

**The Relationship of Student Mobility to Academic
Success in Three Kindergarten to Grade 4 Cohorts
and Three Kindergarten to Grade 7 Cohorts
in British Columbia**

Cheryl Aman

General Outline of the Elementary Report

This report is the first component of a large research study investigating school change and academic outcomes across nine provincial **cohorts** of Kindergarten–Grade 12 students in British Columbia. This second component focuses on three cohorts of students at *secondary grade levels* (Kindergarten–Grade 12). The first component focused on six cohorts of students at *elementary grade levels*. There are three cohorts where information is available for the primary grades (from Kindergarten–Grade 4). There are three additional cohorts where information is available for all elementary grade levels (from Kindergarten–Grade 7).

An executive summary precedes the report. There is an introductory chapter containing the rationale for both the elementary and secondary components of the study and a literature review of research addressing school change in Kindergarten–Grade 12 student populations.

Two brief chapters follow detailing data sources and methods used in this elementary component of the study.

The following chapters address the demographics of the student population, the Foundation Skill Assessment outcomes, and the student mobility across the bundled groups studied.

The final chapter provides an outline of the secondary data presentation, descriptive analysis, descriptive tables and graphs, and a logistic regression model of school change and schooling outcomes. This final chapter also includes a brief discussion of findings.

At the end of the document appendices and references are included. A glossary of key terms also follows the report.

Table of Contents

General Outline of the Elementary Report	2
Executive Summary	7
Chapter One: Introduction and Literature Review.....	13
Chapter Two: Rationale of the Study.....	20
Chapter Three: Data Sources and Methods	21
Part One: Data Sources	21
Part Two: Method of Analysis.....	21
Chapter Four: Demographics of the BC Student Population: Descriptive Data of Three Cohorts	35
Part One: Four Student Groups.....	35
Part Two: Gender and Student Groups	38
Part Four: ESL Designation and Aboriginal Students	39
Part Four: Consistency of Aboriginal Identification.....	40
Part Five: Band Affiliation.....	43
Part Six: Consistency of ESL Identification	43
Part Seven: Home Language.....	45
Chapter Five: Foundation Skill Assessment (FSA) Outcomes.....	46
Part One: FSA Exam Participation and Non Participation	47
(a) Typical Exam Participation Rates of Cohorts	47
(b) Differences in Participation Rates across the Three FSAs.....	48
(c) Differences in Participation Rates over Time	48
(d) Differences in Participation Rates across Student Groups.....	48
(e) Differences in Excused Rate across Student Groups	49
(f) Gender Differences in Exam Participation	49
(g) Differences in Absent Rate across Student Groups	50
(h) Differences in Participation Rates by School Institutions.....	50
(i) Differences in Participation Rates across School Institutions and across Student Groups	51
(j) Geographic Differences in Participation Rates	52
Part Two: FSA Results	54
(a) Differences in FSA Results across Three Exams	54
(b) Differences in Meeting Expectations across Student Groups	55

(c) Factors related to Meeting Expectations on FSA Exams	56
(d) Differences within Student Groups: Band Students.....	56
(e) Differences within Student Groups: ESL Students	58
Summary of Descriptive Data Regarding Grade 4 FSAs and School Change	59
Chapter Six: Student Mobility Kindergarten – Grade 4 Cohorts.....	60
Introduction and Outline to Chapter Six.....	60
Part One: The Prevalence of School Change.....	62
(a) Differences in Frequency of School Change by Student Group	62
(b) Types of School Change and Timing of School Change	63
(c) Differences between Student Groups in Types of School Change and Timing of School Change	65
(d) Differences within Groups: ESL Frequency of School Change by Home Language Groups.....	68
(e) Differences within Groups: Band Frequency of School Change and Consistency of Band Affiliation.....	70
(f) Differences within Groups: Non Band Aboriginal Frequency of School Change and Consistency of Aboriginal Identification.....	71
Part Two: School Change and FSA Participation.....	73
(a) The Participation Rates on the FSAs by School Change Type and Timing of Change ..	73
(b) Differences in Participation Rates across Student Groups, School Change Type	74
Part Three: School District Changes.....	76
(a) Differences in Frequency of School District Change across Student Groups.....	76
(b) FSA Results and Frequency of Changing School Districts across Student Groups.....	77
Part Four: Exam Results and School Change	81
(a) Number of Moves and FSA and Percentage Meeting Expectations	82
(b) Meeting Expectations on FSAs, School Change Type and Timing.....	82
(c) Reading vs. Numeracy: Difference across School Change Type and Timing	84
(d) Meeting Expectations on FSAs: Differences across Student Groups	86
(e) Numeracy vs. Reading: Differences across Student Groups and Timing	92
(f) Meeting Expectations on FSAs: Gender.....	95
Part Five: Exam Results: FSA Average Scores and School Change	96
(a) Number of Moves and FSA Average Score	96
(b) Average FSA Scores by School Change Type, and Timing	96
(c) Average Score on FSAs: Differences between Student Groups by School Change Type and Timing.....	98
(d) Average Scores on FSAs: Differences within ESL Students.....	103

(e) Average Score on FSAs: Gender Differences	105
Part Six: A Closer Look at School Change within School Districts	110
(a) Changing Schools: French Immersion vs. Standard Program	110
(b) Changing Schools: Public vs. Independent	111
Part Seven: School Change and Residential SES	112
Part Eight: The Role of ESL Programs in Aboriginal Student Groups	118
Summary and Implications for Chapter Six	120
Chapter Seven: Student Mobility Kindergarten – Grade 7 Cohorts	122
Introduction and Outline to Chapter Seven	122
Part One: The Prevalence of School Change	123
(a) Frequency of School Changes	123
(b) Timing of School Changes	124
(c) Type of School Change	125
Part Two: School Change and FSA Grade 7 Participation	129
(a) Proportion of Cohort Not Participating on Grade 7 FSAs	129
(b) Meeting Expectations on Grade 7 FSAs of Cohort vs. FSA Participants	130
Part Three: Provincial FSA Results over the Kindergarten - Grade 7 Trajectory	136
(a) Cohort vs. Participant Differences in Meeting Expectations	136
(b) School Change Rate of Participants	144
(c) Demographic Differences Across the Four Categorizations of Meeting FSA Expectations	145
(d) Timing of School Change: Differences Across Student Groups	146
(e) Type of School Change	151
Part Four: Looking at Differences within Mobile Participants Who Changed Schools and Met FSA Expectations and those who Did Not Meet FSA Expectations	159
(a) Participation and Non Participation on both Grade 4 and Grade 7 FSAs	159
(b) ESL Designation in Non Band Aboriginal and Band Participants	160
(c) Gender	160
(d) Home Language within ESL Participants	161
(e) Consistency of Identification in Aboriginal Student Groups	162
(f) French Immersion	162
(g) Independent Schools	162
(h) Grade Progression	163
(i) Income Differences (Grade 7 Residential Family Average Income)	163
Part Five: Looking at School Districts	163

Summary and Implications for Chapter Seven	172
Chapter Eight: Summary.....	173
Appendices.....	175
Glossary	248
Supplement A: A Brief look at Student Residence Change	250

Executive Summary

In this first component these key questions were addressed:

(1) What is the pattern of **school mobility** among different school populations in BC?

*The descriptive data makes evident that BC's students move both across school districts and within school districts in substantial proportions. **Band and Non Band Aboriginal** student groups change schools more frequently than **Regular Program** or **ESL students**. Approximately 35% of Aboriginal students have changed schools two or more times by Grade 4 and 50% by Grade 7.*

(2) Is school change related to negative schooling outcomes when the entire Kindergarten - Grade 7 **grade trajectory** is considered?

*There are substantial pre-existing differences between the student groups regarding schooling outcomes. In the descriptive data, school change is clearly associated with higher rates of not progressing through grades, lower participation rates on Grade 4 and Grade 7 **Foundation Skill Assessments (FSAs)**, poorer success rates on FSAs. This is true for most student groups in most schooling contexts for most types of schooling change. Generally exceptions occur in the demographic of students changing to independent schools and French immersion programs and moving to higher income school neighbourhoods. Band affiliated students may experience more positive outcomes when making a single school change.*

(3) Do the timing, frequency, and type of school change across the Kindergarten – Grade 7 trajectory associated with different schooling outcomes?

The descriptive data confirms that school change in elementary grade levels is detrimental. Yet the descriptive data confirms that a higher number of school changes is associated with increased risk. When school changes occur within a school district they are associated with greater vulnerability. School changes across school districts, however, is also associated with schooling risk. While interruption of school may or may not involve a school

change (to a school out of province, or to a new school upon return to the BC system), it too substantially lowers the odds of success at schooling outcomes.

Main points in the Kindergarten – Grade 4 Descriptive Analysis:

- ❖ Approximately one out of every two students changes school at least once by Grade 4 in BC.
- ❖ The more often students change schools, the more disadvantages they face. Each time students change schools, rates of meeting FSA expectations and FSA scores are lower.
- ❖ Students who change schools are less likely to participate in FSA exams. This is true at each grade level students may change schools.
- ❖ Approximately 20% of the cohort experiences school change at each grade level. Most school change is either school change within district (5% of all students) **or** a move to a new school district (7% of all students).
- ❖ Grade progression as a cause of school change affects few of students in these early grades. Grade progression occurs mainly after Grade 3. There is no evidence that students making this school change are adversely affected.
- ❖ Approximately 13% of the students who change schools within their school district are changing across school types. The change is from or to independent schools or to and from French Immersion schools.
- ❖ Students in the Regular Program have the lowest rate of school change. Band students and Non Band Aboriginal students have substantially higher rates.
- ❖ All groups have fairly consistent in migration rates each year after a “peak” year of students enrolling after Kindergarten. This peak of students entering the BC system after the Kindergarten year reflects to some unknown degree the “deferred entry” rate.
- ❖ Band students have a high (approximately 10%) rate of deferred entry into the school system.

- ❖ There are several Bands where over 25% of the Band students enter school in Grade 1: Band students who enter the BC system in Grade 1 do not perform as well on both the Numeracy and Reading exams.
- ❖ There are many school districts where the rate of changing schools is within district is higher (over 15%) than the overall 7% of provincial cohort rate.
- ❖ When students change schools within their district they are less likely to meet expectations and have lower scores on FSA exams. This is true no matter what grade level the change occurs.
- ❖ ESL students who have changed schools are particularly less likely to participate on FSA exams.
- ❖ Exam participants who change school districts are less likely to meet expectations on FSAs and have lower FSA scores. This is true no matter what grade level the move across school districts occurs.
- ❖ Students in the Regular Program and Non Band Aboriginal students exam participants who change school districts appear to have a similar disadvantage on the Numeracy FSA (as opposed to Reading FSA).
- ❖ Band exam participants who change school districts appear to have a greater disadvantage on the Reading FSA compared to the Numeracy FSA.
- ❖ ESL exam participants who migrate to BC in the year preceding Grade 4 have substantially lower scores than those ESL students arriving in the BC system in earlier grades.
- ❖ When exam participants change schools in their district, there is typically a steeper decline in Reading FSA scores at grade level (Grade 3) preceding the FSA test year. For Band students, however, there is a steeper decline in Numeracy scores at this grade level.
- ❖ When exam participants in the Regular Program group change schools within their district, there is a decline in Numeracy scores.
- ❖ Gender differences are most apparent in the group of exam participants who migrate to BC. Female students who migrate to BC have an advantage over male students who migrate to BC.
- ❖ Band exam participants who change school district after Kindergarten have an advantage over all other Band students including those who do not change schools.

- ❖ Band exam participants who change schools within their district have a greater disadvantage than those Band students who change school districts.

Main points in the Kindergarten – Grade 7 Descriptive Analysis:

- ❖ Approximately 60% of BC students change schools before Grade 7.
- ❖ Rates of school change are higher in Aboriginal student groups.
- ❖ There is a spike in the school change rates of students migrating into the BC system after Kindergarten. This is an artefact of BC’s deferred enrolment policy.
- ❖ There is a secondary spike of students moving after Grade Five, associated with entry to many French Immersion programs.
- ❖ Rates of moving within school districts and across school districts are nearly the same.
- ❖ Band students have very high rates of entry after Kindergarten.
- ❖ Aboriginal students have the highest rate of FSA non participation on Grade 4 and Grade 7 FSAs.
- ❖ FSA information for one or both Grade 4 or Grade 7 exams is unavailable for 4% of students who do not change schools. In contrast, this FSA information is missing for 23% of students who do change schools. Trajectory information is disproportionately unavailable for mobile students. This means reported rates of “success” over time will be optimistic accounts of how the cohort of students performs over time.
- ❖ Longitudinal FSA information is missing for a substantial percentage of Aboriginal students.
- ❖ Students in the Regular Program have the highest rate of meeting expectations on both Numeracy and Reading FSAs over time.
- ❖ ESL students have nearly the same rate of meeting expectations as Regular Program students in Numeracy FSAs, but a lower rate than Regular Program students on Reading FSAs.
- ❖ Non Band Aboriginal students are behind Regular Program students to the same degree on both Numeracy and Reading FSAs.
- ❖ Band students are substantially behind Regular Program students on both FSAs, but particularly on the Reading exams.
- ❖ Inconsistently identified Aboriginal students perform higher on FSAs than those who are consistently identified as Aboriginal.

- ❖ Gender differences in exam performance are larger within Aboriginal student groups compared to other student groups.
- ❖ On average, students who meet expectations on both Grade 4 and Grade 7 have higher residential income than all other student groups.
- ❖ On average, students who meet expectations on both Grade 4 and Grade 7 have fewer numbers of school changes than all other student groups.
- ❖ Students who do not change schools have the highest rates of meeting FSA expectations.
- ❖ Among Regular Program students who move a single time, meeting expectation rates are typically lower in Numeracy and often in Reading (depending at which grade level the school change occurred) when students move school districts
- ❖ ESL students who arrive later do dramatically less well on FSAs than ESL students arriving earlier in the grade trajectory.
- ❖ ESL students who move school districts a single time do less well generally on both Numeracy and Reading than ESL students changing schools within school districts.
- ❖ Results associated with deferred entry and Aboriginal students show that students entering the BC system after the Kindergarten level do not perform as well on FSA exams as those who start school at Kindergarten.
- ❖ Results associated with Band students changing schools are mixed. Overall performance within the Band student group is poor. In some circumstances, Band students who change schools have higher success rates (particularly if a single move has occurred).
- ❖ The small number of Band students participating on both Grade 4 and Grade 7 exams is a methodological challenge and warrants caution in interpreting findings regarding longitudinal performance.
- ❖ When the context of the school change involves moving to French Immersion or independent schools, students are less at risk to have lower performances on the FSAs exams than for other types of school change.
- ❖ The performance of school districts indicates that differences between mobile and non mobile students on FSAs overall or by student group can vary dramatically.

Chapter One: Introduction and Literature Review

Do children who change schools throughout their school careers in British Columbia experience poorer outcomes on standardized tests and exit exams? Are literacy and numeracy skills of mobile students and non-mobile students equally resilient? Are some student populations in BC more likely to experience mobility? Does school change affect the academic outcomes of specific populations of students to the same degree? This research project aims to understand the student mobility, or students moving from one school to another for reasons other than being promoted to the next school level (Rumberger, 2002). When students are mobile across schools, there may be risks of disrupted educational programs in addition to the possible social risks in that peer relationships, family support, and community networks are also disrupted. This study seeks to understand the prevalence of student mobility across British Columbia's public schools and how school communities and neighbourhoods across British Columbia may be particularly challenged by mobility.

This research project explores school mobility of British Columbia's Kindergarten – Grade 12 students. This research project utilizes the administrative records of all students in the British Columbia school system drawing additionally on socioeconomic data and school census data. The aim is to examine the literacy and numeracy development in elementary grades and secondary grades hence student exam scores are linked to the student record. As well, high school graduation in relationship to school change is examined. Graduation dates are part of the student administrative record. School change is considered in terms of frequency of moves and location of moves. Student demographic characteristics of gender, Aboriginal status, **Band Status**, **ESL** status and home language spoken are of interest as the interaction of mobility and academic performance may differ for these student subpopulations. Band affiliation is linked to the student record. Community socioeconomic and demographic conditions are also examined as the interaction of mobility may differ across schools and communities. These variables are derived from Statistics Canada Census 1991 information and provided by the BC Ministry of Education.

Little is known about the prevalence or the impact of student mobility on school careers of students. Ligon & Paredes (1992) referred to student mobility as “one of the most elusive statistics in education today.” (They further claim that mobility statistics are based on available rather than appropriate statistics.) What research has occurred has strongly suggested that student mobility is associated with increasing risk of students for poor school outcomes, though the phenomenon is confounded with poor socioeconomic status and ethnicity. Due to the scarcity of student-level data, longitudinal research following school trajectories of students or skill development of students has rarely been attempted. Many studies that have occurred have relied on inconsistent measures of student mobility (such as district estimation formulas) and are localized to a given jurisdiction (therefore essentially are case studies) or have single enrolment measures. Studies that have been conducted frequently examine school-level student mobility. Individual-level data is frequently unavailable, and student populations are often not disaggregated to demographic groups.

Researchers have also raised concerns that in addition to negative impact on students, student mobility has a negative impact on schools when accountability efforts produce school-level aggregations of student performance measures, but fail to account for this student population (see Aman, 2006, Aman & Cartwright, 2006). Kerbow (1996a, 1996b) makes the point that school reform efforts implicitly assume that students attend a given school long enough for the school to make a difference in their achievement. He argues there are deep and hidden consequences for the schools mobile children attend – and there is a danger that improving schools and effective programs remain undetectable. In a UK context, Strand (2002) indicates that disaggregated performance data of schools when used in funding decisions for schools and programs will ill serve this vulnerable population. Offenber (2004) demonstrates how the Adequate Yearly Progress school performance measures, implemented nationally in the US, are highly prone to this error in with poor urban Philadelphia schools where high mobility occurs.

While many educators are aware that transient students are enrolled in their schools, there is increasing recognition from education administrators that student mobility is a barrier to student success. Yet, there has been little development or assessment of the programs and services that will assist mobile students and schools. Finally, the impact of mobile students on the educational process and non-mobile student populations of schools they attend is poorly

understood. This study aims to understand the prevalence of student mobility across British Columbia schools and communities. It will explore the impact of mobility on the acquisition of fundamental academic skills (literacy and numeracy skills) over the school trajectories of several provincial **cohorts** of students in addition to school completion of mobile students. A study of this scope has not yet been attempted.

What we know about the impact of mobility on students' socioemotional development, peer relations, and sense of belonging:

Some researchers have sought to understand the psychosocial effects or school adjustment issues of students who move. Fitchen, 1994 and Wood et. al (1993) point out that high levels of residential mobility are associated with low levels of support of the family's networks, such as church and community groups and other extended family, neighbours and social service agencies. Beirnat & Jax (2000) state that residential mobility that results in a school change is a particularly negative event for children. Calabrese, (1989) Fisher et. al. (2002), and Pribesh & Downey (1999) suggest that a school move damages or completely severs important social ties that are useful for cognitive development and social development. A US federal report, (US GAO, 1999) on youth linked residence change with negative health outcomes for children including prevalence of behavioural issues in schools. As there is a substantial body of educational research underscoring the importance of peer relationships and school attachment to school performance (see Hymel, et. al, 1996; Johnson, Crosnoe & Elder, 2001; and Wentzel, 1991) this dimension of student mobility should not be overlooked.

What we know about the impact of mobility on students' academic achievement:

Research suggests that there is a negative relationship between student mobility and academic achievement (Fowler-Finn, 2001; Heinlein & Shinn, 2000; Ingersoll, Scamman & Eckerling 1989; Mantzicopoulos & Knutson, 2000; Temple & Reynolds, 1999; Wright, 1999). Mobility disrupts regular attendance, continuity of lesson content, and the development of relationships with teachers and students, as well as interrupting basic skill acquisition (Paik & Phillips, 2002) and thereby is associated with lower student achievement. Typically, researchers compare state-mandated test scores or grade level skills measures of mobile and non-mobile student groups within a location or single school. While such studies tend to confirm that student mobility is a factor that differentiates student academic performance, the degree to which student

mobility *independently* accounts for differences between groups on test performance -- or school-wide performance on such tests -- is more difficult to answer. The conclusion that mobility in itself may have little effect is supported in Nelson, Simoni, & Adelman (1996). Yet, Temple & Reynolds (1997) found that half of the achievement differences between school problems were attributable to issues that predated the mobility (such as prior student achievement). A similar conclusion was reached in Alexander, Entwisle & Dauber (1996) when family and academic issues that predate mobility were controlled for.

Mobility at elementary, middle, and secondary grade levels:

Research on student mobility has investigated students at various grade levels, (though attention to the developmental stage of students is rarely considered). Reynolds (1991) found mobility (from K - Grade.2) to have a significant effect on achievement. Kerbow's (1996a, 1996b) comprehensive examination of all students in Chicago's elementary schools provided the basis for his estimation that three school moves are equivalent the loss of one academic year in terms of skill acquisition. Heinlein & Shinn (2000) argue that early mobility is a more potent predictor of sixth-grade achievement in their sample of New York students than later mobility. Ingersoll, Scamman, & Eckerling (1989) found that though there were negative effects for mobility at all elementary grade levels in Denver, but especially in earlier grade levels. Bolinger & Gilman (1997) found mobility was highly and significantly correlated to achievement on a language component of a performance test in a small US Midwest middle school sample. In contrast, Strand (2002) found mobility had small but negative effects on mathematics in a large urban UK district.

Fernandez (1987) found mobility had no effect on high school student performance when other home factors (such as language and socioeconomic status) were controlled for. Ligon & Paredes (1992) compared four secondary student groups in a Austin, Texas high schools: (1) stable (2) mobile in the current academic year, though not previously, (3) previously mobile, though currently stable and (4) highly mobile. While these researchers found highly significant differences between all groups at each secondary grade level, the prior academic achievement of students was not controlled for. Ingersoll, Scamman & Eckerling (1989) found a negative effect on academic achievement at each secondary grade level in urban Denver public schools in a study that controlled for socioeconomic status and ethnicity. In Sewell, Palmo & Manni (1981) mobility, as well as language and socioeconomic status, are significant predictors of test

performance. Similarly, a New York City school report (1992) examined *school performance* on state-mandated tests in one school year in terms of student and school demographics. High rates of student mobility at schools was consistently and highly associated with poor school level test performance *at all grade levels*, though other factors such as socioeconomic status, limited English proficiency, and minority composition of the schools in New York city were important.

What we know about the impact of mobility on students' school completion:

Researchers have established a strong relationship between student mobility and high school completion. The NY School Report (1992) found high association between student mobility and student dropout. (In the specific cohort examined there was an 18.5% completion rate for mobile students, in contrast to an 80% completion rate of their non-mobile peers.) Fetler (1989), Rumberger & Larson (1998), Swanson & Schneider, (1999), Teachman, Paasch, & Carver (1996), confirm this relationship by examining a US national sample. Rumberger et. al. (1999) students who move twice in a school career have a 60% graduation rate. The US Government Accounting Office (1994) found that children who had moved more than three times *before* high school were four times more likely to drop out of high school. Haveman & Wolfe (1994) tracked high school students and found residential mobility diminished graduation probability after background variables were controlled for. In a Canadian context, Aman (2006) established that high school students in British Columbia had diminished rates of school completion for each school move that occurred at high school grade levels. Of particular note, mobility rates were very high (50%) for the Aboriginal student population.

What we know regarding educational interventions and school response:

The policy and practioner challenge for educators posed by mobile students is considerable. How best to provide continuity of learning for students who move from school to school, district to district, and likely experience differences in academic programs? For students requiring specialized services how can the transfer of valuable information best occur? While researchers have yet to examine the effectiveness of interventions that aim to assist mobile students, many have offered descriptive accounts of localized strategies and suggestions (for example, the Kids Mobility Project in Minneapolis described by Hinz, Kapp, & Snapp, 2003). Rumberger (2002) asserts that when mobility is caused by school factors (as opposed to residential moves), policies of schools and districts should change to limit this practice.

Rumberger (2002) also mentions that districts may need to adjust student transportation strategies to curtail student moves across district schools.

Lash & Kirkpatrick (1990, 1994) observed the negative impact of mobile students on elementary classrooms, schools and teachers. They note the considerable preparation involved for teachers in preparing for students leaving or entering. Ligon & Paredes (1992) speculate that such "turbulence" can lead to staffing and workload issues in schools where student mobility is high. Effective and efficient protocols for the transfer of student records are frequently mentioned (Demie, Lewis & Fisher, 2005, Fowler-Finn, 2001; NY School Report 1999; Paik & Phillips, 2002). Close monitoring of the educational progress and attendance rates of students with histories of frequent mobility is also suggested (Rumberger, 2002). Researchers have noted some schools seek to mediate the social impact of mobility with student welcoming programs, buddy programs, and outreach to new parents (Demie, Lewis & Fisher, 2005; Fisher et. al., 2002; NY School Report 1999; and Paik and Phillips, 2002). Strategies may need to focus on the continuity of curricular content issues that mobile students may face (Paik & Phillips, 2002). The NY Report makes the recommendation that a uniform student curriculum be followed especially in basic skills areas within an educational jurisdiction.

What we know regarding the social/geographic component of mobility:

Research also qualifies the relationship poor school outcomes and student mobility as being additionally linked to socioeconomic status and ethnicity (Demie, 2002; Ingersoll, Scamman & Eckerling, 1989; Ligon & Paredes, 1992; US GAO 1994; Wright, 1999). Educators in many rural/agricultural areas have long been aware of the particular difficulty in providing education services to the children of migrant workers. Yet it is increasingly clear that students are also mobile in suburban and urban areas as well (see Bayer, 1982). Research indicates that children with less economic resources, living in poor housing areas and living with one or no parent are at greater risk for mobility (see Ligon & Paredes, 1992; NY School Report 1992; Paik & Phillips, 2002; and Wright, 1999). Schuler (1990) found 58% of welfare families in an urban area move once a year. The causes cited for moving in these families were typically finding employment, job relocation, poor housing, high crime rate neighbourhoods, domestic issues, and the temporary nature of many low-income jobs.

The extent of student mobility varies tremendously in different communities and schools. For example, in New York there are only two high schools where over 50% of the student population are mobile across schools (NY School Report, 1992). In New York city high mobility occurred in schools of highly ethnic student compositions and schools where students from were from poor families. Kerbow, Azoitia, & Buell (2003), Nelson, Simoni, & Adelman (1996), and Parsons, Chalkley, & Jones (2000) have provided evidence that the "magnets" for mobile students are urban schools in economically poor neighbourhoods. Much mobility of Aboriginal students is focused in urban areas generally and in low-income neighbourhoods particularly (Aman and Cartwright, 2006).

Chapter Two: Rationale of the Study

The proposed research is expected to make a valuable contribution to what little is known regarding student mobility. The prevalence of student mobility in British Columbia's elementary and secondary schools will be clarified. The scope of the study is broad – diverse student subpopulations will be investigated, as well as different grade levels and academic skills using administrative data and standardized measures. The magnitude and wealth of the data sources will allow for a design of a multiple cohort longitudinal population study, shedding light on school trajectories and skill development of mobile students across the province of British Columbia's range of schools, school districts, and communities.

It is expected that findings will generalize to other Canadian public education contexts, particularly those that share similar demographic profiles. Student mobility issues associated with school completion, Aboriginal students, ESL students, and neighbourhood socioeconomics exist beyond Canadian education jurisdictions. In this regard, the research findings are expected to will have broad application to research concerning education and youth.

Chapter Three: Data Sources and Methods

Part One: Data Sources

All data was provided by the British Columbia Ministry of Education.

Edudata Canada acted as a broker in the process of data extraction from existing databases and constructed a cross-sectional structure by year (hence creating the three cohorts). To ensure individual privacy, student's identities were protected by encrypted codes by the British Columbia Ministry of Education.

Part Two: Method of Analysis

The research project involves quantitative and descriptive analysis of ten years' worth (1996/1997 School Year – 2005/2006 School Year) of administrative data and student performance data collected by the British Columbia Ministry of Education. Information exists regarding three primary cohorts (those students who started Kindergarten in the 1999/2000 school year, the 2000/2001 school year, and the 2001/2002 school year) and three elementary school cohorts (those students who started Kindergarten in the 1996/1997 school year, the 1997/1998 school year, and the 1998/1998 school year).

A *longitudinal cohort design* is employed to gain insight to basic relationships of student school change and student performance on **Foundation Skill Assessment (FSA)** performance and other academic outcomes.

The main objective is to understand the relationship of student mobility (or school change) to both literacy and numeracy skills of all British Columbian elementary school students across all British Columbia public and independent schools.

Form 1701 is collected for all students in the province of British Columbia each year. School change over a student's school history (number of schools) is a critical focus of analysis and **derived** the administrative school census form (Form 1701). Information regarding whether the school change has occurred within district or across school districts will also be **derived** from the student's school history record. Location of schools will be determined by linking the **BC Ministry of Education School Census File**.

Information from the **BC Ministry of Education Exit Examination File** and **BC Ministry of Education FSA File** is **linked** to school record data Columbia. Gender, Aboriginal status, ESL status, home language spoken are variables of interest and appear on the student administrative record. Band affiliation information for Aboriginal students is **linked** from the **BC Ministry of Education Band Code File**. In order to understand the possible association of school context and community socioeconomics on the degree of mobility and the resilience of academic skills of students, income levels associated to postal codes was **linked** from the **BC Ministry Context of Education File** containing data derived from the 2001 Statistics Canada Census.

All files were cleaned of duplicate data. Where possible the accuracy of data was cross checked to establish error rates within the data. An attempt to resolve instances of missing data and ambiguous data was made by contact with the ministry and cross checking other data.

This study depends on secondary data sources and therefore is limited by the completion and accuracy of data provided by the British Columbia Ministry of Education.

A visual scheme of files that were linked to the student administrative record file appears below.

FILES LINKED TO STUDENT ADMINISTRATIVE RECORDS



The following lists the variables requested from the BC Ministry of Education and a brief rationale for their use.

STUDENT RETENTION FILE (Form 1701)

(1996/1997 School Year through to 2005/2006 School Year, Grades K-7)

1. Grade Level (Including Ungraded) by Year

This is required to assign each student to a cohort year and to investigate whether school change in a student's school trajectory is associated with grade progression.

2. School Ministry Code by Year

This is required to investigate whether or not students changed schools and to identify the original school and the destination school(s).

3. District Code by Year

This is required to investigate whether or not school change of students occurred within the school district or beyond the school district.

4. Public/Independent School Designation by Year

This is required to determine whether or not school change was associated with enrolment with an independent school, or alternately from an independent school to a public school.

5. French Program by Year

This is required to determine whether or not school change was associated with enrolment with a school offering French Immersion programming, or alternately, from a French Immersion school.

6. Gender

This is required to determine whether or not school change is more prevalent between girls or boys, and to investigate if school change differs between girls and boys.

7. Aboriginal Status by Year

This is required to determine whether or not school change differed for Aboriginal students.

8. English as a Second Language by Year

This is required to determine whether or not school change differs for ESL students. Both the grade level students received ESL programming and number of years students received ESL support are important factors in the literacy and numeracy development of ESL students.

9. Home Language by Year

This is required to determine whether or not differences occur in the literacy and numeracy development of ESL students between ethno-cultural groups of ESL students.

10. Home Postal Code by Year

This is required to investigate the community conditions associated with both the neighbourhoods where student mobility is high and those where student mobility is low. Student Postal Code will be used to link to Income level variables derived from the 1991 Statistics Canada School Census and provided by the BC Ministry of Education.

11. Graduation Date

This is required to determine whether students completed school and to determine whether they did so within the six-year time frame (from enrolling in Grade 8) that the BC Ministry considers “on time”.

12. Birth Date

Students’ birth year and month is required to determine the age of the student, to confirm the student is placed in the appropriate cohort.

ABORIGINAL BAND CODE FILE

(1996/1997 School Year through to 2005/2006 School Year, Grades K-7)

13. Aboriginal Band Code by Year

This is required to determine whether or not school change differs for Aboriginal students who have Band status.

FSA FILE

(2000/2001 School Year through to 2002/2003 School Year, Grades K-7)

14. School Code

This is required to clarify the school location at which students wrote their FSA exam. Students who move within the school year will write FSA exams at a school other than the one they were enrolled at in September.

15. FSA Grade 4 Numeracy Excused

This will indicate whether or not a student was excused from writing the Numeracy FSA exam. FSA results of students in all three subtests will be the critical dependent variable in this study.

16. Grade 4 Numeracy 3-pt Scale results (did not meet/meet/exceed)

FSA results of students will be the critical dependent variable in this study. The resilience of literacy skills will be investigated in comparison to numeracy skills. Grade 4 FSA Numeracy results will be a basic measure of numeracy skills.

17. Grade 4 Numeracy Percent Score

FSA results of students will be the critical dependent variable in this study. The resilience of literacy skills will be investigated in comparison to numeracy skills. Grade 4 FSA Numeracy percent will be a more refined measure of numeracy skills than the did not meet/meet/exceed categorization.

18. Grade 4 FSA Reading Excused

This will indicate whether or not a student was excused from writing the Reading FSA exam. FSA results of students in all three subtests will be the critical dependent variables in this study.

19. Grade 4 Reading 3-pt Scale results (did not meet/meet/exceed)

FSA results of students will be the critical dependent variable in this study. The resilience of literacy skills will be investigated in comparison to numeracy skills. Grade 4 FSA Reading results will be a basic measure of literacy skills.

20. Grade 4 Reading Percent Score

FSA results of students will be the critical dependent variable in this study. The resilience of literacy skills will be investigated in comparison to numeracy skills. Grade 4 FSA Reading percent will be a more refined measure of literacy skills than the did not meet/meet/exceed categorization.

21. Grade 7 FSA Numeracy Excused

This indicates whether or not a student was excused from writing the Numeracy FSA exam.

22. Grade 7 Numeracy 3-pt Scale results (did not meet/meet/exceed)

FSA results of students will be a critical dependent variable in this study. Where possible the resilience of literacy skills over time are investigated in comparison to numeracy skills over time. Where possible Grade 4 FSA Numeracy results are compared to Grade 7 Numeracy results at the individual student level.

23. Grade 7 Numeracy Percent Score

FSA results of students will be the critical dependent variable in this study. The resilience of literacy skills will be investigated in comparison to numeracy skills. Grade 4 FSA Writing percent will be a more refined measure of numeracy skills than the did not meet/meet/exceed categorization. Grade 4 FSA Numeracy percent will be compared to Grade 7 Numeracy percent at the individual student level.

24. Grade 7 Reading 3-pt Scale results (did not meet/meet/exceed)

FSA results of students will be the critical dependent variable in this study. The resilience of literacy skills over time will be investigated in comparison to numeracy skills over time. Grade 4 FSA Reading results will be compared to Grade 7 Reading results at the individual student level.

25. Grade 7 Reading Percent Score

FSA results of students will be the critical dependent variable in this study. The resilience of literacy skills will be investigated in comparison to numeracy skills. Grade 7 FSA Reading percent will be a more refined measure of literacy skills than the did not meet/meet/exceed categorization. Grade 4 FSA Reading percent will be compared to Grade 7 reading percent at the individual student level.

SCHOOL INFORMATION FILE

(1991/1992 School Year through to 2005/2006 School Year)

26. School Name by Year

This is required to clarify the identity of the schools. Schools will appear by name on GIS maps in a later phase of the project. School names are required to geo-reference the school with Statistics Canada GIS data. Over time, some schools change names.

27. School Address by Year

This is required in the analysis of mobility patterns associated with schools and school districts. The school address will be required to geo-reference the school with Statistics Canada GIS data in a later phase of the project. The GIS maps will be constructed to provide a graphic display of mobility rates of students across schools and across school districts. Over time, some schools are relocated.

28. School Postal Code by Year

This is required in the analysis of mobility patterns associated with schools and school districts. The school address will be required to geo-reference the school with Statistics Canada GIS data in a later phase of the project. Over time, some postal codes are reassigned by Canada post.

29. Facility Type (alternate, distance education) by Year

This is required to determine whether or not school change of students is associated with the facility type of the school (though this is not likely in elementary grades).

30. Status Code (Open and/or Closed) by Year

This is required to determine whether or not school change is associated with the closure or opening of a student's school.

31. Grade Levels (K-7) by Year

This is required to confirm whether or not school change of students is associated with grade progression.

The following lists additional variables derived from the data and a brief rational for their construction.

32. Grade Level of Entry into the System

This variable indicates at what expected grade level new students migrated to British Columbia. Students who migrate to BC are categorized as mobile students – their migration is a special case of school change. This variable serves to identify in migrants. Migration as a school change is controlled for in this subgroup.

33. Grade Progression by Year

This variable indicates whether or not grade progression occurred after each school year. For example did a Grade 1 student advance to Grade 2? Grade progression is an academic outcome of interest in the study.

34. Ever Aboriginal

If students ever indicated Aboriginal ancestry across the grade trajectory, they are “flagged” Aboriginal. This flag serves to help define one major student population followed in this study (Non Band Aboriginal).

35. Number of Years with Aboriginal Status

Students may identify as Aboriginal each school year. This count provides information on how many years over the grade trajectory a student identifies as Aboriginal.

36. Proportion of Time in the System with Aboriginal Status

This variable indicates to what degree students identified as Aboriginal over their grade trajectories. Analysis provides information on whether consistency is related to mobility and to success on school outcomes.

37. Number of Years Affiliated with a Band

On Reserve Aboriginal students are partially-funded through the federal government. These students are registered with a specific Band. Students may not be registered with a Band each year. This count provides information on how many years over the grade trajectory a student is affiliated with a Band.

38. Proportion of Time in the System with Band Affiliation

This variable indicates to what degree Aboriginal students are affiliated with a Band over their grade trajectories. Analysis provides information on whether On Reserve status consistency is related to mobility and to success on school outcomes.

39. Number of Bands Affiliated With

This variable indicates how many distinct Bands a Band student was affiliated with over the course of the grade trajectory. Mobility across Bands may be an issue for some Band students.

40. Number of Years Non Aboriginal (Aboriginal students only)

This variable counts the number of years an Aboriginal student did **not** identify as Aboriginal and was **not** affiliated with a Band.

41. Proportion of Time in the System with Non Aboriginal Status (Aboriginal students only)

This variable indicates to what degree Aboriginal students did **not** identify as Aboriginal and was **not** affiliated with a Band. Analysis provides information on whether Aboriginal identity or On Reserve status consistency is related to mobility and to success on school outcomes. This variable will also indicate the proportion of the student group to be consistently identified as Aboriginal or Band.

42. Ever French Immersion

If students ever enrolled in a French Immersion program across the grade trajectory, they are “flagged” French Immersion. This flag serves to help define one possible type of school change (intake into French Immersion typically occurs at Grade 6) and subsequent analysis will determine the demographic enrolled in French Immersion and the degree of student mobility associated with French Immersion programs.

43. Ever ESL Status

If students were ever designated ESL across the grade trajectory, they are “flagged” ESL. This flag serves to help define one major student population followed in this study (ESL).

44. Ever Band School

If students ever enrolled in a Band-operated school across the grade trajectory, they are “flagged” Band school. This flag serves to help define one type of schooling. Subsequent analysis will determine the degree of student mobility associated with Band schools and the success rates of various academic outcomes associated with Band-operated schools.

45. Ever Independent School

If students ever enrolled in an independent school across the grade trajectory, they are “flagged” independent school. This flag serves to help define one type of schooling. Subsequent analysis will determine the degree of student mobility associated with independent schools and the success rates of various academic outcomes associated with independent schools.

46. Ever Non Standard School

If students ever enrolled in a Non Standard school across the grade trajectory, they are “flagged” Non Standard school. This flag serves to help define one type of schooling. Subsequent analysis will determine the degree of student mobility associated with Non Standard schools and the success rates of various academic outcomes associated with Non Standard schools.

47. Ever moved into the BC system or out of the BC system (In/ Interrupt and Stay In/Interrupt and Migrate Out/Out)

This variable defines one type of school change – school change involving a school out of the BC jurisdiction. In some analysis this type of school change is controlled for. In migration serves to identify one student population in some analysis of school outcomes.

48. Grade Level of Exit from the BC System

This variable identifies the grade level a student moved from the BC system. Students who move in the last grades of high school may be school drop outs.

49. Number of Years in the System

This variable defines how many years a student spent in total in the BC system

50. Number of the Years of Interrupted Status in the BC System

This variable defines the number of years a BC student spent not enrolled in any school. A small minority of students have interrupted enrolment in the BC system. School interruption is one type of school change (it is not known whether students have moved beyond the BC jurisdiction or have dropped out temporarily).

51. Number of School Districts Enrolled (K-7)

This variable indicates the number of school districts a student has been enrolled in. In cases where students reenrol in a previous district after enrolment in a new school district, the move counts as a new school district.

52. Change of School District by Year (yes/no)

In order to create the variable **Number of Schools Districts Enrolled** whether change occurred each year of the student trajectory needed to be established. This variable also is used in analysis to determine if moves at specific grade levels are associated with poorer academic outcomes.

53. Change of School by Year (yes/no)

In order to create the variable **Number of Schools Enrolled** whether change occurred each year of the student trajectory needed to be established. This variable also is used in analysis to determine if moves at specific grade levels are associated with poorer academic outcomes.

54. Number of Schools Enrolled (K-7)

This variable indicates the number of schools a student has been enrolled in. In cases where students reenrol in a previous school after enrolment in a new school, the move counts as a new school.

55. Grade Progression by Year (yes/no)

This variable indicates whether school change has occurred for students at expected grade level in schools that do not offer the next grade level. In other words, in order for students to progress to the next grade level, a school move is required.

56. Number of School Changes Due to Grade Progression (K-7)

This variable indicates the total number of school changes that are related to grade progression.

57. Number of School Changes (Controlled for Grade Progression) (K-7)

This variable indicates the total number of school changes that occurred that were not associated with grade progression.

58. Cause of School Move by Year (in migration / school interruption / return after school) interruption / within district school change / across school district school change / grade progression within district / out migration / not determined)

This variable indicates the type of school change that occurred by year. Some changes are in and out of the BC system. Other changes are geographic – within and across school districts. Some

changes are due to grade progression. When students have an ambiguous grade level status such as Ungraded or Home school, school change due to grade progression may not be determined.) The type of school change and academic outcomes associated with each is of critical interest in this study.

59. Move of School System Choice by Year (from Independent / Public / Band and to Independent / Public / Band)

This variable indicates whether school change occurs *across school systems* within BC. In BC there are Band-operate schools, independent schools and Public schools. The mobility rate of each school system and academic outcomes associated with each is of critical interest in this study.

60. School Neighbourhood Average Personal Income Mean

This variable is the mean of all average personal income levels associated to the school postal codes where students enrolled. School neighbourhood income is a proxy socioeconomic indicator. Subsequent analysis examines whether school change is associated with school change and academic outcomes.

61. Student Neighbourhood Average Family Income Mean

This variable is the mean of all average family income levels associated to the student residential postal codes.

62. Difference between First School Neighbourhood Average Personal Income and Last

This variable indicates to what degree and in what direction the school average personal income level differed between the first school a student enrolled and the last school. Subsequent analysis examines whether school change was associated with schools in low (or lower than prior schools) school neighbourhood income levels.

Chapter Four: Demographics of the BC Student Population: Descriptive Data of Three Cohorts

This chapter presents a description of three Kindergarten - Grade 4 cohorts in an attempt to help understand the demographics of the British Columbia (BC) student population, and how these student demographics may vary over time. Additionally, this chapter provides a foundation for understanding how students are defined (and the consistency of that definition over school years) for the analysis that occurs in later chapters of this report. This level of detail is not provided for the remaining three elementary cohorts (Kindergarten – Grade 7) or three secondary cohorts (Kindergarten – Grade 12).

