	399	35
<b>2009-2010</b>	423	385	38
<b>2010-2011</b>	413	377	36

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 38 secondary Arts Education teachers in each of the next five years. Each year, education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 41 graduates applying for a teaching certificate indicating an Arts major, and 31 graduates indicating an Arts minor. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Even though the number of education graduates is not expected to increase in the near future, it is expected that university graduates combined with Arts Education teachers from other sources will meet the demand for secondary Arts Education teachers.



## 4.2 Secondary Language Arts

### 4.2.1 Demand for Secondary Language Arts Teachers

The demand by students for secondary Language Arts Education courses has decreased slightly over the past few years. Secondary Language Arts includes English, English Language Arts, Communication Studies, Creative Writing, français, Journalism Studies and Media Studies. The data on student registrations as reported in the SDS in the area of Language Arts Education is presented below.

**Figure 4-7: Secondary Language Arts Education Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	20.2%	20.1%	19.9%	19.8%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct secondary Language Arts teachers as reported in the TSS and SDS is shown in the following table.

**Figure 4-8: Secondary Language Arts Teachers as a Percentage of Total Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No of Secondary Language Arts Teachers</b>	1 007	987	984	991	989	1 036
<b>Language Arts Teachers as a % of Secondary Teachers</b>	26.1%	25.33%	25.11%	25.51%	25.53%	26.40%
<b>Language Arts Teachers as a % of Total Educators</b>	8.32%	8.12%	8.13%	8.23%	8.30%	8.57%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Secondary Language Arts teachers comprised an average of 8.28% of total educators over the past six years and 8.57% in 2005-2006.

**Figure 4-9: Demand for Secondary Language Arts Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Number of Secondary Language Arts Teachers
2005-2006	12 094	8.57%	1 036
2006-2007	12 016	8.56%	1 029
2007-2008	11 728	8.54%	1 002
2008-2009	11 408	8.53%	973
2009-2010	11 149	8.51%	949
2010-2011	10 906	8.50%	927

#### 4.2.2 Supply of Secondary Language Arts Teachers

**Figure 4-10: Percentage of Secondary Language Arts Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Total Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	1 007	918	41	48	4.77%
2001-2002	987	885	40	62	6.28%
2002-2003	984	877	39	68	6.91%
2003-2004	991	887	39	65	6.56%
2004-2005	989	887	39	63	6.37%
<b>Average</b>					<b>6.18%</b>

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Language Arts Teachers in figure 4-8. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers - (Total Teachers Carried Forward + Retirements)

The average percentage of secondary Language Arts teachers leaving for other reasons over the past five years was 6.18%. For the purpose of this study, this average is used to calculate the number of secondary Language Arts teachers expected to leave in the future for reasons other than retirement.

**Figure 4-11: Secondary Language Arts Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Secondary Language Arts Teachers</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN * 6.18%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	1 036	39	64	933
<b>2006-2007</b>	1 029	45	64	920
<b>2007-2008</b>	1 002	46	62	894
<b>2008-2009</b>	973	49	60	864
<b>2009-2010</b>	949	45	59	845
<b>2010-2011</b>	927	39	57	831

Note: Number Eligible to Retire was calculated based on the percentage of Language Arts Teachers in figure 4-9. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

### 4.2.3 Secondary Language Arts Teacher Requirements

**Figure 4-12: Secondary Language Arts Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	1 029	933	96
<b>2007-2008</b>	1 002	920	82
<b>2008-2009</b>	973	894	79
<b>2009-2010</b>	949	864	85
<b>2010-2011</b>	927	845	82

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 85 secondary Language Arts teachers in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 53 graduates applying for a teaching certificate indicating a Language Arts major, and 43 graduates indicating a Language Arts minor. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Even though the number of education graduates is not expected to increase in the near future, it is expected that university graduates combined with Language Arts teachers from other sources will meet the demand for secondary Language Arts teachers.

## 4.3 Secondary Mathematics

### 4.3.1 Demand for Secondary Mathematics Teachers

The demand by students for secondary Mathematics courses has increased slightly over the past few years. The data on student registrations as reported in the SDS in the area of Mathematics is presented below.

**Figure 4-13: Secondary Mathematics Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	15.0%	15.4%	15.5%	15.7%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct secondary Mathematics teachers as reported in the TSS and SDS is shown in the following table.

**Figure 4-14: Secondary Mathematics Teachers as a Percentage of Total Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No of Secondary Mathematics Teachers</b>	870	881	915	896	892	937
<b>Mathematics Teachers as a % of Secondary Teachers</b>	22.55%	22.61%	23.35%	23.37%	23.03%	23.88%
<b>Mathematics Teachers as a % of Total Educators</b>	7.19%	7.25%	7.56%	7.44%	7.48%	7.74%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Mathematics teachers comprised an average of 7.44% of total educators in the past six years and 7.74% in 2005-2006.

**Figure 4-15: Demand for Secondary Mathematics Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Number of Secondary Mathematics Teachers
2005-2006	12 094	7.74 %	936
2006-2007	12 016	7.73 %	929
2007-2008	11 728	7.71 %	904
2008-2009	11 408	7.70 %	878
2009-2010	11 149	7.69 %	857
2010-2011	10 906	7.67 %	836

### 4.3.2 Supply of Secondary Mathematics Teachers

**Figure 4-16: Percentage of Secondary Mathematics Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	870	793	36	41	4.71 %
2001-2002	881	790	36	55	6.24 %
2002-2003	915	816	37	62	6.78 %
2003-2004	896	802	35	59	6.58 %
2004-2005	892	800	35	57	6.39 %
<b>Average</b>					<b>6.14 %</b>

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Mathematics Teachers in figure 4-14. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers - (Total Teachers Carried Forward + Retirements)

The percentage of secondary Mathematics teachers leaving for other reasons over the past five years was 6.14%. For the purpose of this study, this average is used to calculate the number of secondary Mathematics teachers expected to leave in the future for reasons other than retirement.

**Figure 4-17: Secondary Mathematics Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Secondary Mathematics Teachers</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN * 6.14%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	936	38	57	841
<b>2006-2007</b>	929	41	57	831
<b>2007-2008</b>	904	41	56	807
<b>2008-2009</b>	878	44	54	780
<b>2009-2010</b>	857	41	53	763
<b>2010-2011</b>	836	39	51	746

Note: Number Eligible to Retire was calculated based on the percentage of Mathematics Teachers in figure 4-15. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

### 4.3.3 Secondary Mathematics Teacher Requirements

**Figure 4-18: Secondary Mathematics Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	929	841	88
<b>2007-2008</b>	904	831	73
<b>2008-2009</b>	878	807	71
<b>2009-2010</b>	857	780	77
<b>2010-2011</b>	836	763	73

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 76 secondary Mathematics teachers in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 26 graduates applying for a teaching certificate indicating a Mathematics major and 21 graduates indicating a Mathematics minor. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Since the number of education graduates is not expected to increase in the near future, it is expected that university graduates will not meet the demand for secondary Mathematics teachers. Mathematics teachers from other sources will be required to meet the demand.

## 4.4 Secondary Health and Physical Education

### 4.4.1 Demand for Secondary Health and Physical Education Teachers

The demand by students for secondary Health and Physical Education courses has increased over the past few years. The data on student registrations as reported in the SDS in the area of secondary Health and Physical Education is presented below.

**Figure 4-19: Secondary Health and Physical Education Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	6.1%	6.3%	6.5%	6.6%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct secondary Health and Physical Education teachers as reported in the TSS and SDS is shown in the following table.

**Figure 4-20: Secondary Health and Physical Education Teachers as a Percentage of Total Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No. of Secondary Health and P.Ed. Teachers</b>	487	556	582	570	605	700
<b>Health and P.Ed. Teachers as a % of Secondary Teachers</b>	12.62%	14.27%	14.85%	14.67%	15.62%	17.84%
<b>Health and P.Ed. Teachers as a % of Total Educators</b>	4.02%	4.57%	4.81%	4.73%	5.08%	5.79%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Secondary Health and Physical Education teachers comprised an average of 4.83% of total educators over the past six years and 5.70% in 2005-2006.

**Figure 4-21: Demand for Secondary Health and Physical Education Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Number of Secondary Health and Phys Ed. Teachers
2005-2006	12 094	5.79%	700
2006-2007	12 016	5.78%	695
2007-2008	11 728	5.77%	677
2008-2009	11 408	5.76%	657
2009-2010	11 149	5.75%	641
2010-2011	10 906	5.74%	626

#### 4.4.2 Supply of Secondary Health and Physical Education Teachers

**Figure 4-22: Percentage of Secondary Health and Physical Education Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Total Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	487	444	20	23	4.72%
2001-2002	556	498	23	35	6.29%
2002-2003	582	519	23	40	6.87%
2003-2004	570	511	22	37	6.49%
2004-2005	605	543	24	38	6.28%
<b>Average</b>					<b>6.13%</b>

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Health and Physical Education Teachers in figure 4-20. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers – (Total Teachers Carried Forward + Retirements)

The average percentage of secondary Health and Physical Education teachers leaving for other reasons over the past five years was 6.13%. For the purpose of this study, this average is used to calculate the number of secondary Health and Physical Education teachers expected to leave in the future for reasons other than retirement.



**Figure 4-23: Secondary Health and Physical Education Teachers Carried Forward  
2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Secondary Health and Phys. Ed. Teachers</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN* 6.13%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	700	26	43	631
<b>2006-2007</b>	695	31	43	621
<b>2007-2008</b>	677	31	42	604
<b>2008-2009</b>	657	33	40	584
<b>2009-2010</b>	641	31	39	571
<b>2010-2011</b>	626	29	38	559

Note: Number Eligible to Retire was calculated based on the percentage of Health and Physical Education Teachers in figure 4-21. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

#### **4.4.3 Secondary Health and Physical Education Teacher Requirements**

**Figure 4-24: Secondary Health and Physical Education Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	695	631	64
<b>2007-2008</b>	677	621	56
<b>2008-2009</b>	657	604	53
<b>2009-2010</b>	641	584	57
<b>2010-2011</b>	626	571	55

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 57 secondary Health and Physical Education teachers in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 44 graduates applying for a teaching certificate indicating a Health and Physical Education major and, 16 graduates indicating a Health and Physical Education minor. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Even though the number of education graduates is not expected to increase in the near future, it is anticipated that university graduates combined with Health and Physical Education teachers from other sources will meet the demand for secondary Health and Physical Education teachers.

## 4.5 Secondary Science

### 4.5.1 Demand for Secondary Science Teachers

The demand by students for secondary Science courses has declined over the past few years. Secondary Science courses include Agriculture 20, Science, Biology, Chemistry, Physics, Geology and Computer Science. The data on student registrations as reported in the SDS in the area of Science is presented below.