The elementary cohorts that are the focus of this chapter are:

- (a) Cohort 1999 (Kindergarten in 1999/2000 school year)
- (b) Cohort 2000 (Kindergarten in 2000/2001 school year)
- (c) Cohort 2001 (Kindergarten in 2001/2002 school year)

Part One: Four Student Groups

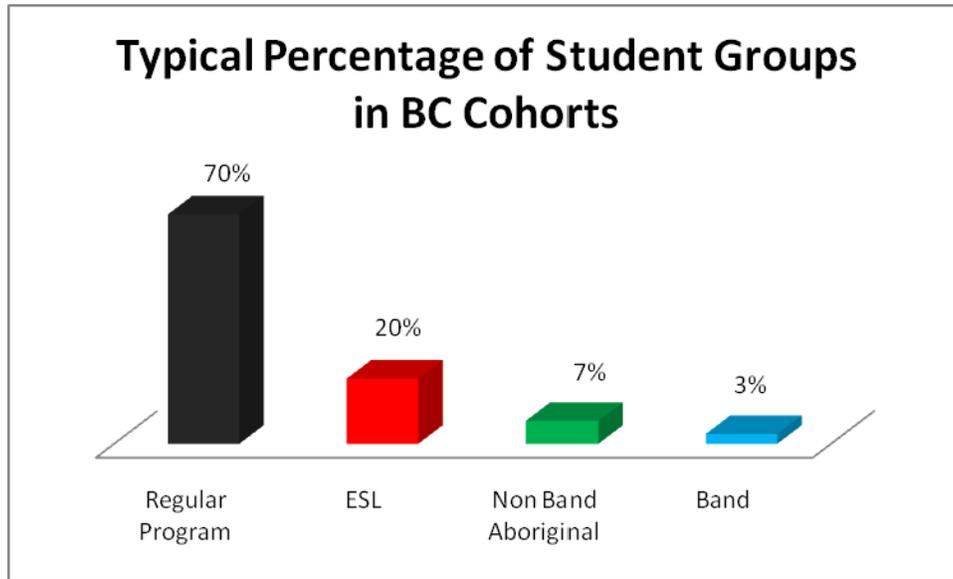
Students enrolled in the BC school system have been subdivided into four exclusive categories for the purpose of analysis in this study of school change:

- 1: Band Students¹** (Students who ever have enrolled in the BC system with a Band affiliation.)
- 2: Non Band Aboriginal Students** (Students who have ever enrolled in the BC system as Aboriginal students, but never been affiliated with a Band.)
- 3: ESL Students** (Students who have ever been designated as English as Second Language students, excluding Band and Non Band Aboriginal students who have received this designation.)
- 4: Regular Program Students** (All other students.)

¹ Aboriginal students are not typically delineated into Band and Non Band Aboriginal groups. By accessing a BC Ministry file that identifies the Band affiliation of On-Reserve Status Indian students, this distinction was possible. This distinction is important because my previous research has shown that this group is more vulnerable to poor academic outcomes than students who claim Aboriginal status but are not On-Reserve, or in other words, have Band affiliation.

In any cohort, the majority of students in the BC system are students in the **Regular Program** (typically 70%). The ESL students' share is typically 20%. Aboriginal students comprise the remaining portion of students. The majority of Aboriginal students are **Non Band Aboriginal** (7%) and a small number are affiliated with a Band (3%) (see Figure 1).

Figure 1: Typical Percentage of Student Groups in BC Cohorts



The proportion of students in Band, Non Band Aboriginal and ESL student subgroups appears to increase each year. There is a slight increase in the share of Aboriginal students affiliated with Bands over these three cohort years. Similarly, the share of Non Band Aboriginal students increases each cohort year. The portion of the population enrolled as ESL students increased from the 1999 cohort year in both the 2000 cohort year and the 2001 cohort year. Conversely, the share of students enrolled in the Regular Program has decreased slightly over these cohort years (see Figure 2).

Figure 2: Number and Percentage of Student Groups by Cohort Year

	Band	Non Band Aboriginal	ESL	Regular Program	Cohort Total N
Cohort '99	N=1286 (2.4%)	N=3504 (6.5%)	N=10,892 (20.3%)	N=38,033 (70.8%)	N=53,715
Cohort '00	N=1275 (2.4%)	N=3585 (6.8%)	N=10,937 (20.9%)	N=36,670 (69.9%)	N=52,467
Cohort '01	N=1287 (2.5%)	N=3559 (6.9%)	N=10,739 (20.9%)	N=35,719 (69.6%)	N=51,304

The *total number* of students in each cohort is declining each year. The decline, however, of numbers is not evident in each of the four student subgroups. The number of Band students has remained nearly stable, and the number of Non Band Aboriginal students in the 2000 cohort and in the 2001 cohort is larger than in the 1999 cohort. The ESL student population declined by 4% from the 1999 cohort to the 2000 cohort, and 3% from the 2000 cohort to the 2001 cohort. The Regular Program student population declined by 2% from the 1999 cohort to the 2000 cohort, and 2% again from the 2000 cohort to the 2001 cohort.

Part Two: Gender and Student Groups

The percentage of male and female students enrolled in the BC system was calculated by cohort year and by subgroup.

There is a larger proportion of male students than female students in the BC system in each of the three cohort years². The difference is approximately 3% in favour of male students. Over time the difference in percentage of males and females becomes smaller. The difference in proportion of male and female students in the BC system is most pronounced in the ESL student group (approximately 5% difference). Yet in different cohort years the proportion of Band and Non Band Aboriginal males is distinctly higher than females (see Figure 3).

Figure 3: Percentage of Gender and Student Groups by Cohort Year

Cohort Year	Student Group	Female	Male	Percentage Point Difference
Cohort '99	TOTAL	48.1%	51.9%	3.7%
	Band	48.4%	51.6%	3.1%
	Non Band Aboriginal	47.7%	52.3%	4.5%
	ESL	46.8%	53.2%	6.4%
	Regular Program	48.5%	51.5%	2.9%
Cohort '00	TOTAL	48.3%	51.7%	3.3%
	Band	47.5%	52.5%	5.1%
	Non Band Aboriginal	49.0%	51.0%	2.1%
	ESL	47.3%	52.7%	5.4%
	Regular Program	48.6%	51.4%	2.7%
Cohort '01	TOTAL	48.6%	51.4%	2.7%
	Band	48.5%	51.5%	3.0%
	Non Band Aboriginal	49.4%	50.6%	1.2%
	ESL	47.5%	52.5%	5.1%
	Regular Program	48.9%	51.1%	2.8%

Gender may emerge as a factor of interest as school outcome results differ on gender lines. The analysis in this study (in both this elementary component and in the secondary component) will examine if there are gender differences associated with school change.

² This finding is interesting though no explanation can be offered as to why. Examination of the difference in the ESL population (which comprises a substantial share of the total population) indicates a larger presence of males. This plays some role in the gender imbalance.

Part Four: ESL Designation and Aboriginal Students

There is a substantial proportion of Aboriginal students both Band students and Non Band Aboriginal students who also *were enrolled in ESL programs*. As described earlier, these students are not formally classified in the ESL students subgroup for this analysis. Presumably, this designation means that these Band and Non Band Aboriginal students received academic support in ESL classrooms. Between one quarter and one third of Band students over the cohort years and approximately one fifth of Non Band Aboriginal students are given this designation in the BC school system (see Figure 4).

Figure 4: Number and Percentage of Aboriginal Students in ESL Programs by Cohort Year

	Band and ESL	Percentage of Band Group	Non Band Aboriginal and ESL	Percentage of Non Band Aboriginal Group
Cohort '99	N=327	25%	N=534	15%
Cohort '00	N=393	31%	N=673	19%
Cohort '01	N=435	34%	N=735	21%

The share of students enrolled in ESL programs from both these Aboriginal student groups *increases* each cohort year (see Figure 5).

Figure 5: Share of ESL Designated Students who are Aboriginal Students by Cohort Year

	Band	Non Band	ESL
Cohort '99	N=327 (2.8%)	N=534 (4.5%)	N=10,892 (92.7%)
Cohort '00	N=393 (3.3)	N=673 (5.6%)	N=10,937 (91.1%)
Cohort '01	N=435 (3.7%)	N=735 (6.2%)	N=10,739 (90.2%)

When Aboriginal students who have been enrolled in ESL programs are included in the ESL student group, Band students comprise 3%-4% of the ESL group, and Non Band Aboriginal students approximately 4%-6% of the ESL student group depending on which cohort year is examined. Again, the share of ESL students with Aboriginal status *increases* each cohort year. The proportion of Aboriginal students enrolled in ESL programs varies across Bands, communities, and school districts. To illustrate, in Bands where over seven students are enrolled in the cohort year, 50% of the Bands have no students designated as ESL. In the remaining 50% of Bands, the rate of ESL designation ranges from 6% to 63%. Communities where there are over seven Band students enrolled have Aboriginal ESL designation rates that vary from 4% to 55% (again 50% of these communities have no ESL designation). Communities with the highest Aboriginal ESL designation rate include Greenville, South Hazelton, New Aiyansh, Campbell River, Terrace and Chemanius. School Districts vary in Aboriginal ESL designation similarly (between 2% -36%).

Typically in each cohort, there is a greater proportion of Aboriginal males (both Band and Non Band) enrolled in ESL programs. In the 1999 cohort, male Band students are enrolled in ESL programs at a proportion that is 24% higher than female Band students, and this gender gap is 16% favouring male Non Band Aboriginal students. In the 2000 cohort, the gender difference in ESL enrolment is 16% in the Band student group and 9% in Non Band student group. In contrast, the difference is smaller in the 2001, with 5% more males than females enrolled in ESL programs in the Band student group, but still 15% in the Non Band Aboriginal student group.

These observed gender gaps suggest that ESL designation of Aboriginal students may be a factor of interest in future analysis of school change and school outcomes.

Part Four: Consistency of Aboriginal Identification

Many students who are affiliated with a Band or indicate Aboriginal ancestry do not do *consistently over time*. In other words, students may be enrolled one year and declare Aboriginal ancestry, but may not declare this in succeeding years. Or, students may be affiliated with a Band in one year of their school enrolment, but not in other years. Typically, just over half of Band students are consistently identified as such over cohort years, whereas the percentage increases over cohort years (58%-70%) in the Non Band Aboriginal student group (see Figure 6).

Figure 6: Number and Percentage of Student Group with Consistent Identification as Band Students or Non Band Aboriginal Students by Cohort Year

Cohort Year	Band 100% of Years in BC System	Non Band Aboriginal 100% of Years in BC System
'99	N=714 (55.5%)	N=2029 (57.9%)
'00	N=708 (55.5%)	N=2188 (61.0%)
'01	N=685 (53.2%)	N=2206 (70.0%)

Because there is a large percentage of students who are inconsistently identified as Band or Non Band Aboriginal over time, a more detailed breakdown of the identification categories is needed. As they progress through school years, Aboriginal students may be:

- (a) Always Band
- (b) Always Non Band Aboriginal

And also,

- (c) Band and Non Band Aboriginal
- (d) Band and Regular Program
- (e) Non Band and Regular Program
- (f) Band and Non Band and Regular Program

In each of the three cohorts the numbers of students identified as Aboriginal increase as students progress through each grade level, or school year. In Kindergarten, 65%+ of Non Aboriginal students are identified as Aboriginal. By Grade 4, 90%+ of Non Aboriginal students are. This may be an indication of both continuity in record keeping regarding Aboriginal students from year to year within the education system, and increasing willingness of older students to claim Aboriginal ancestry.

In contrast, the numbers of Band students identified as Band increase less dramatically as students progress through each school year. In Kindergarten the percentage of the Band students affiliated to a Band is 69%-73% (depending on the cohort year). By Grade 4 it is 75%-76% (see Figure 7).

The findings presented above suggest that the consistency of Aboriginal identification may be a factor of interest in future analysis of school change and school outcomes.

Figure 7: Number and Percentage of Aboriginal Students in Identification Consistency Categories

	Consistency	Number and Percentage of Aboriginal Students in BC System
Cohort '99	(a) Always Band	N=714 (14.9%)
	(b) Always Non Band Aboriginal	N=2029 (42.4%)
	(c) Band and Non Band Aboriginal	N=507 (10.6%)
	(d) Band and Regular Program	N=26 (0.5%)
	(e) Non Band and Regular Program	N=1475 (30.8%)
	(f) Band and Non Band and Regular Program	N=9 (0.8%)
Cohort '00	(a) Always Band	N=708 (14.6%)
	(b) Always Non Band Aboriginal	N=2188 (45.0%)
	(c) Band and Non Band Aboriginal	N=501 (10.3%)
	(d) Band and Regular Program	N=37 (0.8%)
	(e) Non Band and Regular Program	N=1397 (28.7%)
	(f) Band and Non Band and Regular Program	N=29 (0.6%)
Cohort '01	(a) Always Band	N=685 (14.1%)
	(b) Always Non Band Aboriginal	N=2206 (45.5%)
	(c) Band and Non Band Aboriginal	N=516 (10.7%)
	(d) Band and Regular Program	N=55 (1.1%)
	(e) Non Band and Regular Program	N=1353 (27.9%)
	(f) Band and Non Band and Regular Program	N=31 (0.6%)

*Note: There were five cases of students designated “Band” in a given year, but not being enrolled in school that year. There were sixteen cases of students designated “Band,” but not being Aboriginal that year. The discrepancy has no explanation but may be due to the timing of census work at both the school district level and the Reserve level.

Part Five: Band Affiliation

There are 201 Bands in BC ranging across diverse geography and socioeconomic conditions. Students enrolled in BC are affiliated with 171 of these bands. The numbers of students affiliated with a given Band ranges from a single student in a cohort to 34 students each school year. Generally, there are about 40 Bands with more than 7 students in a given cohort year. In the 1999 cohort, 8% (N=105) of Band students are affiliated with different Bands over time. In the 1999 cohort, 65% of Band students changed schools before Grade 4. Change of Band affiliation appears related to **school mobility** (80% of these students change schools). Given the small number of Band students affiliated to any given Bands in a given year, analysis at the Band unit is very challenging.

Part Six: Consistency of ESL Identification

In the ESL student group, students may not be consistently identified as ESL each school year. The data show, however, that students generally receive an ESL designation at the first opportunity regardless of whether they are in the BC system in Kindergarten, or whether they enroll in the BC system in later grades (as in migrants to BC) (see Figure 8).

Figure 8: ESL at First Opportunity

Cohort Year	ESL at Earliest Opportunity
Cohort '99*	86.7%
Cohort '00*	86.2%
Cohort '01*	84.3%

Many students receive a single year of ESL designation and hence ESL support programming. The assignment of other students to ESL programs is interrupted over grade levels. ESL programming is interrupted in approximately 5% of the ESL student group in each of the three cohorts. Interruption of ESL is associated with interruption to BC enrolment, however, there is a small rate of interruption of ESL programming among ESL students who have

uninterrupted enrolment in the BC system. Eighty-three percent of students with interrupted ESL designation have changed schools (see Figure 9).

Figure 9: ESL Program Continuity

Cohort Year	ESL in Sequence	ESL Interrupted	ESL One Year Only
Cohort '99*	N=8365 (84.3%)	N=454 (4.6%)	N=1105 (11.1%)
Cohort '00*	N=8423 (83.9%)	N=526 (5.2%)	N=1092 (10.9%)
Cohort '01*	N=8091 (83.1%)	N=456 (4.7%)	N=1184 (12.2%)

*Students in the BC system for a single year only are not included in the analysis. The continuity of their ESL program is unknown.

Typically *half* of the students receiving a single year of ESL programs are students who are only in the BC system for a single year. The other half of students who are receiving a single year of ESL programs are enrolled for multiple years. Together these cases of students receiving a single year of ESL designation comprise 11% of the ESL students enrolled in the 1999 cohort.

When examining the grade level of students who are in the BC system for more than a year and receive a single year of ESL programs, it appears that the largest share of students are enrolled in ESL programs in Kindergarten, but a spike occurs in Grade 4 (the FSA test year) (see Figure 10).

**Figure 10: Timing of ESL for a Single Year
(Percentage of Single Year ESL Student Subgroup by Grade Level)**

Cohort Year	1 shot in K	1 shot in Gr.1	1 shot in Gr.2	1 shot in Gr.3	1 shot in Gr.4	TOTAL
Cohort '99	49.5%	12.9%	9.4%	8.4%	19.7%	100%
Cohort '00	48.4%	17.5%	7.8%	7.4%	18.9%	100%
Cohort '01	47.8%	15.1%	7.9%	8.7%	20.5%	100%

Lack of continuity of ESL designation is highly, but not strictly, associated with school change. It is unknown what the scores of these students would be if they had not received any ESL designation, however, it is clear that earliest and/or continuous ESL enrolment is associated with higher scores on FSA exams.

The findings presented above indicate that timing of ESL designation may emerge as a factor of interest in the analysis of student mobility and school outcomes.

Part Seven: Home Language

In any given cohort, at least 20% of students speak a home language other than English in a given grade level. Over 100 languages spoken at home including French and English are identified by BC students. The reporting of a home language other than English is far more likely to occur in the ESL student population. Overall, only 4% of students not classified in the ESL student group claim to speak a home language other than English. The following is a list of languages where there are sufficient numbers of speakers in the cohort to permit limited analysis at ethno cultural group level.

**Figure 12: Language Groups with the Most Speakers within the ESL Student Group
 1999 Cohort**

Language Group	Number of Speakers
Chinese	N=3576
Punjabi	N=2324
Vietnamese	N=597
Korean	N=579
Philippino	N=523
Spanish	N=379
Hindi	N=298
Persian	N=266
Arabic	N=175

Mobility patterns and school outcomes are expected to vary by home language group. Within ESL student group analysis will feature only these nine home language groups as the small number of speakers in many language groups means analysis at the unit of home language is often impractical.

Chapter Five: Foundation Skill Assessment (FSA) Outcomes

In BC, there are three Foundation Skills Assessments (FSAs) (Reading, Writing and Numeracy) written by students in the Spring of Grade 4. The results of the Numeracy and Reading exams are the primary academic outcomes in this study. The structure of scores in the Writing exam created difficulty in interpretation. Therefore the Writing FSA will not be used as an outcome variable in this study. In this chapter, analyses on the performance of student subgroups on Reading and Numeracy FSAs in terms of various sorts of school mobility are presented.

This section is divided into two main parts:

Part One: FSA Exam Participation and Non Participation

This section presents descriptive data related to exam participation and non participation.

- (a) Typical Exam Participation Rates of Cohorts
- (b) Differences in Participation Rates across the Three FSAs
- (c) Differences in Participation Rates over Time
- (d) Differences in Participation Rates across Student Groups
- (e) Differences in Excused Rate across Student Groups
- (f) Gender Differences in Exam Participation
- (g) Differences in Absent Rate across Student Groups
- (h) Differences in Participation Rates by School Institutions
- (i) Differences in Participation Rates across School Institutions and across Student Groups
- (j) Geographic Differences in Participation Rates
- (k) Factors Related to FSA Non Participation

Part Two: FSA Results

This section examines descriptive data related to exam scores and meeting expectations categorization.

- (a) Differences in FSA Results across Three Exams
- (b) Differences in Meeting Expectations across Student Groups
- (c) Factors related to Meeting Expectations on FSA Exams
- (d) Differences within Student Groups: Band Students
- (e) Differences within Student Groups: ESL Students

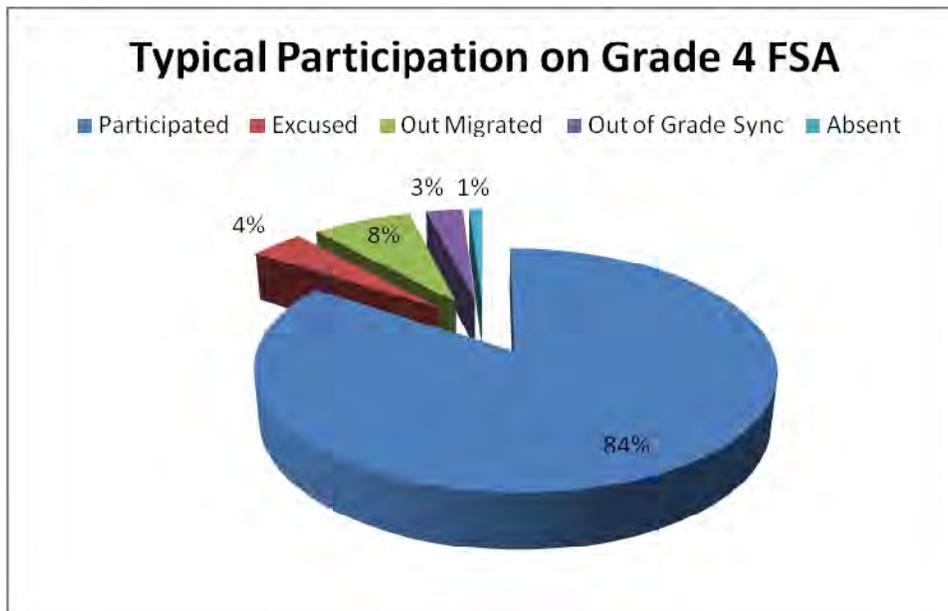
Part One: FSA Exam Participation and Non Participation

The examination of FSA scores does not tell the complete story on how well students may perform on a standardized measure across BC because FSA Grade 4 results are not available for every student. There are several reasons explaining why students may not have participated in FSAs, including: (1) they may have migrated out of BC by Grade 4, (2) they may no longer be in grade synchronicity with their peers, (3) they may have been excused from participation in advance of the test days, or (4) they may have been absent on FSA days. For these reasons, it is important to consider **participation rate**, particularly of vulnerable groups when comparing FSA scores.

(a) Typical Exam Participation Rates of Cohorts

Typically, 84% of the student cohort participates in each of the three FSAs each year. Approximately 8% are no longer enrolled in BC, 4% are excused from participation, 3% are not in the grade 4 level and 1% are absent on test days (see Figure 13).

Figure 13: Participation on Grade 4 FSAs over Three Cohorts



(b) Differences in Participation Rates across the Three FSAs

The participation rate is highly similar across all three exams. In each cohort between 84% and 85% of the cohort participates on each FSA. The excused rate is between 4% and 5% in each cohort across all three FSAs (see Appendix 5A).

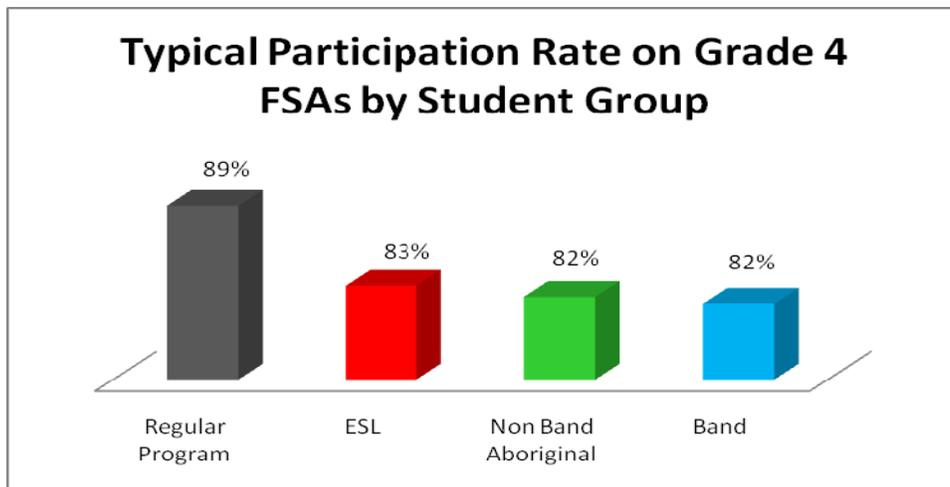
(c) Differences in Participation Rates over Time

The participation rate across the three exams does not change greatly over the three cohort years. There is a small increase in the rate of excused students in the most recent cohort. The excused rate increases from just over 4% in the 1999 cohort and the 2000 cohort to over 5% in the 2001 cohort for each of the three tests. Typically, 7% of the 2001 cohort leave BC, just fewer than 3% are out of grade synchronicity by Grade 4 (which affects all three of the tests), and 1% are absent (on any given test) (see Appendix 2A).

(d) Differences in Participation Rates across Student Groups

There are differences in participation rates across the four student groups on the Grade 4 FSA. Generally, students in the Regular Program have a participation rate of 89%, in contrast to the lower participation rates of ESL students (83%) and two Aboriginal student groups (82%)(see Figure 14). These rates fluctuate only minutely across the three FSA exams and over time (see Appendix 5B).

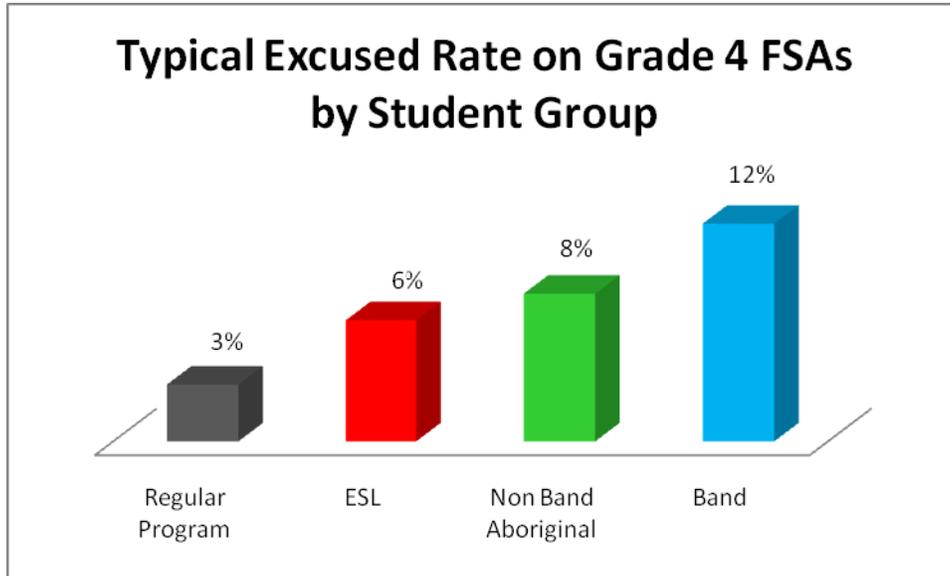
Figure 14: Typical Participation Rate by Student Group



(e) Differences in Excused Rate across Student Groups

As stated above, students may be excused from participation in advance of the test days. Like the participation rate, the excused rate differs by student group. Typically, 3% of the students in the Regular Program are excused, whereas the excused rate is 6% for ESL students, 8% for Non Band Aboriginal students and 11% for Band students (see Figure 15). Differences among the four groups are similar across the three FSA exams (see Appendix 5C).

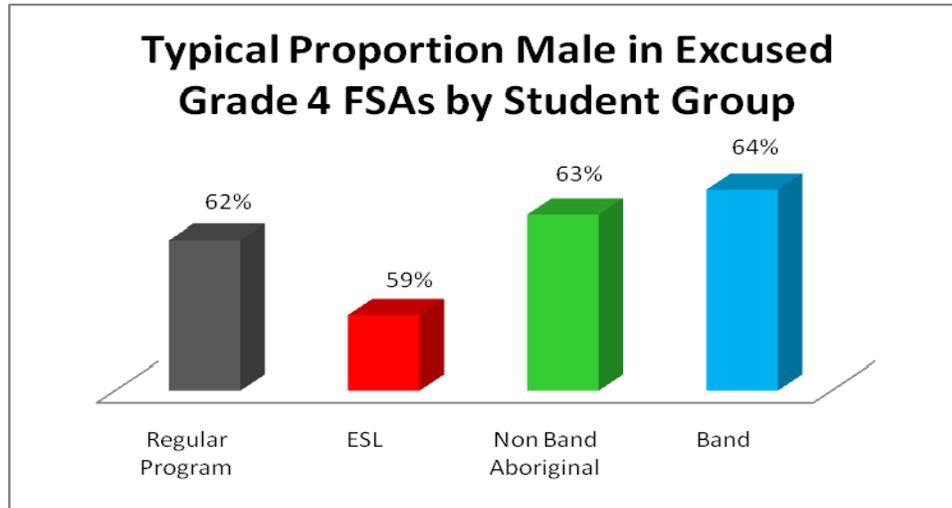
Figure 15: Excused Rates



(f) Gender Differences in Exam Participation

Typically, there is a greater proportion of male students excused from exam participation than female students. Depending on cohort year and FSA test, approximately 36% of the excused students are girls and 64% are male students. This varies across student groups where there are typically lower male proportions excused in the ESL group and slightly higher male proportions excused in both Aboriginal groups compared to students in the Regular Program (see Figure 16).

Figure 16: Gender Difference in Exam Participation



(g) Differences in Absent Rate across Student Groups

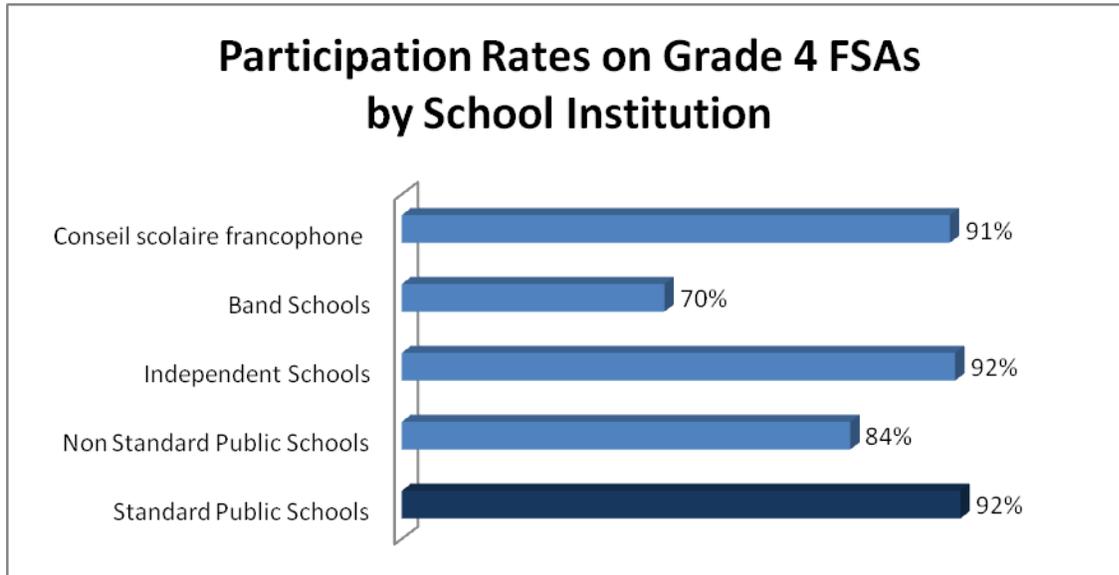
Students may be absent on test days. This occurs in a minute percentage of student cases. There are small differences across cohort years and student groups (see Appendix 5D).

(h) Differences in Participation Rates by School Institutions

There are different types of school institutions in BC. These include public schools, non standard public schools that serve distinct student populations (such as alternative schools), independent schools (both university preparation and denominational) and Band-operated schools. In addition, some public schools exist in two non-geographically defined school districts: (1) Distance Education and (2) Conseil scolaire francophone. The vast majority of schools for students in the Kindergarten-Grade 4 levels are standard public schools (see Appendix 5E).

The FSA participation rates in public schools, in Conseil scolaire francophone schools, and in independent schools are high and similar to one another at approximately 92% (see Figure 17). Public non standard schools and Band schools have lower FSA participation rates. The few students enrolled in Distant Education schools did not participate in FSAs.

Figure 17: School Institution and Grade 4 FSA Participation



(i) Differences in Participation Rates across School Institutions and across Student Groups

The different school institutions have enrolments comprised of differing shares of the student subgroups. As stated above, most students in BC are enrolled in standard public schools. In these institutions, a disproportionate share of Aboriginal students, both Band affiliated (13%) and Non Band Aboriginal (8%), are excused from the FSA compared to excused students in the Regular Program (3%) (see Appendix 5F for all statistics in this section). ESL students are excused at the rate of 7% in standard public schools. Additionally, in public schools, the ESL students and Non Band Aboriginal students are more likely to not have written the test for undefined reasons. In school types other than standard public, the small numbers of students enrolled demand caution in interpreting FSA participation rates. ESL students and Aboriginal students are scarcely represented in non standard public schools.

Independent schools have lower rates of excused students and yet higher rates of unaccounted for absence for students in the regular program compared to public schools. The share of ESL students enrolled in independent schools is disproportionate to their numbers in the entire system. The excusal rate of these ESL students is much lower than that of their peers in public schools. The unaccounted for absence rate is higher. This could be an artefact of the

selectivity of many independent schools. Aboriginal students are not represented in great numbers at independent schools.

Band schools have a small number of students enrolled and for the most part the students are Band-affiliated. Smaller proportions of Band students are excused in these schools (2%) compared to their Band-affiliated peers in public schools (13%), though the unaccounted absence rate is higher (2% compared to <1%).³ Students are so few in number at distant education schools, there is little to observe.

Finally, conseil scolaire francophone schools have much smaller numbers of enrolled students. There are smaller excused rates and larger unaccounted for absence rates than standard public schools. ESL students are over represented at these schools and have lower excused rates and higher unaccounted absent rates. Aboriginal students are scarcely represented in these schools.

(j) Geographic Differences in Participation Rates

The participation rates on Grade 4 FSA exams vary widely by school district (from 98% to 47%). School districts differ dramatically in population size, or number of students enrolled. School districts with particularly low participation rates are SD#74, SD#49, and SD#87. These districts are among those with the smallest student populations and are in remote areas. The rate of participation, excused, absent and no longer in grade synchronicity across student group also varies dramatically over school districts (see Appendix 5G).

(k) Factors Related to FSA Non Participation

The following points are observations related to a more detailed examination of demographic factors that relate to FSA non participation (see Appendix 5H). There are several factors that are associated with higher non participation rates within student groups whether the non participation takes the form of excusal, unaccounted absence on test day, or no longer in grade synchronicity. Adding complexity, these factors differ in degree across student groups. They are summarized below:

³ Additionally, and pertinent to Band students, there is a large rate of students not eligible for participation due to falling behind grade level in Band schools. 13% of Band students, 5% of Non Band Aboriginal students, 1% of ESL students and 3% of Regular Program students are not in grade synchronicity by Grade 4.

Generally,

- Male students are disadvantaged in terms of having higher excusal rates, higher unaccounted absent rates and higher no-longer-in-grade-four rates. This is particularly so for Band students.
- Entry into the BC system in Grade 1 (deferred enrolment occurring as well as in migration) is associated with higher unaccounted for absent rates and higher no-longer-in-grade-four rates.
- ESL designation within Aboriginal and Non Aboriginal groups is associated with higher non participation rates.
- Enrolment in French Immersion is associated with a very small *increase* in participation rates.
- Changing school districts is associated with higher non participation rates (except in the case of the excusal rates of Non Band Aboriginal students.) This is more evident in the ESL student group than other student groups.
- Changing schools is associated with higher non participation rates (except in the case of the excusal rates of Non Band Aboriginal students). This is more evident in the ESL student group than other student groups.
- Changing residential postal code⁴ is associated with higher non participation rates (except in the case of the excusal rates of Non Band Aboriginal students). This is more evident in the ESL student group than other student groups.

⁴ Students that move residence may or may not have a change of postal code. These students do not necessarily change schools. Additionally, Canada Post redefines postal code boundaries from time to time. Therefore a change of residence is not equivalent to school change though it very likely indicates a change of residential address as occurred. For more analysis, see Supplement A p. 245.

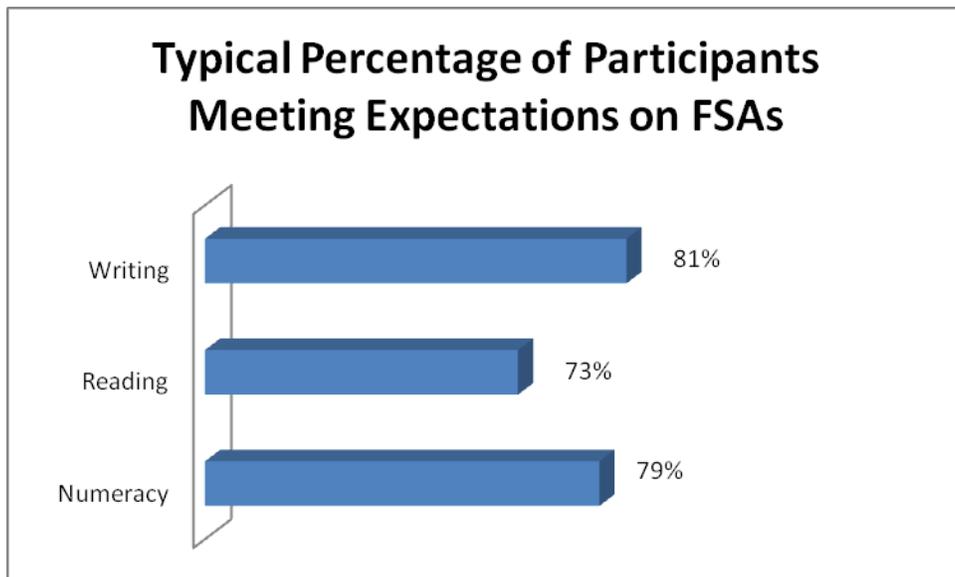
Part Two: FSA Results

In cohort 1999, there is FSA Numeracy information for 47, 584 students. Students are categorized by the Ministry of Education according to their ability to “meet expectations” or “exceed expectations” in a given exam domain based on their exam score. (For the sake of simplicity students in both these Ministry categorizations will be described as “meeting expectations”.)

(a) Differences in FSA Results across Three Exams

There are differences in the student group proportion meeting expectations across Numeracy, Reading, and Writing FSAs (see Appendix 5I). A greater proportion of participating students meet expectations on the Numeracy exam (79%) as opposed to the Reading exam (73%) (see Figure 18). This is true regardless of student group. (The Writing exam results are more difficult to interpret, in that student scores are not well delineated.) It should be recalled, that where groups have high rates of students excused from participation, or unaccounted absence, or are no longer in Grade 4, the success rate presents an optimistic picture.

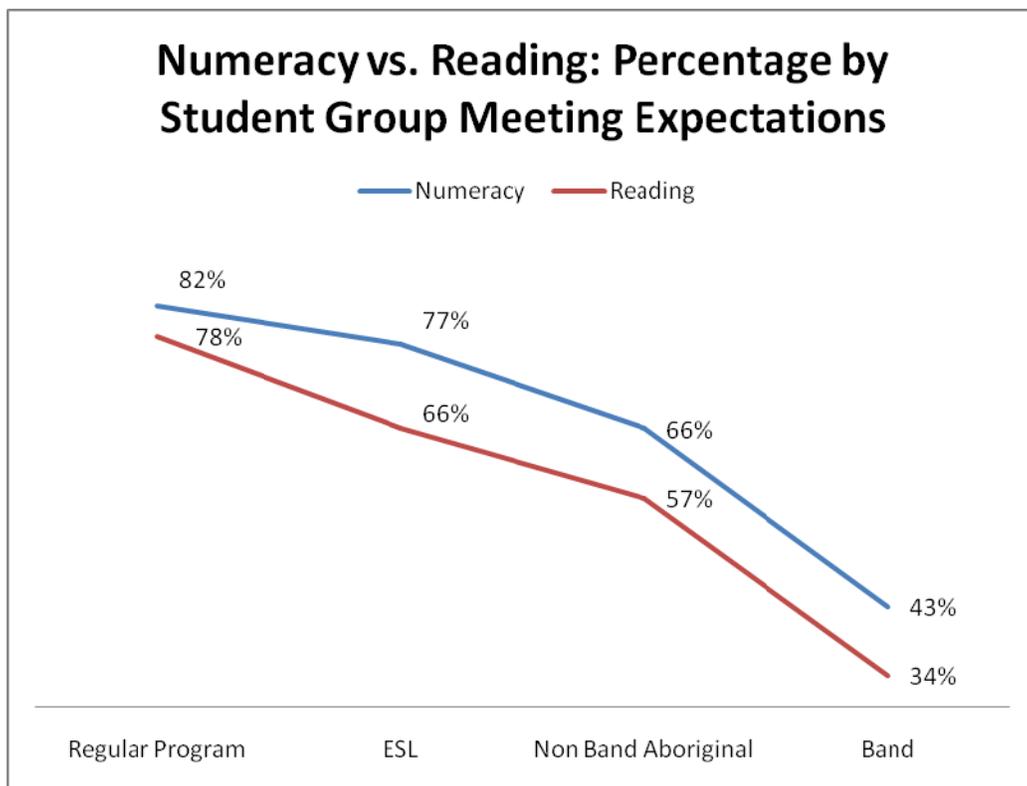
Figure 18: Meeting Expectations across FSAs



(b) Differences in Meeting Expectations across Student Groups

There are large differences in the success rates on each exam by student group. Both Aboriginal student groups are meeting expectations in lower proportions than either the ESL student group or Regular Program student group (see Appendix 5J). Students in the Regular Program have a four percentage point difference between Numeracy and Reading exams. The percentage point difference is greater in ESL and Aboriginal student groups. Aboriginal students have the lowest rates of meeting expectations on both Numeracy and Reading FSAs (see Figure 19). There are large differences in the success rates on each exam by student group.

Figure 19: Meeting Expectations in Grade 4 Numeracy and Reading FSAs by Student Group



(c) Factors related to Meeting Expectations on FSA Exams

The student-level factors that were examined to determine their association with non participation are re-examined in this section to determine their association with meeting exam expectations. As in the non participation analysis, these factors vary by degree across student group and across specific exam (see Appendix 5K). These are summarized below:

Generally,

- Male students are not disadvantaged on the Numeracy exam, though they are on the Reading and exam.
- Entry into the BC system in Grade 1, as opposed to Kindergarten, is associated with lower rates of meeting expectations on all exams.
- A change in school districts is associated with a lower percentage of students meeting expectations on both Numeracy and Reading exams.
- A change in schools is associated with a lower percentage of students meeting expectations on both Numeracy and Reading exams.
- A change in residential postal codes is associated with a lower percentage of students meeting expectations on both Numeracy and Reading exams.
- All Aboriginal students ever designated as ESL, met expectations on the Numeracy exam and more frequently met expectations on the Reading exam.
- All students across each student group that were ever enrolled in a French Immersion program met expectations in Numeracy, and more frequently met expectations in Reading.

(d) Differences within Student Groups: Band Students

Within the Band group, students may be Band affiliated each year they are enrolled in the BC system. This is the case for just over half (approximately 56%) of ever Band affiliated students (see Figure 20). Alternately, students may identify themselves as Non Band Aboriginal or may not identify an Aboriginal status at all. Students who are consistently affiliated with a Band have *lower rates* of meeting expectations on both Numeracy and Reading exams. Thirty-two percent of Band affiliated students meet expectations on the Numeracy exam and 30% of these students met expectations on the Reading exam (see Figure 21). Band students who are

inconsistently affiliated with Bands appear to be advantaged on Reading exams to greater degree than Numeracy exams.