**Figure 4-25: Secondary Science Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	17.4%	17.2%	17.0%	16.9%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct Science teachers as reported in the TSS and SDS is shown in the following table.

**Figure 4-26: Secondary Science Teachers as a Percentage of Total Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No. of Secondary Science Teachers</b>	829	867	851	849	837	887
<b>Science Teachers as a % of Secondary Teachers</b>	21.49%	22.25%	21.71%	21.85%	21.61%	22.60%
<b>Science Teachers as a % of Total Educators</b>	6.85%	7.13%	7.03%	7.05%	7.02%	7.33%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Secondary Science teachers comprised an average of 7.07% of total educators in Saskatchewan over the past six years and 7.33% in 2005-2006.

**Figure 4-27: Demand for Secondary Science Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Number of Secondary Science Teachers
2005-2006	12 094	7.33%	887
2006-2007	12 016	7.32%	880
2007-2008	11 728	7.31%	857
2008-2009	11 408	7.29%	832
2009-2010	11 149	7.28%	812
2010-2011	10 906	7.27%	793

#### 4.5.2 Supply of Secondary Science Teachers

**Figure 4-28: Percentage of Secondary Science Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Total Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	829	756	34	39	4.70%
2001-2002	867	778	35	54	6.23%
2002-2003	851	759	34	58	6.82%
2003-2004	849	760	33	56	6.60%
2004-2005	837	751	33	53	6.33%
<b>Average</b>					<b>6.14%</b>

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Science Teachers in figure 4-26. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers - (Total Teachers Carried Forward + Retirements)

The average percentage of secondary Science teachers leaving for other reasons over the past five years was 6.14%. For the purpose of this study, this average is used to calculate the number of secondary Science teachers expected to leave in the future for reasons other than retirement.

**Figure 4-29: Secondary Science Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Secondary Science Teachers</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN * 6.14%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	887	33	54	800
<b>2006-2007</b>	880	39	54	787
<b>2007-2008</b>	857	39	53	765
<b>2008-2009</b>	832	42	51	739
<b>2009-2010</b>	812	39	50	723
<b>2010-2011</b>	793	37	49	707

Note: Number Eligible to Retire was calculated based on the percentage of Science Teachers in figure 4-27. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

#### 4.5.3 Secondary Science Teacher Requirements

**Figure 4-30: Secondary Science Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	880	800	80
<b>2007-2008</b>	857	787	70
<b>2008-2009</b>	832	765	67
<b>2009-2010</b>	812	739	73
<b>2010-2011</b>	793	723	70

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 72 secondary Science teachers in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 37 graduates applying for a teaching certificate indicating a Science major, and 41 graduates indicating a Science minor. More than half of the majors and minors are in Biology. Very few graduates have majors or minors in Chemistry (16) and fewer have majors or minors in Physics (10). See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. It is expected that university graduates will meet the demand for Biology teachers, but educators from other sources will be required to meet the demand for Chemistry and Physics teachers.

## 4.6 Secondary Practical and Applied Arts

### 4.6.1 Demand for Secondary Practical and Applied Arts Teachers

The demand by students for secondary Practical and Applied Arts courses has decreased over the past few years. The data on student registrations as reported in the SDS in the area of Practical and Applied Arts is presented below.

The Practical and Applied Arts curricula have been organized under the following clusters: Communications, Agriculture, Transportation, Care and Hospitality, Resources and Design.

**Figure 4-31: Secondary Practical and Applied Arts Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	17.3%	16.8%	16.6%	16.5%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct Practical and Applied Arts (PAA) teachers as reported in the TSS and SDS is shown in the following table.

**Figure 4-32: Secondary Practical and Applied Arts Teachers as a Percentage of Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No. of Secondary PAA Teachers</b>	1 547	1 497	1 546	1 515	1 526	1 576
<b>PAA Teachers as a % of Secondary Teachers</b>	40.1%	38.42%	39.45%	39.00%	39.39%	40.16%
<b>PAA Teachers as a % of Total Educators</b>	12.78%	12.32%	12.77%	12.58%	12.80%	13.03%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Secondary PAA teachers comprised an average of 12.71% of total educators over the past six years and 13.03% in 2005-2006.

**Figure 4-33: Demand for Secondary Practical and Applied Arts Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Secondary PAA Teachers
2005-2006	12 094	13.03%	1 576
2006-2007	12 016	13.01%	1 563
2007-2008	11 728	12.99%	1 523
2008-2009	11 408	12.96%	1 478
2009-2010	11 149	12.94%	1 443
2010-2011	10 906	12.92%	1,409

#### 4.6.2 Supply of Secondary Practical and Applied Arts Teachers

**Figure 4-34: Percentage of Secondary Practical and Applied Arts Teachers Leaving for Other Reasons 2001-2005**

Year	Teachers	<sup>1</sup> Total Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	1,547	1,410	63	74	4.78%
2001-2002	1,497	1,342	61	94	6.28%
2002-2003	1 546	1 378	62	106	6.86%
2003-2004	1 515	1 357	59	99	6.53%
2004-2005	1 526	1 369	60	97	6.36%
<b>Average</b>					<b>6.16%</b>

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Practical and Applied Arts Teachers in figure 4-32. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers - (Total Teachers Carried Forward + Retirements)

The average percentage of secondary PAA teachers leaving for other reasons over the past five years was 6.16%. For the purpose of this study, this average is used to calculate the number of secondary PAA teachers expected to leave in the future for reasons other than retirement.

**Figure 4-35: Secondary Practical and Applied Arts Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Secondary PAA Teachers</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN * 6.16%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	1 576	59	97	1 420
<b>2006-2007</b>	1 563	69	96	1 398
<b>2007-2008</b>	1 523	70	94	1 359
<b>2008-2009</b>	1 478	74	91	1 313
<b>2009-2010</b>	1 443	69	89	1 285
<b>2010-2011</b>	1,409	66	87	1 256

Note: Number Eligible to Retire was calculated based on the percentage of PAA teachers in figure 4-33. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

### 4.6.3 Secondary Practical and Applied Arts Teacher Requirements

**Figure 4-36: Secondary Practical and Applied Arts Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	1 563	1 420	143
<b>2007-2008</b>	1 523	1 398	125
<b>2008-2009</b>	1 478	1 359	119
<b>2009-2010</b>	1 443	1 313	130
<b>2010-2011</b>	1 409	1 285	124

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 128 secondary PAA teachers in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 27 graduates applying for a teaching certificate indicating a PAA major, and 5 graduates indicating a PAA minor. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Many teachers in this subject grouping would not have a major or minor in the subject. A major or minor is not required or available in some of the subjects in this group (e.g., Life Transitions, Entrepreneurship).

While figure 4-31 demonstrates a drop in credit utilization in this area (drop in demand), it is anticipated that graduates from Saskatchewan universities will not meet the demand for PAA teachers in specific PAA subjects.

## 4.7 Secondary Social Sciences

### 4.7.1 Demand for Secondary Social Science Teachers

The demand by students for secondary Social Science courses has increased over the past few years. Secondary Social Science courses include Economics, Geography, History, Law, Native Studies, Psychology, Social Studies, and Sociology. The data on student registrations as reported in the SDS in the area of Social Science is presented below.

**Figure 4-37: Secondary Social Science Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	12.3%	12.6%	12.9%	13.1%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct Social Science teachers as reported in the TSS and SDS is shown in the following table.

**Figure 4-38: Secondary Social Science Teachers as a Percentage of Total Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No. of Secondary Social Science Teachers</b>	864	893	892	899	907	953
<b>Social Science Teachers as a % of Secondary Teachers</b>	22.40%	22.92%	22.76%	23.14%	23.23%	24.29%
<b>Social Science Teachers as a % of Total Educators</b>	7.14%	7.35%	7.37%	7.47%	7.61%	7.88%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Secondary Social Science teachers comprised an average of 7.47% of total educators over the past six years and 7.88% in 2005-2006.



**Figure 4-39: Demand for Secondary Social Science Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Number of Secondary Social Science Teachers
2005-2006	12 094	7.88%	953
2006-2007	12 016	7.87%	946
2007-2008	11 728	7.85%	921
2008-2009	11 408	7.84%	894
2009-2010	11 149	7.83%	873
2010-2011	10 906	7.81%	852

#### 4.7.2 Supply of Secondary Social Science Teachers

**Figure 4-40: Percentage of Secondary Social Science Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Total Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	864	788	35	41	4.75%
2001-2002	893	800	36	57	6.38%
2002-2003	892	795	36	61	6.84%
2003-2004	899	805	35	59	6.56%
2004-2005	907	814	36	57	6.28%
<b>Average</b>					<b>6.16%</b>

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Social Science Teachers in figure 4-38. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers - (Total Teachers Carried Forward + Retirements)

The percentage of secondary Social Science teachers leaving for other reasons over the past five years was 6.16%. For the purpose of this study, this average is used to calculate the number of secondary Social Science teachers expected to leave in the future for reasons other than retirement.

**Figure 4-41: Secondary Social Science Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Secondary Social Science Teachers</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN * 6.16%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	953	36	59	858
<b>2006-2007</b>	946	42	58	846
<b>2007-2008</b>	921	43	57	821
<b>2008-2009</b>	894	45	55	794
<b>2009-2010</b>	873	42	54	777
<b>2010-2011</b>	852	40	53	759

Note: Number Eligible to Retire was calculated based on the percentage of Social Science Teachers in figure 4-39. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

### 4.7.3 Secondary Social Science Teacher Requirements

**Figure 4-42: Secondary Social Science Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	946	858	88
<b>2007-2008</b>	921	846	75
<b>2008-2009</b>	894	821	73
<b>2009-2010</b>	873	794	79
<b>2010-2011</b>	852	777	75

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 78 secondary Social Science teachers in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 53 graduates applying for a teaching certificate indicating a Social Science major, and 48 graduates indicating a Social Science minor. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Even though the number of education graduates is not expected to increase in the near future, it is expected that university graduates combined with teachers from other sources will meet the overall demand for secondary Social Science teachers. The number of majors and minors in Native Studies appears to be low (15). The demand for Native Studies teachers may be higher than the supply of university graduates.

## 4.8 Other Secondary Subjects

### 4.8.1 Demand for Other Secondary Subjects Teachers

Some of the secondary subjects included in this area are Driver Education, Christian Ethics, locally developed courses, and languages such as Core French, Ukrainian, Chinese, Cree, Dene, Spanish, German, Latin, Japanese, Greek, Hindi, Mandarin, Polish, Saulteaux.

The demand by students for courses in other secondary subjects has decreased over the past few years. The data on student registrations as reported in the SDS in the area of Other Subjects is presented below.

**Figure 4-43: Other Secondary Subjects Student Registrations 2000-2006**

	1999-2000	2001-2002	2003-2004	2005-2006
<b>Percentage Utilization of Credits in High Schools</b>	6.1%	6.1%	6.0%	5.9%

Source: Saskatchewan Learning. (2006). *Student Services Data*. Regina, SK.

The number of distinct teachers of other secondary subjects as reported in the TSS and SDS is shown in the following table.

**Figure 4-44: Other Secondary Subjects Teachers as a Percentage of Total Secondary Teachers 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No. of Other Secondary Subjects Teachers</b>	277	327	311	299	300	292
<b>Other Secondary Subjects Teachers as a % of Secondary Teachers</b>	7.18%	8.39%	7.94%	7.70%	7.74%	7.44%
<b>Other Secondary Subjects Teachers as a % of Total Educators</b>	2.29%	2.69%	2.57%	2.48%	2.52%	2.41%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Teachers of other secondary subjects comprised an average of 2.49% of total educators over the past six years and 2.41% in 2005-2006.

**Figure 4-45: Demand for Teachers of Other Secondary Subjects 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Percentage	Total Projected Number of Other Secondary Subjects Teachers
2005-2006	12 094	2.41 %	292
2006-2007	12 016	2.41 %	290
2007-2008	11 728	2.40 %	281
2008-2009	11 408	2.40 %	274
2009-2010	11 149	2.39 %	266
2010-2011	10 906	2.39 %	261

#### 4.8.2 Supply of Other Secondary Subjects Teachers

**Figure 4-46: Percentage of Other Secondary Subjects Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Total Teachers Carried Forward	Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
2000-2001	277	253	11	13	4.69%
2001-2002	327	294	13	20	6.12%
2002-2003	311	277	12	22	7.07%
2003-2004	299	267	12	20	6.69%
2004-2005	300	269	12	19	6.33%
<b>Average</b>					<b>6.18%</b>

Source: <sup>1</sup>Saskatchewan Learning, (2006). *Teacher Services Data*. Regina, SK.

Total Teachers Carried Forward and Retirements were calculated based on the percentage of Other Secondary Subjects Teachers in figure 4-44. The percentage of total teachers teaching the subject is assumed to be consistent for Teachers Carried Forward and Retirements.

Number Leaving for Other Reasons = Teachers - (Total Teachers Carried Forward + Retirements)

The percentage of teachers of other secondary subjects leaving for other reasons over the past five years was 6.18%. For the purpose of this study, this average is used to calculate the number of teachers of other secondary subjects expected to leave in the future for reasons other than retirement.

**Figure 4-47: Other Secondary Subjects Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Teachers of Other Secondary Subjects</b>	<b>Number Eligible to Retire</b>	<b>Number Leaving for Other Reasons (PN * 6.18%)</b>	<b>Teachers Carried Forward to Next Year</b>
<b>2005-2006</b>	292	11	18	263
<b>2006-2007</b>	290	13	18	259
<b>2007-2008</b>	281	13	17	251
<b>2008-2009</b>	274	14	17	243
<b>2009-2010</b>	266	13	17	236
<b>2010-2011</b>	261	12	16	233

Note: Number Eligible to Retire was calculated based on the percentage of Other Secondary Subjects Teachers in figure 4-45. The percentage of total teachers teaching the subject is assumed to be consistent for Teacher Retirements.

### 4.8.3 Other Secondary Subjects Teacher Requirements

**Figure 4-48: Other Secondary Subjects Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	290	263	27
<b>2007-2008</b>	281	259	22
<b>2008-2009</b>	274	251	23
<b>2009-2010</b>	266	243	23
<b>2010-2011</b>	261	236	25

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 24 secondary teachers of Other Subjects in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 9 graduates applying for a teaching certificate indicating a major in Other Subjects, and 20 graduates indicating a minor in Other Subjects. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Even though the number of education graduates is not expected to increase in the near future, it is expected that university graduates combined with teachers from other sources will meet the demand for secondary teachers of Other Subjects. Since this category includes diverse subject areas, it is difficult to determine if shortages may occur in some areas.

Regarding Aboriginal languages, there has been a response to an identified need for secondary teachers of First Nations languages by the First Nations University of Canada through the implementation of a secondary First Nations Language minor in 2003. Initial course offerings in this program focus on a minor in Cree or Saulteaux with the possibility of offering minors in Dakota, Dene and Nakota as language courses are developed.

## Summary

The projections in this chapter are based on the actual number of teachers who report teaching at least one class in any subject area. Therefore, a teacher who teaches Mathematics, Physics and Chemistry will be counted three times. It is also important to remember that the data reflects the provincial picture and may not accurately represent circumstances at the local level.

Educator supply is not expected to meet educator demand in the areas of Secondary Mathematics, Physics, Chemistry, and some of the Practical and Applied Arts areas. Graduating education students from Saskatchewan universities will not meet the demand for educators in these areas. Educators from other sources will be required to meet the demand. While it is difficult to predict the severity of the shortages in these areas, this study does suggest that supply will not meet demand.

Historically, there has been a high demand for Special Education teachers and this demand is expected to continue. There is also expected to be a short supply of teachers of Indian languages and Native Studies.

Educator supply is expected to meet educator demand in the areas of Secondary Arts, Secondary Language Arts, Health and Physical Education, most Social Sciences (except Native Studies), Biology, and in most of the Other Subjects area as defined in section 4.8. Graduating education students from Saskatchewan universities are expected to meet most of the demand in these areas.

## 5. EDUCATOR SUPPLY AND DEMAND FOR SELECTED EDUCATOR TYPES

### 5.1 Elementary Teachers

#### 5.1.1 Demand for Elementary Teachers

For the purposes of this study, elementary teachers are defined as teachers who teach a least one subject in grades K-9. Each year, elementary teachers record the subjects they are teaching on the educator profile form. The number of distinct elementary teachers is given in the following table.

**Figure 5-1: Number of Elementary Teachers 2002-2006**

	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 154	12 107	12 040	11 918	12 094
<b>Non-teaching Educators</b>	1 619	1 571	1 658	1 667	1 910
<b>Total K-12 Teachers</b>	10 535	10 536	10 382	10 251	10 184
<b>Total Secondary Teachers</b>	3 896	3 919	3 885	3 874	3 924
<b>K-9 Teachers</b>	6 639	6 617	6 497	6 377	6 260
<b>No. Teaching K-9 and Secondary</b>	2 696	2 705	2 711	2 697	2 156
<b>Total K-9 Teachers</b>	9 335	9 322	9 208	9 074	8 416
<b>K-9 Teachers as a % of Total Educators</b>	76.81%	77.00%	76.48%	76.14%	69.59%

Note: \*These are distinct educators, not FEE.  
Teachers are classroom teachers only. The number does not include Special Education teachers.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

The overall enrolment in Saskatchewan schools is declining. This is a result of a lower birthrate and fewer students entering school. Elementary teachers have comprised an average of 75.20% of the total educators calculated over the five year period between 2001-2002 and 2005-2006. The percentage of elementary students compared to the total provincial student enrolment is expected to increase from 72.46% in 2006-07 to 73.45% in 2011-2012. For the purpose of this study, it is assumed that the relative demand for elementary teachers will also increase by 0.99% over 5 years or 0.17% per year. Therefore, instead of using an average percentage to project demand, it is assumed that the demand will increase by 0.17% each year.

**Figure 5-2: Demand for Elementary Teachers 2006-2011**

<b>Year</b>	<b>Total Projected Number of Teachers (with ser at 14.0)</b>	<b>Percentage</b>	<b>Total Projected Number of Elementary Teachers</b>
<b>2005-2006</b>	12 094	69.59%	8 416
<b>2006-2007</b>	12 038	69.71%	8 392
<b>2007-2008</b>	11 750	69.83%	8 205
<b>2008-2009</b>	11 430	69.95%	7 995
<b>2009-2010</b>	11 170	70.06%	7 826
<b>2010-2011</b>	10 927	70.18%	7 669

**5.1.2 Supply of Elementary Teachers**

For the purposes of this study, it is assumed that the average number of elementary educators leaving for reasons other than retirement is equal to the average for the total educator population. The average percentage of educators leaving for other reasons is 6.73%. See figure 3-14.

**Figure 5-3: Elementary Teachers Carried Forward 2006-2011**

<b>Year</b>	<b>Projected Number (PN) of Elementary Teachers</b>	<b>*Number Expected to Retire</b>	<b>Number Leaving for Other Reasons (PN * 6.73%)</b>	<b>Elementary Teachers Carried Forward</b>
<b>2005-2006</b>	8 416	318	566	7 532
<b>2006-2007</b>	8 392	371	565	7 456
<b>2007-2008</b>	8 205	376	552	7 277
<b>2008-2009</b>	7 995	399	538	7 058
<b>2009-2010</b>	7 826	374	527	6 925
<b>2010-2011</b>	7 669	358	516	6 795

Note: \*70.0% of total retirements from figure 3-12.



### 5.1.3 Elementary Teacher Requirements

**Figure 5-4: Elementary Teacher Requirements 2006-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	8 392	7 532	860
<b>2007-2008</b>	8 205	7 456	749
<b>2008-2009</b>	7 995	7 277	718
<b>2009-2010</b>	7 826	7 058	768
<b>2010-2011</b>	7 669	6 925	744

#### Summary

Even though the demand for elementary teachers relative to other areas will increase, the overall demand for elementary teachers will decline by 723 teachers over the next 5 years. Despite this drop, approximately 770 new teachers will be required each year to replace those educators retiring or leaving for other reasons. This demand will be met by the supply of educators graduating from university (327) and by the supply from other sources (1 017). See figure 3-11.

## 5.2 Early Childhood Teacher Education: Pre-K to 3

Graduates from the University of Regina Early Childhood Teacher Education program from 2000 to 2003 were K-5 Elementary teachers. The Early Childhood Teacher Education PreK-3 program started in 2003. Individuals from either of these programs are eligible for a Professional “A” Teacher’s Certificate. Individuals with an early childhood degree from out of province are able to obtain a Professional “B” Teacher’s Certificate (endorsed Early Childhood Education).

**Figure 5-5: Pre-K to 3 Graduate Statistics University of Regina 2004-2007**

<b>Year</b>	<b>Number of Graduates</b>
2003-04	28
2004-05	26
2005-06	28
<b>Total Graduates:</b>	80

Source: University of Regina. (2006). Regina, SK. University of Saskatchewan. (2006). Saskatoon, SK.