Figure 20: Share of Band Student Group by Band Affiliation Consistency Category

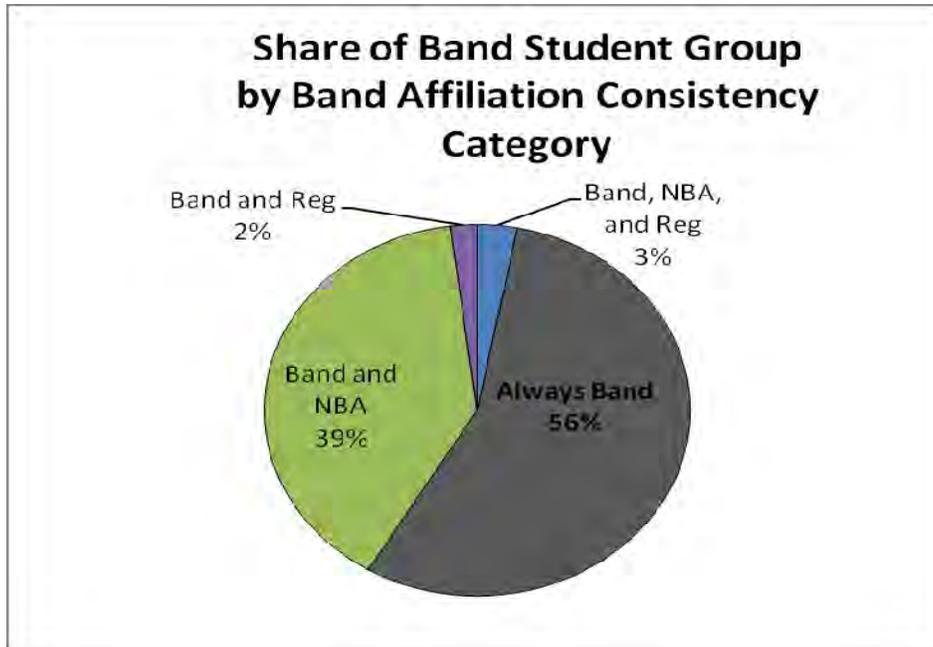
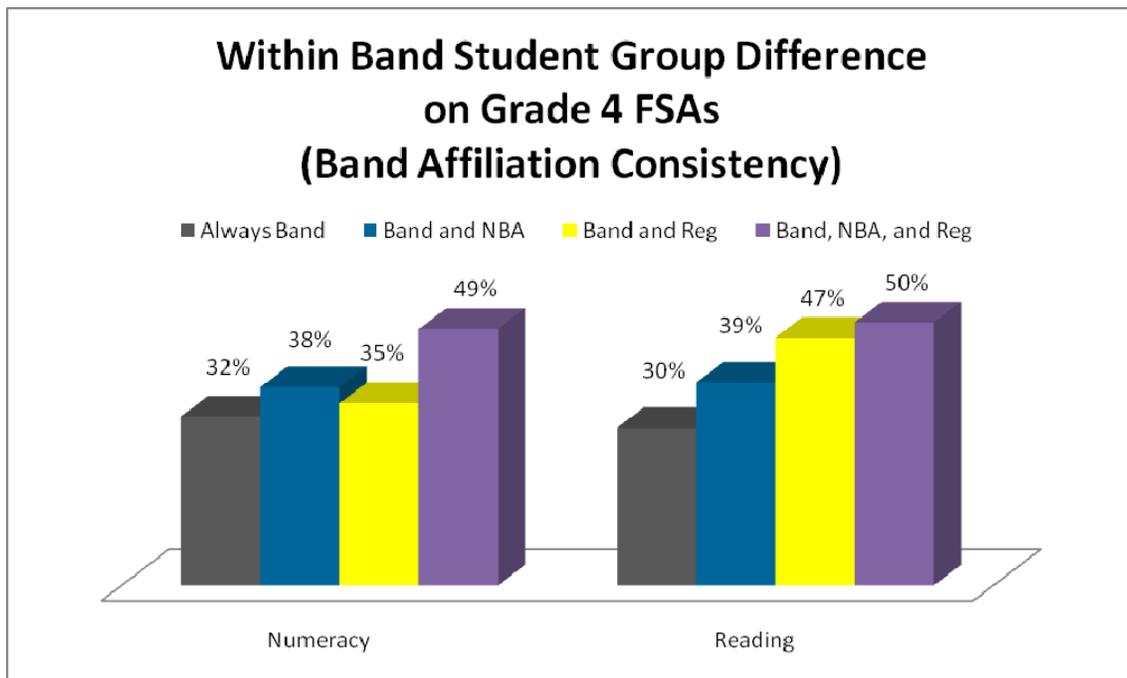


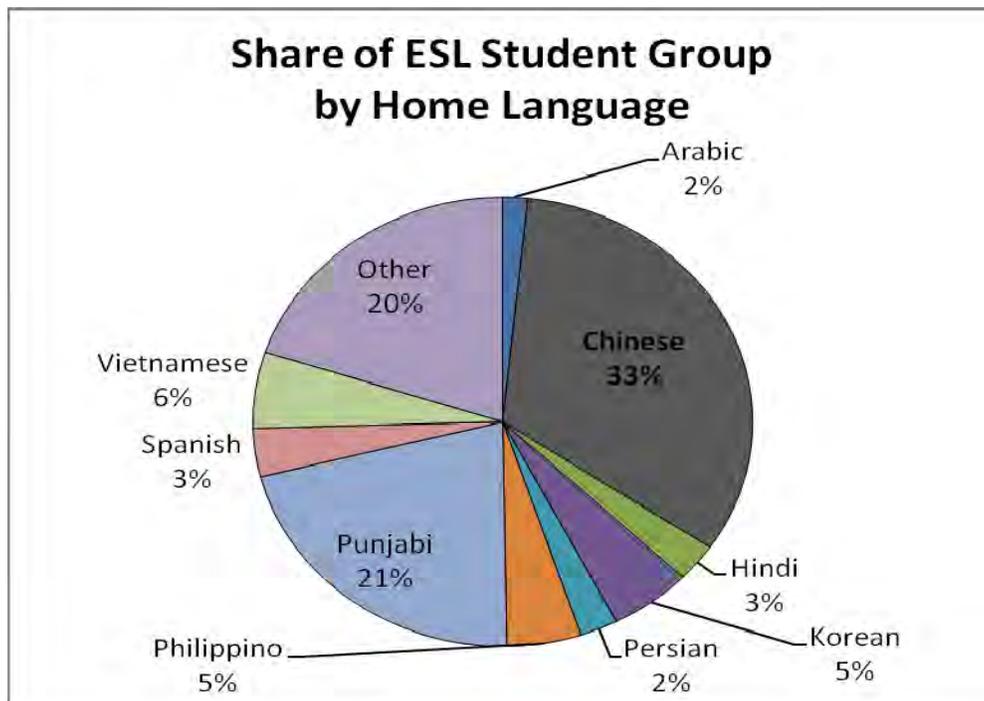
Figure 21: Differences Within Band Student Group on FSAs: Consistency of Band Affiliation



(e) Differences within Student Groups: ESL Students

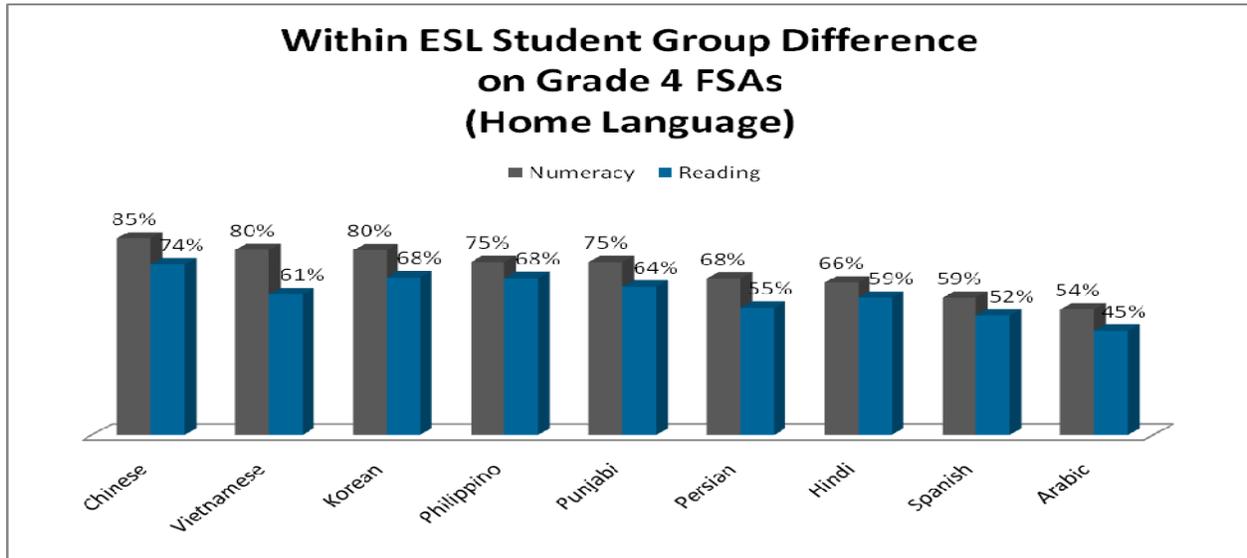
Within the ESL student group, over 100 languages are identified as languages spoken at home. For the highest proportion of ESL students, this home language is Chinese (see Figure 22). Yet there are several other home languages that have substantial numbers of speakers.

Figure 22: Share of ESL Group by Home Language



The performance of ESL students on FSAs varies dramatically across different language groups. For example, Spanish and Arabic speakers (see Figure 23) have much lower rates of meeting expectations than the high performing ESL Chinese students.

Figure 23: Differences Within ESL Student Group on FSAs (Home Language)



Summary of Descriptive Data Regarding Grade 4 FSAs and School Change

Given that FSA performance is the main outcome variable in this study of student mobility, or school change, this chapter provides background information regarding FSA participation and results. Generally, participation rates are high on Grade 4 FSAs, but they are disproportionately lower in some student groups. Therefore, discussion of participant success on these exams particularly for Aboriginal students will overestimate the cohort performance. Numeracy exam rates of meeting expectations are higher than those on Reading exams, though there are differences both across groups and within groups on these FSAs. A number of factors appear to be associated with increased levels of non participation on FSAs and decreased rates of meeting success, including gender, **deferred entry**, ESL designation with Aboriginal groups, change of residential postal code, change of school districts, and school change.

Chapter Six: Student Mobility Kindergarten – Grade 4 Cohorts

Introduction and Outline to Chapter Six

In the BC school system, about one in every two students changes schools at least once before Grade 4. This chapter presents descriptive information on student mobility in one cohort Kindergarten –Grade 4 (cohort '99). An understanding of demographics within student groups (Chapter 1) and differences in FSA participation and outcomes across Numeracy and Reading exams and across student groups (Chapter 2) should be considered when the influence of student mobility is explored. Chapter 4 will explore mobility and FSA performance in cohorts where Kindergarten to Grade 7 information is available.

Students are mobile in three distinct ways: (1) students migrate in and out of the province, (2) students move to other communities and school districts across the province, and (3) students move within their own community and school district. In addition, there are other causes of school change. For example, students may not have moved residence, but may be changing from public schools to independent (private) schools, French Immersion programs, or alternative public schools. They may be changing schools due to grade progression when their current school does not offer the next grade level. Finally, a small number of students are temporarily out of the school system for a year or more and re-enroll in subsequent grades. (These students have likely moved out and then back in to the province). Each type of mobility creates a school change for students. Adding complexity, there are three ways of considering any student mobility: (1) Frequency of School Changes, (2) Timing / Grade Level of School Changes and (3) Type of School Changes. Of these, this study focuses on Type of School Change in particular.

Part One describes how prevalent school change is across and within student groups. It examines different types of school change, and timing of school change. Within group differences are examined, such as consistency of Aboriginal identification and Band affiliation in Aboriginal student groups and language spoken at home in the ESL student group.

Part Two is a brief look at the participation rates on the Grade 4 FSAs by student group, timing of the change and school change type. Overall, students have high rates of FSA participation though mobility is associated with lower participation.

Part Three presents information related to the most frequent type of school change – school change to a new school district. The association of this type of move on the rate of students meeting expectations on Numeracy in contrast to Reading across student groups is highlighted. This analysis is a further illustration of the difference in success rates when cohorts vs. FSA participants are considered.

In Part Four the proportion of students who meet or exceed expectations on the Numeracy and Reading FSAs are presented. Number of school changes, timing of school change and type of school change are all delineated.

In Part Five the average score of student groups is examined as opposed to the percentage of the student groups meeting expectations. Results indicate that student mobility is associated with lower average scores. Gender differences on average FSA scores are also presented.

Part Six takes a look at the demographics and exam scores of students moving within school districts to schools offering French Immersion or to independent schools.

Part Seven examines whether mobility patterns and exam performance results are associated with the destination residential average family income. Students who change schools are often moving across different residential neighbourhoods.

Finally, Part Eight focuses on the substantial percentage of Aboriginal students that are designated ESL. This section examines whether this designation is associated with differences in mobility rates or exam performance.

Part One: The Prevalence of School Change

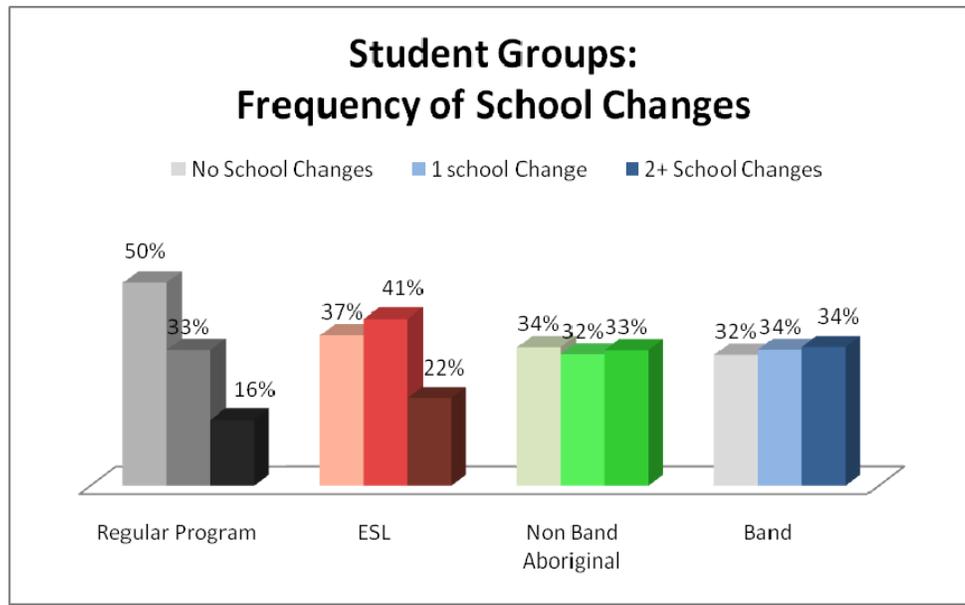
Part One describes how prevalent school change is across and within student groups. It examines different types of school change, and timing of school change. Within group differences are examined, such as consistency of Aboriginal identification and Band affiliation in Aboriginal student groups and language spoken at home in the ESL student group.

(a) Differences in Frequency of School Change by Student Group

There are stark differences in the frequency of school change across the student groups. Students in the Regular Program have a “no school change” rate of 50% (see Figure 24). The rate is lower in the ESL group (37%), which is comprised to large degree (24%) of students migrating to BC at some time in the **grade trajectory**. The rate of no school change is substantially lower in both Aboriginal groups (34% and 32%). Conversely, the rate of two or more school changes is much higher in the both Aboriginal student groups (33-34% compared to 16% and 22% in Regular Program and ESL groups).

It is noteworthy that 14% of Band students enroll in the BC system in Grade 1. The rate of **in migration** is typically 2-3%, so it can be inferred that over 10% of Band students are in school change categories due to deferred enrolment and may have not been enrolled in school in the prior grade level. This high rate of Grade 1 entry is not evident in any other student group.

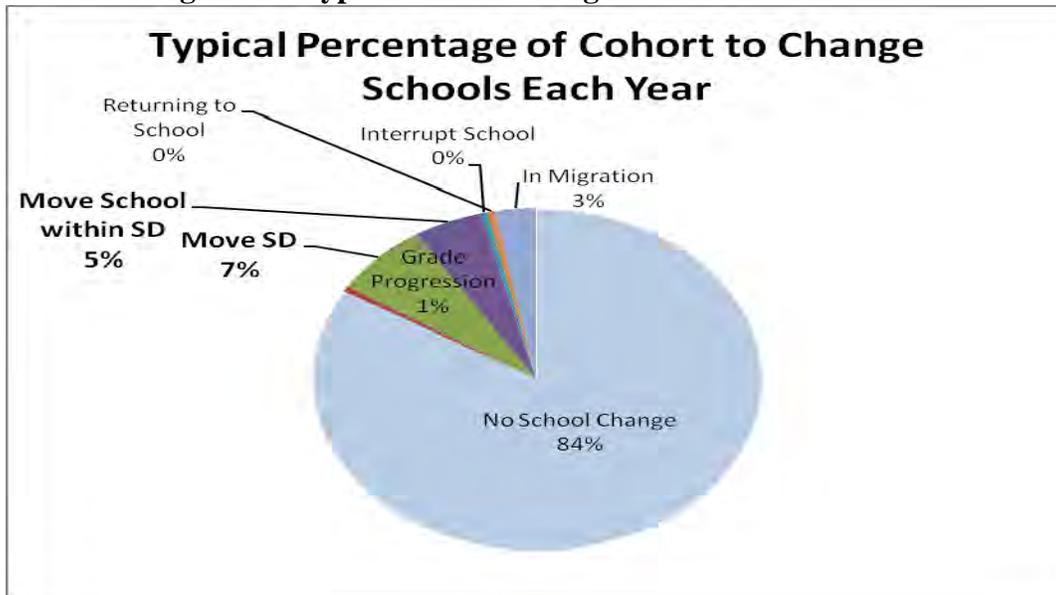
Figure 24: Student Groups: Frequency of School Change



(b) Types of School Change and Timing of School Change

In the '99 cohort, approximately 20% of students change school after each grade over the Kindergarten – Grade 4 trajectory. After each grade level, the majority of mobile students change schools within their own school district **or** move to another school district (see Figure 25). Very small numbers of students in these early grades move schools due to grade progression. There is a small number of students (less than 1%) who are absent from the BC system temporarily (the year they interrupt their enrolment and the year they return to the BC system is considered a “school” change). Finally there are students who are new to the BC system (in migrants) after each grade level.

Figure 25: Typical School Change between School Years



The rates of students making each type of school change vary little over school years (see Appendix 6A). The one exception is the higher “in migration” rate after the Kindergarten year. This is an artefact in that BC students may defer entry into the school system until Grade 1. There is no way to determine whether or not students who enroll in the BC system for the first time in Grade 1 are deferred entries or students who have migrated to BC.

It should be noted that school change rates vary widely over school districts (see Appendix 6B and Figures 26-27). The rates of students not changing schools range across BC’s

school districts from 71% to 93% on average each year. Likewise, rates of students moving to new districts range from 3% to 28%, and the rates of school change within district range from 1% to 15% across school districts. School districts also have a range of rates of students arriving from other school districts.

Figure 26: School District Average Student Mobility Rates Part 1

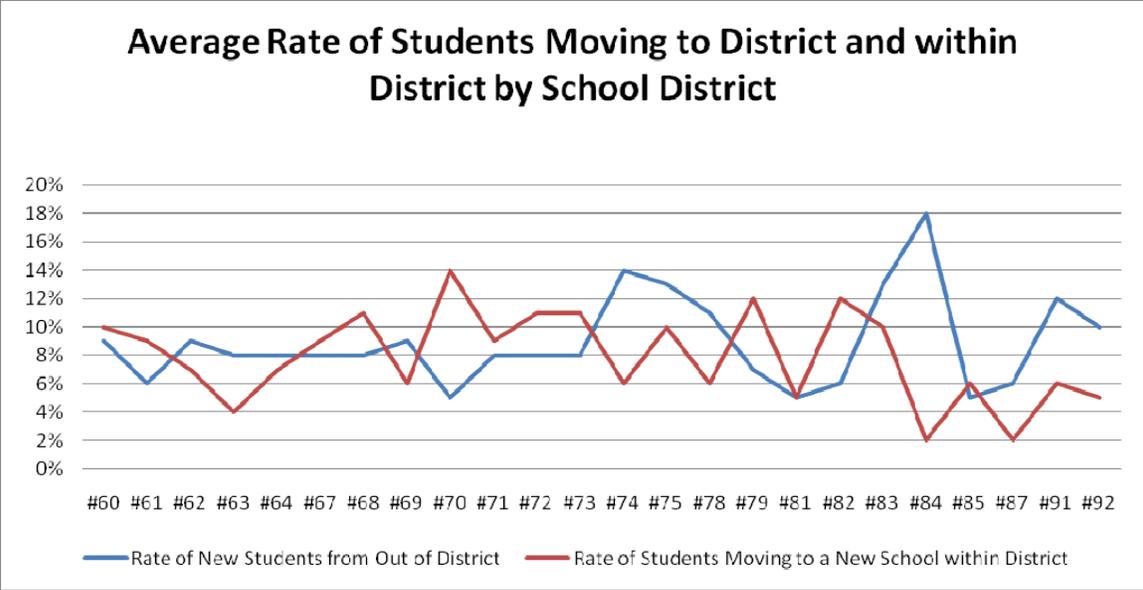
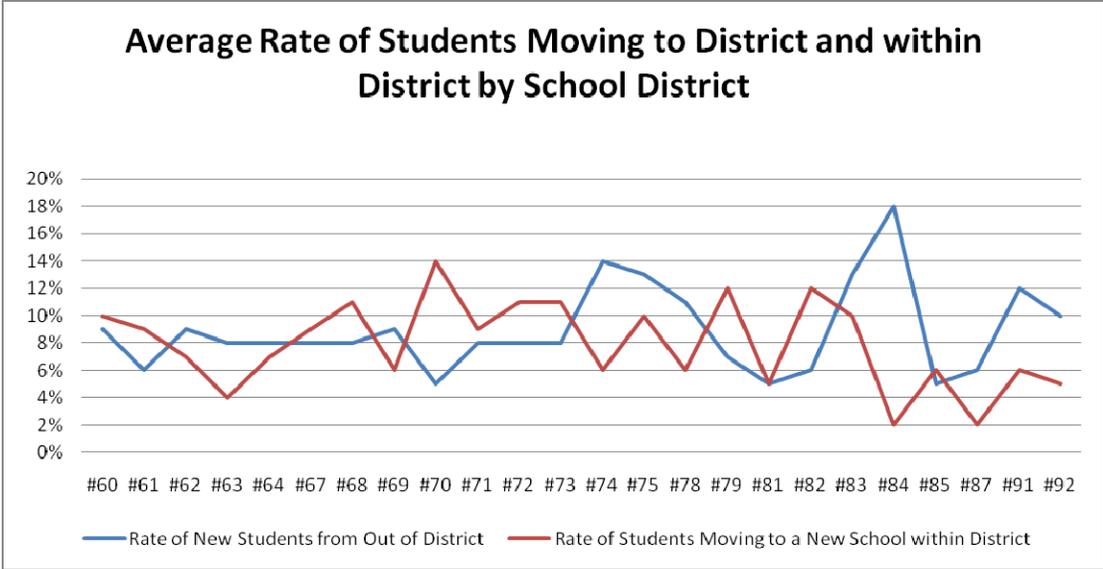


Figure 27: School District Average Student Mobility Rates Part 2

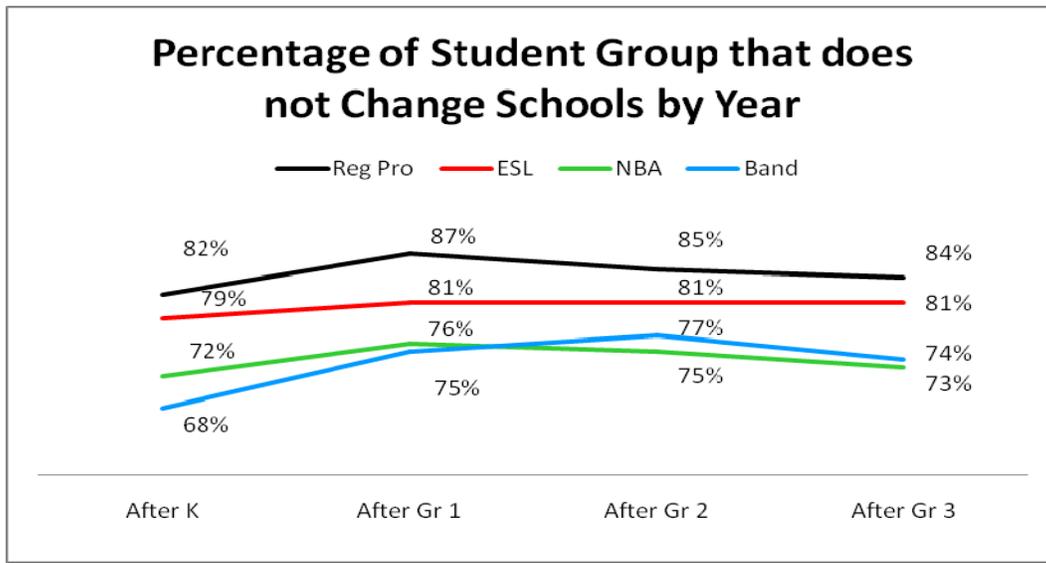


(c) Differences between Student Groups in Types of School Change and Timing of School Change

There are differences in the proportion of students in each category of school change across the student groups (see Appendix 6C).

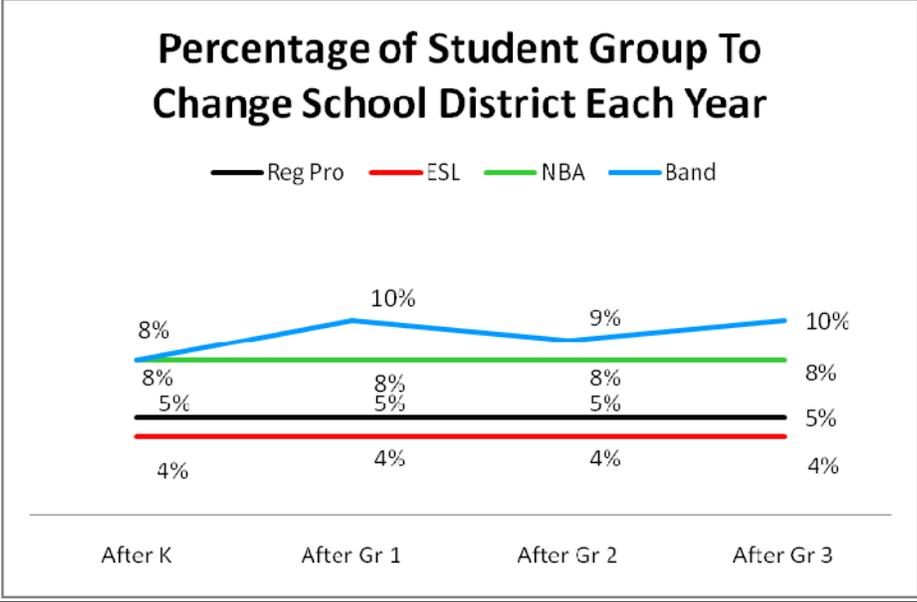
Students in the Regular Program, followed by ESL students, have the highest proportion of students who *do not* change schools after each grade level (see Figure 28). Aboriginal students have the smallest proportions of students *not* changing schools after any grade level. In earlier grades, Non Band Aboriginal students have slightly higher proportions of students not changing schools than Band students. In later grades, Band students have slightly higher proportions of students not changing schools.

Figure 28: Percentage of Students Not Changing Schools Each Year



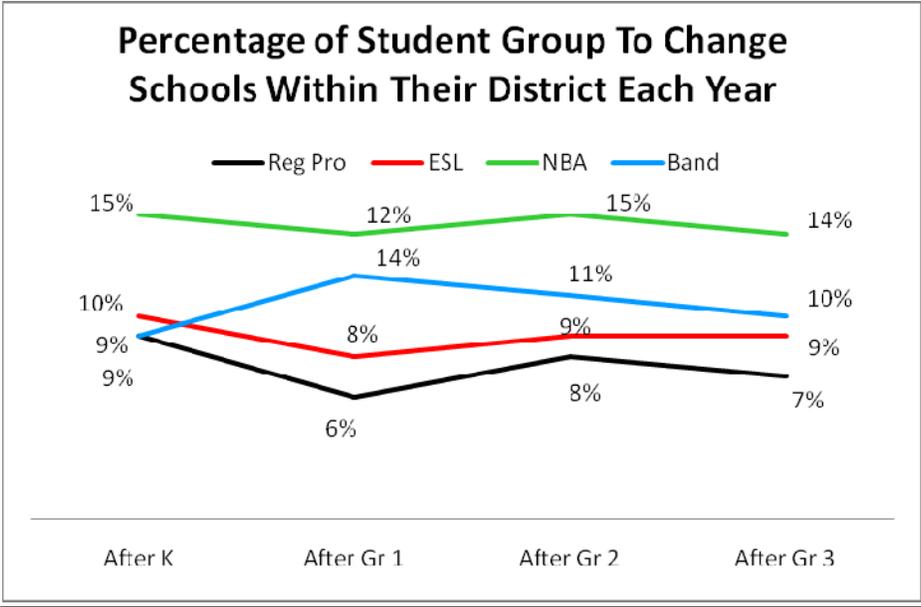
Band students and Non Band Aboriginal students have the highest proportions of students (8% to 10%) changing school districts after each grade level (see Figure 29).

Figure 29: Percentage of Students Changing School District Each Year



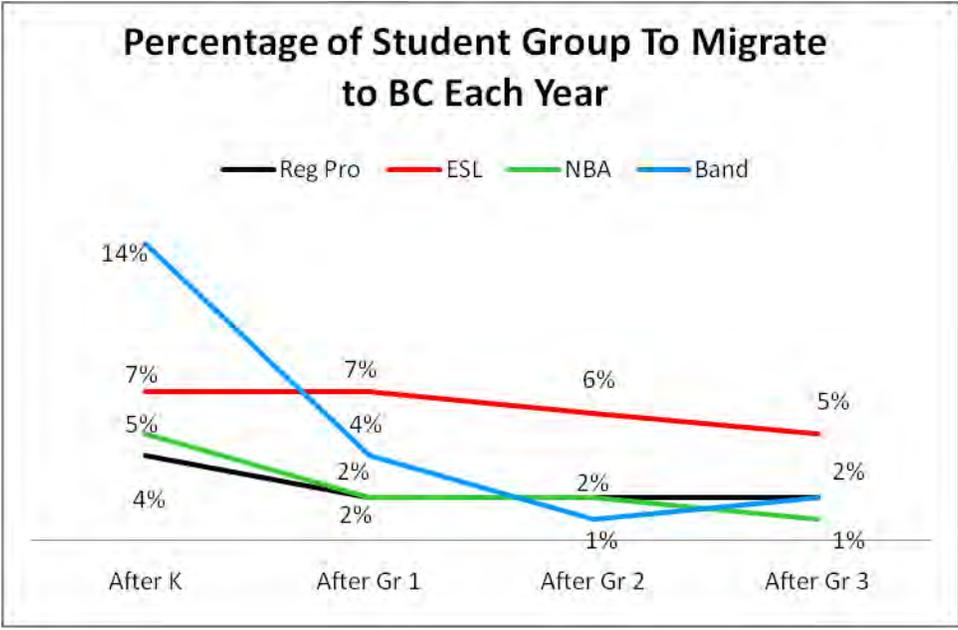
Non Band Aboriginal students have the highest proportion of students changing schools within a school district (see Figure 30). After some grade levels (after Grade 1 and Grade 2), however, Band students have the next highest proportion of students changing schools within their own school district.

Figure 30: Percentage of Students Changing Schools within Their District Each Year



In migration rates are highest for most student groups in the year following Kindergarten, as this group includes students who have deferred entry into the school system. Of note, the proportion of newcomers to the BC system after Kindergarten is substantially higher (14%) in the Band student group than in other student groups (4% to 7%) (see Figure 31).

Figure 31: Percentage of In Migration Students in Each Year



*After K students include those who have deferred entry until Grade 1

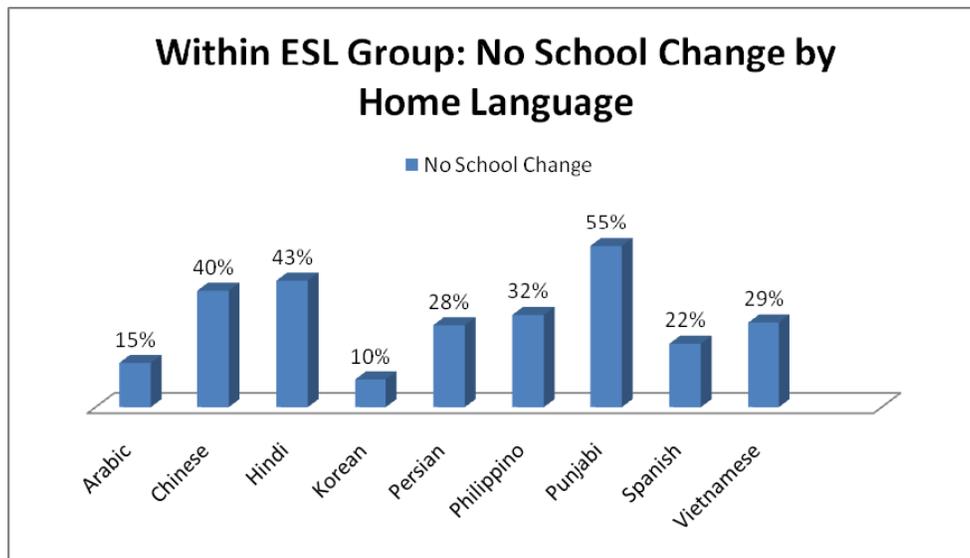
Finally, there are minute proportions (<1%) of students changing schools due to grade progression after each grade level, though the rates increase after Grade 3.

(d) Differences within Groups: ESL Frequency of School Change by Home Language Groups

The number of ESL students who remain in a school, as opposed to change schools, varies dramatically by home language groups (see 6D). The small numbers of students in these groups, however, warrant caution in interpretation. Further, it should be remembered that many ESL students will likely be in migration students and hence have moved at least once (to the BC system).

Examination of the percentage of students within home language groups who have never changed schools provides some indication of the recency of arrival of some immigrant groups. Chinese speakers (33% of the ESL cohort) and Punjabi speakers (21% of the ESL cohort) speakers make up a very large share of ESL students while also having relatively large shares of students not changing schools (see Figure 32).

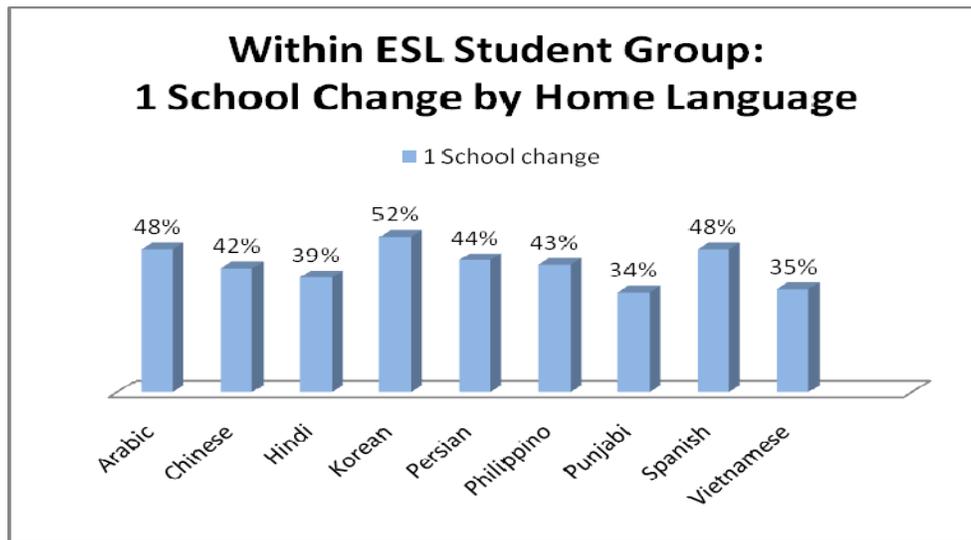
Figure 32: Within ESL student Group: No School Change



The share of ESL students making a single change of schools varies by home language (see Figure 33). Punjabi speakers (34%) Vietnamese speakers (35%) have the lowest shares of students moving a single time. This poses difficulty in interpretation in that a single change of

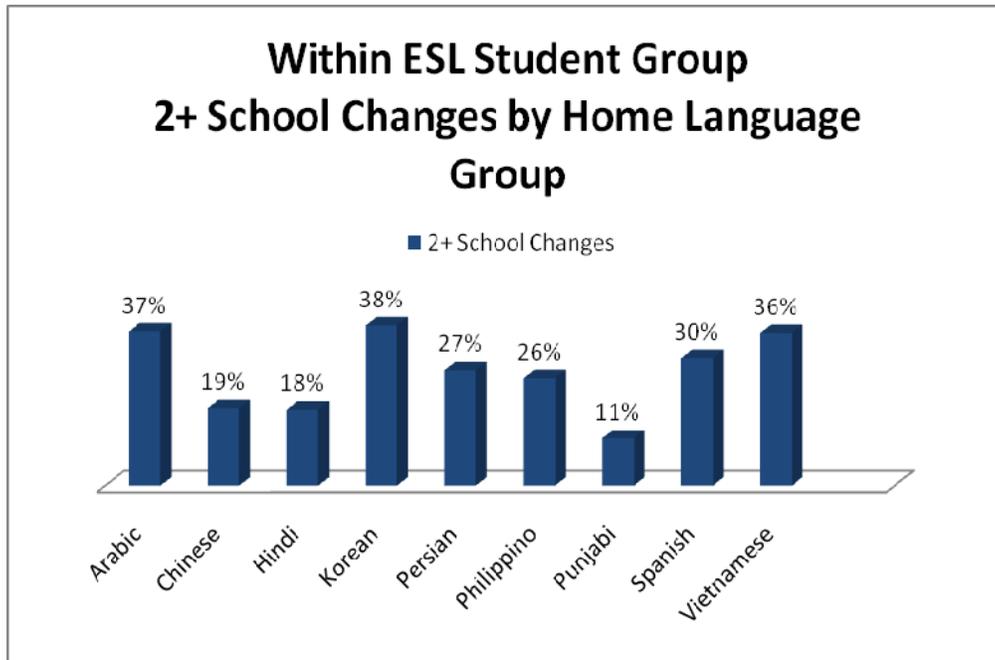
schools is typically due to in migration and may not reflect a groups' propensity to remain mobile.

Figure 33: Within ESL Student Group: 1 School Change



Finally, the share of ESL students making *more than a single change* of schools between Kindergarten and Grade 4 provides more definitive evidence that there are differences in school change by language group (see Figure 33). Some language speakers (Arabic 37%, Korean 38% and Vietnamese 36%) have large shares of the group experiencing two or more school changes across a five year grade trajectory.

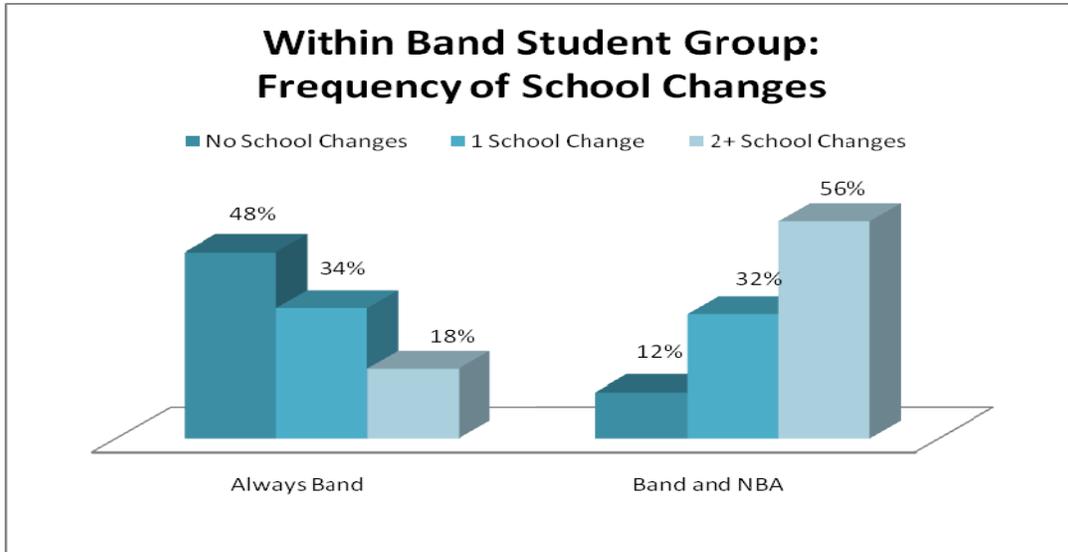
Figure 34: Within ESL Student Group: 2+ School Change



(e) Differences within Groups: Band Frequency of School Change and Consistency of Band Affiliation

Band-affiliated students may not always consistently be affiliated with a Band over the grade trajectory. Within the Band student group there are substantially different rates of school change when students are differentiated by the consistency of their Band affiliation. While small numbers in the “Band, Non Band Aboriginal, *and* Regular Program” and “Band *and* Regular Program” identification categories make interpretation difficult, the rate of *no* school change is higher in the “Always Band” group (see Figure 35) compared to the Band *and* Non Band Aboriginal groups.

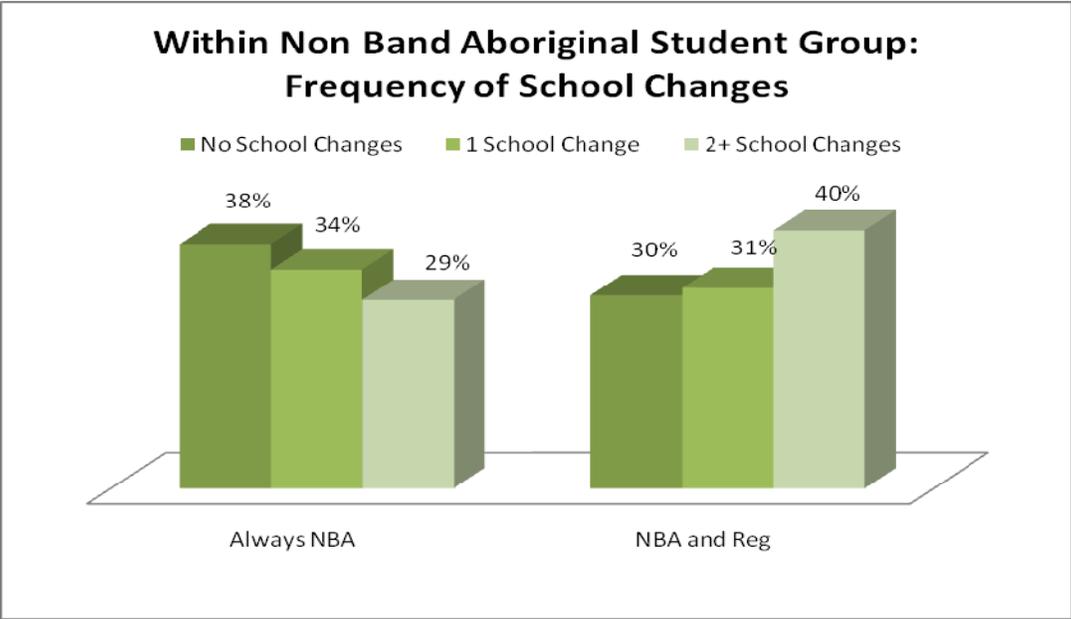
Figure 35: Consistency of Band Affiliation and Frequency of School Change



(f) Differences within Groups: Non Band Aboriginal Frequency of School Change and Consistency of Aboriginal Identification

Non Band Aboriginal students do not always identify as such over the grade trajectory. Within students who have ever identified Non Band Aboriginal, those who always identify as Aboriginal (58% of the Non Band Aboriginal student group), and those who do not (see Figure 36) differ in *no* school change rates. Students who always identify as Aboriginal have a higher no school change rate. Alternately, there is a higher rate of two or more school changes in the sub group of Non Band Aboriginal students who do not identify consistently. As with Band students, for Non Band Aboriginal students consistency of identification is correlated to school change (perhaps reflecting school record-keeping practices).

Figure 36: Within Non Band Aboriginal Students. Consistency of Aboriginal Identification and Frequency of School Change



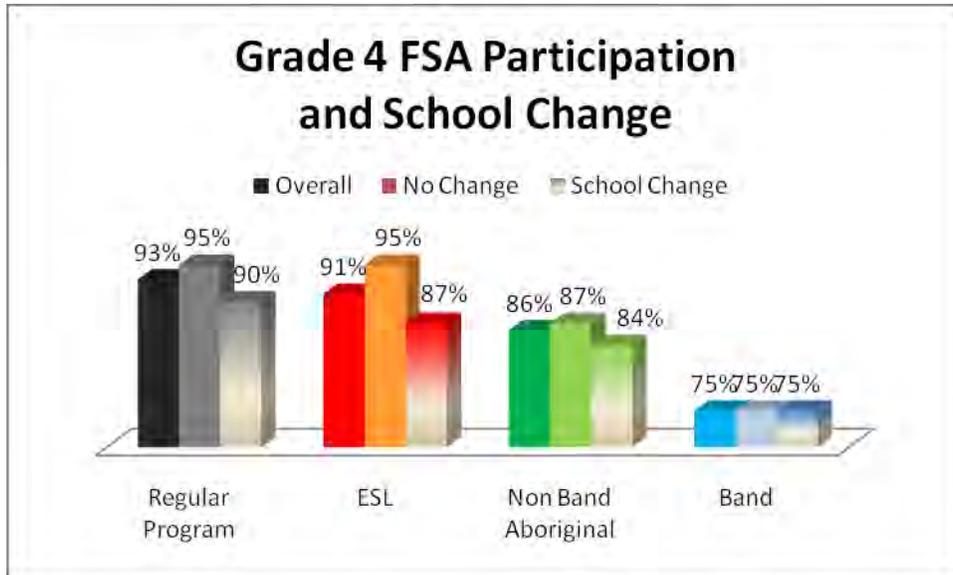
Part Two: School Change and FSA Participation

Part Two is a brief look at the participation rates on the Grade 4 FSAs by student group, timing of the change and school change type. Overall, students have high rates of FSA participation though mobility is associated with lower participation.

(a) The Participation Rates on the FSAs by School Change Type and Timing of Change

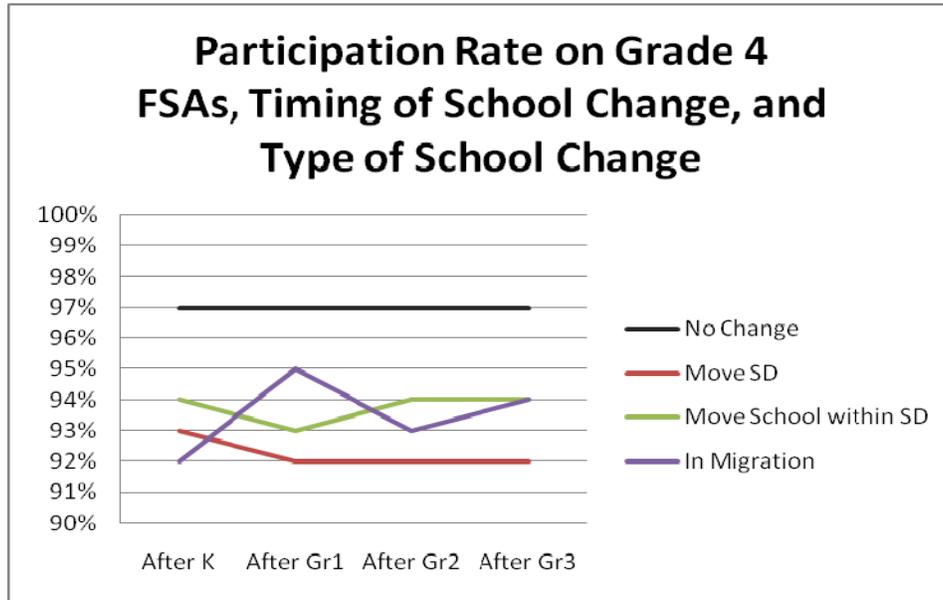
Students who change schools (after any grade level) typically do not participate on the Numeracy or the Reading FSA to the same degree as students who do not change schools (see Appendix 6E and Figure 37). Band students represent a unique case, where FSA participation rates are lower than other student groups and school change is *not associated* with the participation rate. Regular Program students and ESL students who do not change schools have the highest FSA participation rates (95% in each group).

Figure 37: Typical Participation Rates across Student Groups and School Type Change



There is little difference in FSA participation rate over the grade trajectory by each school change type. Of note, those students who change school districts at any grade level typically have the lowest participation rates (see Figure 38).

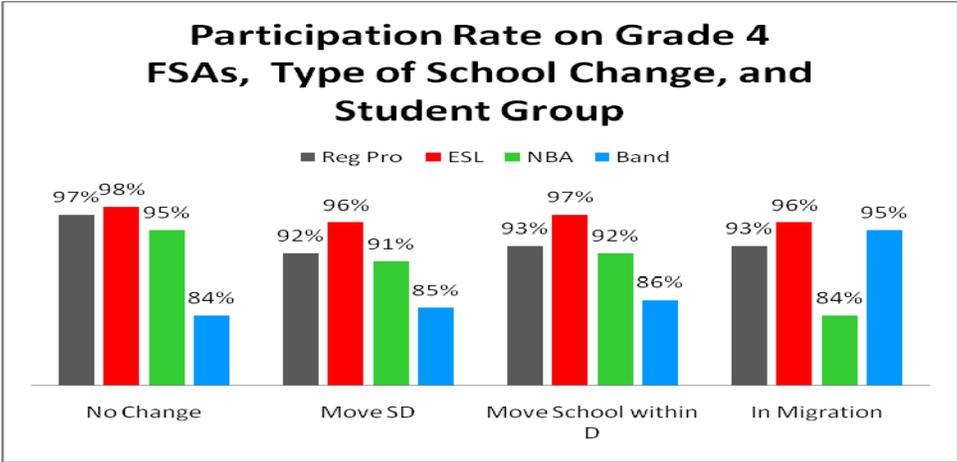
Figure 38: Typical Participation Rate on FSAs and School Change Type



(b) Differences in Participation Rates across Student Groups, School Change Type

There is little change in participation rates in FSAs, if any, due to the timing of school change (see Appendix 6F) over the grade trajectory *within* student groups. The differences in FSA participation rates across student groups exist no matter what type of school change is considered (see Figure 39). Typically, ESL and Regular Program students have higher participation rates than their peers in Aboriginal student groups. The small number of Aboriginal students migrating after Grade 1 to the BC system means results indicated for these groups should be interpreted with caution.

Figure 39: Typical Participation Rates across Student Groups and School Type Change



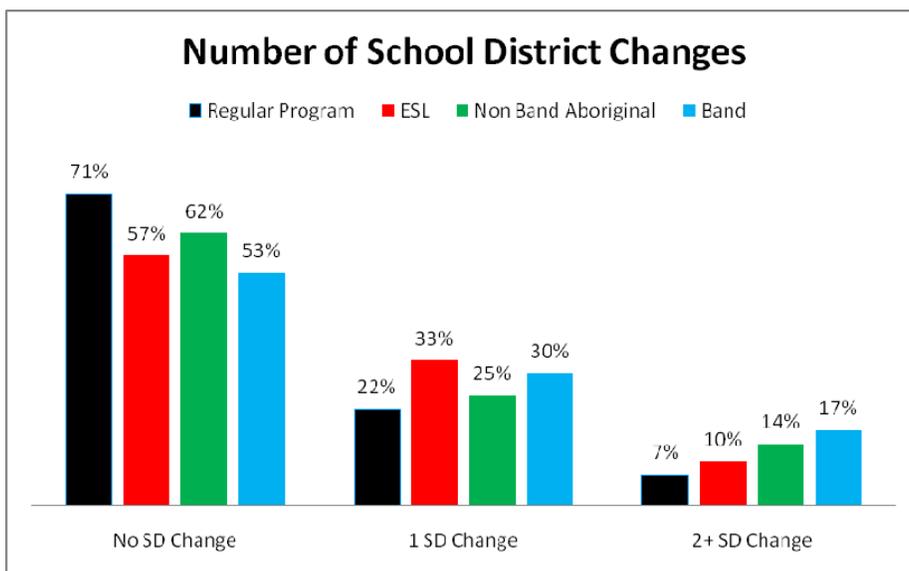
Part Three: School District Changes

Changing school districts accounts for the highest number of school changes made each year by BC students when all types of school changes are examined (typically 7% of the student population changes school districts each year). Part Three presents information related to the most frequent type of school change – school change to a new school district. The association of this type of move on the rate of students meeting expectations on the Grade 4 Numeracy FSA in contrast to Grade 4 Reading FSA across student groups is highlighted. This analysis is a further illustration of the difference in success rates when cohorts vs. FSA participants are considered.

(a) Differences in Frequency of School District Change across Student Groups

There are different rates of changing school districts across the four student groups (see Figure 40). Consistent to all student mobility data presented thus far, students in the Regular Program have the highest rate of no school district change (71%). ESL students have the highest rate of one school district change (33%) – as the group is comprised of many in migrants to BC, this is not surprising. Both Aboriginal student groups have higher rates (14% and 17% respectively) of one and two or more school district changes than their peers in the Regular Program (7%).

Figure 40: Proportion Changing School District



*Changes made to non geographically-defined school districts are not included in this calculation.

(b) FSA Results and Frequency of Changing School Districts across Student Groups

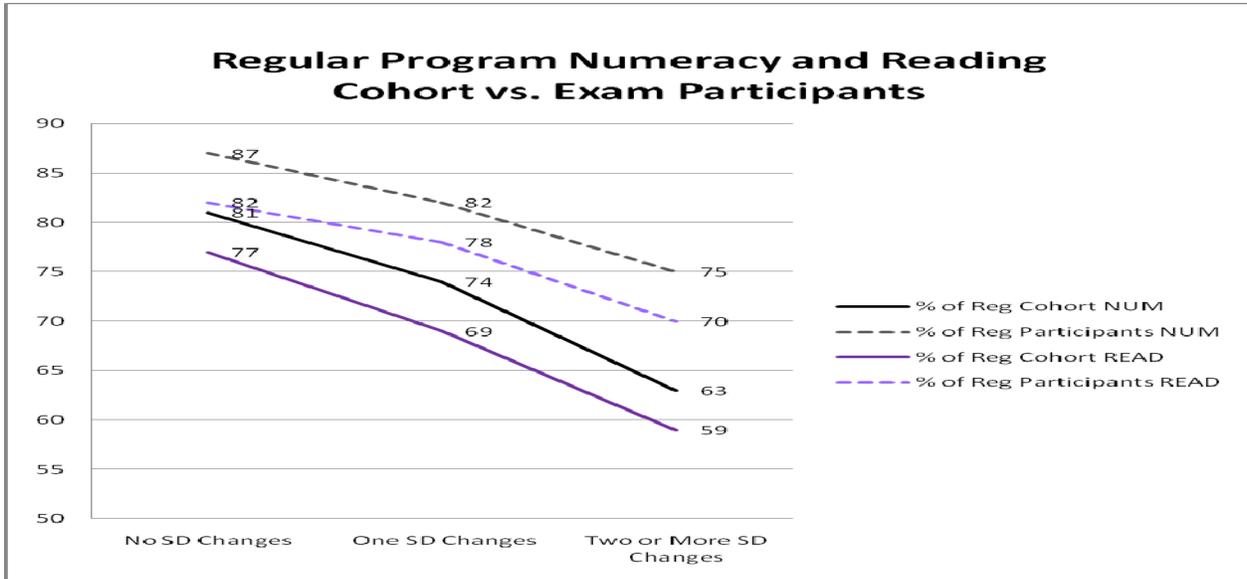
There are two ways of examining the percentage of students meeting expectations on the FSAs. The first is a calculation of what percentage *of the cohort* met expectations and thus will include students who did not write the exam for numerous reasons. Only students who have left the BC school system will not be included in this calculation. The second is a calculation based only on students who participated in the exam and determines what percentage of *exam participants* met expectations. When only participants are included in the calculation, the percentage of students meeting expectations on either the Numeracy or Reading FSA is higher (see Figures 41-42). Given exam participation rates, statistics on how well participants do might tell an overly optimistic story of the cohort's success.

Nevertheless, whether exam participants or the entire cohort is used in the calculation, the rate of students meeting expectations almost invariably declines when students are mobile across school districts. The extent of this decline has been further described in terms of percentage point difference (see Appendix 6G). In the appendix, the percentage point difference helps clarify the relationship of this type of student mobility to both the Numeracy and Reading FSAs.

Regular Program

Student mobility across school districts appears to create a similar disadvantage (declining slope) in Numeracy (black lines) and Reading (purple lines) exams for students in the Regular Program (see Figure 41).

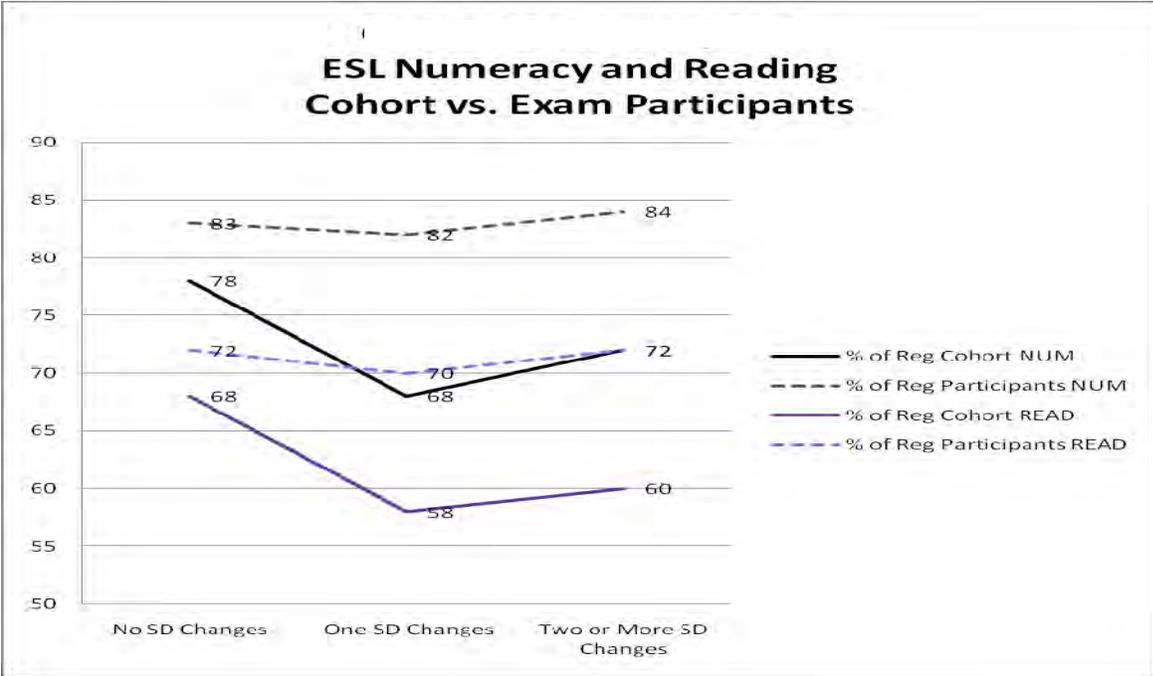
Figure 41: Regular Program Students, FSA Results, and Frequency of School Change



ESL

Two observations can be made regarding school district change and FSAs and the ESL group (see Figure 42). First, school district mobility appears to create minimal disadvantage among exam participants (dotted lines). (This is true when groups other than the typically high-performing Chinese students are examined separately.) Second, when *the entire cohort* of ESL students is examined (solid lines), school district mobility is a disadvantage. Curiously, ESL students who have moved two or more times are *less* disadvantaged than ESL peers who have moved once. As mentioned previously, the school district mobility is in part an artefact of “in migration”.

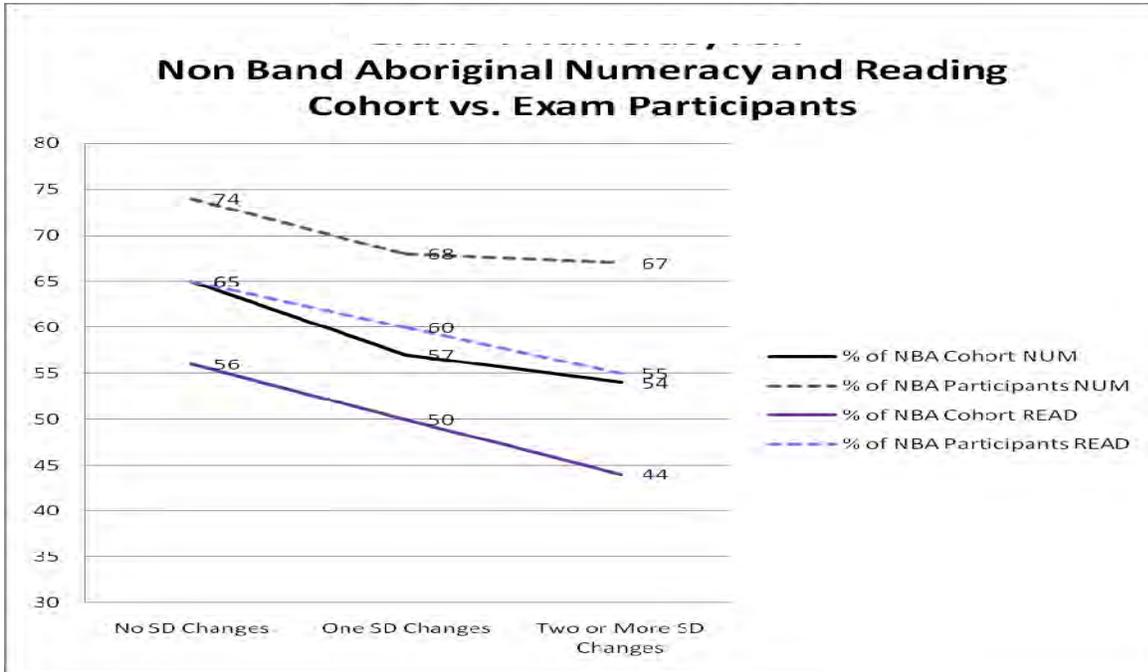
Figure 42: ESL Students, FSA Results, and Frequency of School Change



Non Band Aboriginal

Student mobility across school districts appears to create a similar disadvantage in Reading compared to Numeracy FSAs for Non Band Aboriginal participants who have changed school districts (see Figure 43).

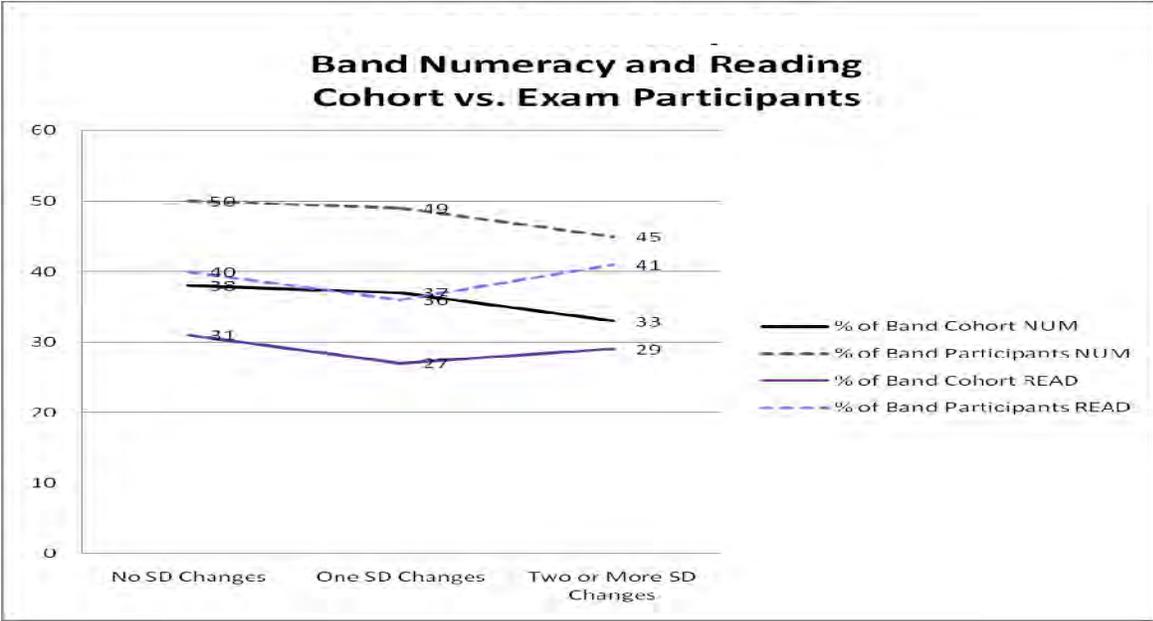
Figure 43: Non Band Aboriginal Students, FSA Results, and Frequency of School Change



Band

The differences in Reading and Numeracy FSAs meeting expectations rates between Band students who change school districts and those who do not are contradictory (see Figure 44). It appears that one school district change gives Band students a greater disadvantage on the Reading FSA (purple lines), but this is not observed when students change school districts two or more times.

Figure 44: Band Students, FSA Results, and Frequency of School Change



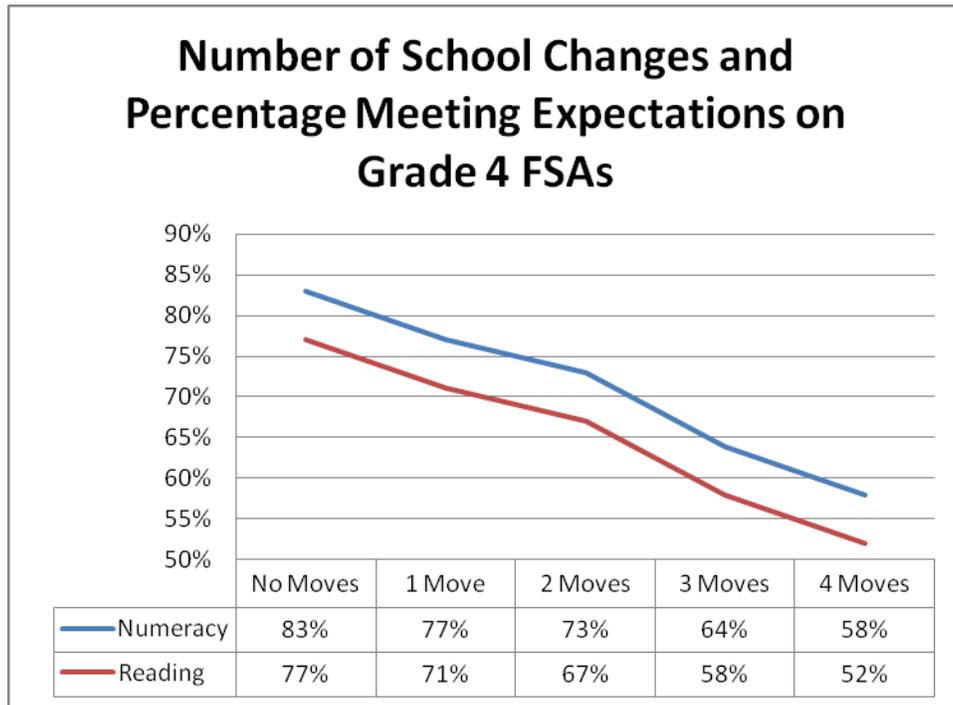
Part Four: Exam Results and School Change

In Part Four the proportion of students who meet or exceed expectations on the Numeracy and Reading FSAs are presented. Number of school changes, timing of school change and type of school change are all delineated.

(a) Number of Moves and FSA and Percentage Meeting Expectations

Increasing number of school changes is associated with a decreasing percentage of participants meeting expectations on both FSA exams (see Figure 45). Even when exam participants have changed schools a single time, the proportion meeting expectations on either the Numeracy or Reading FSA exam is lower compared to those who have not changed schools.

Figure 45: Number of School Changes and Percentage Meeting Expectations on Grade 4 FSAs



(b) Meeting Expectations on FSAs, School Change Type and Timing

Exam participants who *do not change* schools at each grade level meet or exceed expectations on the Numeracy and Reading exams in higher proportions than most students in other categories of school change (see Appendix 6H). (Some exceptions exist when students change schools due to grade progression. Due to the very small number of students experiencing this type of school change in the K-Gr.4 school trajectory, however, these exceptions are difficult to interpret.) Additionally, students who interrupt their enrolment in the BC system have lower success rates. Students who are new to the BC system also have lower success rates, no matter which grade level they entered the BC system. This is particularly evident in the group of most recent “in migrants” (those entering BC schools after Grade 3).

School changes due to exam participants moving within their school district *or* to other school districts are each associated with decreased success rates on Numeracy and Reading exam expectations (see Figures 46 and 47). There is scarcely a distinction to be made between these two types of school changes on the Numeracy exam (see Figure 46). The case is similar in Reading (with the exception of students changing schools after Grade 3 where the rate of students meeting expectations declines further) (see Figure 47).

Figure 46: Grade 4 FSA Numeracy, Type of School Change and Timing of School Change

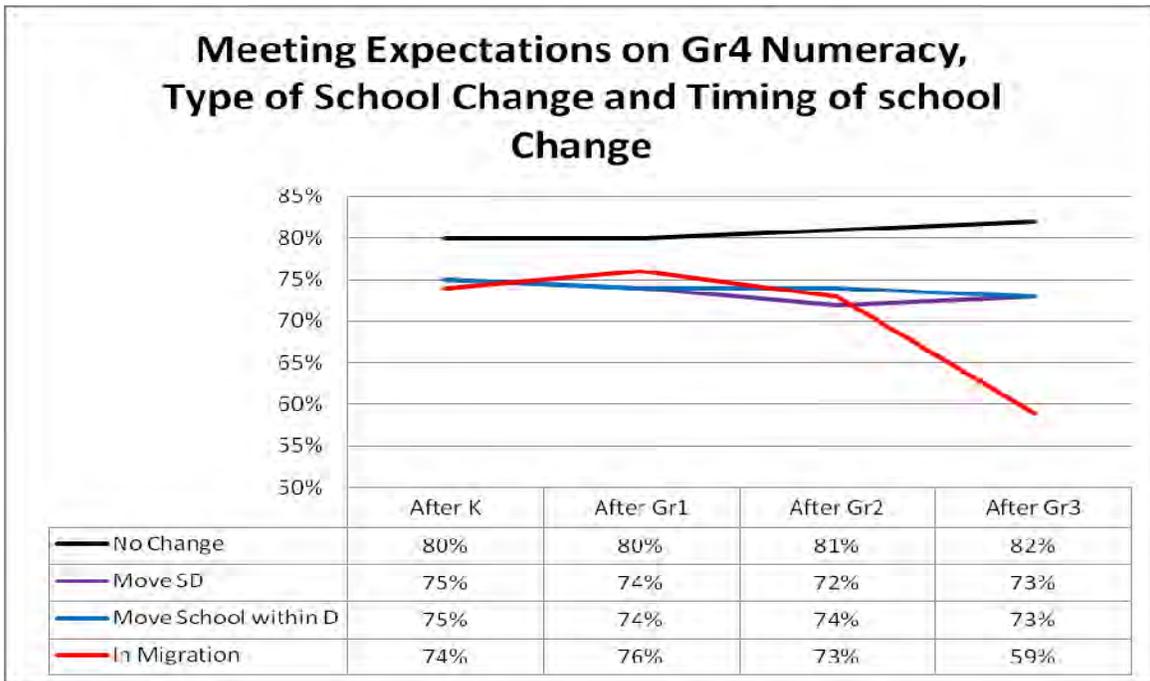
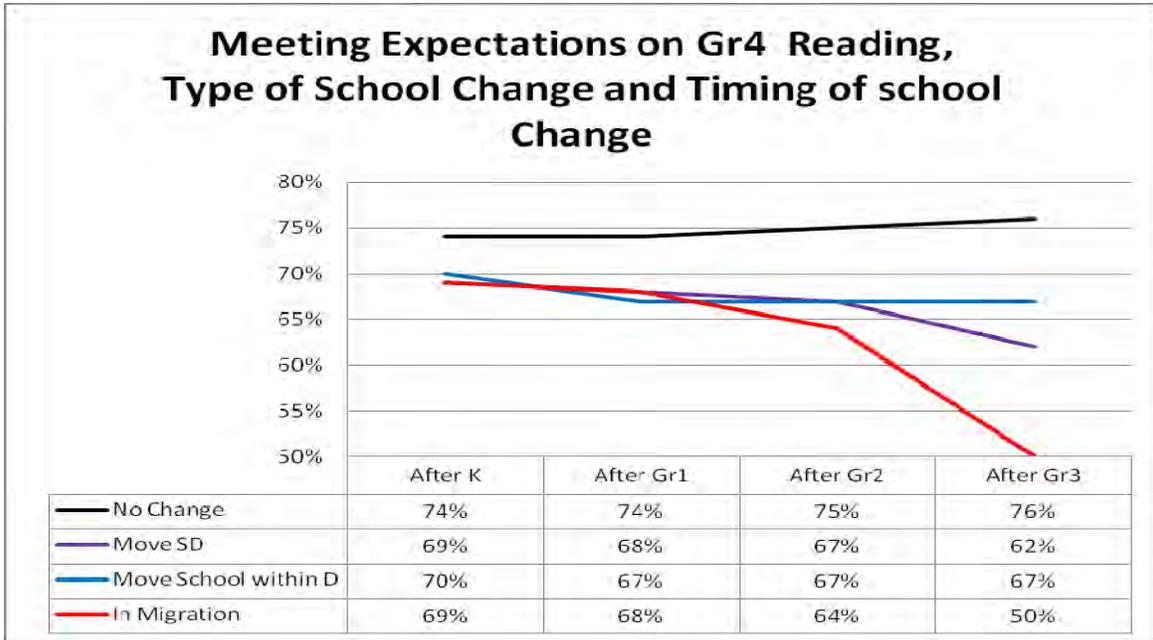


Figure 47: Grade 4 FSA Reading, Type of School Change and Timing of School Change



(c) Reading vs. Numeracy: Difference across School Change Type and Timing

Exam participants meet expectations to a greater degree on the Numeracy exam than on the Reading exam (see Appendix 6H). Typically, the rate of participants meeting expectations on Numeracy Grade 4 is six percentage points higher than on the Reading exam. This is not the case, however, for each type of school change. For example, when students change school districts after Grade 3 (see Figure 48) or migrate to BC after Grade 3 (see Figure 49), the gap between the Numeracy rate and Reading rate *is much higher* than that separating Numeracy and Reading results generally and across earlier grades.

Figure 48: Change to a New School District and Timing of School Change

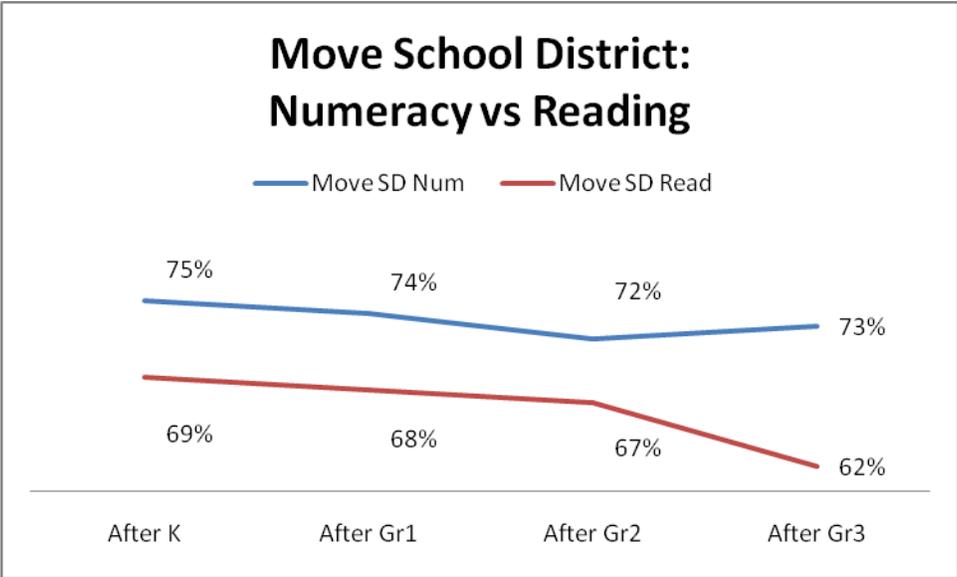
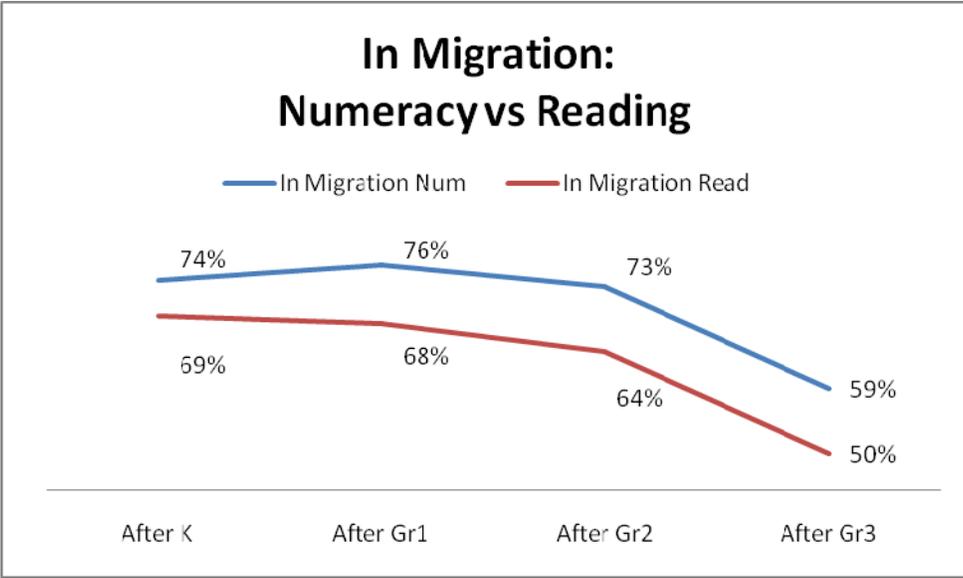


Figure 49: In Migration and Timing of School Change



(d) Meeting Expectations on FSAs: Differences across Student Groups

Generally school change of any type at any grade level is associated with lower percentages of exam participants meeting expectations on either the Grade 4 Numeracy FSA or the Grade 4 Reading FSA. There are, however, important differences across student groups.

Regular Program

Exam participants in the Regular Program who change school districts, or change schools within their district, or are newcomers to the BC system, *at any grade level* have lower proportions of students meeting Numeracy exams than those who do not change schools (see Appendix 6I and Figure 50). The same pattern is evident within students in the Regular Program on the Reading exam (see Figure 51)

Figure 50: Regular Program Students, Numeracy, School Change Type and Timing

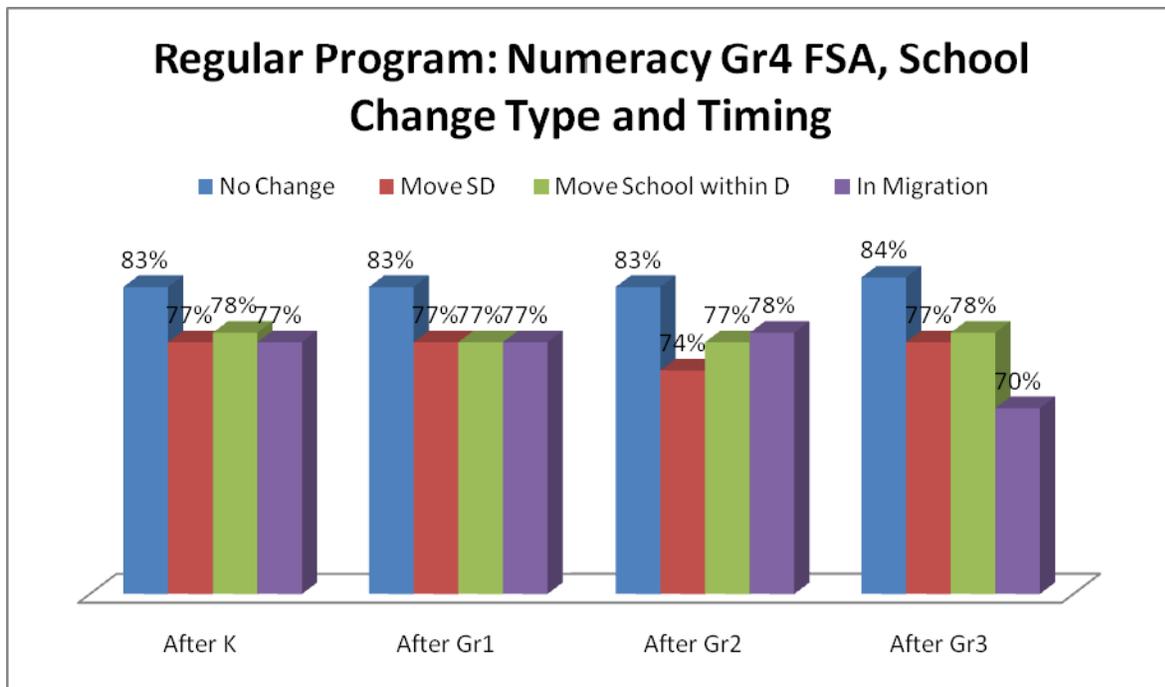
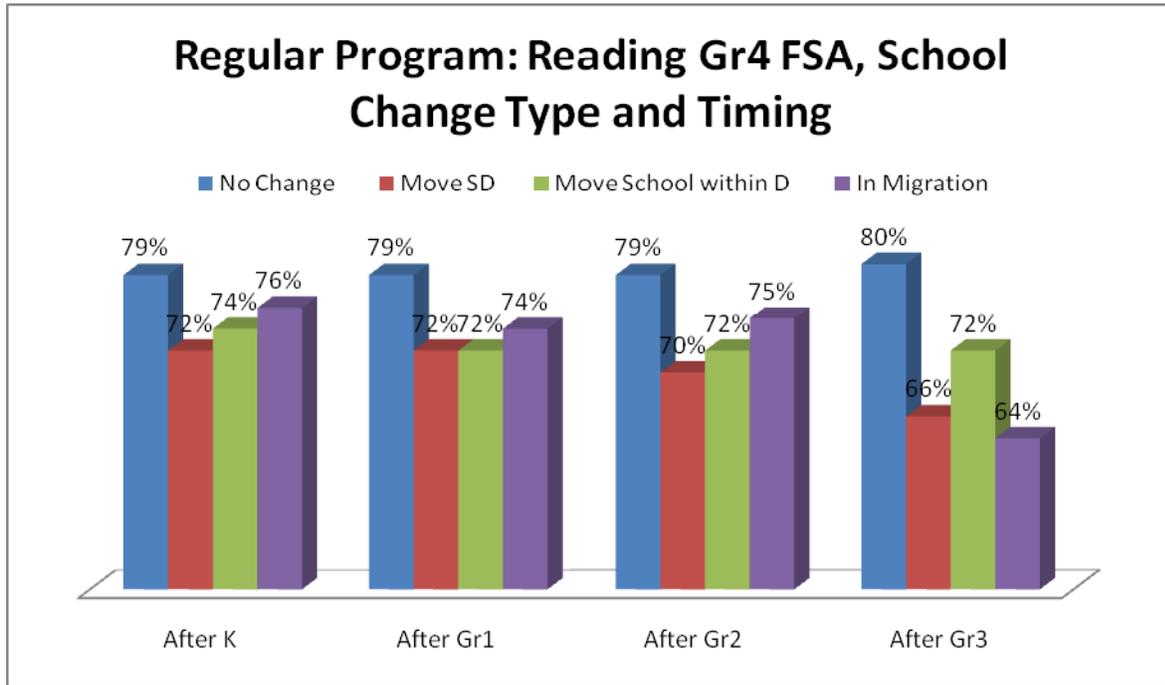


Figure 51: Regular Program Students, Reading, School Change Type and Timing



ESL

ESL exam participants who change school districts, or change schools within their district, or are newcomers to the BC system, at any grade level have a *mixed pattern* when compared to ESL students who do not change schools in that year (see Appendix 6I and Figures 52 and 53). When the school change occurs after Kindergarten, it is associated with higher success rates on both the Numeracy and Reading exams than when there is no school change. This is also true when students change schools after Grade 1, particularly in Numeracy. It is in only in the latest grade that the pattern resembles that of the Regular Program exam participants. After Grade 3, ESL students who do not move meet expectations in greater proportion than those who change schools. Of note, the performance of ESL students new to the system (in contrast to ESL students who have more years in the BC system) is particularly low: only 45% of these latest arriving ESL students meet expectations on the Numeracy exam and 32% meet expectations on the Reading exam.

Figure 52: ESL Students, Numeracy, School Change Type and Timing

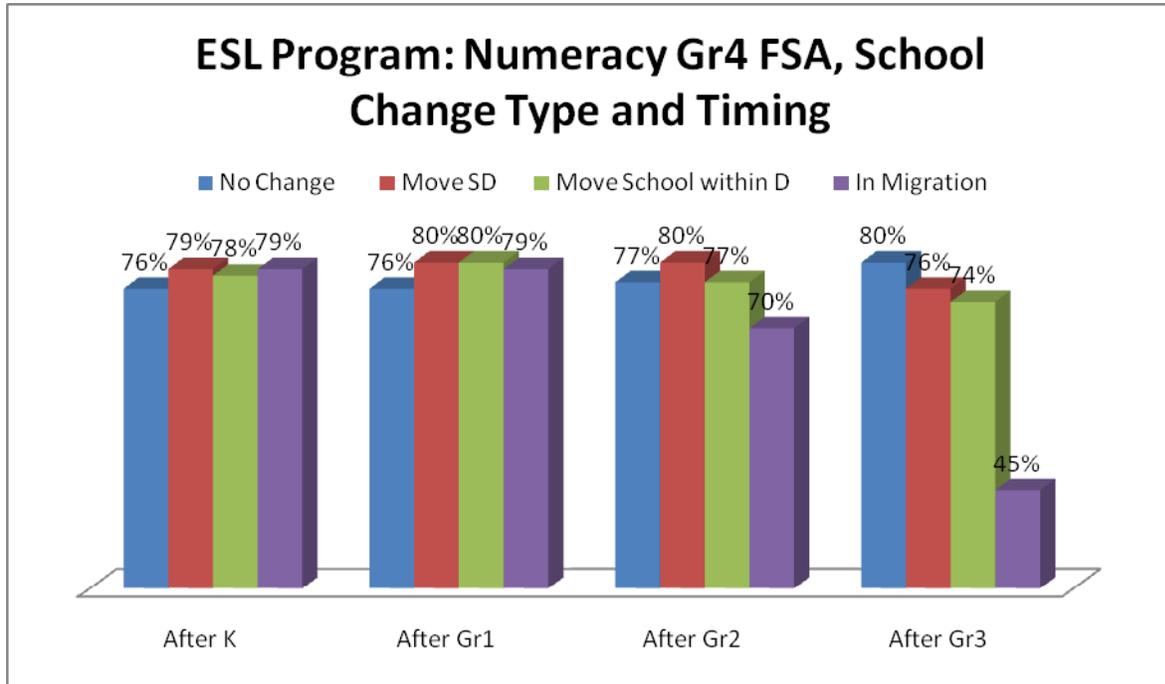
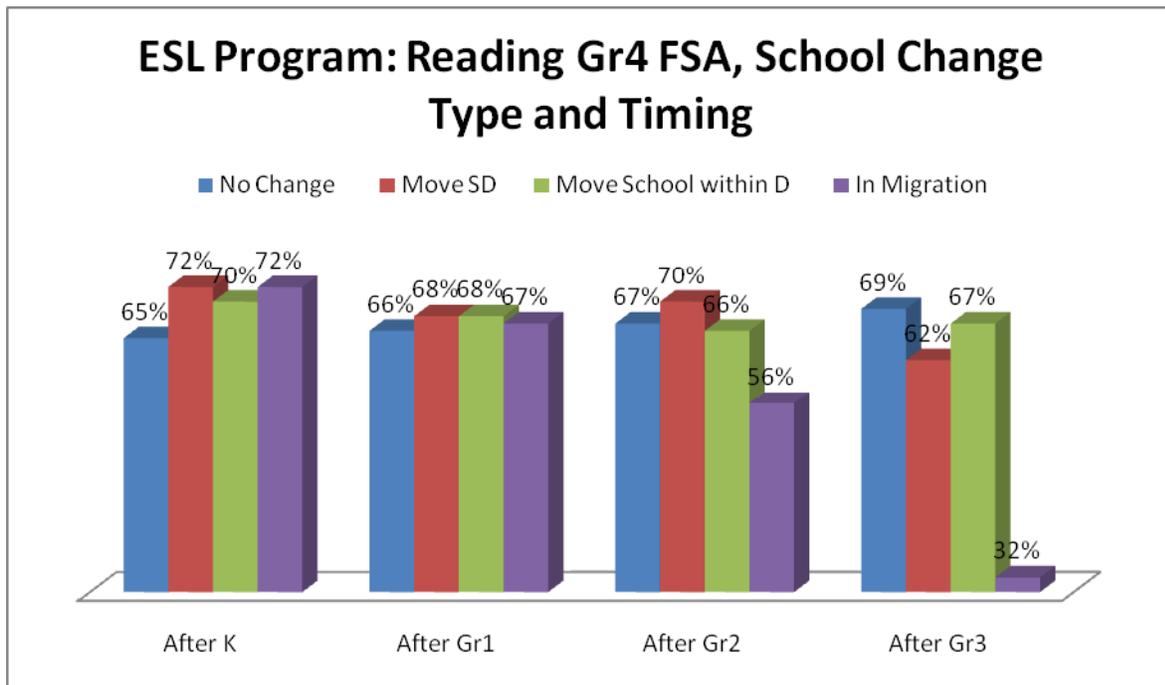


Figure 53: ESL Students, Reading, School Change Type and Timing



Non Band Aboriginal

The pattern for Non Band Aboriginal exam participants meeting expectations on both Numeracy and Reading is much the same as their peers in the Regular Program (see Appendix 6I), though results are typically substantially lower. Non Band Aboriginal students who change school districts, change schools within their district, or are newcomers to the BC system, at any grade level have lower success rates compared to Non Band Aboriginal peers who do not change schools (see Figures 54-55).