Currently Pre-Kindergarten positions are held by individuals who may or may not hold a Saskatchewan Teacher's Certificate. They are employed under the provisions of the Community Schools Program of Saskatchewan Learning.

Pre-Kindergarten has been identified by Saskatchewan's Child Action Plan and the federal National Children's Agenda as an important strategy to effectively address the needs of high-risk children. Pre-Kindergarten programs expand the student enrolment and the projected student enrolment by including children who are younger than the typical school entry age. These programs also have implications for the preparation of educators in the area of early childhood education. National and provincial policy changes and the provision of resources may create a significant change in this area.

**Figure 5-6: Pre-Kindergarten Educators 2001 -2006**

<b>Year</b>	<b>Pre-Kindergarten Educators</b>
<b>2000-2001</b>	16
<b>2001-2002</b>	30
<b>2002-2003</b>	83
<b>2003-2004</b>	93
<b>2004-2005</b>	97
<b>2005-2006</b>	86

## **5.3 Secondary Fransaskois and French Immersion Teachers**

### **5.3.1 Demand for Secondary Fransaskois and French Immersion Teachers**

For the purposes of this report, all teachers in fransaskois schools are considered to be fransaskois teachers.

Three types of French Language programs are offered in the K-12 Saskatchewan education system:

- Core French - a program for anglophone students in which French is taught as a subject;
- French Immersion - a program for anglophone students in which French is the language of instruction for some or all of the school day;
- Fransaskois Schools - a program for francophone students in which French is the language of instruction for the entire school day.

Enrolments in K-12 Core French programs have declined by 31 percent (26 000 students) since 1999-2000 and by 48 percent (53 400 students) since 1991-92. In 2005-06, there were 58 200 students enrolled in Core French. In 2005-06, about 35% of the student population was enrolled in Core French programs, down from 45% in 1999-00 and 57% in 1991-92.

The provincial student enrolment has declined faster than the enrolment in French Immersion programs. French Immersion students made up 4.9% of the student population in 1999-2000 but this value increased to 5.2% of students in 2005-2006. Enrolments in K-12 French Immersion programs have steadily declined from 9 924 students in 1999-2000 to 8 662 students in 2005-2006. The number of teachers of Core French and French Immersion has subsequently declined.

The enrolment in K-12 fransaskois schools has remained fairly constant at about 1 100 students over the past five years. Fransaskois school students currently comprise 0.66% of the student population.

The remaining information in this section is concerned only with the secondary (grades 10-12) fransaskois and French Immersion programs. Information on K-9 and Core French is not included. The number of full-time equivalent secondary fransaskois and French Immersion teachers as reported on the TSS is indicated in figure 5-6.

**Figure 5-7: Fransaskois and French Immersion (FR) Teachers as a Percentage of Total Secondary Teachers (Grades 10-12) 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>*Total Educators</b>	12 101	12 154	12 107	12 040	11 918	12 094
<b>No. of Secondary Teachers</b>	3 858	3 896	3 919	3 885	3 874	3 924
<b>No. of Secondary FR Teachers</b>	161	158	172	183	169	145
<b>Secondary FR Teachers as a % of Secondary Teachers</b>	4.17%	4.06%	4.39%	4.71%	4.36%	3.70%
<b>Secondary FR Teachers as a % of Total Educators</b>	1.33%	1.30%	1.42%	1.52%	1.42%	1.20%

Note: Includes all teachers who teach at least one subject in this area. Teachers may be included in more than one subject area.

\*These are distinct educators, not FEE.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Secondary fransaskois and French Immersion teachers currently comprise 1.20% of the teaching force. The average for the last three years is 1.38%. For the purposes of this study, this average percentage is used to estimate the need for secondary fransaskois and French Immersion teachers.

**Figure 5-8: Demand for Secondary Fransaskois and French Immersion Teachers 2006-2011**

Year	Total Projected Number of Educators (with ser at 14.0)	Total Projected Number of Secondary FR Teachers Required (1.38%)
2005-2006	12 094	167
2006-2007	12 038	166
2007-2008	11 750	162
2008-2009	11 430	158
2009-2010	11 170	154
2010-2011	10 927	151

### 5.3.2 Supply of Secondary Fransaskois and French Immersion Teachers

**Figure 5-9: Percentage of Secondary Fransaskois and French Immersion Teachers Leaving for Other Reasons 2001-2005**

Year	<sup>1</sup> Teachers	<sup>1</sup> Total Teachers Carried Forward	<sup>2</sup> Retirements	Number Leaving for Other Reasons	% Leaving for Other Reasons
<b>2000-2001</b>	161	147	7	7	4.35%
<b>2001-2002</b>	158	141	6	11	6.96%
<b>2002-2003</b>	172	154	7	11	6.40%
<b>2003-2004</b>	183	164	7	12	6.56%
<b>2004-2005</b>	169	152	7	10	5.92%
<b>Average</b>					<b>6.04%</b>

Note: These are distinct teachers, not full-time equivalent teachers.

Source: <sup>1</sup>Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

<sup>2</sup>Teacher's Superannuation Commission. (2006). Regina, SK.

<sup>2</sup>Saskatchewan Teachers' Retirement Plan. (2006). Saskatoon, SK.

The average percentage of teachers leaving for other reasons over the past five years was 6.04%. It is assumed that the percentage of teachers leaving for other reasons will continue at this rate for the next five years.

**Figure 5-10: Secondary Fransaskois and French Immersion Teachers Carried Forward 2006-2011**

Year	Projected Number (PN) of FR Teachers	Number Eligible to Retire	Number Leaving for Other Reasons (PN * 6.04%)	Teachers Carried Forward to Next Year
<b>2005-2006</b>	167	6	10	151
<b>2006-2007</b>	166	7	10	149
<b>2007-2008</b>	162	7	10	145
<b>2008-2009</b>	158	8	9	141
<b>2009-2010</b>	154	7	9	138
<b>2010-2011</b>	151	7	9	135

### 5.3.3 Secondary Fransaskois and French Immersion Teacher Requirements

The projected need of teachers is determined by subtracting the number of teachers carried forward from the demand for teachers. The projected need will have to be met by educators graduating from university and by educators from other sources.

**Figure 5-11: Secondary Fransaskois and French Immersion Teacher Requirements 2007-2011**

<b>Year</b>	<b>Demand</b>	<b>Teachers Carried Forward</b>	<b>Projected Need</b>
<b>2006-2007</b>	166	151	15
<b>2007-2008</b>	162	149	13
<b>2008-2009</b>	158	145	13
<b>2009-2010</b>	154	141	13
<b>2010-2011</b>	151	138	13

Due to retirements and to educators leaving for other reasons, there will be a demand for approximately 13 secondary fransaskois and French Immersion teachers in each of the next five years. Each year education graduates from Saskatchewan universities apply for a teaching certificate indicating their majors and minors. In the past six years, there has been an average of 13 graduates applying for a teaching certificate indicating a français major and 6 graduates indicating a français minor. See Table A-2 in the Appendices. Not all applicants choose to teach in Saskatchewan. Since these teachers also have to teach in a specialized area such as Mathematics or Chemistry, it is expected that university graduates alone will not meet the demand for secondary fransaskois and French Immersion teachers.

## 6. OTHER FACTORS INFLUENCING EDUCATOR SUPPLY AND DEMAND IN SASKATCHEWAN

This section provides information on other factors influencing the supply of and demand for educators in Saskatchewan. There are schools outside the provincially funded system such as First Nation-controlled schools and independent schools. There are students who are registered in home-based education programs. Educator demand outside Saskatchewan and mobility of educators influences the supply of educators. Contextual factors such as class size, multi-grade classrooms, distance education, gender and ethnicity of the teaching population, availability of educators teaching within their area of study, the Collective Bargaining Agreement and its impact on retirement are all discussed in this section of the study.

### 6.1 On-Reserve Schools

The Aboriginal population in Saskatchewan is increasing at a higher rate than the overall provincial population. The 2001 Census included both an ancestry and an identity question and has provided comprehensive information on the Aboriginal population. This data is not available for the 2006 Census until 2008. Indian and Northern Affairs Canada (INAC) has provided data for registered Indians in Saskatchewan. In Saskatchewan in 2001, 64.3% of the total Aboriginal population was First Nation people.

**Figure 6-1: Registered Indian Statistics 2002-2005**

<b>Year</b>	<b>Total Registered Indian Population</b>	<b>Total Sask Population</b>	<b>% of Sask Population</b>	<b>Population Under 20</b>	<b>% of Total Indian Population Under 20</b>
<b>2002</b>	111 635	995 900	11.21%	51 627	46.25%
<b>2003</b>	114 248	994 700	11.49%	52 267	45.75%
<b>2004</b>	117 131	994 900	11.77%	53 226	45.44%
<b>2005</b>	119 979	990 000	12.12%	53 851	44.88%

Source: *Registered Indian Population, by Type of Residence, Age Group and Sex. (2002-2005)*. INAC. Regina, SK.

Saskatchewan also has a large Métis population. There were 43 695 Métis in Saskatchewan according to the 2001 Census. Métis students generally attend provincially funded schools. According to the 1996 Census, there were 12 280 children between the ages of 5 and 19 who reported that they were Métis. Until the release of the 2006 Census data in 2008, this is the most current data available.

While the overall population of Saskatchewan school age children is declining, the population of Registered Indian school age children is increasing.

According to the Nominal Roll statistics prepared by INAC, the number of K-12 students living on reserves has risen from 18 605 in 1999-2000 to 19 850 in 2005-2006. This is an increase of 6.7% in 6 years.

During the same time period, there has been a change in the type of school attended by students who live on reserves. In 1987-88 about half of the students attended First Nation-controlled schools, 14.1% attended federal schools, and 35.2% attended provincial schools. By 1997-98, all of the federal schools were closed. The percentage of students living on reserves who attend First Nation-controlled schools increased from 79% in 1999-2000 to 82% in 2005-2006.

The number of Aboriginal students who continue to attend provincial schools is a factor that will have a significant impact on the provincial school system. If Aboriginal students continue the trend towards attending First Nation-controlled schools, provincial student populations will be further depressed. The future of Aboriginal education, both within and outside of the provincial school system, will be determined by many socio-economic, policy, and political decisions.

## 6.2 Aboriginal Education

Fairly comprehensive data on the numbers of Aboriginal students and educators are available for the school divisions involved in the Education Equity program of the Saskatchewan Human Rights Commission. This program was introduced to reduce the number of Aboriginal students who dropped out of school before completing Grade 12. Education Equity emphasizes (among other things) hiring Aboriginal educators. Aboriginal educators provide positive role models for Aboriginal and non-Aboriginal students alike and for the community as a whole.