Figure 54: Non Band Aboriginal Students, Numeracy, School Change Type and Timing

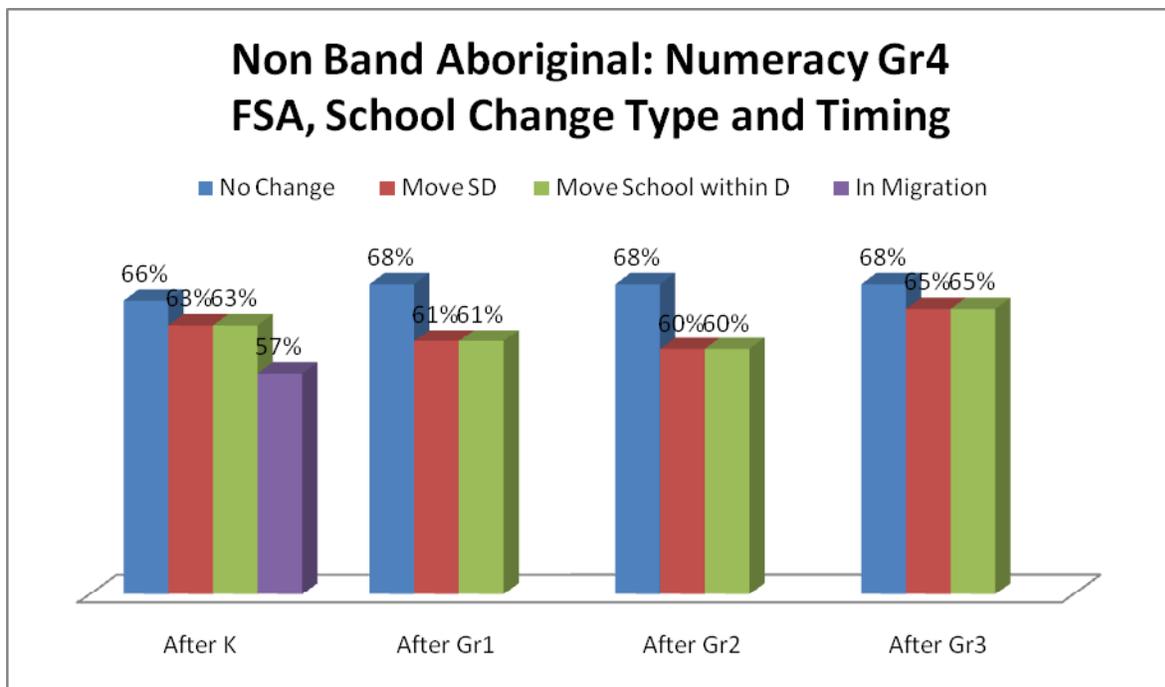
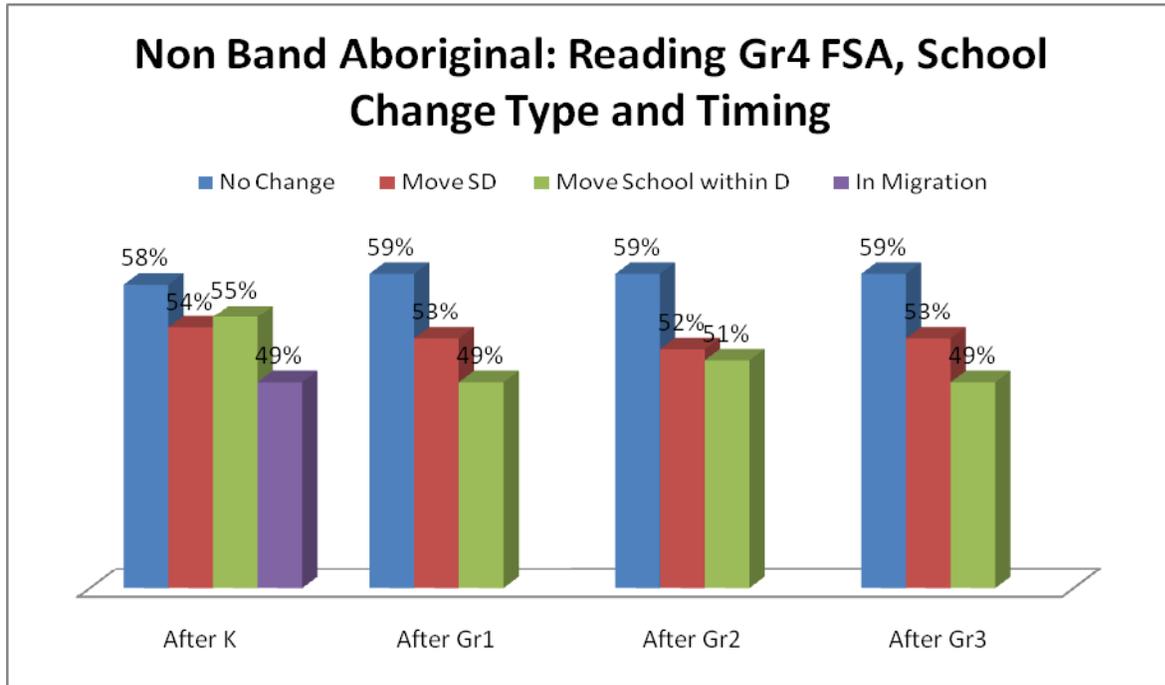


Figure 55: Non Band Aboriginal Students, Reading, School Change Type and Timing



Band

Band exam participants who change school districts, change schools within their district, or are newcomers to the BC system have lower proportions of students meeting expectations on the Numeracy and Reading exams than those who do not change schools only after some grade levels (see Appendix 6I and Figures 35 and 36). The variable results of some school change types after some grade levels in the Band student group are difficult to interpret⁵. It is of interest that the group of students who are new to the system after Kindergarten (this includes deferred entry students) has a disadvantage on the Numeracy and the Reading exams. (The small number Band students migrating to the BC system in higher grade levels is why results are not represented in Figures 56 and 57.)

⁵ Subsequent logistic regression analysis for a supplementary study confirms that a single school change does indeed increase the odds of success for Band students. In many cases Band students are moving to schools in higher income neighbourhoods or from Band-operated schools.

Figure 56: Band Students, Numeracy Gr4 FSA, School Change Type and Timing

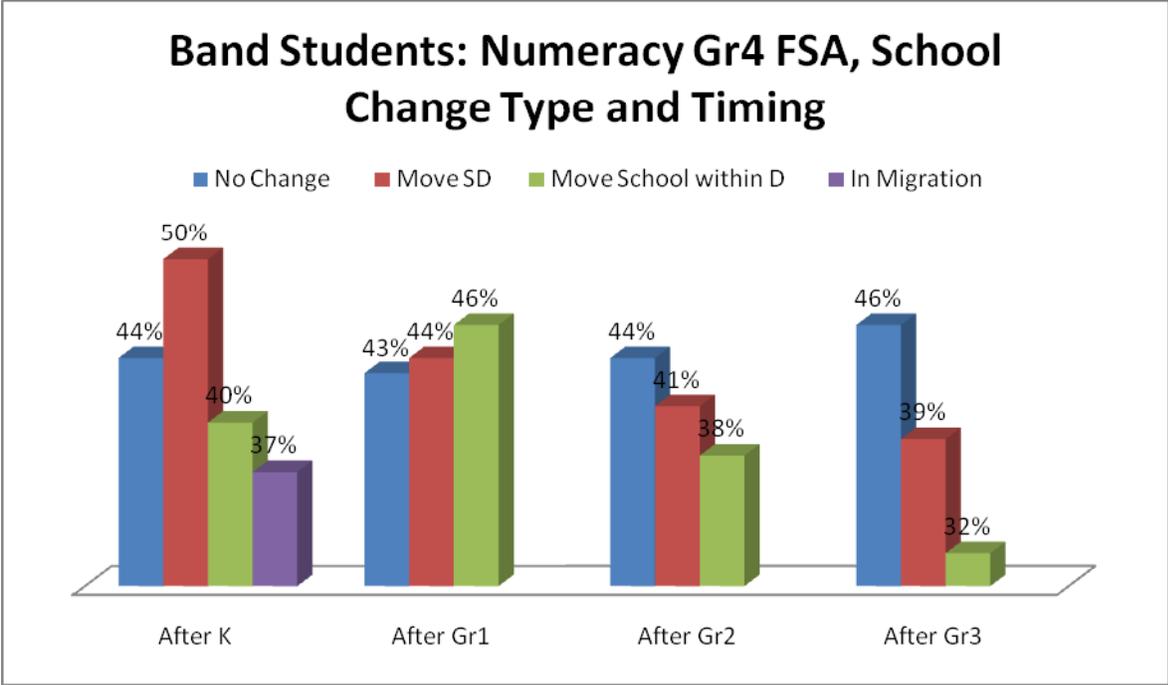
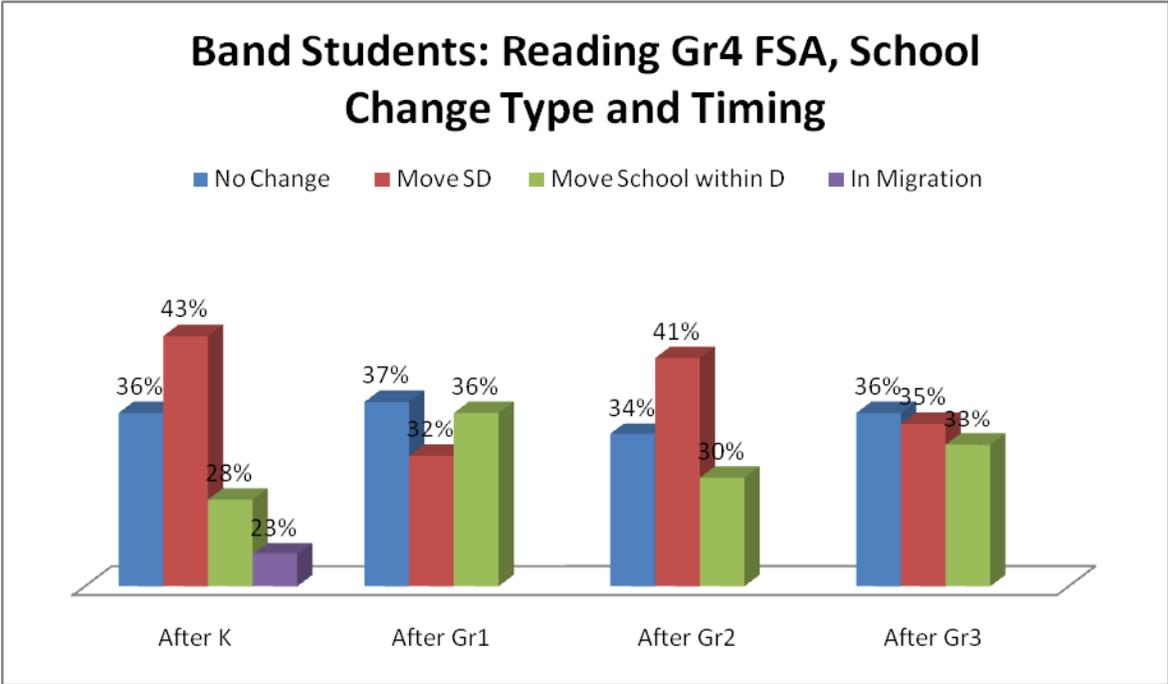


Figure 57: Band Students, Reading, School Change Type and Timing



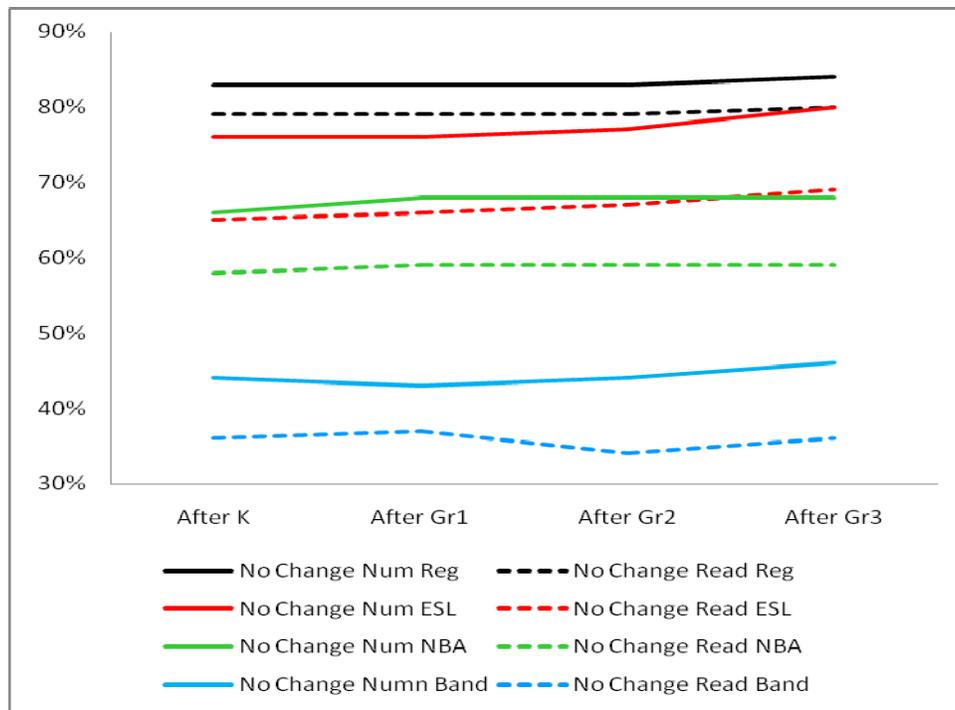
(e) Numeracy vs. Reading: Differences across Student Groups and Timing

As noted earlier, a higher proportion of exam participants are meeting expectations on the Numeracy exam compared to the Reading exam. There are differences across student groups, across types of school change types and across timing, or grade level, of the school change (see Appendix 6J for a summary).

No School Change

The difference between Numeracy and Reading is four percentage points for Regular Program (black lines) exam participants who do not change schools, at any grade level (see Figure 58). (In this figure the exams are differentiated by a solid line for the Numeracy FSA, compared to the dotted line the Reading FSA, and student groups are differentiated by colour.) In contrast, the percentage point gap between the two exams is greater within all other student groups.

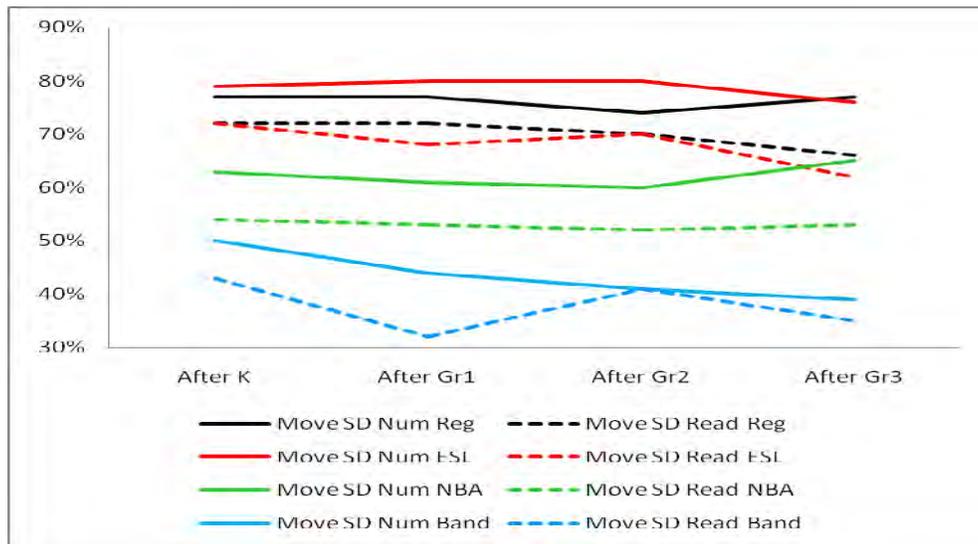
Figure 58: Numeracy vs. Reading Meeting Expectations Rates in No School Change By Student Group



Change of School District

The percentage point gap between the two exams exhibits a different pattern among exam participants who change school districts (see Figure 59). Among the Regular Program participants (black lines) the percentage point difference increases only when these students move after Grade 3. The same pattern is evident in the Non Band Aboriginal (green lines) exam participants. The pattern for the ESL group (red lines) is not the same – only when ESL students change school districts in the youngest grade is the gap relatively small. It increases over grade levels. In the Band student group (blue lines), the gap increases and decreases sporadically. As grade levels increase, scores decline in Numeracy.

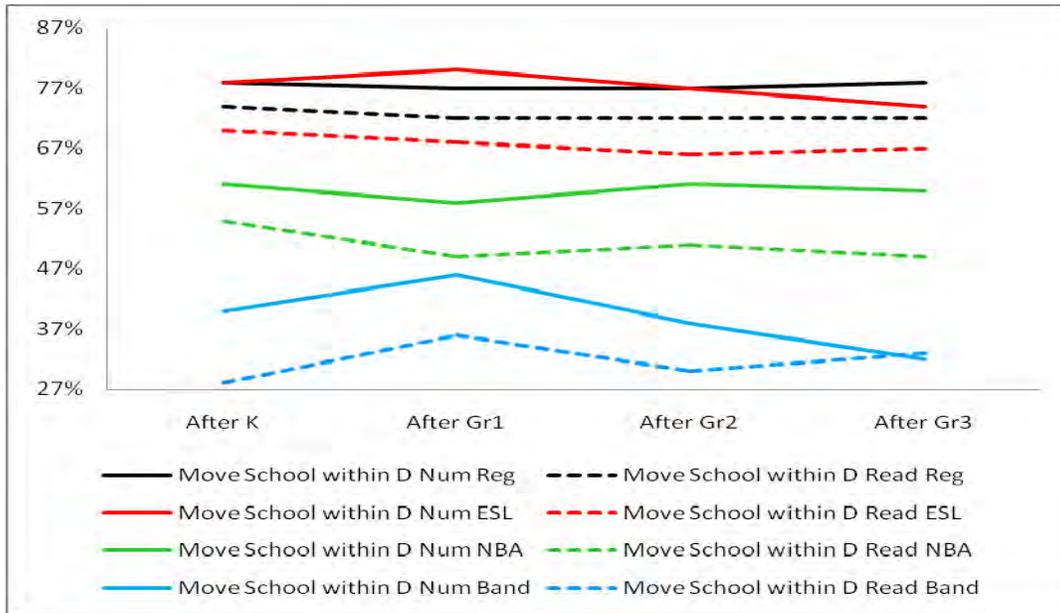
Fig 59: Numeracy vs. Reading Meeting Expectations Rates when students Move School District by Student Group



School Change Within District

Among exam participants who change schools within their school districts (see Figure 60), there is a similar pattern of increasing gaps in older grades across student groups, and a sporadic pattern in the Band exam participants group. As with Band students who moved school districts, Band students who moved schools within their districts, have a decline in Numeracy scores when that move occurs in later grades.

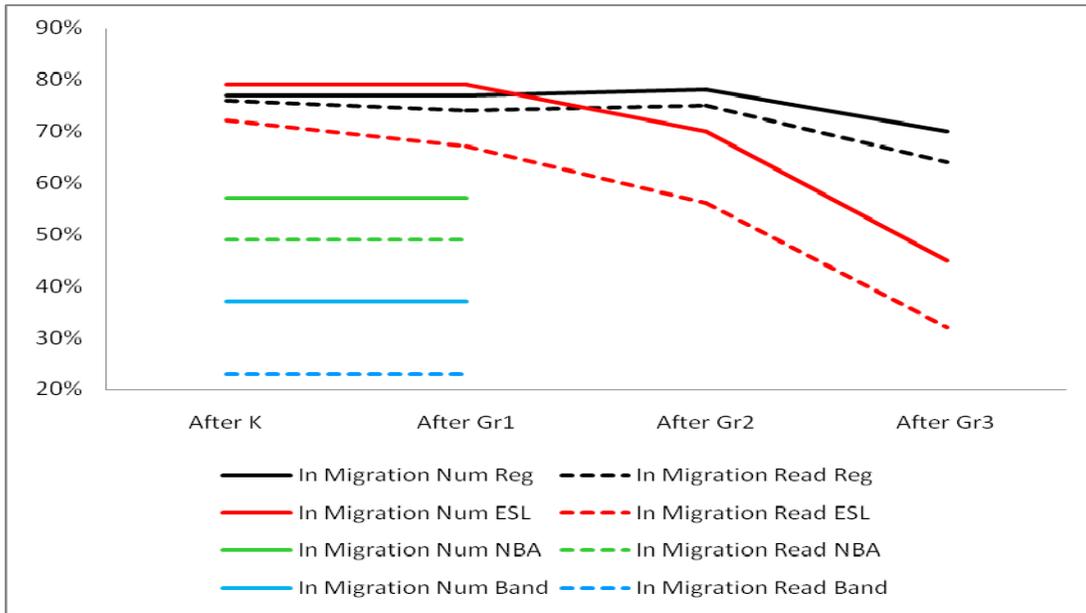
Figure 60: Numeracy vs. Reading Meeting Expectations Rates when students Move Schools within their District by Student Group



In Migration

Finally, when exam participants change school due to “in migration” (see Figure 61), exam participants in the Regular Program experience both a decrease in success rates and a slight increase in the gap in later grades. For ESL participants, when students migrate after Kindergarten, the gap increases while scores decline. Due to small numbers in the Non Band Aboriginal student group and Band student groups, only the in migration rate of those moving into the BC system after Kindergarten is reported. (It should be remembered that the “in migration” rate after Kindergarten includes deferred entry students.)

Figure 61: Numeracy vs. Reading Meeting Expectations Rates when students migrate to BC Schools within their District by student Group



(f) Meeting Expectations on FSAs: Gender

On the Reading FSA, female students *consistently* outperform male students across every school change category, and in every grade level of school change (see Appendix 6K).

There is little gender difference in the success rate on the Numeracy exam (see Appendix 6K) in the group of students who do not change schools at each grade level. There is also little difference between male and female students who change schools within the district on Numeracy. Slight differences exist between male and female students who move to new school districts in Numeracy after some grades (male students outperform female students in some grade levels). There is a substantial difference between male and female “in migration” students with female newcomers outperforming male newcomers at each grade level (with the exception of newcomers to the BC system after Kindergarten) on the Numeracy exam. Of note, this group includes BC students who have deferred school entry until Grade 1.

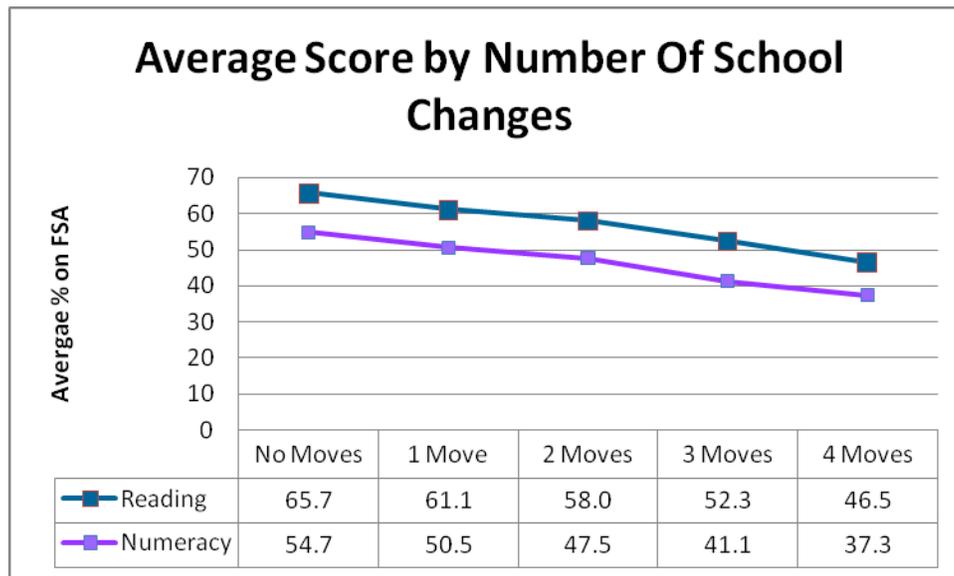
Part Five: Exam Results: FSA Average Scores and School Change

In Part Five the average score of student groups is examined as opposed to the percentage of the student groups meeting expectations. Results indicate that student mobility is associated with lower average scores. Gender differences on average FSA scores are also presented.

(a) Number of Moves and FSA Average Score

The number of school changes is associated with lower average scores on both FSA exams (see Figure 62). Even when exam participants have changed schools a single time, the average scores are lower than those who did not change schools.

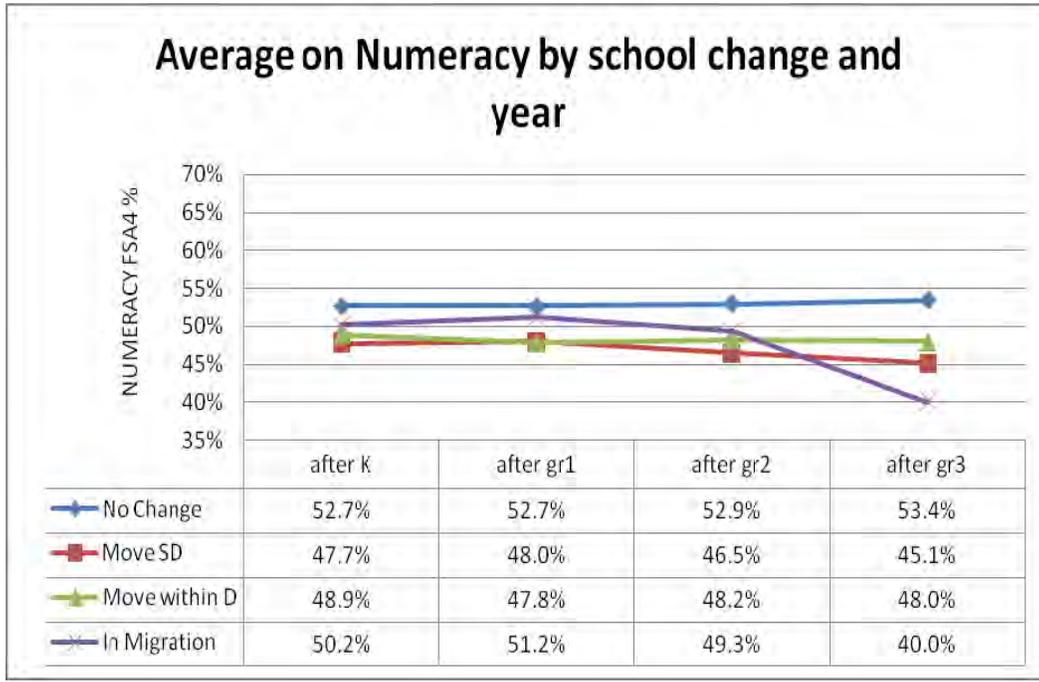
Figure 62: Number of School Changes and Average Score on Grade 4 FSAs



(b) Average FSA Scores by School Change Type, and Timing

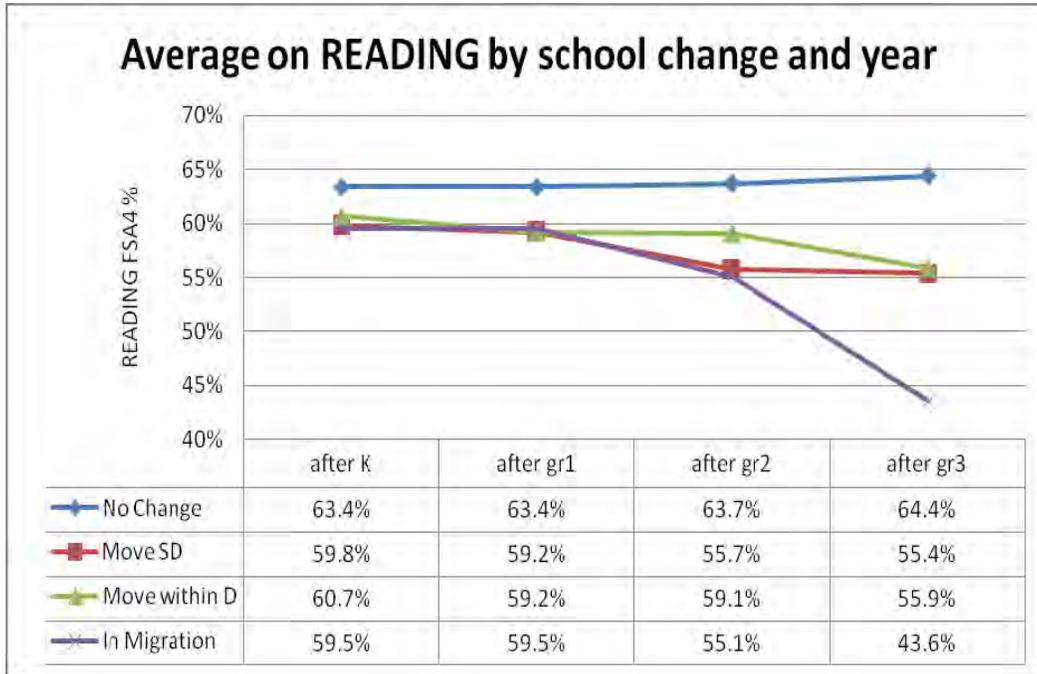
The average score on the Numeracy FSA in Grade 4 is lower for students who changed schools after each grade and in all groups of exam participants than for students who did not change schools (see Figure 63). Of interest, the average scores of students who have migrated to BC in early grades is higher than that of their peers who have changed schools within their school district or beyond during those early years. In contrast, the average Numeracy score is much lower for the most recent group of newcomers to the BC system compared to other student groups.

Figure 63: Average Score on Numeracy Grade 4 FSA by School Change Type and Timing



The pattern seen for the average Numeracy scores is similar for average Reading scores. The average score on the Reading FSA Grade 4 exam is lower for exam participants who have changed schools after every grade level compared to those who have not changed schools (see Figure 64). Initially, the average exam score differs little in the groups who change schools after Kindergarten and after Grade 1. In groups who changed schools after Grade 2, differences begin to emerge. As seen in Numeracy, students who have migrated to BC after Grade 3 have a much lower exam average than in migrating students at earlier grades.

Figure 64: Average Score on Reading Grade 4 FSA by School Change Type and Timing



(c) Average Score on FSAs: Differences between Student Groups by School Change Type and Timing

There are variations on the general pattern when students are examined by student group.

Regular Program

Exam participants in the Regular Program have higher scores on the Reading FSA when they do not change schools after any grade level (see Figure 65). Moving across school districts (see Figure 65) is associated with increasing risk of lower average scores on both the Numeracy and Reading exams in later grades, while the risk associated with changing schools within the school district (see Figure 66) varies little across grades. As far as newcomers to the BC system are concerned, it is those who arrive in the latest year (i.e., after Grade 3) in the Regular Program who are most at risk of obtaining lower exam scores, particularly on the Reading FSA.

Figure 65: Regular Program Average Scores and Numeracy Grade 4 FSA

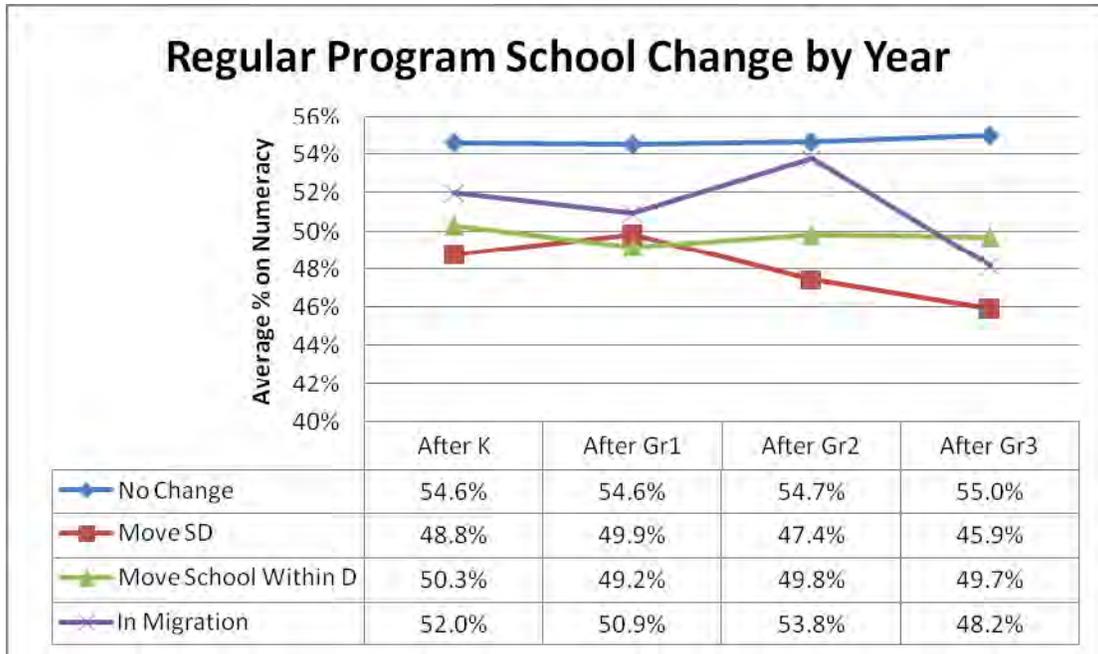
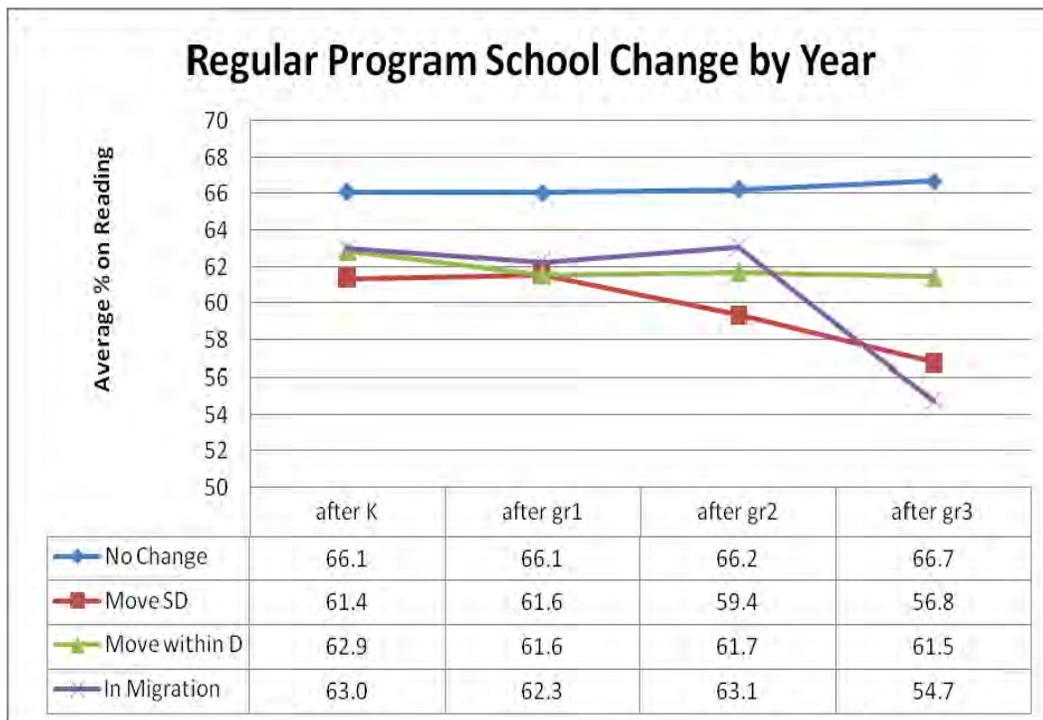


Figure 66: Regular Program Average Scores and Reading Grade 4 FSA



ESL

In contrast to the trend observed with students in the Regular Program, ESL students who change schools before Grade 3 have higher average scores on Numeracy (see Figure 67). In Reading, (see Figure 68) ESL students who do not change schools outperform those who do move in later grades. “In migrating” ESL students who arrive in the latest grade have the lowest performance on Reading scores.

Figure 67: ESL Average Scores and Numeracy Grade 4 FSA

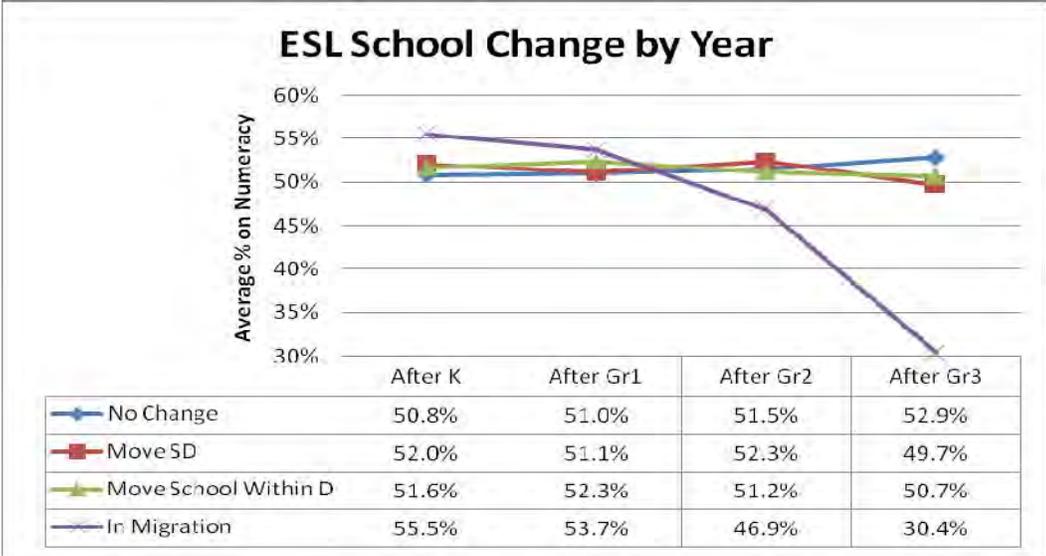
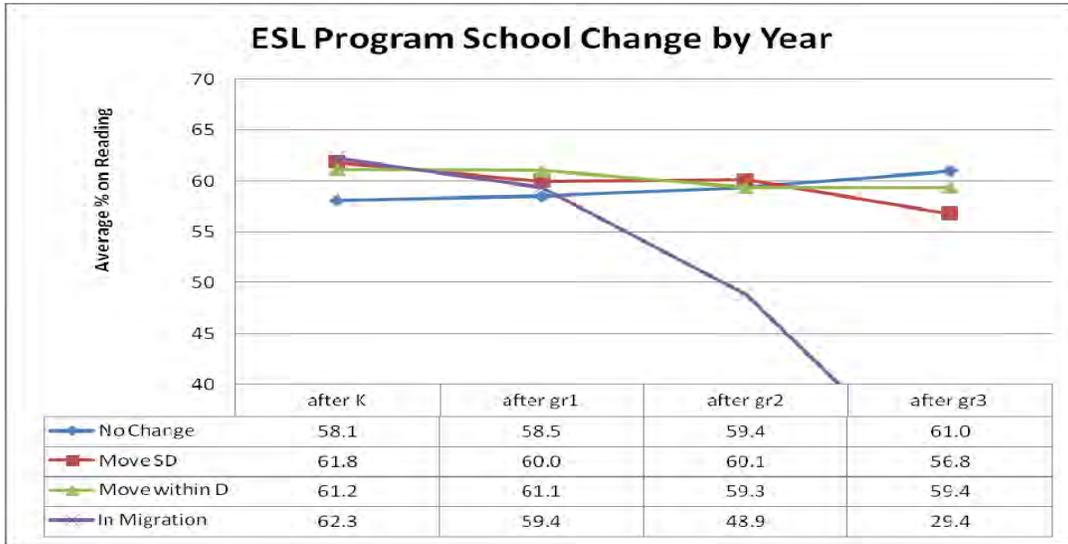


Figure 68: ESL Average Scores and Reading Grade 4 FSA



Non Band Aboriginal

In the Non Band student group, students who do not change schools after any grade level outperform their peers who change schools (see Figures 69 and 70). Generally, students who change schools within their school districts are more at risk of obtaining lower scores than those moving across school districts in Reading. The Non Band Aboriginal students who migrate to the BC system in early years are the most at risk of scoring low on both exams. The “in migration” after Kindergarten student group includes students who have deferred entry into the system until Grade 1. (Small numbers of “in migrating” students after Kindergarten means that caution should be used in interpretation).

Figure 69: Non Band Aboriginal Average Scores and Numeracy Grade 4 FSA

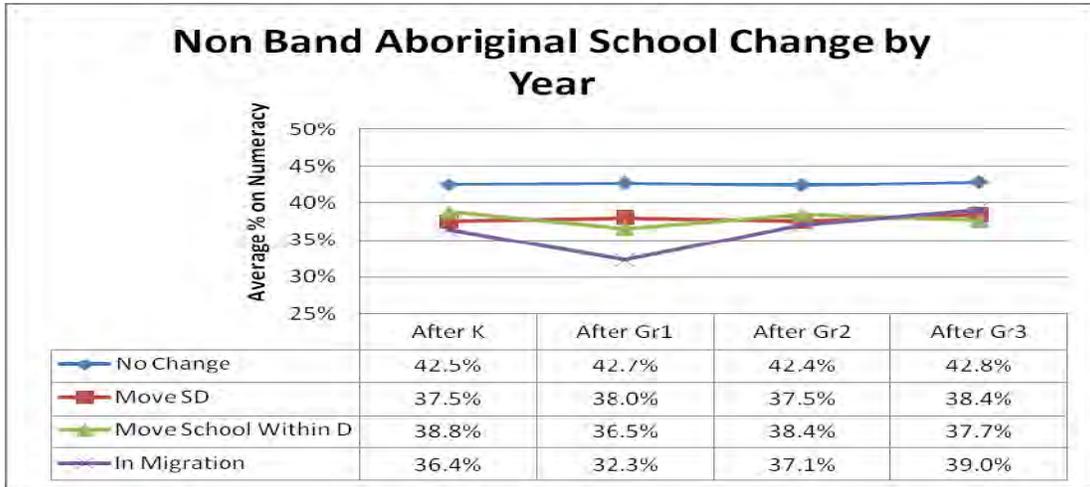
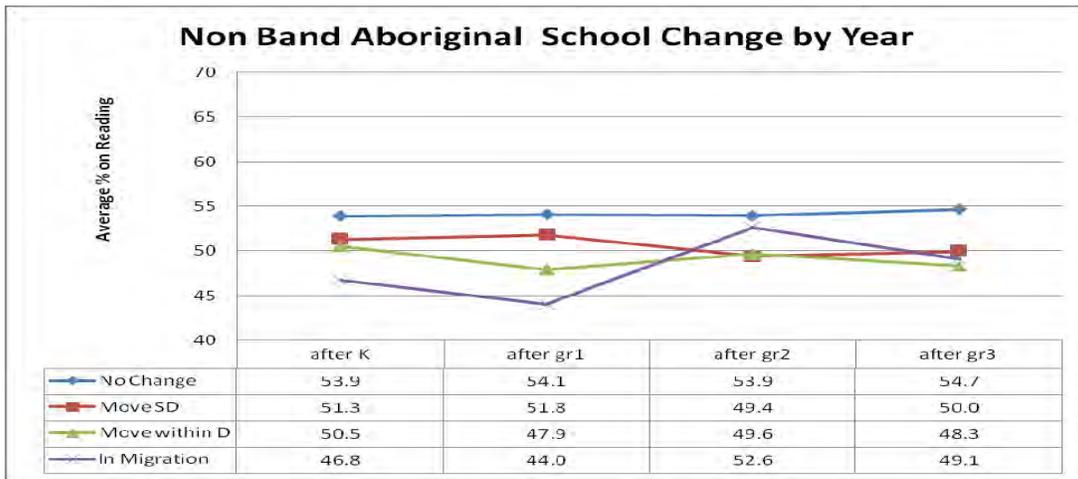


Figure 70: Non Band Aboriginal Average Scores and Reading Grade 4 FSA



Band

The group of Band-affiliated students who never change schools typically, but not always, outperforms Band students who change schools (see Figures 71 and 72). There are unclear patterns associated with school change in earlier grades, as opposed to later grades and across different school change types. Because of the small number of Band students in some of these school change categories (particularly in migration), these results must be interpreted with caution. The unexpected pattern of higher average scores and equivalent average scores being associated with school district change is noteworthy.

Figure 71: Band Average Scores and Numeracy Grade 4 FSA

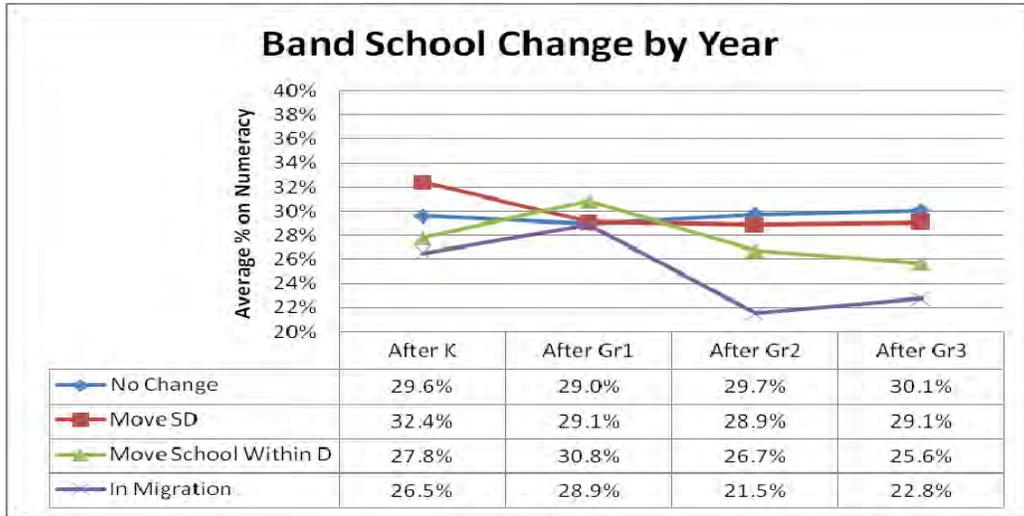
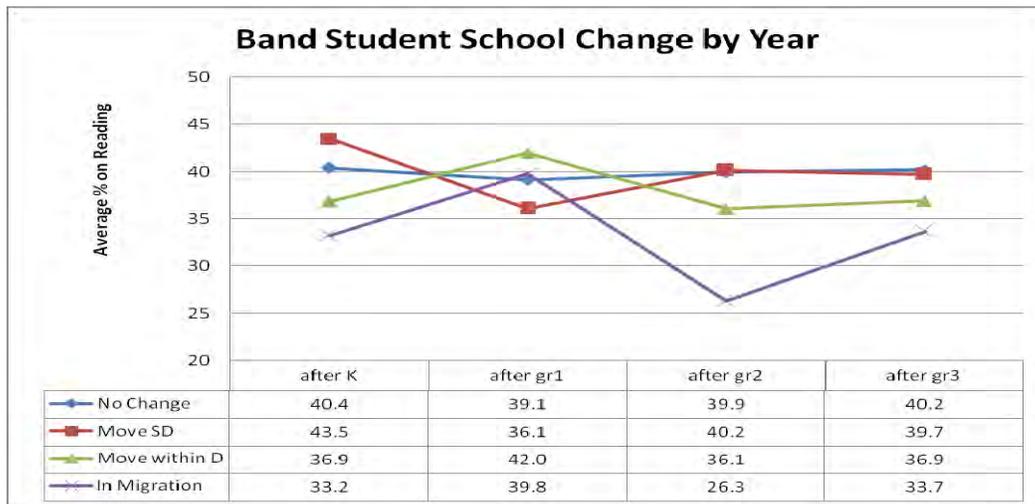


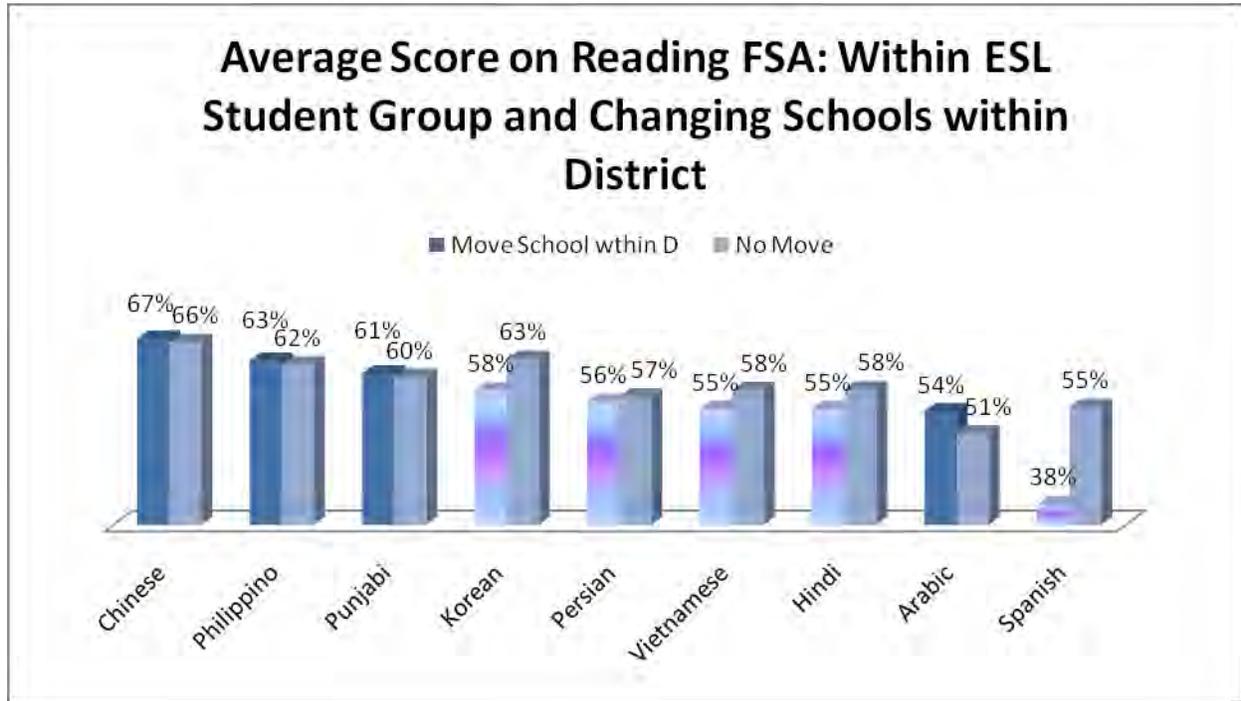
Figure 72: Band Average Scores and Reading Grade 4 FSA



(d) Average Scores on FSAs: Differences within ESL Students

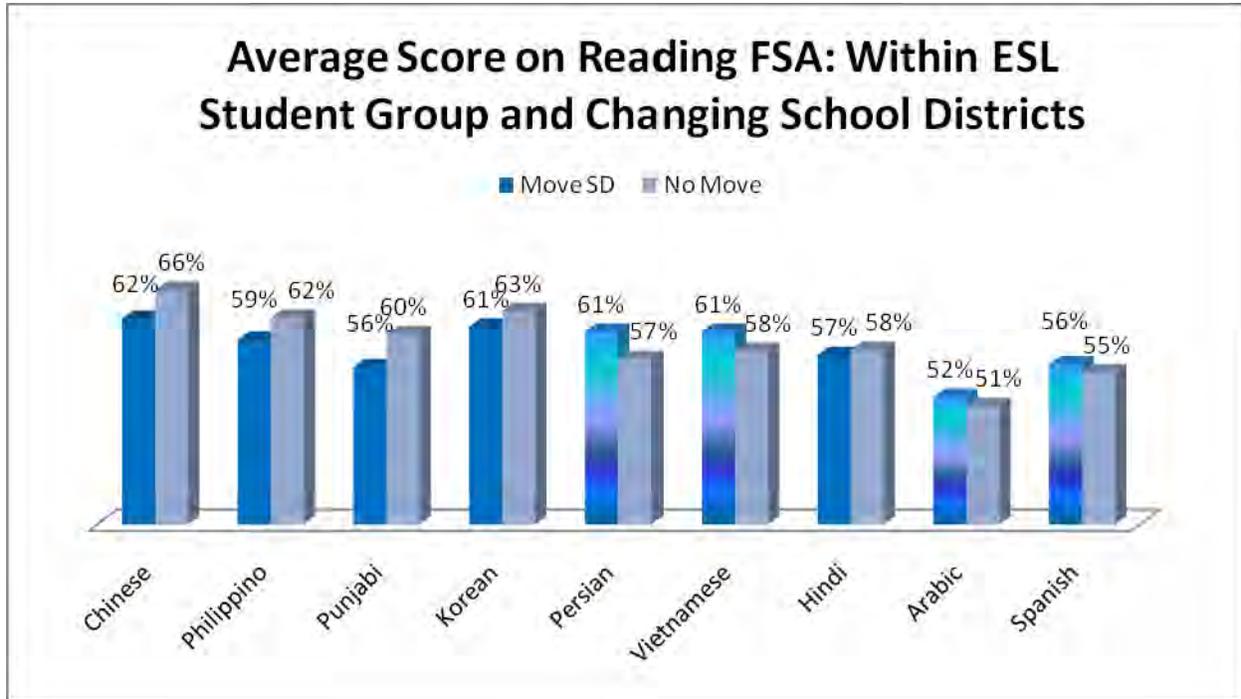
There are differences within the ESL exam participants regarding the average exam scores of students who change school within their district and those who do not change school. For example, in the case of Chinese speakers, students who change schools (particularly within the earliest grades) within their school district, *outperform* students who do not change schools. In contrast, students with Vietnamese, and Spanish home languages and who remain in the same school have higher average scores in Reading than those you change schools (see Figure 73). In later grade levels, different home language groups have nearly equivalent average scores.

Figure 73: Average Reading Scores of Students Moving School within District After Grade 3: Within ESL Differences



Similarly, within the ESL exam participants, the average scores are typically lower when students change school districts. In some groups, however, the reverse is true (see Figure 74 for an example of within ESL student group differences when students move after Grade 3).

Figure 74: Average Reading scores of Students Moving School Districts After Grade 3: Within ESL Differences



(e) Average Score on FSAs: Gender Differences

Male students have an advantage on the Numeracy FSA: Female students have an advantage on the Reading FSA.

Numeracy

Average scores of female students in all school change categories, including those students who *do not* change schools, after Kindergarten are lower than male students in Numeracy (see Figure 75). There are three anomalies to this pattern. First, when students move after Grade 1, female students who are new to BC outperform male students who are new to BC (see Figure 76). Second, when students move after Grade 2, only female students who change schools within their school district outperform male students in Numeracy (see Figure 77). Finally, when students move after Grade 3, female students who are new to BC outperform male students who are new to BC (see Figure 78).

Figure 75: Gender and Numeracy Average Score by School Change Type after Kindergarten

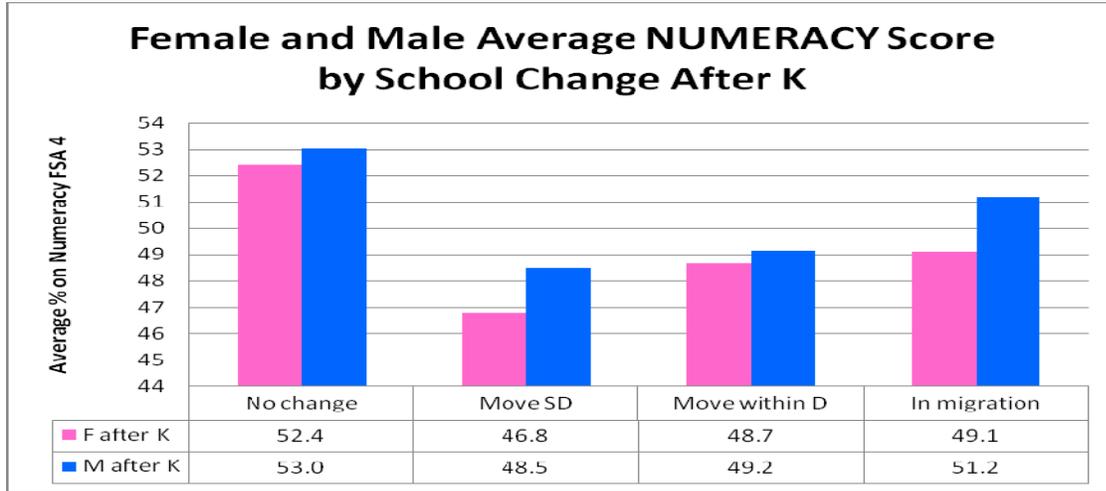


Figure 76: Gender and Numeracy Average Score by School Change Type after Grade 1

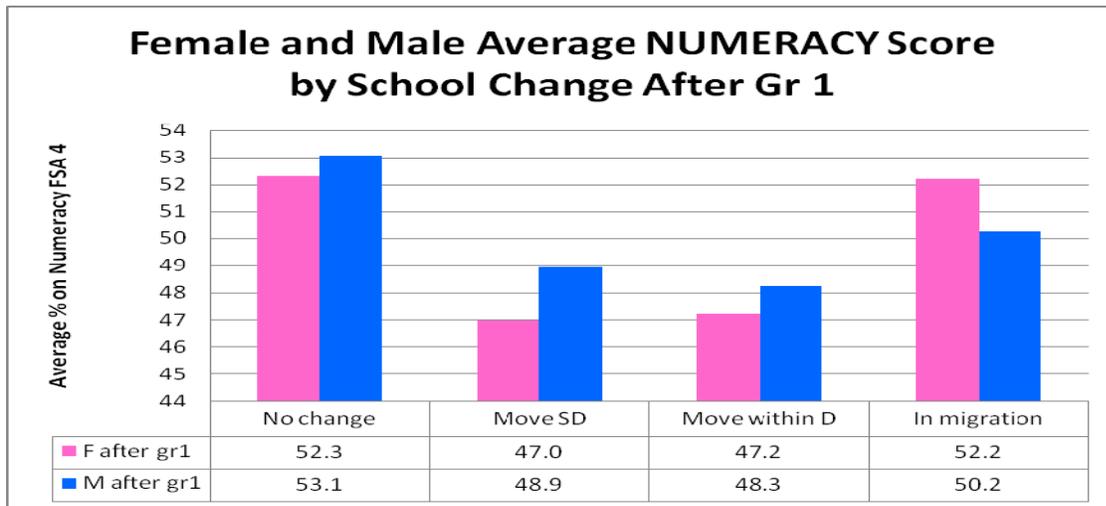


Figure 77: Gender and Numeracy Average Score by School Change Type after Grade 2

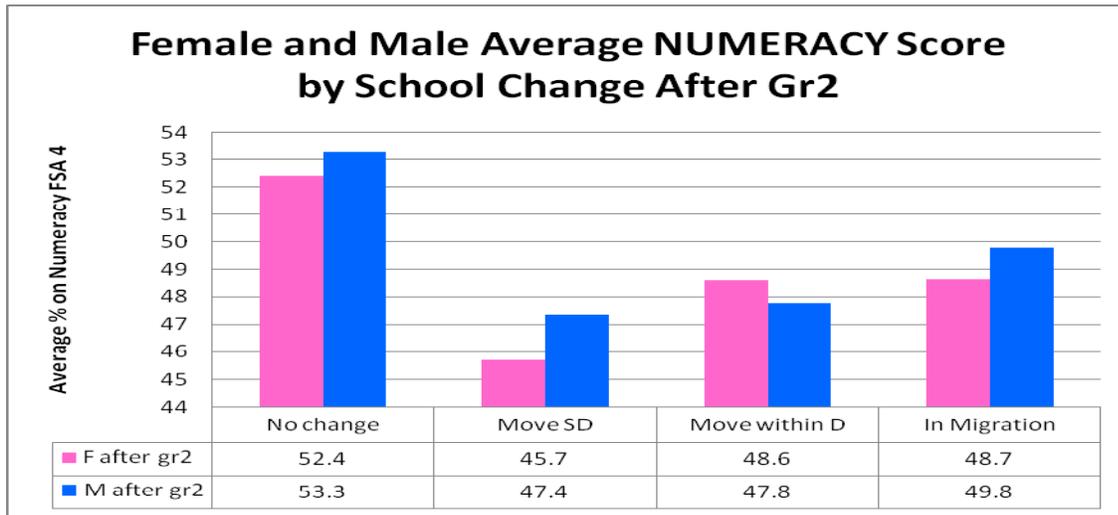
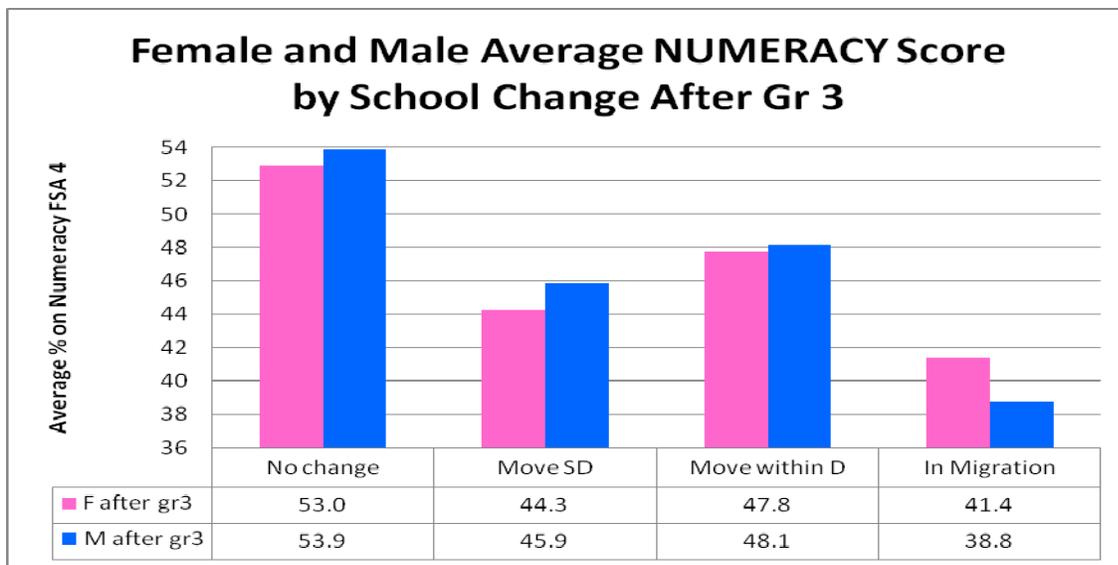


Figure 78: Gender and Numeracy Average Score by School Change Type after Grade 3



Reading

In contrast to the Numeracy exam, female students outperform male students in all school change groups, including those students who *do not* change schools after Kindergarten on the Reading exam. The pattern is consistent when students move after Grade 1, after Grade 2 and after Grade 3 (see Figures. 79 to 82).

Figure 79: Gender and Reading Average Score by School Change Type after Kindergarten

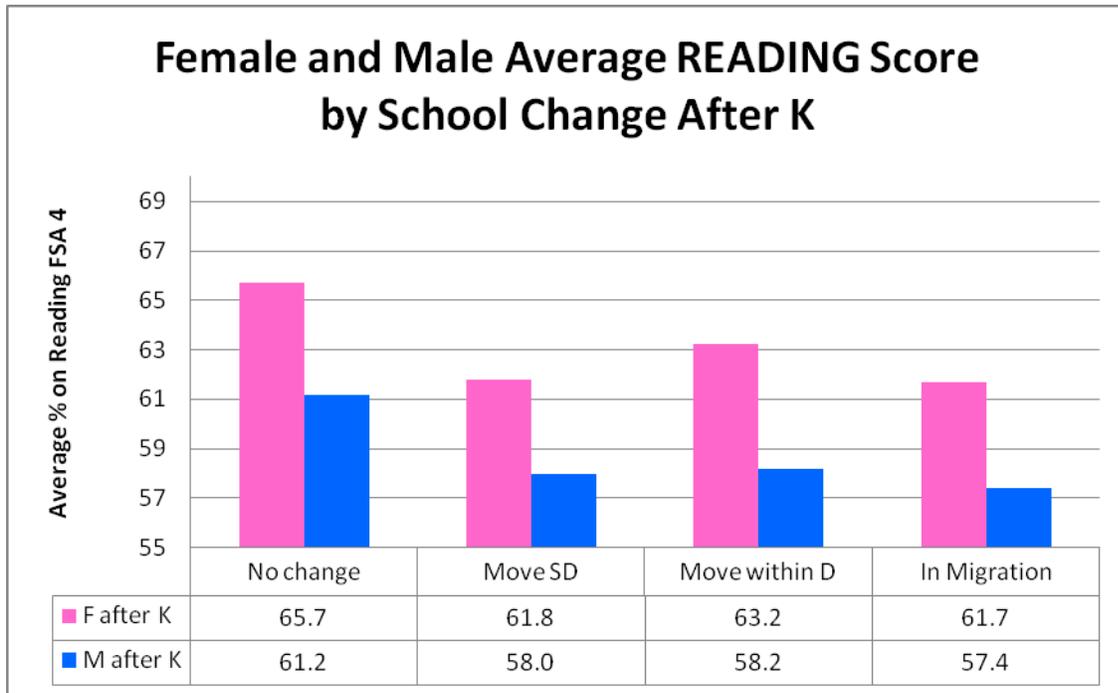


Figure 80: Gender and Reading Average Score by School Change Type after Grade 1

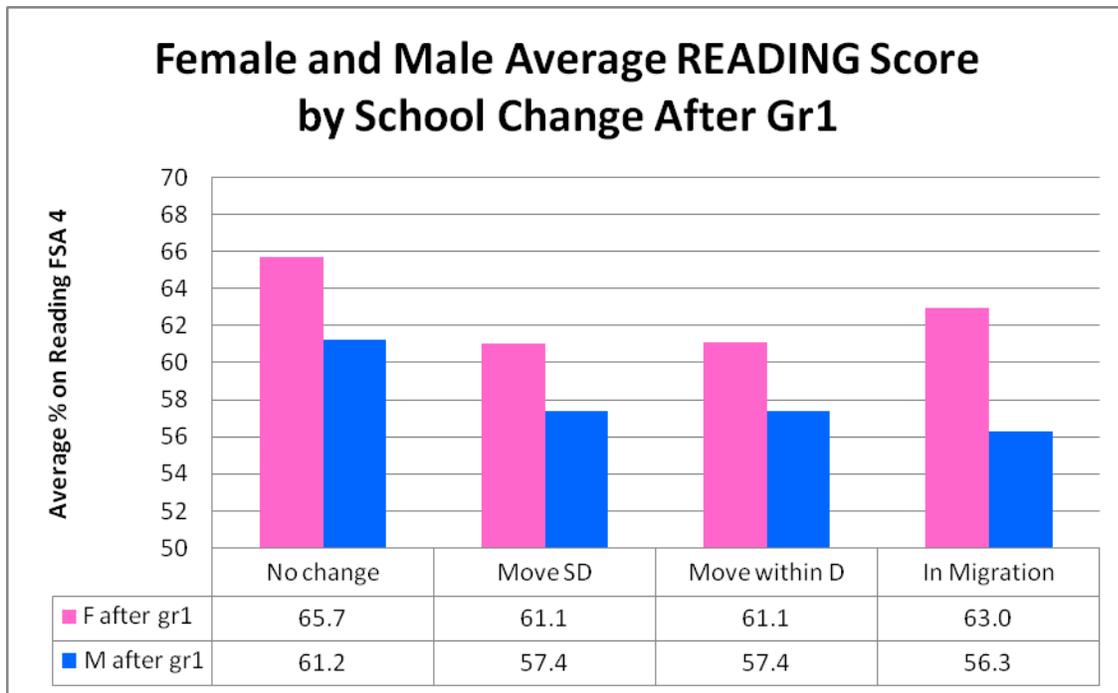


Figure 81: Gender and Reading Average Score by School Change Type after Grade 2

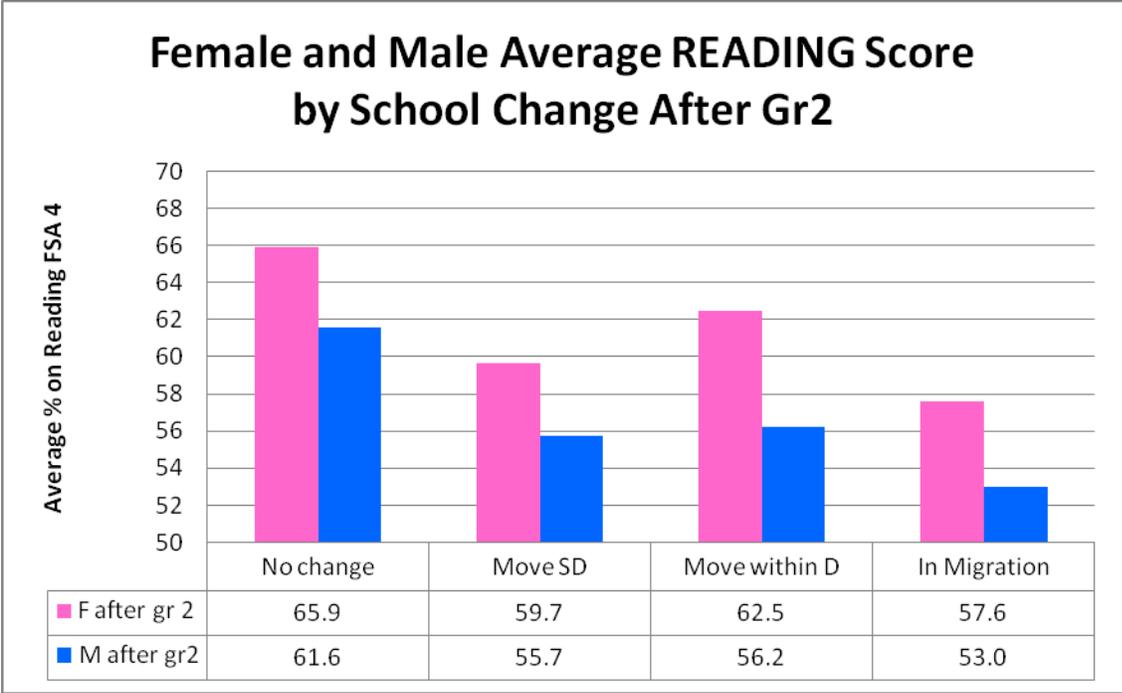
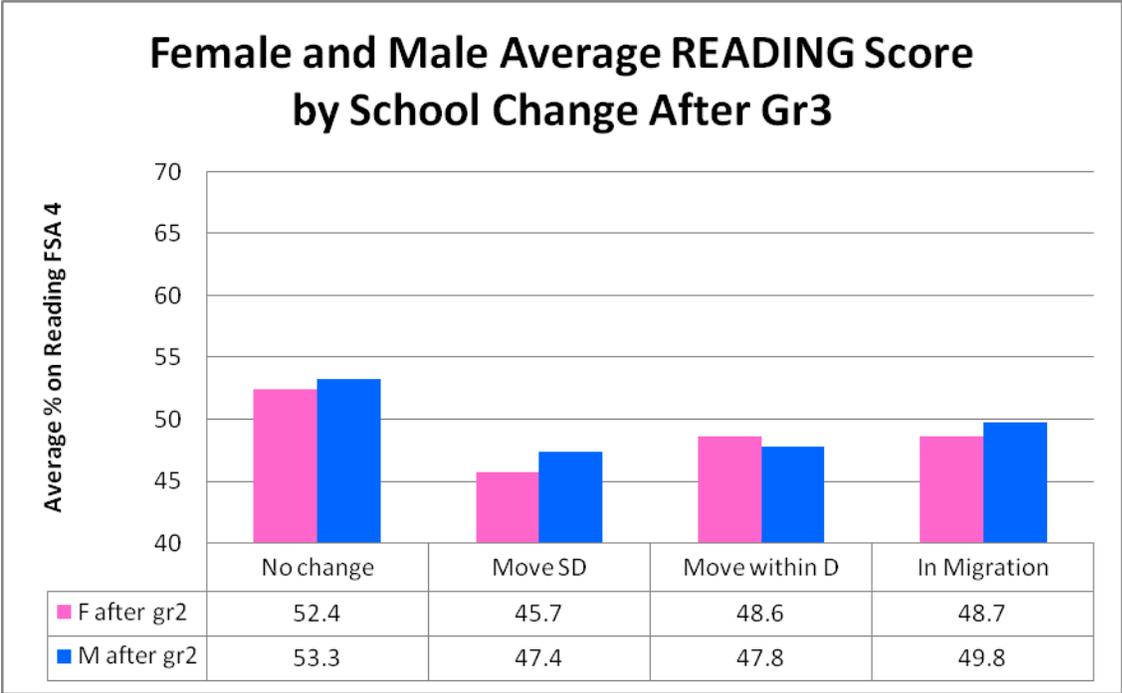


Figure 82: Gender and Reading Average Score by School Change Type after Grade 3

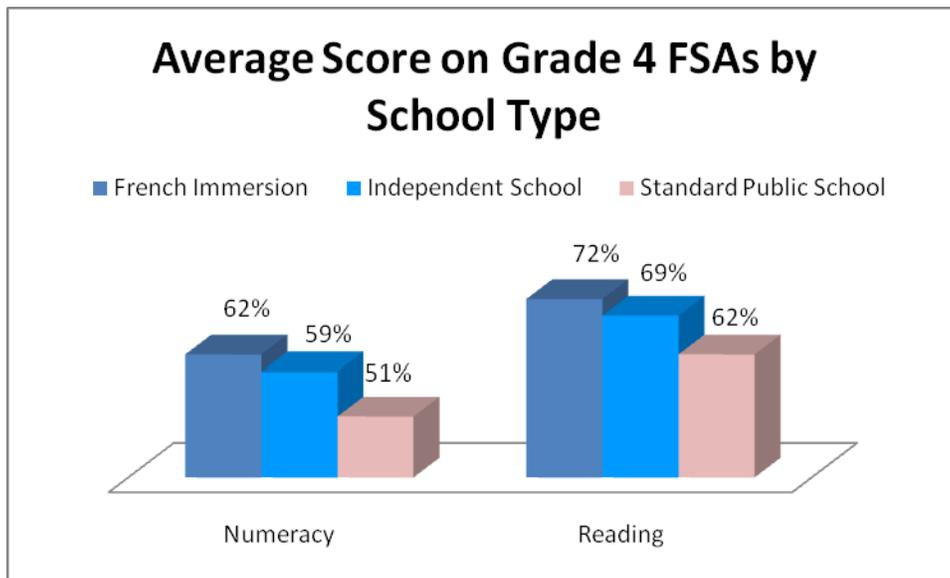


Part Six: A Closer Look at School Change within School Districts

Part Six takes a look at the demographics and exam scores of students moving within school districts to schools offering French Immersion or to independent schools. Typically these school types are associated with higher success rates on FSAs.

When students change schools within their school district, approximately 13% change across school types (for example non standard public schools, schools offering French Immersion, or independent schools). Because average scores on FSAs are higher in French Immersion schools and independent schools compared to standard public schools (see Figure 83), when students change schools to these types of schools within their district, school change might not invariably be associated with decreased average scores.

Figure 83: Average Score on Grade 4 FSAs by School Type



(a) Changing Schools: French Immersion vs. Standard Program

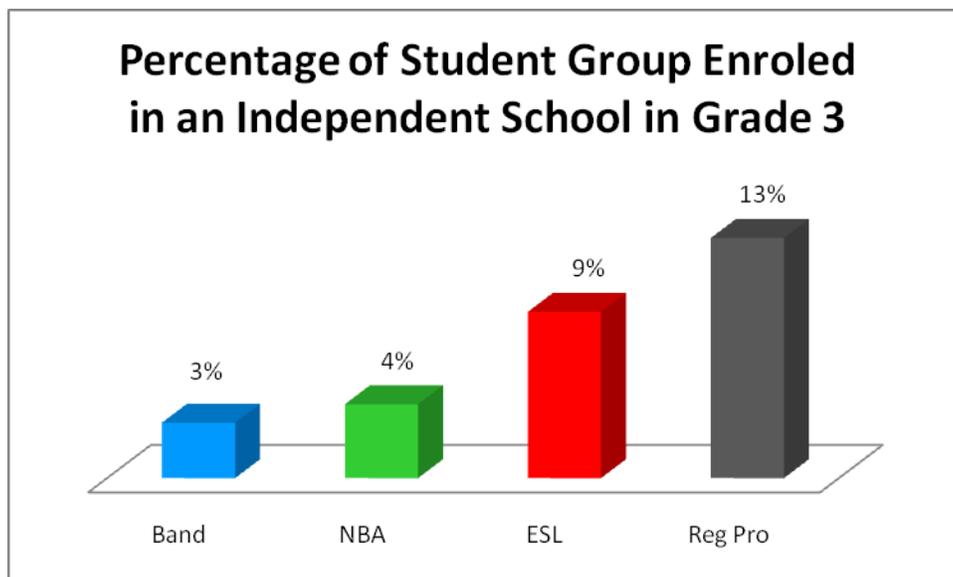
About 5% of the student population is enrolled in a French Immersion program by Grade 4 (see Appendix 6L). For the most part, these are students in the Regular Program, with very small numbers of Band, Non Band Aboriginal, and ESL students enrolled. After Grade 3, there is a greater proportion of students switching from French Immersion to a standard public school than from a standard public school to a French Immersion school. Students who switch to French

Immersion schools have higher average scores on both FSAs than those switching out. Students switching out of French Immersion are slightly underperforming (under 2 percentage points difference) compared to students who change schools and have no involvement with French Immersion.

(b) Changing Schools: Public vs. Independent

A greater proportion of students in the ESL (9%) student group and in the Regular Program student group (13%) than in both Aboriginal student groups (3-4%) enroll in independent schools (see Figure 84) (see Appendix 6M).

Figure 84: Proportion in School Type Grade 3

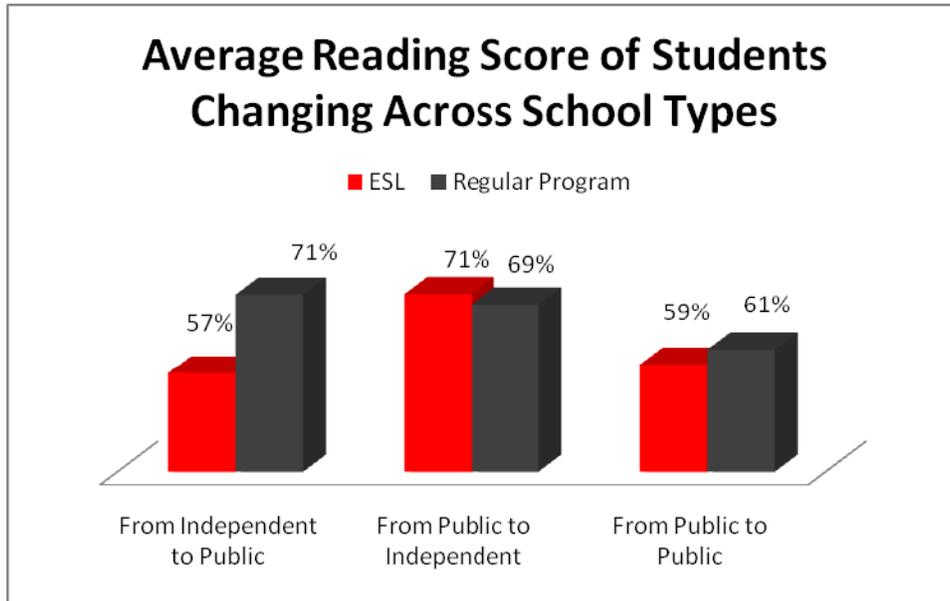


The proportion of students who move from public schools to independent schools (approximately 6%) after Grade 3 is slightly higher than that of students moving from an independent school to a public school (approximately 5%).

The Numeracy scores of Regular Program exam participants are higher in the group who moves from a public school to an independent school (see Appendix 6M). This also true for ESL students where the advantage of moving from a public school to an independent school on Numeracy scores appears substantial. This is also the case for ESL students' Reading scores. The Reading success rate obtained, however, by Regular Program students moving from a public

school to an independent school is nearly identical to that of students moving from an independent school to a public school (see Figure 65).

Figure 85: Average Reading Scores and Independent Schools



Part Seven: School Change and Residential SES

Part Seven examines whether mobility patterns and exam performance results are associated with the destination residential average family income. Students who change schools are often moving across different residential neighbourhoods.

Students in BC are distributed across a range of neighbourhoods where the average family income varies from \$19,000 to \$200,000. While there is a lack of information regarding the average income levels of some neighbourhoods, it appears that some student groups (Band students and Non Band Aboriginal students) are disproportionately represented in the poorest neighbourhoods (see Appendix 6N). Similarly, among the ESL student groups, higher proportions of some language groups reside in poor neighbourhoods. For instance, Chinese, Hindu, Punjabi and Korean ESL students are not as concentrated in lower income neighbourhoods as are students with other mother tongues. (Students in these ESL student groups more frequently perform well in FSA exams.)

Students who change schools within their school district are also overrepresented in poorer neighbourhoods (see Appendix 6N). To illustrate, 7% of the students in residential neighbourhoods with the top 10th average family income changed schools after Grade 3, while

11% of those living in neighbourhoods with the lowest 10th average family income did. (13% of Band students living in the lowest SES neighbourhoods changed schools, 14% of Non Band students living in the lowest SES neighbourhoods did, and 8% of ESL students did.) Students residing in higher SES neighbourhoods are more likely to never change schools.

School change rates also vary across student groups. Students in the Regular Program have lower rates of school change in higher income neighbourhoods than lower income neighbourhoods. (ESL students do not follow this pattern, in part because a high proportion of these students are migrating to BC and therefore have moved at least once.) It appears that ESL students *residing in higher income neighbourhoods* are changing schools in higher proportions than their counterparts in lower income neighbourhoods. Students in the Non Band Aboriginal group have similar rates of no school change across income categories, but those in the poorest neighbourhoods are more likely to *not* change schools than counterparts in higher income neighbourhoods. This is a contrast to the Band student group. Band students residing in the higher income neighbourhoods have higher rates of not changing schools than those in lower income neighbourhoods⁶.

Students who reside in high income neighbourhoods outperform students residing in lower income neighbourhoods (See Figures 86 - 92). This is evident for all “no change” students, except for Band students (see Figure 82) and ESL students in the lower middle income levels (see Figure 88). Further, the risk associated with school change is not as high among students residing in higher SES neighbourhoods in the Regular Program participants and Non Band Aboriginal participants as the risk is for those residing in lower income neighbourhoods. Numeracy scores appear to be less associated with SES than Reading scores. The difference in FSA scores between students who change schools and their peers who do not *widens* when students change to lower SES neighbourhoods in their district.

Generally speaking, students who change school districts are more at risk of obtaining low scores on exams than students who change within their own school district across all neighbourhood SES levels. This may be related to the fact that changes occurring within school districts include those to and from independent schools and French Immersion programs where students have higher average FSA scores. Yet, this relationship is not apparent for all student

⁶ The low number of exam participants in the Band group at higher income levels, however, warrants that caution in interpretation should be applied.)

groups, or at each neighbourhood SES level. Generally, participants moving to high income neighbourhoods have higher scores than students moving to lower income neighbourhoods. Of note, the meaning of residential income change *across school districts* where the meaning of economic conditions may differ substantially across geographies is a challenge.

Figure 86: Regular Program Students: Average Numeracy Score, School Change and Residential SES

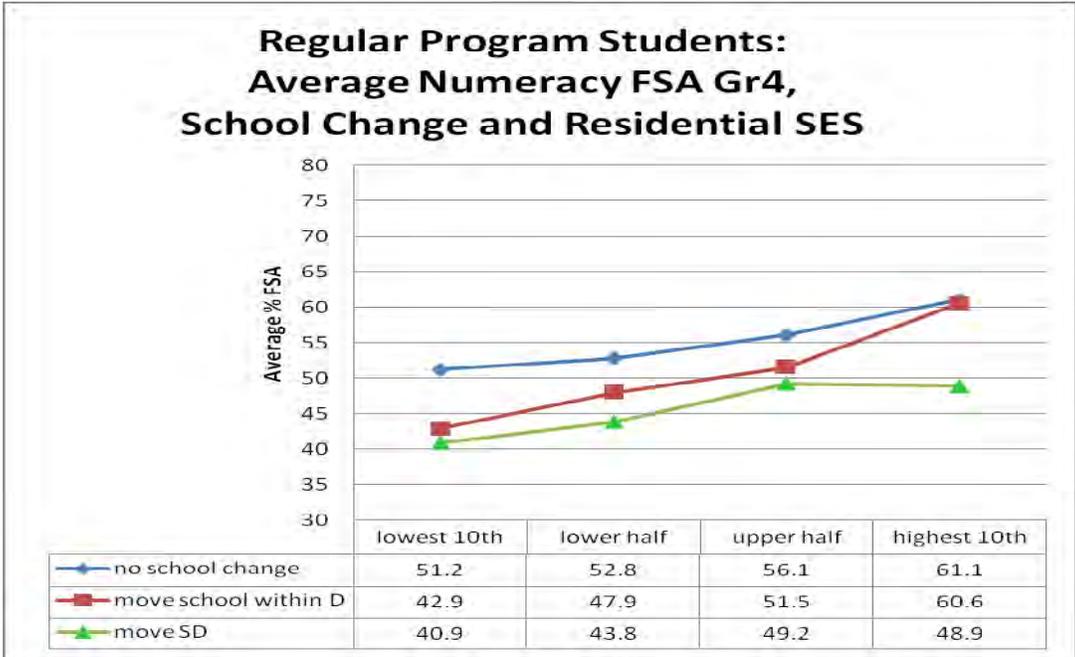


Figure 87: Regular Program Students: Average Reading Score, School Change and Residential SES

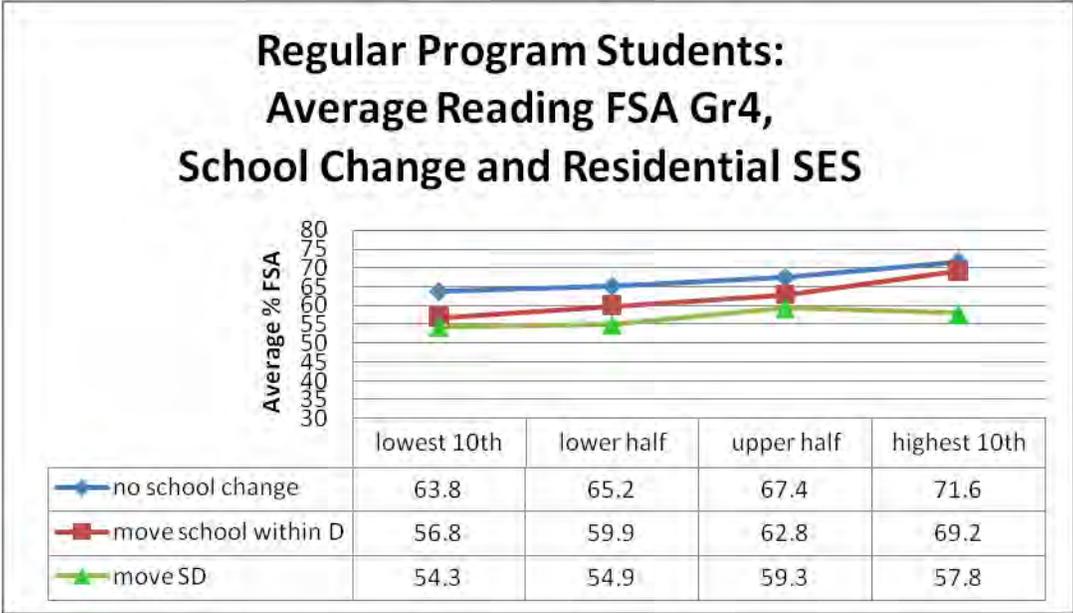


Figure 88: ESL Students: Average Numeracy Score, School Change and Residential SES

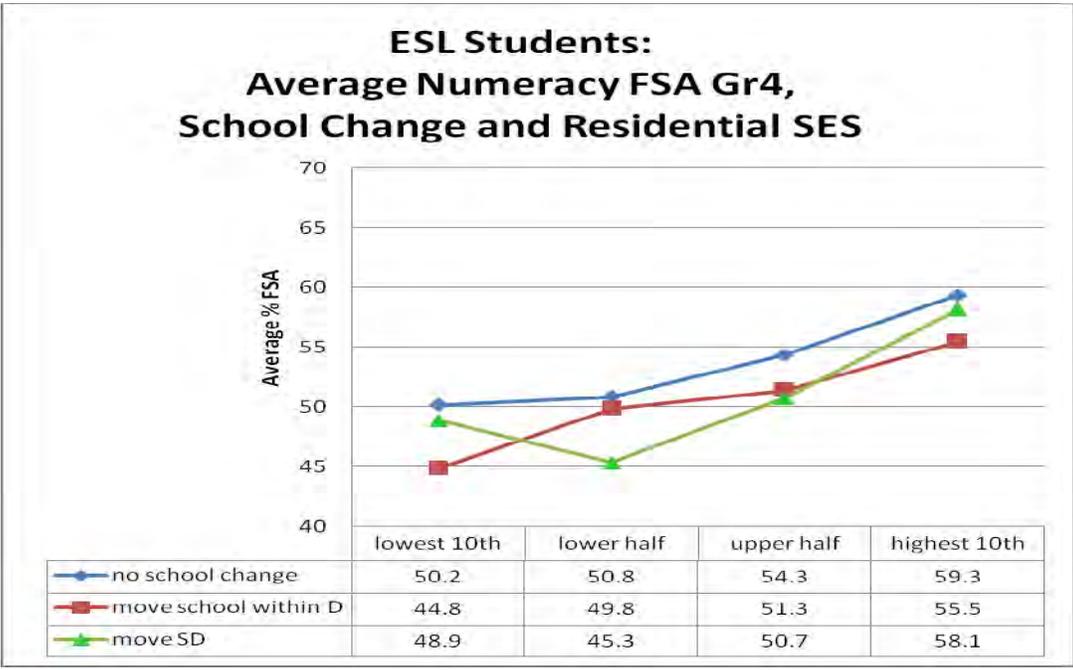


Figure 89: ESL Students: Average Reading Score, School Change and Residential SES