**Figure 6-2: Aboriginal Student/Aboriginal Educator Ratio in Saskatchewan School Divisions with Education Equity Programs 1990, 2000, 2003**

Year	Total Students in Participating Divisions	Aboriginal Students	% of Total	Total Educators in Participating Divisions	Aboriginal Educators	% of Total	Aboriginal Student/Aboriginal Educator Ratio
1989-90	59 452	9 176	15.4	3 170.9	140.0	4.4	66:1
1999-00	66 535	13 354	20.1	3 992.3	253.3	6.3	53:1
2002-03	64 500	13 858	21.5	3 811.0	302.0	7.9	46:1

Note: Due to school division amalgamation, data has not been collected since 2002-03. New data will be available in the fall of 2007.

Source: Saskatchewan Learning. (2004). *Saskatchewan Education Indicators*. Regina, SK.

There has been considerable improvement in the Aboriginal student to Aboriginal educator ratio over the past 13 years. However, for this ratio to equal the provincial student/educator ratio of 14.0:1 (2005-06 ser), an additional 690 Aboriginal educators would have been required in the school divisions mentioned above.



**Figure 6-3: Aboriginal Non-teaching Staff in Saskatchewan School Divisions with Education Equity Programs 1990, 2000, 2003**

<b>Year</b>	<b>Total Non-teaching Staff</b>	<b>Aboriginal Non-teaching Staff</b>	<b>% of Total</b>
<b>1989-90</b>	2 578	251.0	9.7
<b>1999-00</b>	2 911	313.4	10.8
<b>2002-03</b>	3 463	413.0	11.9

Source: Saskatchewan Learning. (2004). *Saskatchewan Education Indicators*. Regina, SK.

It is difficult to identify the number of Aboriginal educators and students currently in the overall provincial school system. An attempt is made to identify Aboriginal educators in the TSS. As the information is collected on a self-declaration basis, Aboriginal educators may be under counted . Figure 6-4 shows the numbers of educators who identified themselves as Inuit, Métis, Non-Status Indian, or Status/Treaty Indian over the past five years. In each year approximately 67% of educators responded to the request for this information.

**Figure 6-4: Number of Educators Who Identify Themselves as Aboriginal 2001-2006**

<b>Year</b>	<b>Inuit</b>	<b>Métis</b>	<b>Non-Status Indian</b>	<b>Status/Treaty Indian</b>	<b>Total</b>
<b>2000-2001</b>	9	344	40	146	<b>539</b>
<b>2001-2002</b>	9	380	38	147	<b>574</b>
<b>2002-2003</b>	9	381	43	146	<b>579</b>
<b>2003-2004</b>	11	390	42	153	<b>596</b>
<b>2004-2005</b>	10	416	45	148	<b>619</b>
<b>2005-2006</b>	11	446	43	156	<b>656</b>

Note: 33% of educators did not respond to the request for this information.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

The overall percentage of self-declared Aboriginal students in all provincially funded schools is 18%. Approximately 21.5% of the students in school divisions that have an education equity program are Aboriginal. This group of school divisions represents a higher concentration of Aboriginal people as it includes the large urban areas and the northern area school divisions.

The supply of Aboriginal educators constitutes the number of graduates from NORTEP, SUNTEP, First Nations University of Canada (formerly SIFC), ITEP, and YNTEP. The following table illustrates the number of graduates from each program over the past several years. It must be noted, however, that NORTEP is not a program exclusively for Aboriginal people and that there are Aboriginal people enrolled in other teacher education programs.

**Figure 6-5: Number of Graduates from Aboriginal Teacher Education Programs  
1997-2006**

<b>Year of Convocation</b>	<b>First Nations Univ. of Canada</b>	<b>ITEP</b>	<b>NORTEP Regina</b>	<b>NORTEP Saskatoon</b>	<b>SUNTEP P.A. &amp; Saskatoon</b>	<b>SUNTEP Regina</b>	<b>YNTEP Regina</b>	<b>Total</b>
<b>1997</b>	19	32	1	9	22	9	--	92
<b>1998</b>	15	29	1	7	25	5	--	82
<b>1999</b>	21	30	2	6	22	6	--	87
<b>2000</b>	13	31	1	5	27	5	6	88
<b>2001</b>	21	32	1	15	26	10	6	111
<b>2002</b>	12	24	3	7	41	9	6	102
<b>2003</b>	12	27	1	9	33	17	5	104
<b>2004</b>	21	46	0	20	44	5	6	142
<b>2005</b>	17	48	2	18	37	10	9	141
<b>2006</b>	19	35	0	14	32	7	5	112
<b>TOTAL</b>	<b>170</b>	<b>334</b>	<b>12</b>	<b>110</b>	<b>309</b>	<b>83</b>	<b>43</b>	<b>1061</b>

Note: Numbers include fall convocation and spring convocation for each calendar year.

Source: University of Saskatchewan, University of Regina, First Nations University of Canada, ITEP (Indian Teacher Education Program), NORTEP (Northern Teacher Education Program), SUNTEP (Saskatchewan Urban Native Teacher Education Program), 2006.

In the last four years, an average of 125 students per year graduated from the Saskatchewan Aboriginal teacher education programs. If the number of graduates remains at current levels, there should be about 125 graduates each year for the next five years. The 2001 study projected that there would be 86 graduates each year until the year 2006. Although the number of graduates has risen, it has not kept pace with the increase in the Aboriginal student population.

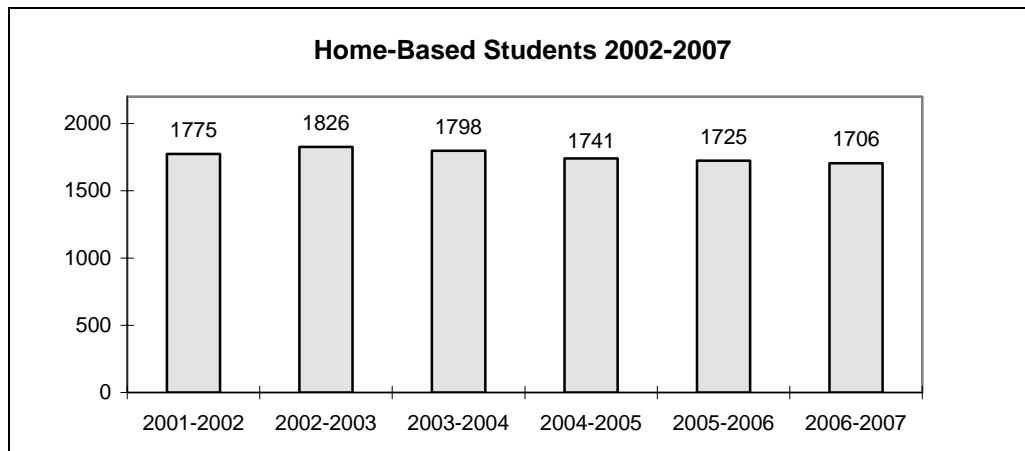
It is also important to note that the supply of Aboriginal educators is not exclusively available to the provincial school system. Many Aboriginal educators receive employment in First Nation-controlled schools. The programs at First Nations University of Canada and ITEP, which constitute about half of the graduates, are designed to train First Nation educators for First Nation-controlled schools.

### 6.3 Home-Based Education

Home-based students, while considered part of the provincial system, are involved in programs that are delivered by parents. These students therefore do not formulate part of the demand factor for educators.

The number of students in home-based programs has decreased slightly since 2003-04. The number of students being home-schooled is less than one percent of the total student population of Saskatchewan. The impact on educator demand is therefore small.

**Figure 6-6: Students in Home-Based Education 2002-2007**



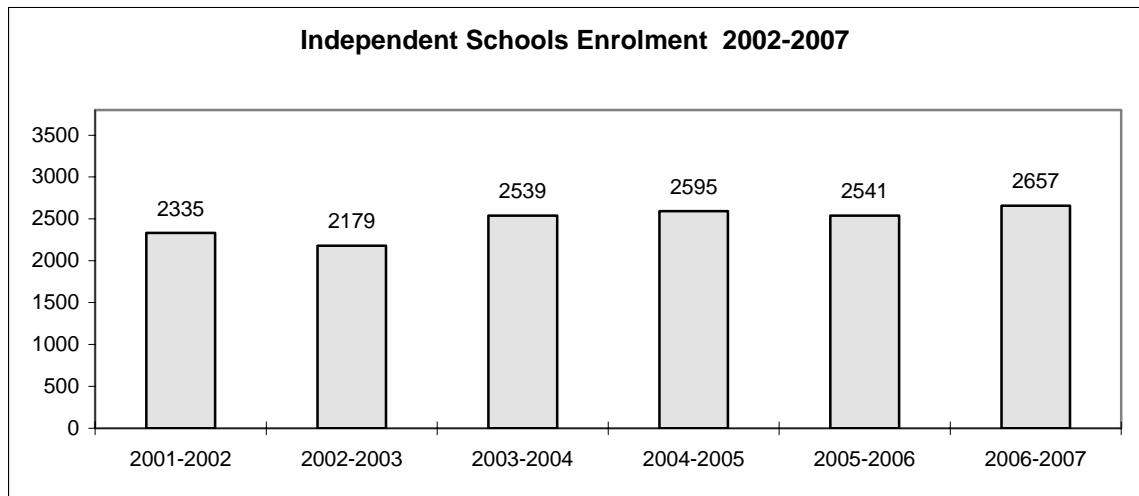
Source: Saskatchewan Learning (2006). *Independent Schools Data*. Regina, SK.

## 6.4 Independent Schools

Between 2001-2002 and 2006-2007, there was a slight increase in the number of students attending independent schools from 2335 to 2657. In 2006-2007, this represents 1.7% of the total student population.

The enrolment in independent schools has been excluded from the student enrolment figures for the province and the educators in independent schools are not counted as part of provincial totals.

**Figure 6-7: Independent Schools Enrolment 2002-2007**



Note: Some numbers are slightly different from those reported in previous years because of late reporting by schools and ongoing record maintenance. Enrolments do not include independent schools that are "associated" with school divisions.

Source: Saskatchewan Learning. (2006). *Education Finance Data*. Regina, SK.

## 6.5 Supply and Demand in Other Provinces

The *Education Report* published by BC Education in May 2006 indicates educator retirements of 1 200 and an incoming work force of 1 900 new educators and 500 educators from out of province each year. Unlike our province's declining enrolments, BC has forecasted an increase of 30 000 students in the next five years. Overall, they do not anticipate a general shortage of teachers.