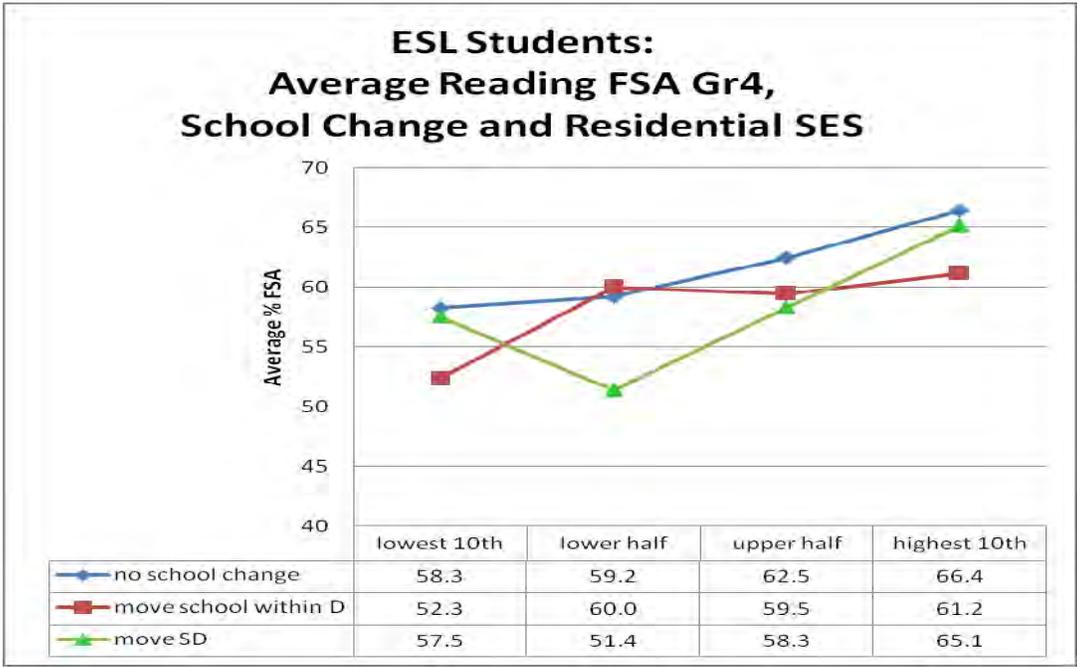


Figure 90: Non Band Aboriginal Students: Average Numeracy Score, School Change and Residential SES

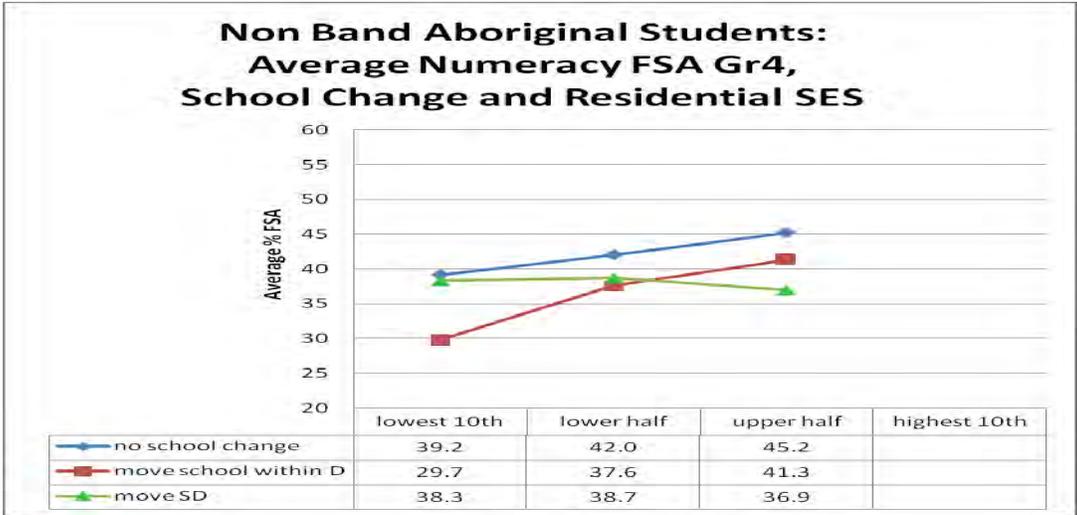


Figure 91: Non Band Aboriginal Students: Average Reading Score, School Change and Residential SES

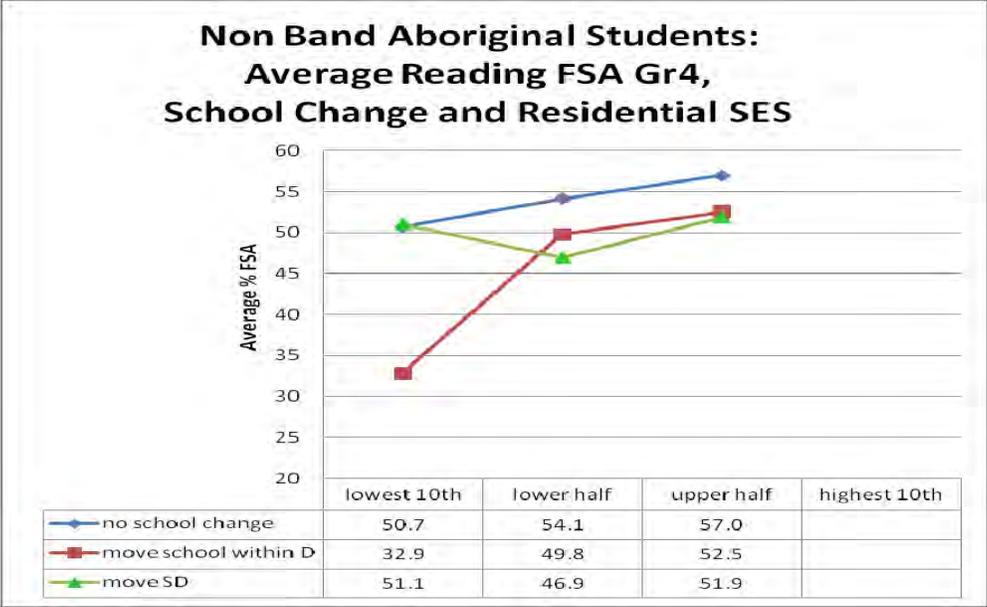


Figure 92: Band Students: Average Numeracy Score, School Change and Residential SES

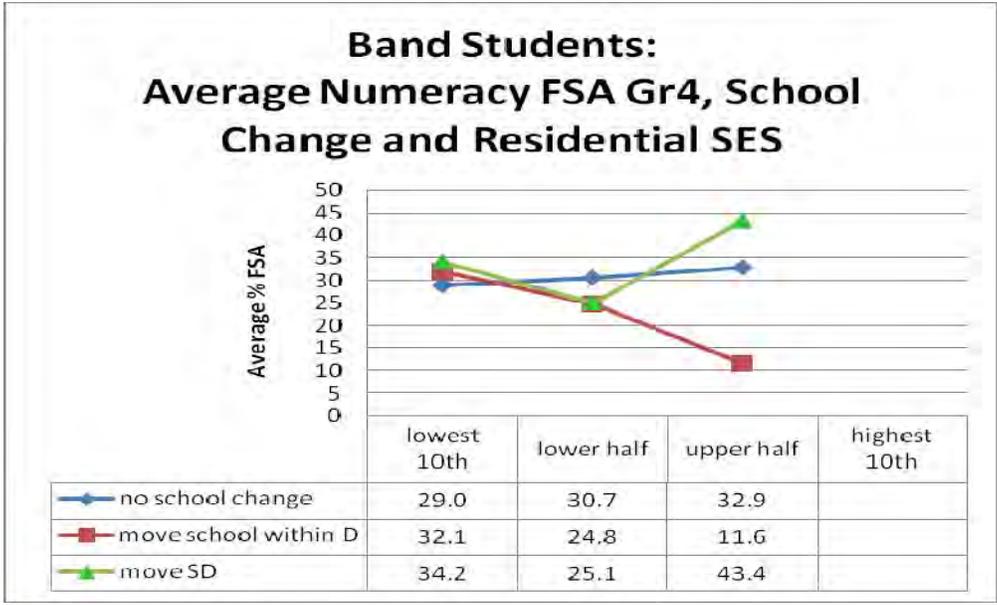
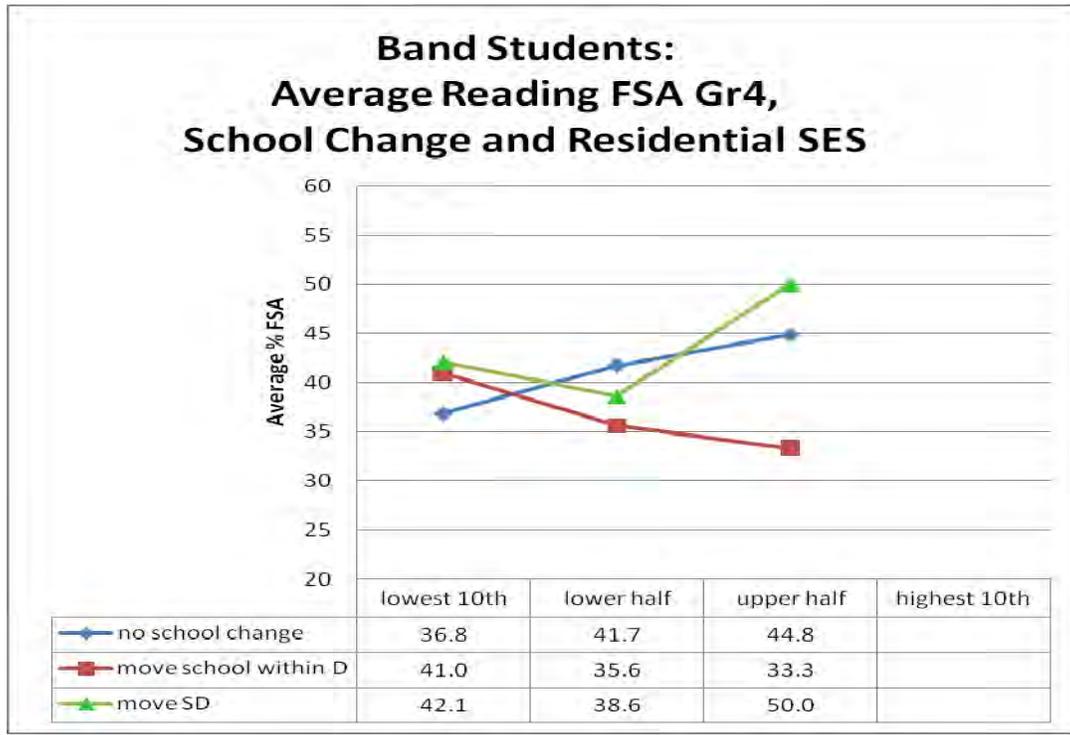


Figure 93: Band Students: Average Reading Score, School Change and Residential SES



Part Eight: The Role of ESL Programs in Aboriginal Student Groups

Part Eight focuses on the substantial percentage of Aboriginal students that are designated ESL. This section examines whether this designation is associated with differences in mobility rates or exam performance.

In the 1999 cohort, 9% of the Aboriginal students were designated as ESL. These ESL/Aboriginal exam participants had higher average Numeracy scores (50%) than their Aboriginal peers who did not have the ESL designation (37%). This was true for both Band and Non Band student groups. These students also had higher average scores on Reading scores (57%) as opposed to those Aboriginal students who did not receive the ESL designation (48%).

ESL designation is associated with higher average scores in Numeracy and in Reading for both Band and Non Band Aboriginal Students regardless of whether students change schools or do not. The association is particularly evident among Band students (See Figures 82 and 83).

Seventy percent of Aboriginal students receiving ESL support changed schools for reasons other than grade progression. In contrast, the rate of school change for Aboriginal students who were not designated ESL is 63%. When Non Band Aboriginal and Band students

who have received ESL support change schools they do not always retain their ESL designation. ESL designation of Aboriginal students is less frequently retained when Aboriginal students move across school districts compared to those moving within their districts.

Figure 94: Band and Non Band Aboriginal Students, ESL Designation and School Change

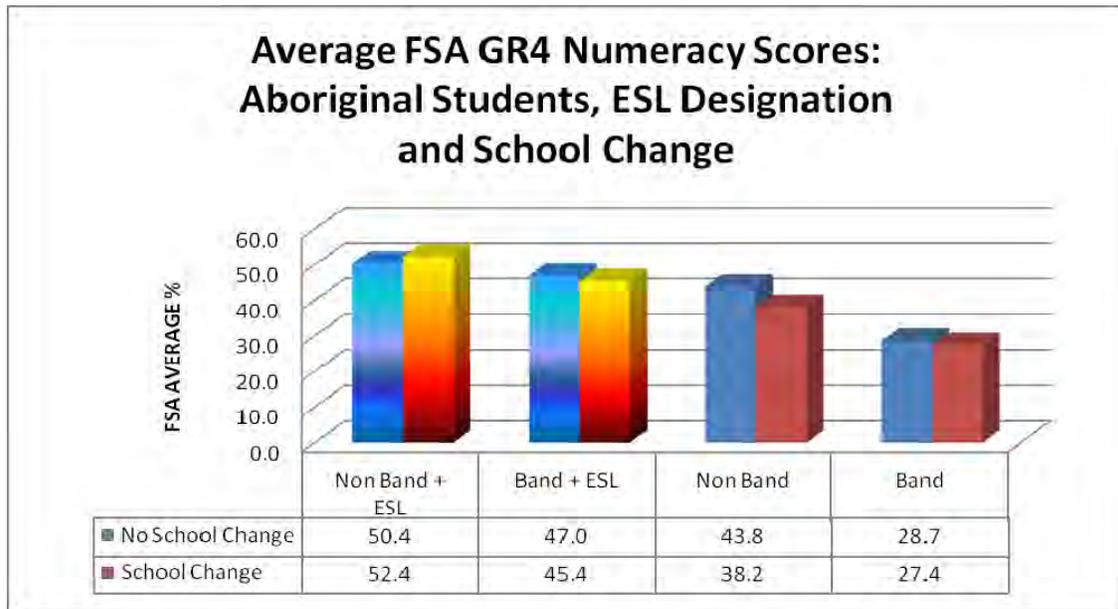
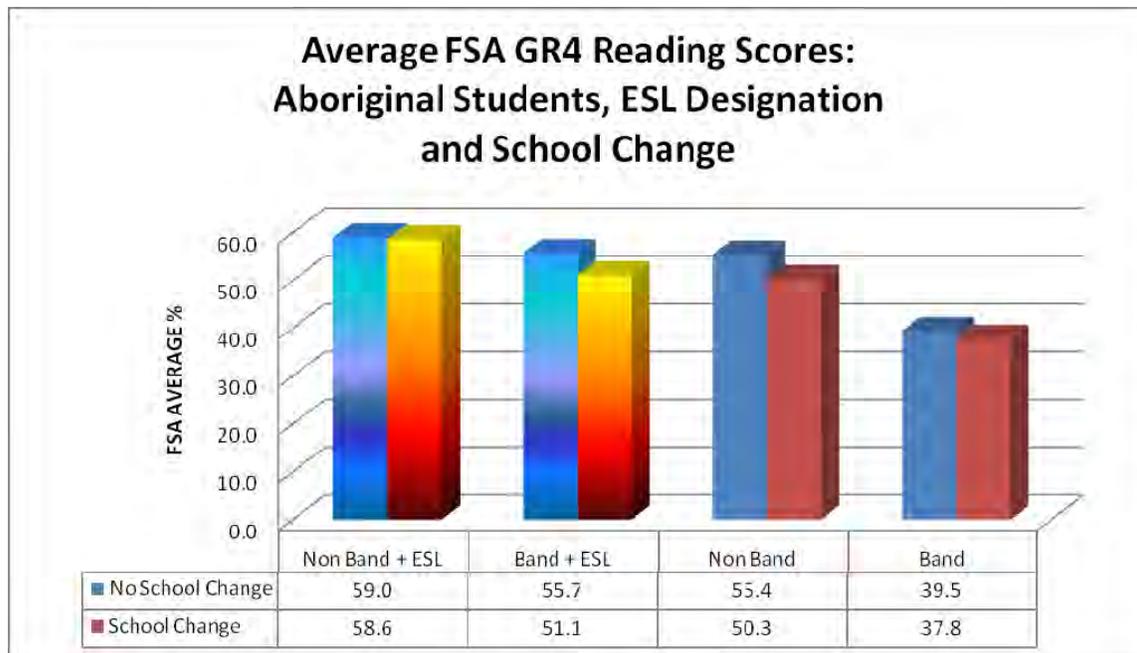


Figure 95: Band and Non Band Aboriginal Students, ESL Designation and School Change



Summary and Implications for Chapter Six

The descriptive data makes evident that BC's Kindergarten - Grade 4 students move both across school districts and within school districts in substantial proportions (about 1 in 2 students changes at least once by Grade 4). Band and Non Band Aboriginal student groups change schools more frequently than Regular Program or ESL students. Approximately 13% of the students who change schools within their school district are changing across school types i.e. change is from or to independent schools and to and from French Immersion schools.

The analysis of school change in the earliest grade levels (Kindergarten – Grade 4) provides evidence that school change is typically associated with negative outcomes on both Reading and Numeracy FSAs. Students who change schools are less likely to participate in FSA exams. For exam participants the more often students change schools, the more disadvantages they face. Each time students change schools, rates of meeting FSA expectations and FSA scores are lower. Students in the Regular Program and Non Band Aboriginal students exam participants who change school districts appear to have a similar disadvantage on the Numeracy FSA (as opposed to Reading FSA).

The case of Band students and school change is complex in the examination of descriptive data. Band exam participants who change school districts *after the Kindergarten year* have an advantage over all other Band students (including those who do not change schools). Interpretation is difficult because this is a small number of students and the comparison group includes the substantial number of Band students who defer entry into the school system until Grade 1, and many Band students are enrolled with Band schools. In contrast, in older grade levels, Band exam participants who change schools within their district have a greater disadvantage than those Band students who change school districts. Band exam participants who change school districts appear to have a greater disadvantage on the Reading FSA compared to the Numeracy FSA. That lowered literacy success of mobile Band students is evident could focus attention on interventions to support literacy in this vulnerable student group.

Other particularly vulnerable students include ESL exam participants who migrate to BC in the year preceding Grade 4. These students have substantially lower scores than those ESL students arriving in the BC system in earlier grades. Gender differences are most apparent in the group of exam participants who migrate to BC. Female students who migrate to BC have an

advantage over male students who migrate to BC. There are differences within the ESL group along ethno-cultural lines. While as an aggregate group ESL students perform well, there are some ethno-cultural subgroups that experience higher mobility and lower success rates on FSAs (particularly Reading).

Chapter Seven: Student Mobility Kindergarten – Grade 7 Cohorts

Introduction and Outline to Chapter Seven

Given the clear pattern of school change associated with student disadvantage on FSA exams in early grades (Kindergarten - Grade 4), this chapter confirms the negative association of school change with students' performance with data that extends across the Kindergarten to Grade 7 trajectory. Because FSAs are implemented at Grade 4 and Grade 7, results that include both FSAs are explored in this chapter. Therefore, students who have the opportunity to be participants on both exams are the focus of the latter part of the chapter. Descriptive statistics in this chapter are derived from the 1996 cohort.

Part One presents descriptive statistics on the prevalence of school mobility in each student group in terms of the frequency of school changes, the timing of school changes and of the type of school changes.

Part Two outlines the difference mobility makes on the number of students who participate in FSAs. This analysis is important given that reporting the success rates of exam participants exclusively creates an overly optimistic portrait of the entire cohort. This section explores differences across student groups for both Numeracy and Reading Grade 7 FSAs.

Part Three focuses on results associated with students participating in FSAs in both Grade 4 and Grade 7. Because a trajectory is examined, it is possible to explore the degree to which exam participants met expectations over time. The degree to which participants never met expectations at either grade level, or have failed to do so in Grade 4 or in Grade 7 are also examined. The association between the rate of meeting expectations over time with school mobility, both in terms of timing and type of school change, is also presented.

Part Four explores very briefly some factors that may be relevant in the ability of mobile students to meet expectations on FSAs. Here participants who met expectations by the Grade 7 exam are included in the calculation of "meeting expectations". Participants who never changed schools are also included here for the sake of additional comparison.

Part Five presents comparisons of the degree to which mobile and no school change student participants meet expectations on FSAs at the school district level. School districts vary widely in the discrepancy between these two student populations across the four student groups.

Finally a brief summary of this chapter is provided.

Part One: The Prevalence of School Change

Part One presents descriptive statistics on the prevalence of school mobility in each student group in terms of the frequency of school changes, the timing of school changes and of the type of school changes.

When examining the Kindergarten - Grade 4 cohorts, it was revealed that approximately 50% of the students enrolled in BC schools change schools at least once by Grade 4. By the time a cohort reaches Grade 7, the overall provincial mobility rate is approximately 60%. (This figure controls for students moving school due to grade progression and does not include the approximately 14% of the cohort leaving the BC system before Grade 7).

(a) Frequency of School Changes

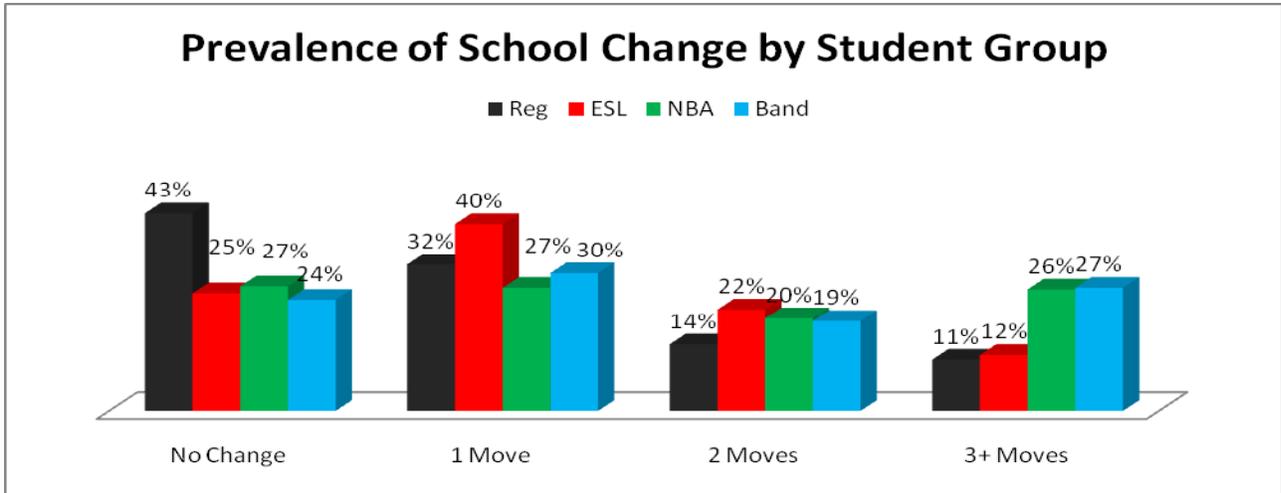
Students in the Regular Program have the highest “stability” rate or rate of no school change (43%) (See Appendix 7A and Figure 96). Additionally, very low proportions of students in the Regular Program move two or more times.

ESL students have the highest rates of moving a single time (40%). This is in part an artefact of in migration to BC (which counts as a single school change as it is assumed that students were enrolled in a school prior to entry into the BC system).

Non Band Aboriginal students have nearly as many students moving once, twice, and three times or more as there are students not changing schools.

Band students exhibit the same pattern as Non Band Aboriginal students, with large shares of students in each of the school move categories.

Figure 96: Cohort ‘96 Prevalence of School Change by Student Group

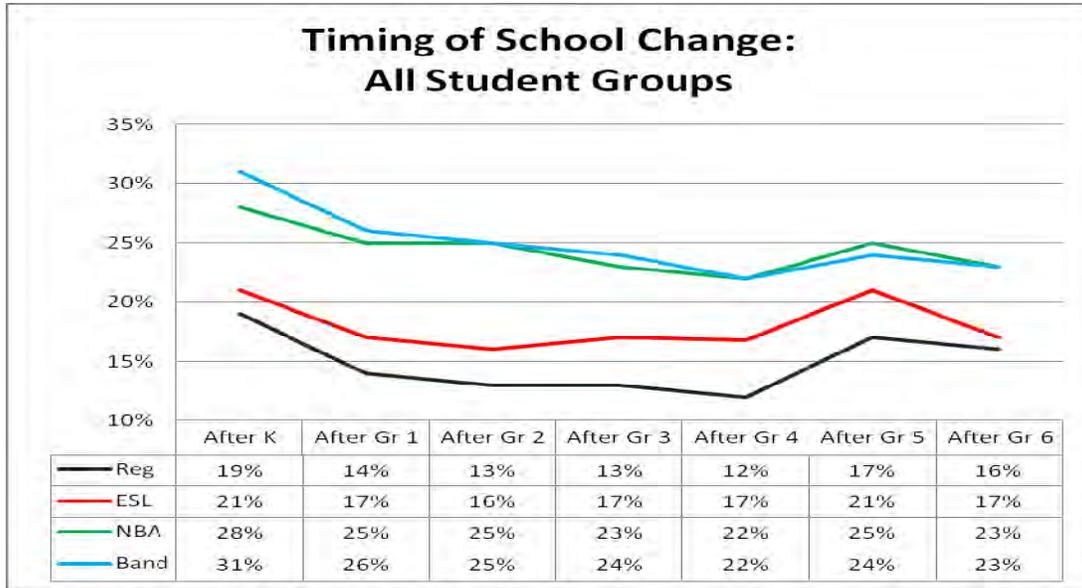


(b) Timing of School Changes

The rates of changing school are somewhat consistent across grade levels. In other words, similar numbers of students (for example, approximately 13% of the Regular Program students) change schools after each grade level (see Appendix 7B and Figure 97) There are, however, comparatively larger shares of students moving schools after the Kindergarten year compared to other years. This is in part an artefact of the BC policy of permitting deferred enrolment after Kindergarten. There is no way to distinguish between students who migrated to BC specifically after the Kindergarten year, and those who may have deferred enrolment until this particular year.

Students in the Regular Program have the lowest rate of changing school after any grade level compared to other groups of students. For students in the Regular Program, there is a peak (17%) in school change after Grade 5 (see Figure 2). ESL students follow a similar pattern, with 21% changing schools after Grade 5. Non Band Aboriginal students have higher rates of school change after each grade level than students in the Regular Program and ESL students, but follow a similar pattern of school change over the grade levels. Like Non Band Aboriginal students, Band students have higher rates of school change after each grade level compared to students in the Regular Program and ESL students.

Figure 97: Cohort '96 Timing of School Change

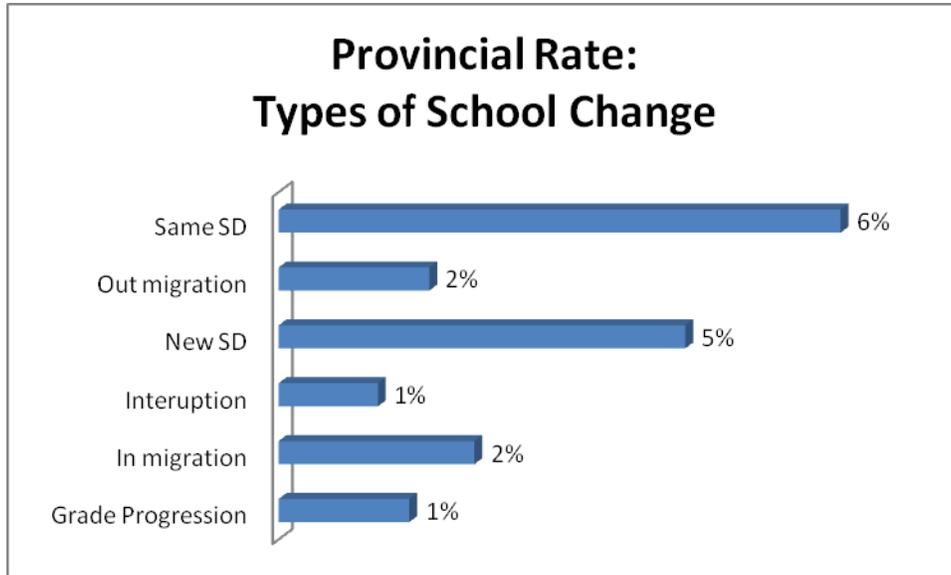


(c) Type of School Change

As explored in previous chapters, there are several different types of school change. Students might move to new school districts or move to a new school within their school district. School changes within school districts may involve changing to or from a French Immersion school or independent school. School change might be due to migration to BC or due to grade progression (when the school the student is enrolled at does not offer the next grade level). Finally, a small number of students in the Kindergarten – Grade 7 years interrupt their schooling temporarily and move in and out of the BC system. Adding complexity, students who change schools more than once may experience different types of school change. As well, students who change schools across school districts may do so in order to enroll in independent schools or French Immersion programs (an option that is more possible in the concentrated geographical area of the lower mainland).

For typical rates of each type of school change across grade levels and cohort years, see Figure 98. Rates of changing schools within school districts is highest (6% of the total cohort) followed by moving to a new school district (5% of the total cohort).

Figure 98: Typical Types of School Change

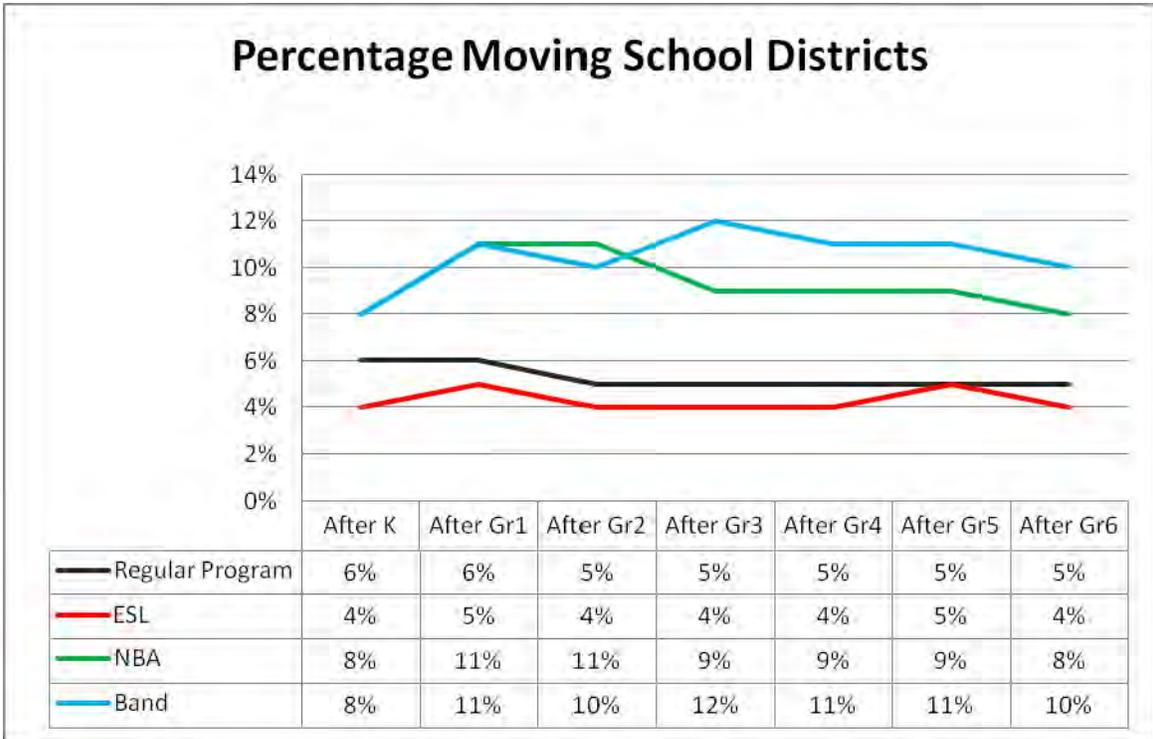


There are differences between the student groups in the rates of school change and school change types after each grade level (see Appendix 7C and Figures 99 - 100).

Changing School Districts

Regular Students have lower rates of moving school districts than both Aboriginal student groups each year (see Figure 99). After most grade levels, ESL students have slightly lower rates of changing school districts than all other groups of students.

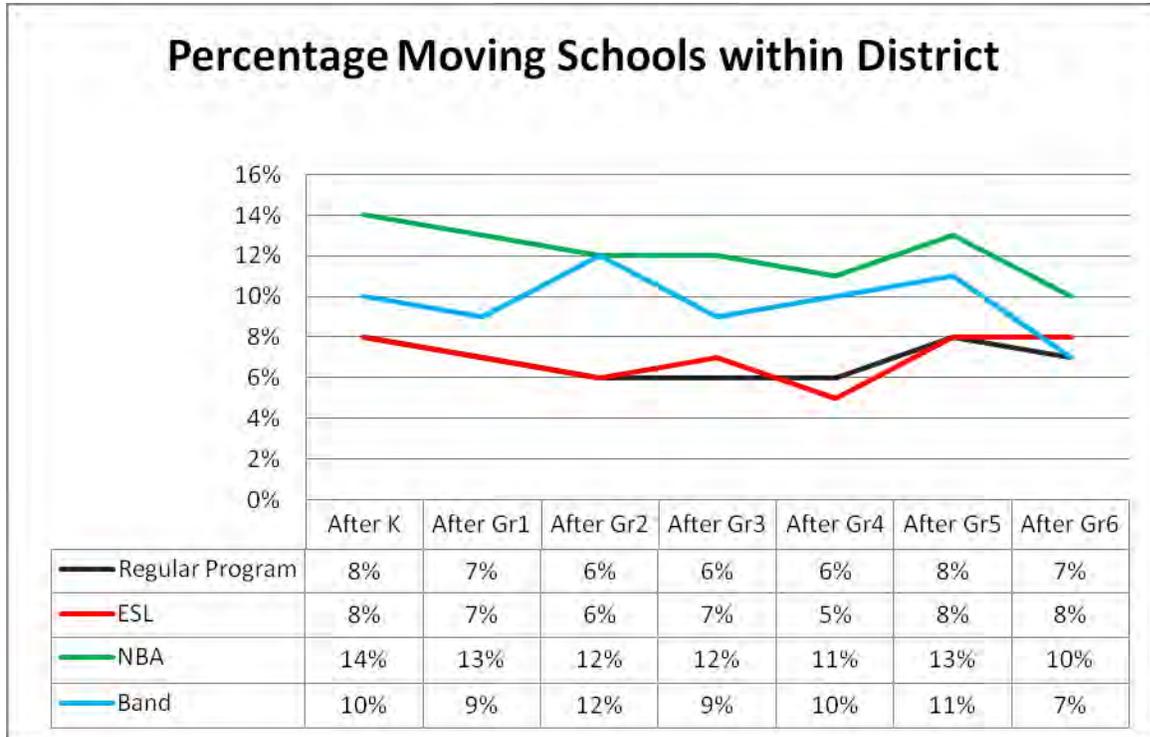
Figure 99: Cohort '96 Percentage Moving School Districts by Student Group



Changing Schools Within District

Regular Program students and ESL students have the lowest rate of moving school within their school district after each grade level (see Figure 100). In contrast, the rates of both Aboriginal student groups changing schools within their school districts are higher. Non Band Aboriginal students have the highest rate of school change after Kindergarten (10%). The pattern for Band students changing schools within their district varies across the grade levels. In both Aboriginal student groups, there is a decline in change within district school change after Grade 6.

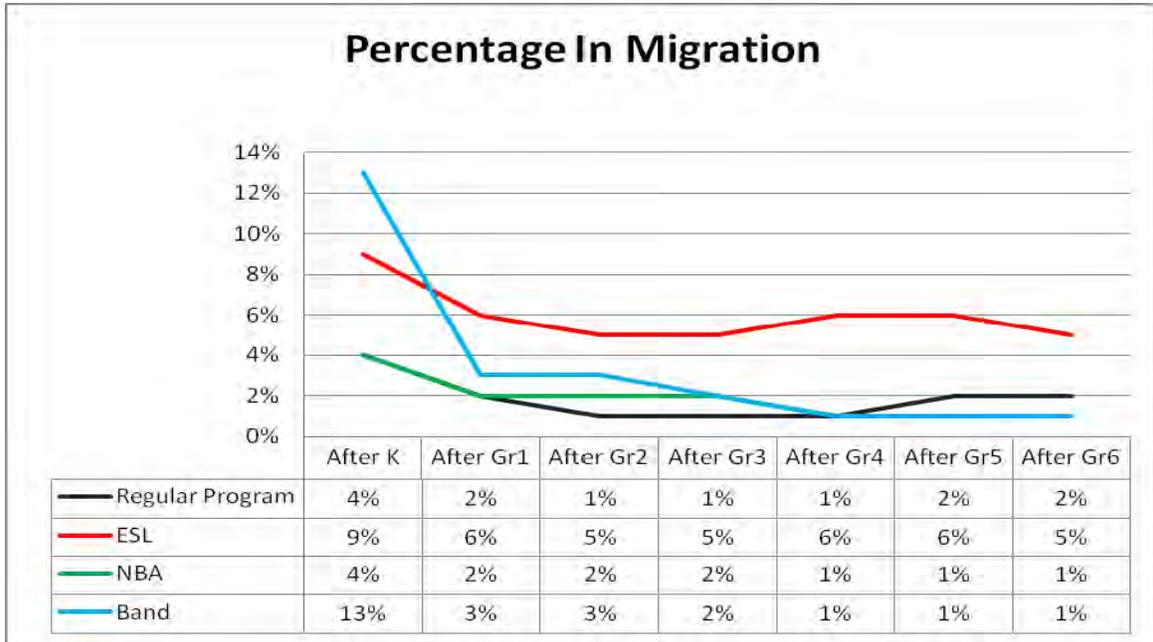
Figure 100: Cohort '96 Percentage Moving Schools with Districts by Student Group



In Migration

The rates of “in migration” or enrolment in the BC system for the first time are approximately 2% for all student groups (see Figure 101). Of note, this rate appears higher after Kindergarten as students who have deferred entry into school until Grade 1 are included in the calculation of “in migration rate”. (There is no means to make the distinction between new BC residents and current BC residents enrolling after Kindergarten. Therefore, the rates of students in all student groups “migrating” after Kindergarten are higher than after other grade levels.) The rates of Band students enrolling in the BC system for the first time after Kindergarten are particularly high (13%). It is of no surprise that ESL students have the highest rate of “in migration” after Grade 1 and beyond.

Figure 101: Cohort ‘96 In Migration Percentage by Student Group



Part Two: School Change and FSA Grade 7 Participation

Part Two outlines the difference mobility makes on the number of students who participate in FSAs. This analysis is important given that reporting the success rates of exam participants exclusively creates an overly optimistic portrait of the entire cohort. This section explores differences across student groups for both Numeracy and Reading Grade 7 FSAs.

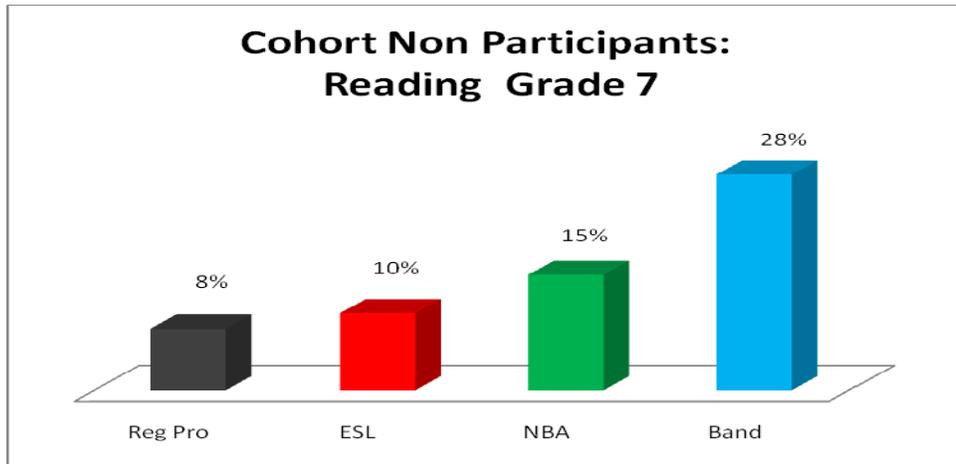
(a) Proportion of Cohort Not Participating on Grade 7 FSAs

There are several reasons why students may not participate in FSA exams. Typically, students may be excused by the Ministry of Education from exam participation; also students may no longer be in grade synchronicity and therefore not be exam participants in the same year as their peers. A small proportion of students are absent on the day of the exam. Students who have migrated out of the province are not eligible for exam participation, therefore are not included in the calculation of percentage not participating. The percentages of the cohort not participating in the Grade 7 Numeracy exam compared to the Reading exam are nearly identical. There are substantial differences, however, in the proportion of students not participating on either FSA across student groups (see Appendix 7D).

Students in the Regular Program have the lowest rate (8%) of Grade 7 FSA non participation (see Figure 102). The non-participation rate increases slightly for the ESL student group (9%), nearly doubles for the Non Band Aboriginal group (16%) and more than triples for the Band student group (28%). This is important to note, as reporting on student FSA results may

paint an overly optimistic picture of cohort success, given the degree to which some student groups are not participating on the exams.

Figure 102: Cohort '97 Non Participants on Grade 7 FSA



(b) Meeting Expectations on Grade 7 FSAs of Cohort vs. FSA Participants

As stated above, the fact that many students do not participate in FSA exams can create an optimistic percentage of students meeting expectations if the entire cohort is not considered. To demonstrate, both the percentage of the *cohort*, and the percentage of the Grade 7 FSA *participants* are calculated and charted below (see Figures 103 -105) for each of the four student groups. Results pertain only to FSAs at the Grade 7 level (see Appendix 7E).

Regular Program

For the Regular Program student population, the difference in the percentages of students meeting expectations on FSAs when considering exam participants only compared to the whole cohort widens little (around three percentage points) (see Figures 103 -104).

Figure 103: Cohort '96 Regular Program Cohort vs. Grade 7 Numeracy Participants Meeting Expectations

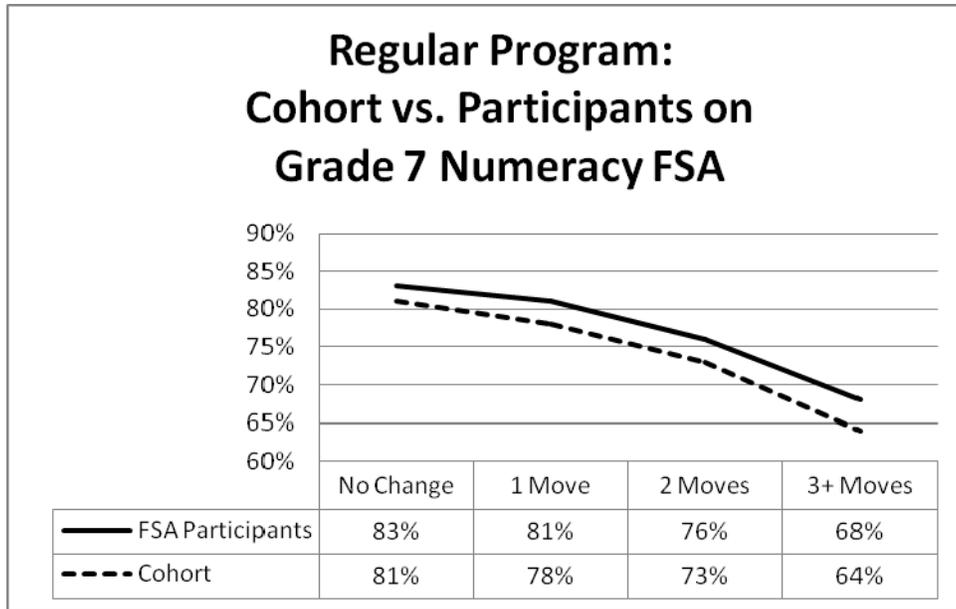
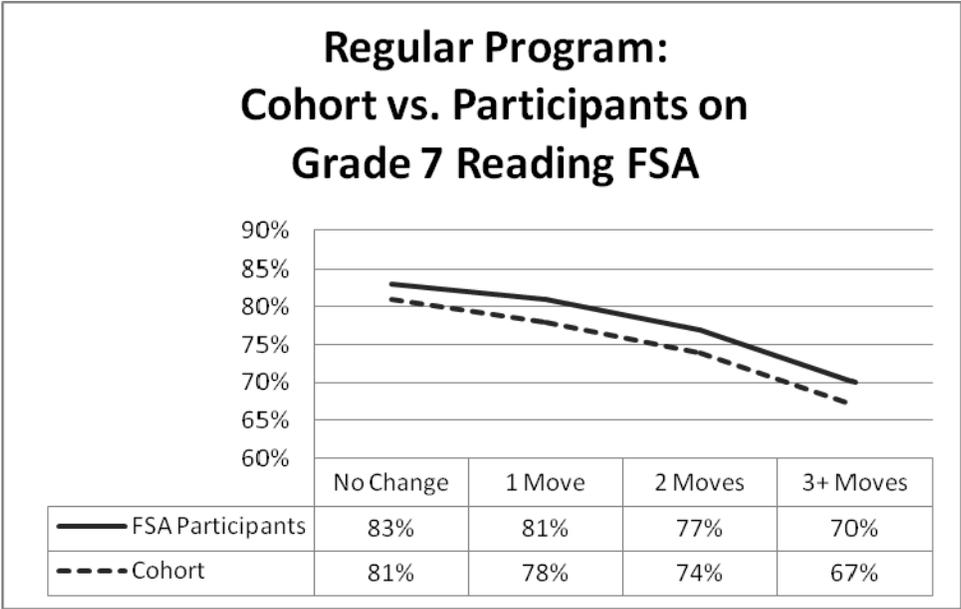


Figure 104: Cohort '96 Regular Program Cohort vs. Grade 7 Reading Participants Meeting Expectations



ESL

For the ESL student group, there is a two percentage point difference between the cohort and the participant rates of meeting expectations in the no school change group (see Figure 105). That percentage point difference increases substantially when ESL students who have changed schools are examined. When considering the entire cohort rather than exam participants exclusively, ESL students are less likely to participate in the Numeracy and Reading exams when they have experienced school changes than when they have not.