The *Report of the Advisory Committee on Future Teacher Supply and Demand in Alberta* has projected a surplus of 3 600 to 4 600 educators by the 2010/2011 school year. The report states:

“...over the next ten years, a combination of two demographic factors (the declining school-age population and the increasing 19-25 year-old population) would limit the likelihood of an overall teacher shortage. These demographic factors are expected to more than offset the increasing number of teachers who will be retiring over the next decade.”

The Manitoba Education report has indicated a surplus of available educators each year with as little as 46.6% of university graduates able to find full-time employment and a further 17.5% working as substitutes in 2001.

The province of Ontario experienced an avalanche of retirements from 1998-2002. Retirements have declined since that time and are expected to continue to do so for the remainder of this decade. Educator graduating classes from universities in 2005 were 20% larger than in 2001 and educators from other countries increased by 32%. The projection indicates a teacher shortage for the greater Toronto area only with a surplus of available educators in the remainder of the province.

The above studies conclude that there are enough qualified educators available to fill the gap caused by retiring educators; however, all provinces have indicated a shortage in secondary specialized areas. Hiring difficulties are expected in senior mathematics, science, French Immersion, technology courses, principals and recruitment for remote rural and northern areas.

Many factors could change these scenarios. If the student/educator ratio were to fall then many more educators would be required. Changes in retirement incentives could drastically accelerate educator retirements. Other socio-economic, policy, and political factors could change the overall labour force and have implications for education graduates.

## **6.6 International Supply and Demand**

Studies from outside Canada in countries such as Britain, the United States, Australia, and New Zealand projected a serious educator shortage in 2001. Recent studies show a different pattern. Teacher training facilities in Britain are graduating an increasing number of teachers while their student enrolments are dropping. The United States has projected an increasing student enrolment creating a shortfall of 50 000 educators in the next ten years. Australia and New Zealand do not foresee a large shortage of teachers in general but do see a shortage in secondary specialty areas like mathematics, science, languages, and technology courses as well as in remote rural areas. A global educator shortage in specialty areas will have an impact on Canada and likely on Saskatchewan. Over the past several years, Saskatchewan has recruited over 18.4% of its new educators from outside the province. If this pool of out of province/out of country educators is no longer available, or if graduates or experienced educators within the province are attracted by incentives offered in other jurisdictions, it may place a strain on the Saskatchewan teaching force. Over the past few years the trend has been for more teachers to come to Saskatchewan than leave.

## **6.7 Educator Mobility**

Saskatchewan is a participant in the Agreement-In-Principle: Labour Mobility Chapter of the Agreement on Internal Trade with other provinces. This agreement facilitates the movement of educators from one province to another by making provisions for the recognition of qualifications and teacher certification. The agreement facilitates educator mobility between provinces by removing barriers associated with different qualification and evaluation systems. Greater educator mobility may create more uncertainty in the teacher labour force.

## 6.8 Class Size

Student/educator ratio is the most important indicator for estimating the need for educators in the future. Class size, however presents another aspect of educator demand. Class size differs from student/educator ratio. Class size indicates the actual number of students in a classroom whereas student/ educator ratio includes personnel such as teacher librarians, guidance counselors, consultants, and administrators.

**Figure 6-8: Class Size in Saskatchewan Schools 2001-2006**

	Urban						Rural						Northern						Provincial					
	2001	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005	2006
<b>K</b>	18.1	17.7	17.5	17.5	17.6	19.0	16.4	16.0	15.7	15.0	14.7	14.8	20.1	20.5	18.7	16.4	16.3	19.7	17.5	17.1	16.8	16.5	16.4	17.3
<b>1</b>	21.0	20.5	20.4	20.3	20.0	20.5	17.0	17.0	17.0	16.2	16.4	15.6	19.5	16.8	17.6	18.5	16.7	18.7	19.3	18.9	18.9	18.5	18.3	18.2
<b>2</b>	21.4	20.9	21.1	20.7	20.6	20.4	17.7	17.5	17.4	17.0	16.6	16.0	18.1	16.3	16.9	18.1	16.9	17.9	19.7	19.4	19.4	19.0	18.8	18.4
<b>3</b>	22.2	21.9	21.8	21.5	21.5	20.8	18.3	17.8	17.8	17.2	17.4	16.4	19.1	18.0	18.5	17.8	18.0	18.1	20.5	20.1	20.0	19.4	19.7	18.7
<b>4</b>	22.7	22.5	22.2	22.1	21.8	21.6	18.6	18.5	18.2	17.8	17.7	16.3	19.2	17.5	18.7	18.9	18.4	19.4	20.8	20.6	20.4	20.0	19.9	19.1
<b>5</b>	23.1	22.7	22.4	22.5	22.3	21.6	19.8	18.9	18.5	18.8	18.1	16.8	18.7	17.5	18.5	20.1	19.4	17.9	21.4	20.8	20.6	20.7	20.3	19.2
<b>6</b>	23.4	23.0	22.5	22.9	22.5	21.7	19.6	19.2	19.0	18.4	18.4	17.3	19.8	17.8	18.5	19.0	20.6	18.7	21.4	21.0	20.7	20.6	20.4	19.4
<b>7</b>	23.2	23.3	22.8	22.8	22.7	21.9	18.9	18.8	19.1	18.6	18.3	17.7	19.5	18.0	18.8	19.1	18.8	19.3	20.6	20.5	20.6	20.3	20.2	19.5
<b>8</b>	22.5	22.7	22.7	22.6	22.6	22.0	18.7	18.7	18.5	18.8	18.4	17.7	18.5	18.3	18.6	18.5	18.2	17.3	20.1	20.2	20.1	20.3	20.0	19.4
<b>9</b>	24.2	24.0	23.6	23.7	23.6	23.4	18.0	18.1	17.8	18.0	17.8	17.3	22.1	19.8	19.4	18.0	20.2	18.7	21.3	21.4	21.0	21.2	21.2	20.3
<b>10</b>	24.4	24.2	23.7	23.8	23.3	18.6	17.9	17.7	17.3	17.7	17.5	10.9	24.7	21.8	22.6	22.3	17.7	12.4	21.5	21.5	21.1	21.3	20.8	17.8
<b>11</b>	23.8	23.8	23.3	23.3	22.8	18.2	17.2	17.3	17.1	16.7	16.7	13.0	19.5	21.2	20.6	18.0	18.2	10.3	20.6	21.0	20.6	20.4	20.2	17.4
<b>12</b>	24.2	24.3	23.5	23.6	18.1	18.1	16.7	16.6	16.5	16.3	15.9	12.4	18.4	19.5	20.1	16.1	16.5	10.6	20.7	21.0	20.5	20.5	20.4	17.4
<b>Av</b>	<b>23.5</b>	<b>23.4</b>	<b>23.0</b>	<b>23.0</b>	<b>22.8</b>	<b>20.0</b>	<b>18.1</b>	<b>17.9</b>	<b>17.7</b>	<b>17.6</b>	<b>17.4</b>	<b>16.4</b>	<b>20.1</b>	<b>19.1</b>	<b>19.6</b>	<b>19.0</b>	<b>18.3</b>	<b>14.6</b>	<b>20.9</b>	<b>20.8</b>	<b>20.6</b>	<b>20.6</b>	<b>20.4</b>	<b>18.5</b>

Note: Average class sizes are based on reports of educators coded as "regular classroom teachers" assigned to a specific school on September 30 of each school year and do not include classes with more than 44 students (such as Band and Choral classes). Educators are counted as individuals rather than as full-time equivalents. Thus an educator employed 50% and one employed 100% are counted equally. Educators in independent and historical schools are not included in the calculations for these averages. School types and school division types are defined on page v. Special education classes were not included. Each grade in a combined class is given the enrolment for the entire class.

In 2005-2006 class size information is derived from actual course registration information in the SDS. Classes made up of both K-9 and secondary subjects, or secondary subjects of different grades are no longer considered one class (each class can be counted separately). This would be a contributing factor to the decrease of class size.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Between 2001 and 2005, class size has decreased in each of the rural, urban, and northern scenarios. Class sizes dropped more significantly in the rural and northern areas in 2006.

The provincial student/educator ratio has also decreased from 16.0 to 14.0 over the same six-year time frame.

## 6.9 Multi-grade Classes

Due to decreasing enrolments in some schools, teachers are teaching in multi-grade/split classes for a portion or their entire teaching load.

**Figure 6-9: Teachers Teaching Multi-grade Classes 2001 -2006  
(including K-9 classes ONLY)**

<b>Year</b>	<b>Teachers Teaching Multi-grade Classes</b>	<b>Percentage of K-9 Teachers</b>
<b>2001-2002</b>	2 448	36.9%
<b>2002-2003</b>	2 601	39.3%
<b>2003-2004</b>	2 558	39.4%
<b>2004-2005</b>	2 601	40.8%



## 6.10 Distance Education Initiatives

In Saskatchewan, Grades 10-12 distance education courses are offered by Technology Supported Learning (formerly the Saskatchewan Government Correspondence School), Central iSchool and Interactive Televised Instruction as well as a variety of other distance delivery modes utilized at the local level. School age students take distance education for a number of reasons: a course is not available at a time when the student needs the course, timetable conflicts, completing requirements for graduation, home-baseding, residence out of country and incarceration. Completions in distance education courses at the high school level are shown in the table below.

**Figure 6-10: Distance Education Course Completions 2001-2006**

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
<b>Student Course Completions</b>	2 425	2 493	2 592	2 434	3 438	4 215

Note: Prior to 2004-05, only Technology Supported Learning offered distance education courses.

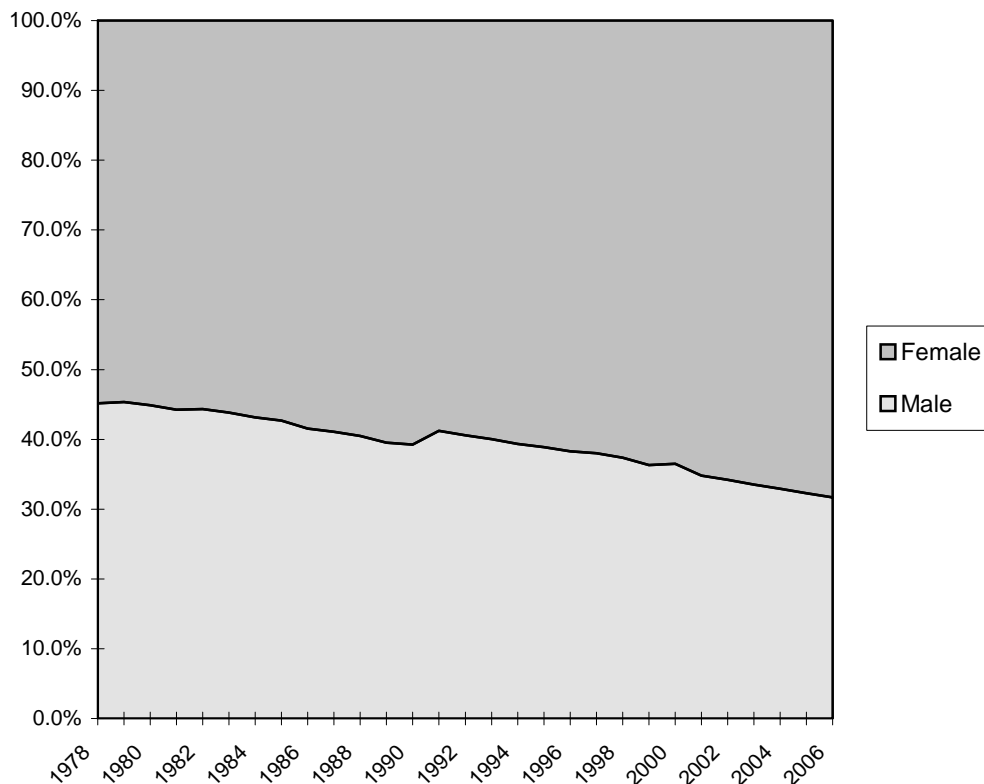
Source: Saskatchewan Learning (2006). *Student Services Data*. Regina, SK.

Course completions remained stable between 2001 and 2004. There was a significant increase in the number of course completions due to the addition of Central iSchool and Interactive Televised Instruction. The implementation of distance education options for students in Saskatchewan has many implications for the Saskatchewan school system. Distance education enables school divisions to increase the array of courses available to students in locations where a teacher with subject expertise may not be available (i.e., addresses the need for a math or science teacher in a rural or northern location). Further study in this area is required in order to assess the impact on educator demand. Further study is also required to identify the skills required for distance education educators.

## 6.11 Gender

For the past 28 years, the ratio of male to female educators has been shifting to a greater percentage of females. In 1978, 45.2% of educators were male and 54.8% were female. In 2005-06, the percentage of male educators dropped to 31.7% while the percentage of female educators rose to 68.3%. This data is based on full-time equivalent educators. Although gender does not directly affect the supply of and demand for educators in Saskatchewan, it is important to note that fewer males are entering the profession. The current enrolment in teacher education programs also reflects a much larger percentage of females. This is an indication that this trend will likely continue. This is an area that warrants discussion.

**Figure 6-11: Gender Distribution of the Saskatchewan Teaching Force (FEE) 1978-2006**



Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

## 6.12 Area of Study

The ability to find qualified educators in specialized areas may become increasingly difficult with a declining pool of educators from which to choose. The following two figures compare the number of educators with a major or minor in the course which they are teaching. Science educators are grouped according to a major or minor in any science, not just the science area which they teach.

**Figure 6-12: Educators Teaching Within their Area of Study 2006**

Subject	With Major or Minor	Without Major or Minor	Total Educators
<b>Biology 20</b>	164	38	202
<b>Biology 30</b>	165	34	199
<b>Chemistry 20</b>	186	31	217
<b>Chemistry 30</b>	140	9	149
<b>Physics 20</b>	147	36	183
<b>Physics 30</b>	113	34	147
<b>General Math 30</b>	29	25	54
<b>Math 20</b>	191	75	266
<b>Math A30</b>	270	39	309
<b>Math B30</b>	196	25	221
<b>Math C30</b>	191	14	205
<b>Calculus</b>	36	2	38

Note: Semester one data only.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

**Figure 6-13: Percentage of Educators Teaching Within their Area of Study 2006**

Subject	% With major or Minor	% Without Major or Minor
<b>Biology 20</b>	81.2%	18.8%
<b>Biology 30</b>	82.9%	17.1%
<b>Chemistry 20</b>	85.7%	14.3%
<b>Chemistry 30</b>	94.0%	6.0%
<b>Physics 20</b>	80.3%	19.7%
<b>Physics 30</b>	76.9%	23.1%
<b>General Math 30</b>	53.7%	46.3%
<b>Math 20</b>	71.8%	28.2%
<b>Math A30</b>	87.4%	12.6%
<b>Math B30</b>	88.7%	11.3%
<b>Math C30</b>	93.2%	6.8%
<b>Calculus</b>	94.7%	5.3%

Note: Semester one data only.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

## 6.13 Teacher Retention

Following the publication of *Educator Supply and Demand in Saskatchewan to the Year 2006*, the Board of Teacher Education and Certification made recommendations that resulted in the implementation of the following initiatives to support the recruitment and retention of teachers in Saskatchewan:

- amendment to *The Teachers' Superannuation and Disability Benefits Act* to allow teachers to teach past retirement without impacting their pensions;
- implementation of the Teacher Recruitment and Retention Initiative; and
- amendment to *The Teacher Certification and Classification Regulations, 2002* to establish the Additional Qualification Certificate.

### **Amendment to *The Teachers' Superannuation and Disability Benefits Act***

In 2001 *The Teachers' Superannuation and Disability Benefits Act* was amended to remove provisions respecting the number of days a retired teacher could teach without negatively affecting his or her pension plan (removal of the 60 day restriction).

Prior to 2001 the five year average of teachers returning to teach (full time or part time contracts) was 5.94%. Since 2001, following the amendment, the five year average has increased to 6.82% returning to teach (refer to figure 3-13).

Anecdotal evidence suggests that this may have reduced the substitute teacher pool as retired teachers took full time or part time teaching positions.

### **Teacher Recruitment and Retention Initiative**

Since 2001-02, the Government of Saskatchewan has provided approximately \$4M to school boards for teacher recruitment and retention initiatives. The funding, for the most part, has been allocated to northern and rural school boards since these school divisions face the greatest problems in the recruitment and retention of teachers.

Most school divisions applied for grants that were used to provide bursaries to teachers who were pursuing coursework in areas of identified provincial or local need.

Since the inception of the program, an average of 216 individuals have benefited annually from bursaries. While the majority were teachers completing coursework on a part-time basis, teachers on educational leave and pre-service teachers attending post-secondary institutions on a full-time basis also benefited. Approximately half the teachers pursued coursework in either special education or administration with the remainder completing coursework in subjects such as mathematics, secondary sciences, Aboriginal education, French and counseling.

School divisions received assistance in recruiting or training other professionals such as speech language therapists and educational psychologists.

School divisions identified local retention needs that were supported through the program, such as English as a second language, teacher librarians, and special training for primary educators in the area of kindergarten literacy.

To support the need for teachers in the area of mathematics and secondary science, both Saskatchewan universities established special certificate programs that would give teachers the additional knowledge to teach in these areas, and would also lead to accreditation in these subjects. The Universities also established certificate programs in special education. These four certificate programs were also recognized for the purposes of the Additional Qualification Certificate (see below).

### **Additional Qualification Certificate**

In 2003, the Additional Qualification Certificate was introduced. *The Teacher Certification and Classification Regulations, 2002* were amended to recognize additional undergraduate education. The issuance of this Certificate may affect the salary classification of a teacher. To earn an Additional Qualification Certificate, a teacher must complete an approved certificate program, an approved integrated program or a recognized technical/vocation program.

Recognition of certain journeyperson's certificates and technical training from SIAST as additional undergraduate education was included to help address recruitment and retention of Practical and Applied Arts teachers.

As of May 3, 2007, 339 Additional Qualification Certificates had been issued.

Further information about the Additional Qualification Certificate and recognized certificate and technical programs is available on Saskatchewan Learning's web site.

### **Other impacts on retention**

The Collective Bargaining Agreement signed between the Provincial Government and the Saskatchewan Teacher's Federation in 2005 added a step in the pay scale for teachers with 15 years of teaching experience. The impact of this change, while not yet known, may result in educators delaying retirement to take advantage of the change.

The number of graduates from the two Saskatchewan universities for the 1999 and 2000 graduation classes were compared to determine the number that gained employment their first year or within five years of graduation and the number that left Saskatchewan within that same five-year time frame. Comparing the two five-year time periods, the number of graduates gaining employment in the first year has risen from 49% to 55%. Employed graduates leaving has gone down from 10% to 9%.

**Figure 6-14: Graduates Teaching in Saskatchewan 1999-2005, 2000-2006**

<b>Year</b>	<b>Total Graduates</b>	<b>Graduates Employed First Year</b>	<b>Graduates Employed Within 5 Years</b>	<b>Employed Graduates Leaving Within 5 Years</b>
<b>1999-2005</b>	692	336 (49%)	440 (64%)	68 (10%)
<b>2000-2006</b>	716	395 (55%)	459 (64%)	64 (9%)

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

Teachers requesting a Statement of Standing and moving to another location in Canada to teach make up 66% of the teachers no longer teaching in Saskatchewan in the last five years. Figure 6-15 indicates where in Canada they gained employment. Alberta is the destination for the highest number of Saskatchewan education graduates in 2005, and again in 2006. That number did, however, go down slightly in 2006.

**Figure 6-15: Graduates Teaching Elsewhere within Five Years of Graduation 2005-2006**

<b>Year</b>	<b>Alberta</b>	<b>BC</b>	<b>Manitoba</b>	<b>Ontario</b>	<b>Other</b>
<b>2005</b>	32	2	7	6	1
<b>2006</b>	27	3	1	5	3

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

## **Summary**

Analysis of selected subject areas in Chapters 4 and 5 demonstrates continuing shortages in the areas of secondary mathematics, sciences, practical and applied arts, and Native Studies in the social science area.

Based on demand as represented by requests from school divisions for bursary funding there is evidence to suggest a continued provincial shortage in the above subject as well as Aboriginal languages, special education, French teachers and teacher librarians.

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## **8. APPENDICES**

- Table A-1**    **Historical Birth Rates in Saskatchewan 1989-2005**
- Table A-2**    **Majors and Minors of Secondary Educators Applying for Teacher Certification in Saskatchewan 2001-2006**
- Table A-3**    **Science Educators Major/Minor Area of Study 2006**
- Appendix 4**   **Enrolment Projections**
- Appendix 5**   **The *BLENDED FLATLINE - ADJUSTED 5-YEAR AVERAGE CRR FLATLINE METHOD*:  
Technical Description of the Calculation of CRR Values**
- Appendix 6**   **Eligibility to Retire**

**Table A-1 Historical Birth Rates in Saskatchewan 1988-2006**

<b>Year</b>	<b>Rural Births</b>	<b>Urban Births</b>	<b>Northern Births</b>	<b>First Nation Births</b>	<b>Total Births</b>
<b>1989</b>	5 620	8 365	344	1 888 (11.6%)	16 217
<b>1993</b>	4 310	7 134	228	2 147 (15.5%)	13 819
<b>1997</b>	3 795	5 917	188	2 409 (19.6%)	12 309
<b>2001</b>	3 488	5 507	145	2 740 (23.1%)	11 880
<b>2002</b>	3 369	5 178	161	2 636 (23.2%)	11 344
<b>2003</b>	3 414	5 332	156	2 778 (23.8%)	11 680
<b>2004</b>	3 308	5 270	149	2 886 (24.9%)	11 613
<b>2005</b>	3 188	5 348	136	2 900 (25.1%)	11 572

Source: Saskatchewan Health. (2006). Regina, SK

Note: Source of data is Saskatchewan Vital Statistics Funding Files and includes births to Saskatchewan residents occurring in Saskatchewan. Births to Saskatchewan residents occurring in other provinces are not included. Births to non-Saskatchewan residents occurring in Saskatchewan are also not included. Registered Indian status is not a required field on Saskatchewan Vital Statistics birth registrations. A baby was counted as Registered Indian if either the mother or father self-identified as Registered Indian in either the band or treaty number field. Births in this report are grouped by place of residence of the mother. A "Northern" place of residence includes births occurring to mothers residing in the Keewatin Yatthé, Mamawetan Churchill River or Athabasca Health Authorities. Cities are grouped in the "Urban" category. All other places, including towns, are grouped in the "Rural" category.

**Table A-2 Majors and Minors of Secondary Educators Applying for Teacher Certification in Saskatchewan 2001-2006**

Majors		Math	Bio	Chem	Phys	Sci	Soc	Nat St	Arts	Lang Arts	H & PE	P&A Arts	Fran-cais	*Other
<b>2001</b>	U of R	6	4	4	0	1	12	1	17	12	20	7	7	5
	U of S	11	15	4	1	1	34	9	18	38	20	9	8	8
	Total	17	19	8	1	2	46	10	35	50	40	16	15	13
<b>2002</b>	U of R	13	13	7	0	2	24	0	27	29	21	9	13	8
	U of S	12	13	2	2	3	47	4	25	42	29	12	4	8
	Total	25	26	9	2	5	71	4	52	71	50	21	17	16
<b>2003</b>	U of R	10	4	4	0	1	19	0	26	22	22	13	13	0
	U of S	6	11	2	1	1	25	0	13	39	22	18	1	9
	Total	16	15	6	1	2	44	0	39	61	44	31	14	9
<b>2004</b>	U of R	19	10	6	0	2	18	5	29	27	27	16	4	1
	U of S	8	17	5	3	1	19	10	14	34	29	23	0	6
	Total	27	27	11	3	3	37	15	43	61	56	39	4	7
<b>2005</b>	U of R	16	5	4	2	3	15	2	17	24	26	8	8	3
	U of S	18	11	5	6	5	20	5	16	19	22	20	2	4
	Total	34	16	9	8	8	35	7	33	43	48	28	10	7
<b>2006</b>	U of R	22	5	2	3	1	12	6	25	19	25	7	11	2
	U of S	15	10	5	9	0	27	3	21	13	22	22	4	3
	Total	37	15	7	12	1	39	9	46	32	27	29	15	5
<b>Avg. Majors</b>		<b>26</b>	<b>20</b>	<b>8</b>	<b>5</b>	<b>4</b>	<b>45</b>	<b>8</b>	<b>41</b>	<b>53</b>	<b>44</b>	<b>27</b>	<b>13</b>	<b>9</b>

Minors		Math	Bio	Chem	Phys	Sci	Soc	Nat St	Arts	Lang Arts	H & PE	P&A Arts	Fran-cais	*Other
<b>2001</b>	U of R	8	1	0	0	15	22	0	10	18	9	2	1	8
	U of S	9	12	7	3	3	29	9	5	36	3	0	1	8
	Total	17	13	7	3	18	51	9	15	54	12	2	2	16
<b>2002</b>	U of R	13	6	5	5	12	25	1	20	25	17	3	5	20
	U of S	9	14	8	5	3	25	6	15	32	0	1	5	12
	Total	22	20	13	10	15	50	7	35	57	17	4	10	32
<b>2003</b>	U of R	6	3	1	1	18	18	0	24	25	0	4	5	11
	U of S	4	14	2	2	1	20	7	14	18	1	3	5	4
	Total	10	17	3	3	19	38	7	38	43	1	7	10	15
<b>2004</b>	U of R	13	3	5	1	8	11	0	22	25	22	5	5	16
	U of S	10	13	4	5	6	23	9	16	12	0	1	3	3
	Total	23	16	9	6	14	34	9	38	37	22	6	8	19
<b>2005</b>	U of R	15	2	2	1	5	15	1	26	15	24	3	1	10
	U of S	17	9	8	4	3	20	7	9	16	0	3	1	5
	Total	32	11	10	5	8	35	8	35	31	24	6	2	15
<b>2006</b>	U of R	6	1	2	1	4	13	0	21	19	18	4	1	19
	U of S	16	11	6	4	1	22	4	6	16	1	2	5	3
	Total	22	12	8	5	5	35	4	27	35	19	6	6	22
<b>Avg Minors</b>		<b>21</b>	<b>15</b>	<b>8</b>	<b>5</b>	<b>13</b>	<b>41</b>	<b>7</b>	<b>31</b>	<b>43</b>	<b>16</b>	<b>5</b>	<b>6</b>	<b>20</b>

Note: Includes educators who applied for a teaching certificate in Saskatchewan. They are not necessarily teaching in Saskatchewan.

\*Other includes Adult Education, Psychology, Exceptional Children, Other Languages, Guidance, Journalism, Library, Measurement & Evaluation, Religious Instruction, and Special Education.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

**Table A-3 Science Educators Major/Minor Area of Study 2006**

<b>Subject</b>	<b>Biology</b>	<b>Chemistry</b>	<b>Physics</b>	<b>Geology</b>	<b>Science Education</b>	<b>Total Teachers</b>
<b>Biology 20</b>	134	14	2	2	12	202
<b>Biology 30</b>	141	13	2	2	7	199
<b>Chemistry 20</b>	60	92	21	2	3	207
<b>Chemistry 30</b>	34	89	9	0	7	149
<b>Physics 20</b>	47	17	69	3	11	183
<b>Physics 30</b>	30	16	61	1	5	147

Note: Includes educators who have a major or minor in each subject area.  
Semester one data only.

Source: Saskatchewan Learning. (2006). *Teacher Services Data*. Regina, SK.

#### **Appendix 4 Enrolment Projections**

Enrolments projected in this report are based on predictions of CRR values for future years, calculated using the BLENDED FLATLINE - ADJUSTED 5-YEAR AVERAGE CRR FLATLINE METHOD. This method tests to see if there is evidence of a trend using the most recent five years' CRR values on a grade-by-grade basis. For each grade, one of two CRR calculation methods will be used: the Flatline Method, if there is evidence of a trend or the Adjusted 5-Year Average CRR Flatline Method, if recent CRR values for that grade are fluctuating instead of trending.

The two methods are briefly described below.

- a) The Flatline Method uses the most recent year's CRR value for a particular grade and makes enrolment projections based on this fixed set of values.
- b) The Adjusted 5-Year Average CRR Flatline Method attempts to 'learn' from its past discrepancies between actual and predicted CRR values. This method involves the following steps:
  - For each grade, the CRR values for the most recent five-year period are averaged.
  - A CRR adjustment factor is calculated for each grade. To do so, the actual CRR value is compared with the 5-year average CRR value prediction. Differences between the actual and predicted values are captured for each year and grade, and then averaged for the most recent five years. The CRR adjustment factor is limited within specific parameters.
  - For each grade, the CRR value is predicted for the first future year by averaging the past five years' CRR values and adding to this the CRR adjustment factor. These same CRR predicted values for each grade are repeated and used for all future years of the projection period.

**Appendix 5    The *BLENDED FLATLINE - ADJUSTED 5-YEAR AVERAGE CRR*  
*FLATLINE METHOD*: Technical Description of the Calculation of CRR Values**

Future CRR values are calculated as follows:

- a) Indicator of whether CRR values are trending or fluctuating is determined for each grade.
  - The sign of the slope of a CRR curve is determined at the midpoints between the CRR data points of the most recent five years (produces four results, each either +1 or -1 performed independently for each grade).
  - The four slope sign-values are summed to get the indicator for each grade.
  - A sum of zero is interpreted as an indication of fluctuation of CRR values, and the Adjusted 5-Year Average CRR Flatline Method is used. A non-zero sum is interpreted as an indication of trending CRR values, and the Flatline Method is used. Independent determinations are made for each grade.
- b) If the Flatline Method is triggered, the CRR value for that grade will be a repeat of the most recent year's CRR value for that grade and this value will be repeated for all ten years being projected.
- c) If the Adjusted 5-Year Average CRR Flatline Method is triggered for a particular grade, the CRR value for that grade is calculated as follows:
  - The CRR values for the most recent five-year period are averaged.
  - A CRR adjustment factor is calculated. This involves:
    - Calculating the differences over the most recent five years between the actual CRR values and what the five-year average would have predicted the CRR values to be.
    - Averaging these five deviations between real and predicted CRR values.
    - Checking the average deviation to ensure it is no more than 1.29 times the standard deviation of the most recent five years' actual CRR values and to make sure that applying the deviation adjustment would not artificially move the average CRR value to be more than 90 percent toward its minimum or maximum value during the past five years.
    - Adjusting the average deviation to ensure it adheres to the limiting factors described in the previous step.
  - The projected CRR value is the sum of the adjustment factor and the five-year average CRR value.
  - This projected CRR value is repeated for all ten years of the projection period.

## **Appendix 6 Eligibility to Retire**

Educators are eligible to retire with an unreduced pension if they meet one of the following criteria:

- age and years of service equal 85 (minimum age of 55).
- 30 years of service.
- age is greater than or equal to 60 and years of service is greater than or equal to 20.
- age is greater than or equal to 65 and years of service is greater than or equal to 1.
- age is greater than or equal to 60 and the sum of educator's age, eligibility service, time on the Income Continuance Plan and qualifying service equals 85.

Using these criteria, the number of educators who will become eligible to retire in the future can be determined.