Figure 105: Cohort ‘96 ESL Cohort vs. Grade 7 Numeracy Participants Meeting Expectations

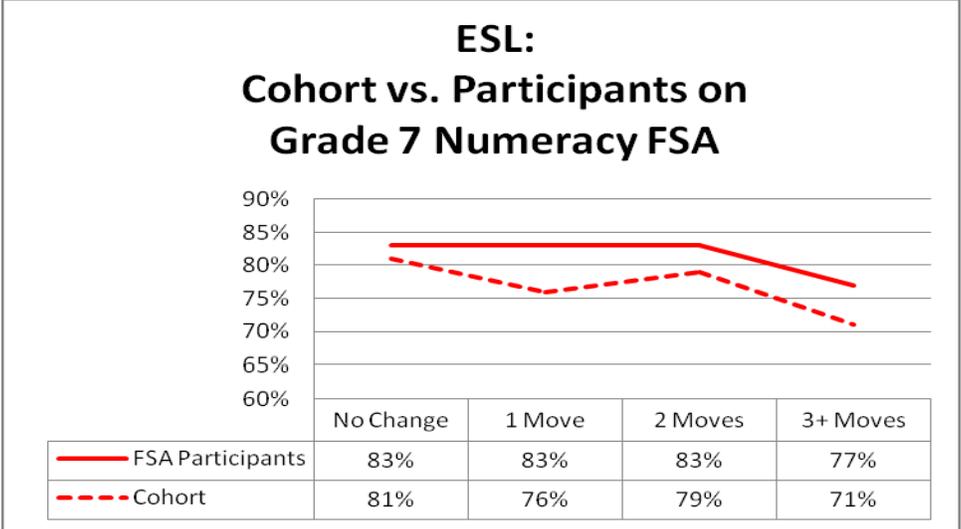
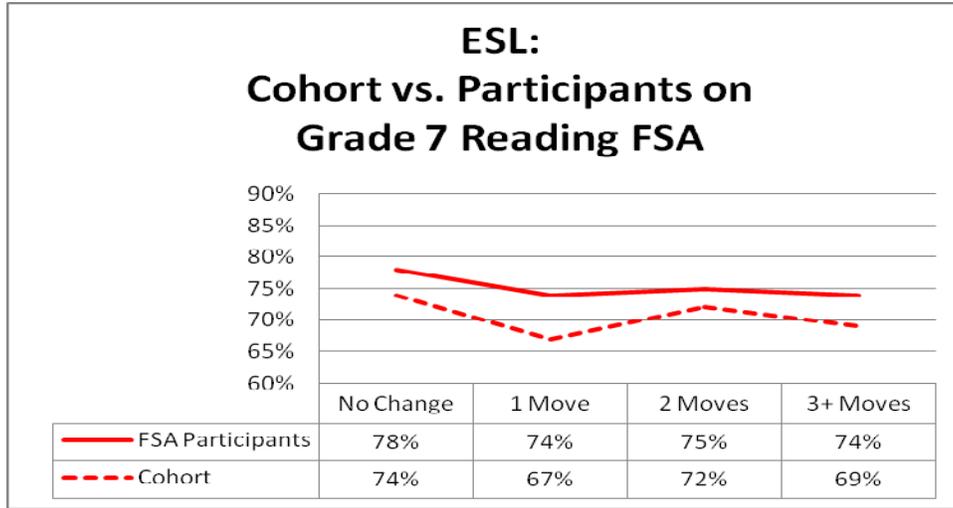


Figure 106: Cohort '96 ESL Cohort vs. Grade 7 Reading Participants Meeting Expectations



Non Band Aboriginal

Non Band Aboriginal students have a slightly larger percentage point difference in meeting expectations (five percentage points) between cohort and participants than the Regular Program student group in Numeracy (see Figure 107) and Reading (see Figure 118).

Figure 107: Cohort '96 Non Band Aboriginal Cohort vs. Grade 7 Numeracy Participants Meeting Expectations

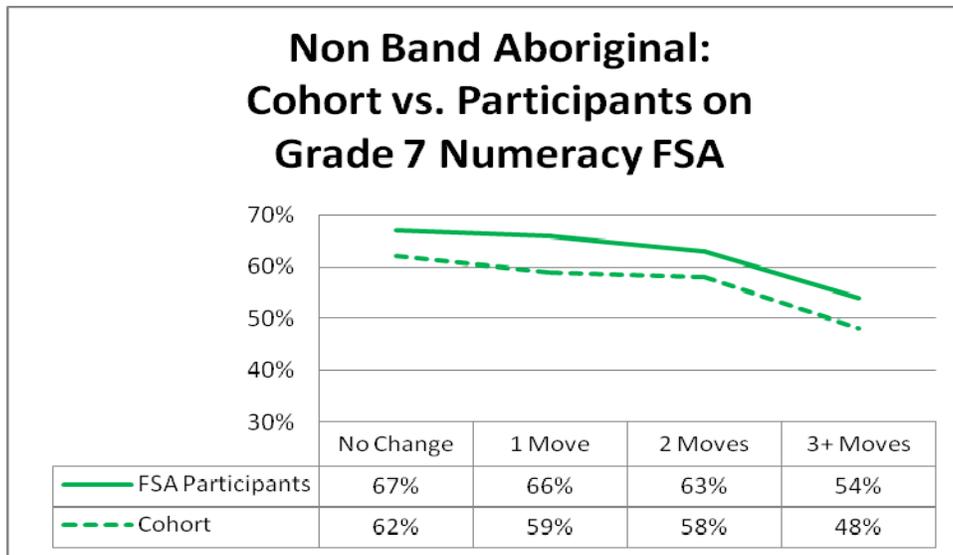
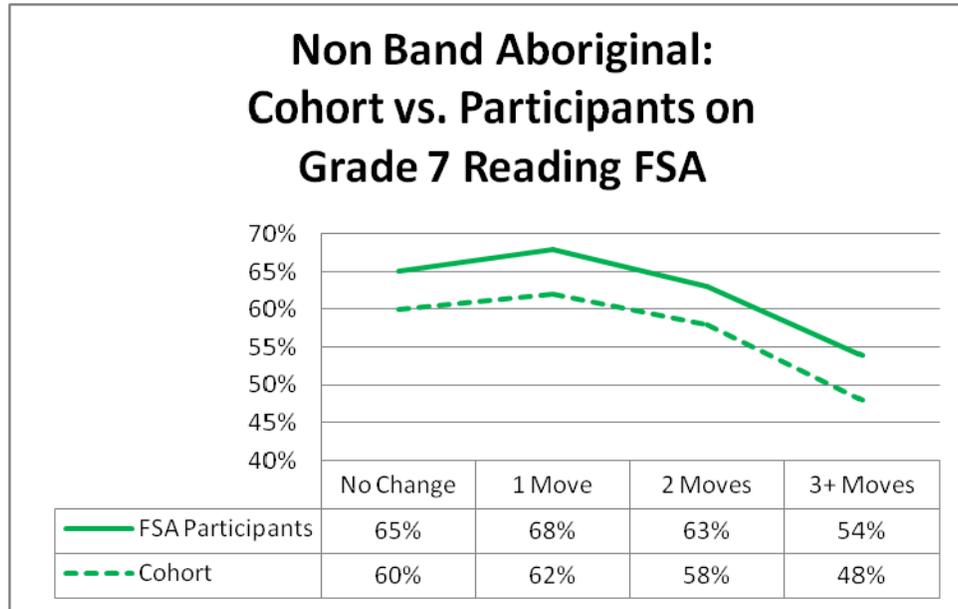


Figure 108: Cohort ‘96 Non Band Aboriginal Cohort vs. Grade 7 Reading Participants Meeting Expectations



Band

There is one student group that exhibits a surprising pattern – Band students. The percentage point gap between cohort and participants who do not change schools is relatively wide (5 percentage points) on Numeracy (see Figure 109) and Reading (see Figure 110). The pattern for students who change schools twice indicates that students are slightly *more likely* to participate in the Reading exam than those who do not change schools (the percentage point difference becomes smaller). Additionally, a greater proportion of Band students who change schools twice meet FSA expectations *compared to those who do not change schools*. The small numbers of students in Band student subgroups means interpretation is difficult. This phenomenon of similar vulnerability between non mobile Band students and mobile Band students will resurface in greater detail in following sections.

Figure 109: Cohort ‘96 Band Cohort vs. Grade 7 Numeracy Participants Meeting Expectations

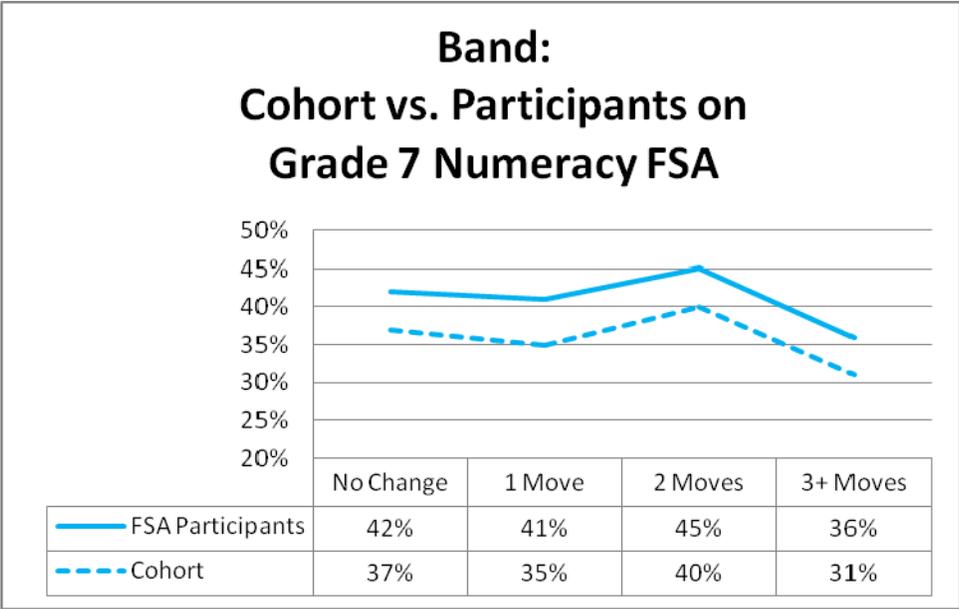
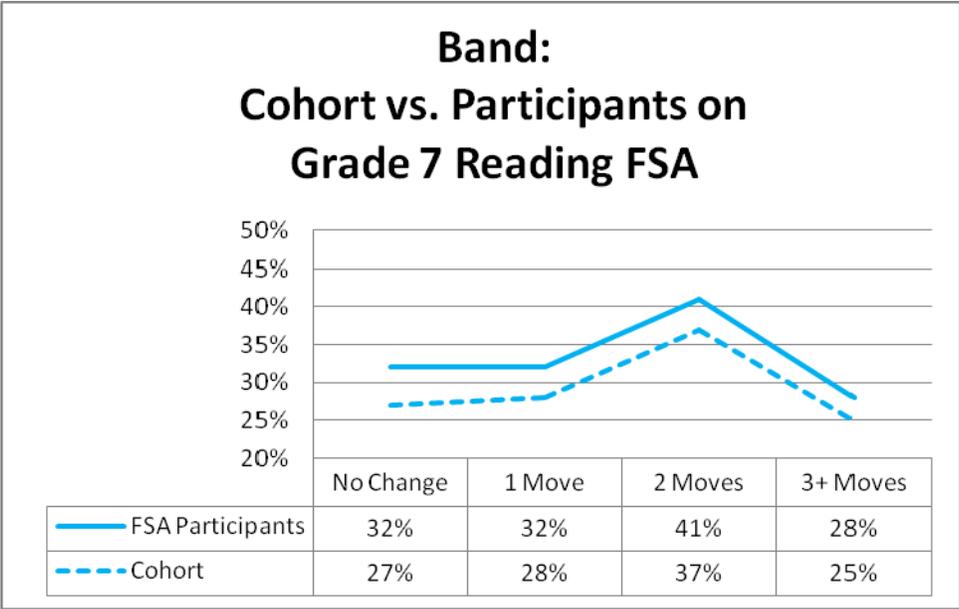


Figure 110: Cohort ‘96 Band Cohort vs. Grade 7 Reading Participants Meeting Expectations



In summary, it should be recalled that for all student groups a proportion of the cohort does not participate in the exams. Not only does this rate of non participation differ across student groups, it may also disproportionately include students who change schools. For example, many ESL students who change schools once (likely due to in migration) are not exam participants. Comparisons of FSA results across student groups should be made with the differing rates of exam participation in mind.

Part Three: Provincial FSA Results over the Kindergarten - Grade 7 Trajectory

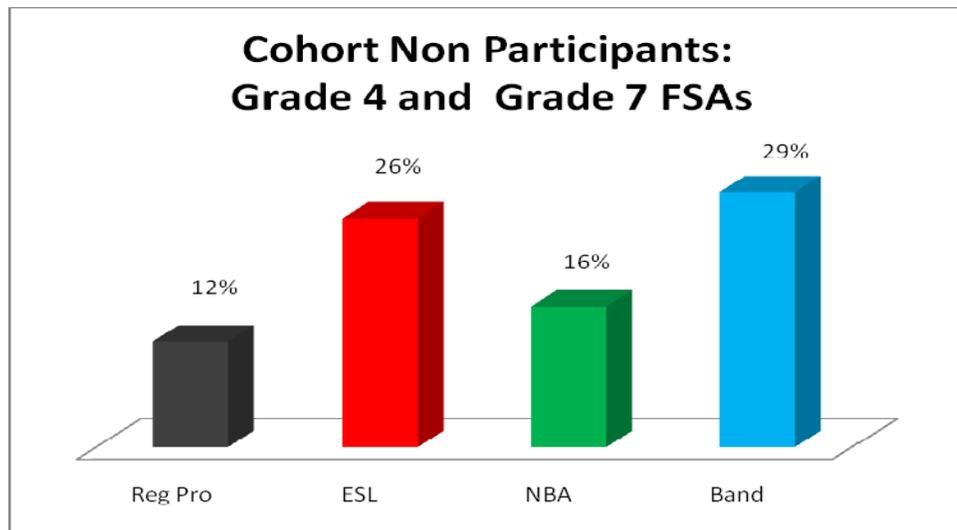
Part Three focuses on results associated with students participating in FSAs at both the Grade 4 and Grade 7 levels. Because a trajectory is examined, it is possible to explore the degree to which exam participants met expectations over time. The degree to which participants never met expectations at either grade level, or have failed to do so in Grade 4 or in Grade 7 is also examined. The association between school mobility, both in terms of timing and type of school change, and the rate of meeting expectations over time is presented.

(a) Cohort vs. Participant Differences in Meeting Expectations

In this section, the provincial results on the Numeracy and Reading FSA Grade 4 and Grade 7 exams are calculated by including all students *eligible* for and *participating* in both grade levels' FSAs (hereby referred to as *participants*). Students who have migrated out of the province are not included (approximately 2% of the cohort after each grade level). Also, students who have migrated to BC after Grade 4 (and therefore have not written the Grade 4 FSAs) are not included. The percentage of non participants in each student group is presented below (see Appendix 7F and Figure 111). The students in the Regular Program have the smallest percentage of non participants (12%) and the rate for Non Band Aboriginal students only slightly higher (16%). For the remaining two student groups – ESL and Band – the rate is more than double that

of the students in the Regular Program. These high rates of non participants among some student groups should be kept in mind when interpreting the results of the participants. *Longitudinal information is missing for a substantial percentage of the students in the BC system.*

Figure 111: Non Participants of both Grade 4 and Grade 7 FSAs



It is of note that students who have changed schools are represented to a greater degree in the non participant group. In other words, many mobile students do not participate on FSAs. Province-wide, where 4% of students who never change schools are exam non participants, 23% of students who do change schools are exam non participants.

There are four categorizations of exam results for participant students: (1) students who have met expectations on both Grade 4 and Grade 7 exams, (2) students who have met expectations in the Grade 4 exam, but *not* the Grade 7 exam, (3) students who have not met expectations on either the Grade 4 or Grade 7 exams, and, (4) students who have not met expectations on the Grade 4 exam, but have done so on the Grade 7.

The difference between the percentages of student groups in each category when participants are used to calculate this statistic in contrast to the entire cohort (including those who are absent, excused, no longer in grade synchronicity or otherwise not writing the FSA) is illustrated in Figures 112 to 115 (see Appendix 7G). (In these figures, the percentages of participants are represented by the left-most bar and are in a darker colour. The cohort percentages are represented by the lighter-coloured bar on the right of each pair.) As in the

preceding section, percentages of students meeting expectations are higher when only participants are considered than when the entire cohort is included. Conversely, the percentages of participating students not meeting expectations are lower than they are when the entire cohort is considered. In the following summary of student group differences in the four exam results categories only *participants* will be discussed (again see Figures 112 -115).

Meeting Expectations in both Grade 4 and Grade 7

Students in the Regular Program have the highest rate of meeting expectations on the both the Grade 4 and Grade 7 Numeracy exams and the Reading exams (see Figures 112-113). ESL students nearly match Regular Program students in Numeracy, *but are seven percentage points lower* than Regular Program students in meeting Reading exam expectations (71% and 64% respectively). Non Band Aboriginal students are behind Regular Program students to the same degree on both exams (20 percentage points). Band students are substantially behind Regular Program students, *particularly on the Reading exams* (71% and 22% respectively).

Figure 112: Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs

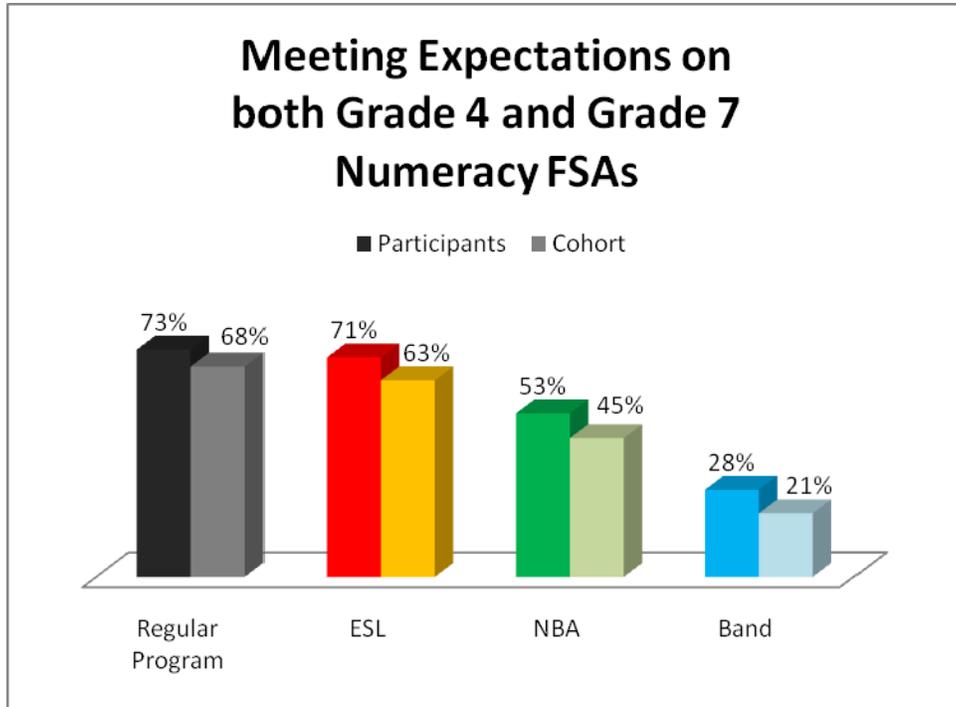
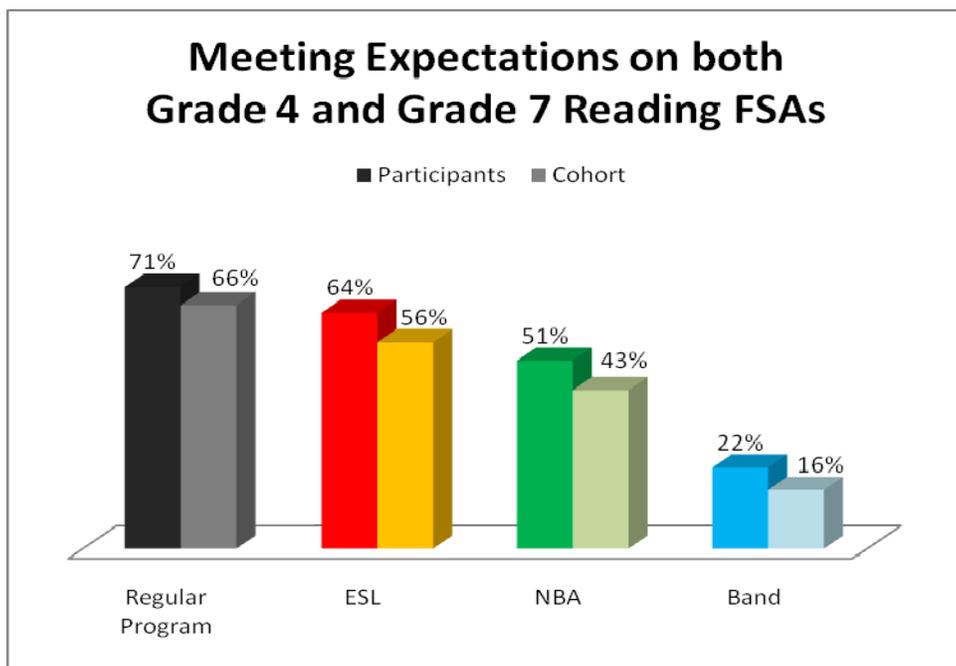


Figure 113: Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs



Meeting Expectations on Grade 4 but not Grade 7 FSAs

Some students have met expectations on Grade 4 FSAs, but not on the Grade 7 FSAs (see Figures 114-115). ESL students have the lowest percentage of students in this category in both

Numeracy and Reading. Both Aboriginal student groups have high rates of students no longer meeting expectations in both Numeracy (18% for Non Aboriginal and 20% for Band) and Reading (12% for Non Aboriginal and 14% for Band)).

Figure 114: No Longer Meeting Expectations on Grade 7 Numeracy FSAs

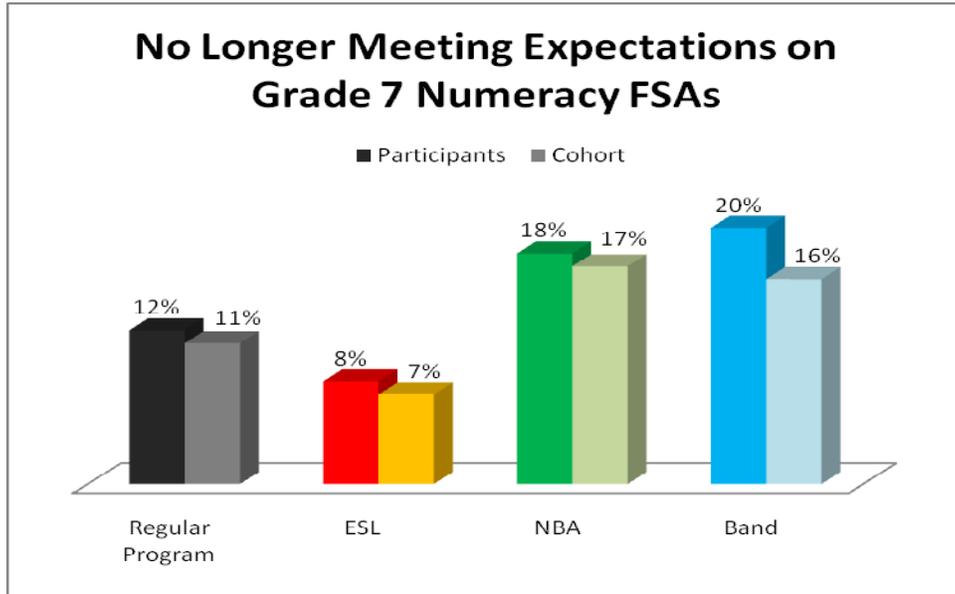
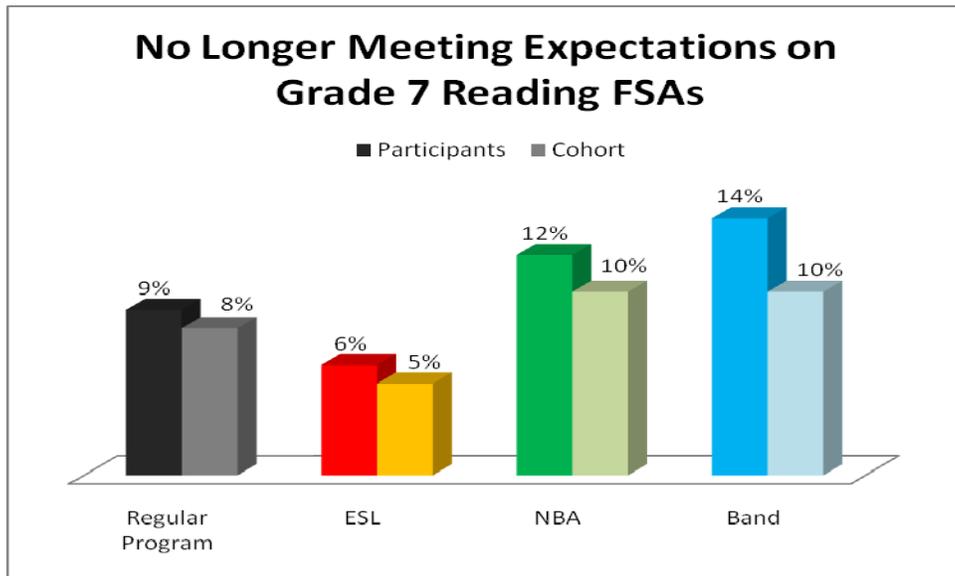


Figure 115: No Longer Meeting Expectations on Grade 7 Reading FSAs



Not Meeting Expectations in Grade 4 but Meeting in Grade 7

Conversely, some students who did not meet expectations in Grade 4 are meeting expectations by Grade 7 (see Figures 116 -117). In Numeracy, the percentage of ESL (12%) and

Aboriginal exam participants in this category is nearly equivalent (10% and 14%). Regular Program students have the lowest percentage of students making this gain (7%). The results are very similar in Reading: Small differences exist between the ESL and Aboriginal student groups, and the Regular Program group has the lowest rate.

Figure 116: Now Meeting Expectations on Grade 7 Numeracy FSAs

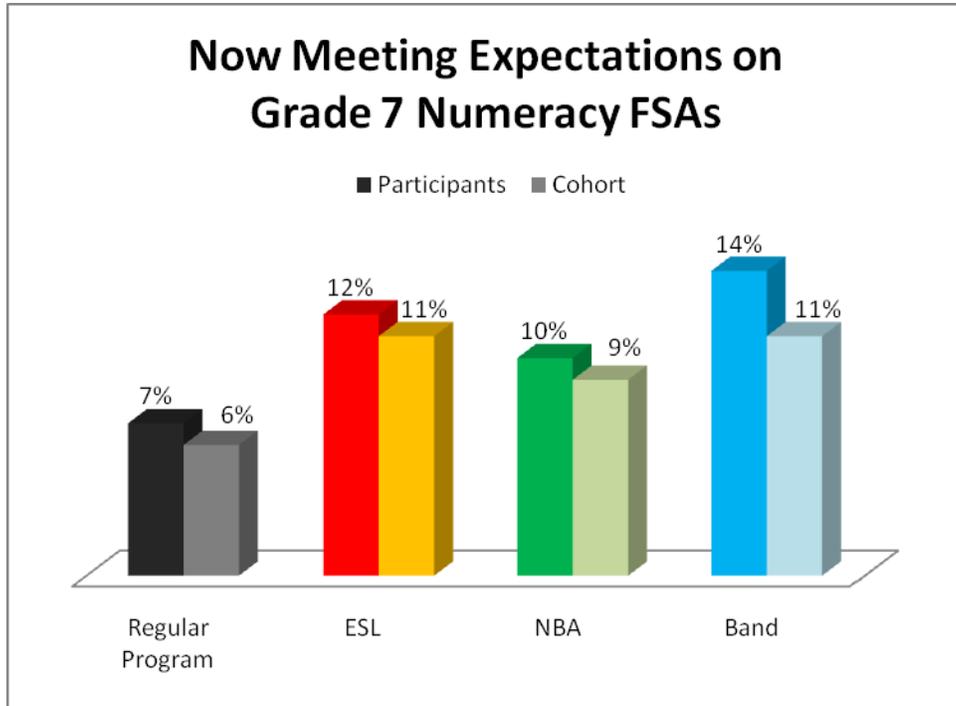
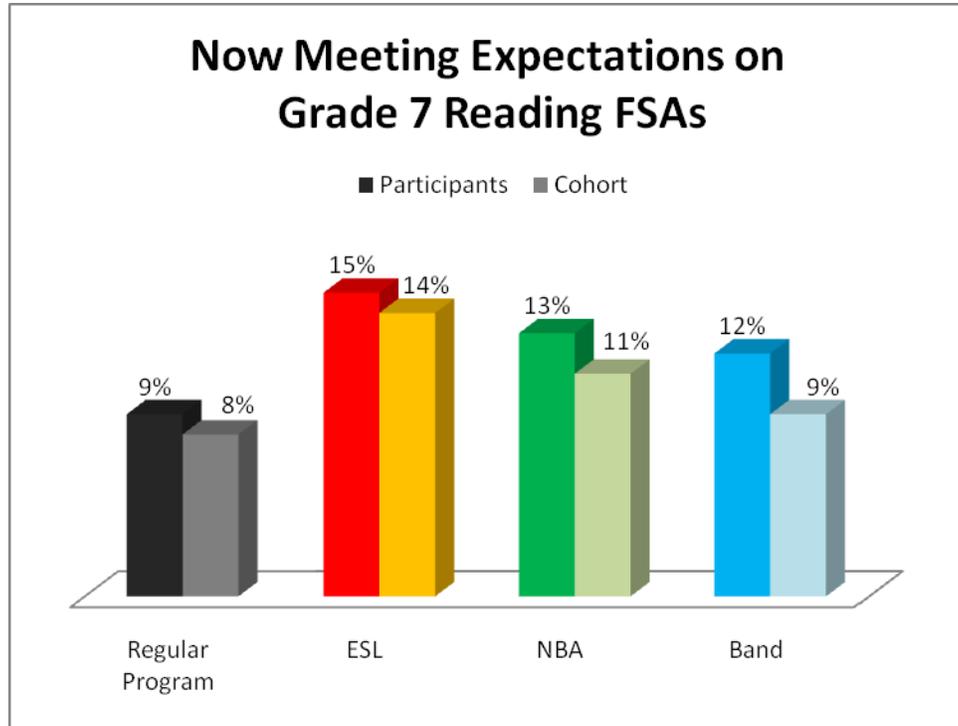


Figure 117: Now Meeting Expectations on Grade 7 Reading FSAs



Not Meeting Expectations on both Grade 4 and Grade 7 FSAs

Finally, there are participating students who did not meet expectations in Grade 4 and are still not meeting expectations in Grade 7 (see Figures 118-119). The percentage of students in this category is again lowest in the group of Regular Program students in Numeracy and Reading (8% and 11%). ESL students have higher rates in this category in Reading than in Numeracy (15% compared to 9%). Non Band Aboriginal rates are higher still, again particularly in Reading (25%). The rates of Band students in this category for both Numeracy and Reading is substantially higher than any other student group (38% and 51% for Numeracy and Reading respectively).

Figure 118: Not Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs

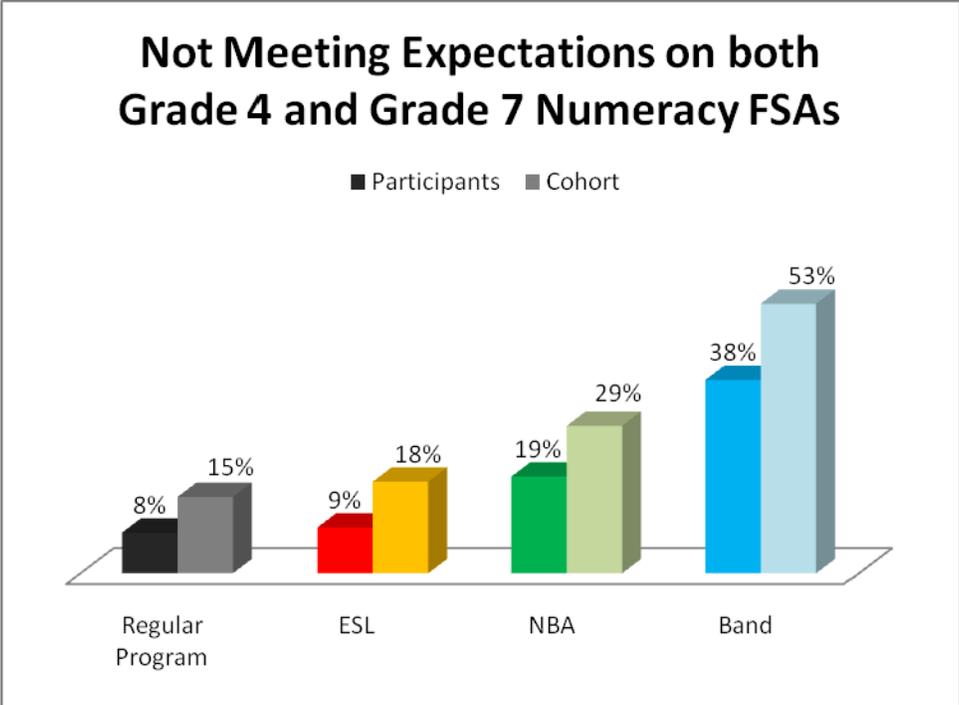
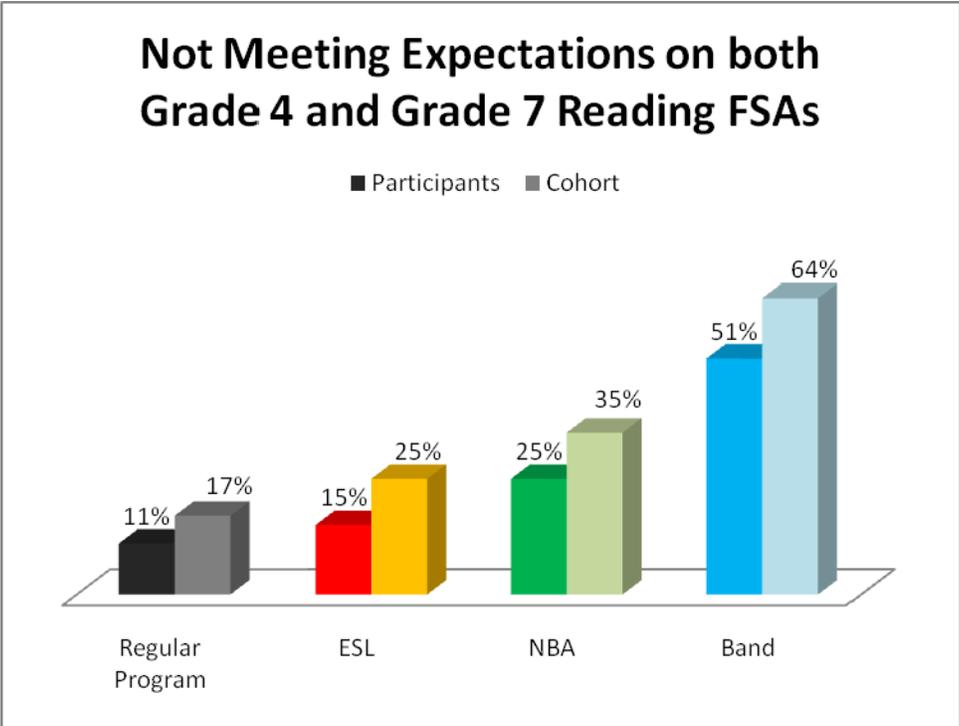


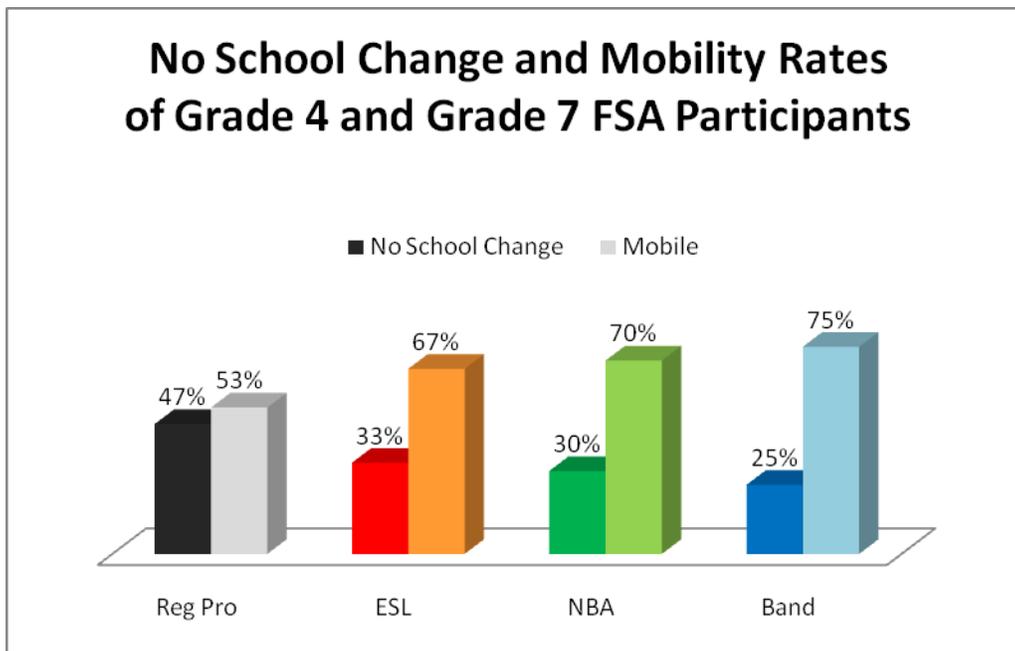
Figure 119: Not Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs



(b) School Change Rate of Participants

School change rates within participants in both Grade 4 and Grade 7 FSAs differ by student group (see Appendix 7H and Figure 120). Just over half (53%) of the participants in the Regular Program have changed schools at least once before Grade 7. The rate is higher (67%) among the ESL students (recall that 45% of these participant students migrate to the system after Kindergarten). The rate is substantially higher in both Aboriginal student groups (70% for Non Band and 75% for Band students).

Figure 120: No School Change and Mobility of Grade 4 and Grade 7 FSA Participants



(c) Demographic Differences Across the Four Categorizations of Meeting FSA Expectations

This section examines the demographic differences in success rates within the four student groups. Gender, average family income of residential neighbourhoods, and number of school moves are briefly considered below.

Gender Differences in Meeting Expectations on both Grade 4 and Grade 7

Gender difference is examined by comparing the proportion of females in each FSA results-over-time category by student group to the proportion of male students within that category (see Appendix 7I). Typically, males have a slight advantage over their female peers on the Numeracy FSAs. The percentage of male students in the Regular Program group meeting expectations on both the Grade 4 and Grade 7 Numeracy FSAs is two percentage points higher than females. The advantage disappears in the ESL group (and for Band students) in Numeracy, while it is higher for Non Aboriginal male students compared to their female counterpart (five percentage points).

Conversely, female students typically have a greater advantage on Reading FSAs compared to their male counterpart. Females in the Regular Program group outperformed their male peers by six percentage points in terms of the proportion of the group meeting expectations on both Grade 4 and Grade 7 FSAs. The advantage is smaller for ESL girls (three percentage point difference). *For Aboriginal groups, the advantage for female students compared to male students is substantial.* It is fifteen percentage points for Non Band Aboriginal students and 24 percentage points for Band students.

Differences in Residential Average Income by FSA Category

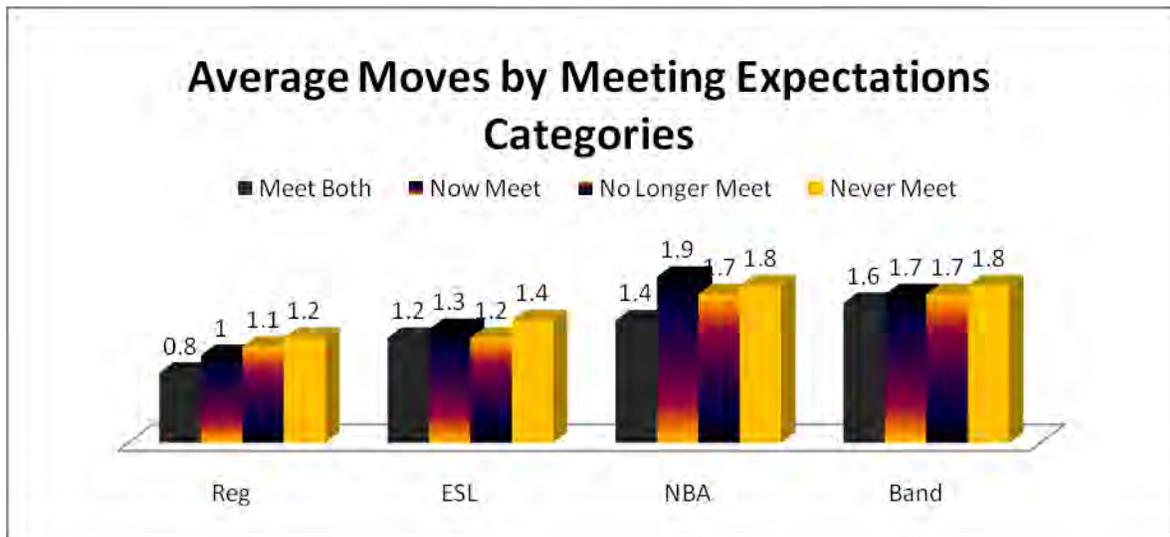
Students who meet Numeracy or Reading expectations in both Grade 4 and Grade 7 have a higher residential average income than those students in other groups. Conversely, students who do not meet expectations in either grade level FSA have the lowest average residential incomes (see Appendix 7J). The relationship between success on FSAs and average residential income is less straightforward in groups who either no longer meet expectations in Grade 7 or who now meet expectations in Grade 7. For example, the residential income of Non Band

Aboriginal students who now meet expectations on the Numeracy FSA is lower than those who no longer meet those expectations⁷.

Differences in Average Number of School Changes by FSA Category

As has been demonstrated, students who change schools typically have lower success rates than students who remain in the same school (see Appendix 7K). Students in all student groups who meet expectations on both Grade 4 and Grade 7 FSAs have on average the lowest number of school changes (see Figure 121). Conversely, students who have never met expectations on either Grade 4 or Grade 7 have the highest average (with the exception of Non Band Aboriginal students) number of school changes (see Appendix 7L).

Figure 121: Average Moves by Meeting Expectations



(d) Timing of School Change: Differences Across Student Groups

There are two ways of considering the relationship between the timing of school change (in other words, in what grade does the school change occurs) and the percentage of participants meeting expectations on both exams.

First, a calculation can be made based on all students who moved after a given year regardless of whether or not students moved in additional years. The results associated with

⁷ It should be noted that these figures were calculated on Grade 7 Average Family Income provided by the Statistics Canada 1991 Census and that this statistic is missing in 3% of the student participant cases. (Missing information on average family income is far more prevalent in the Band student group with 15% of missing information.)

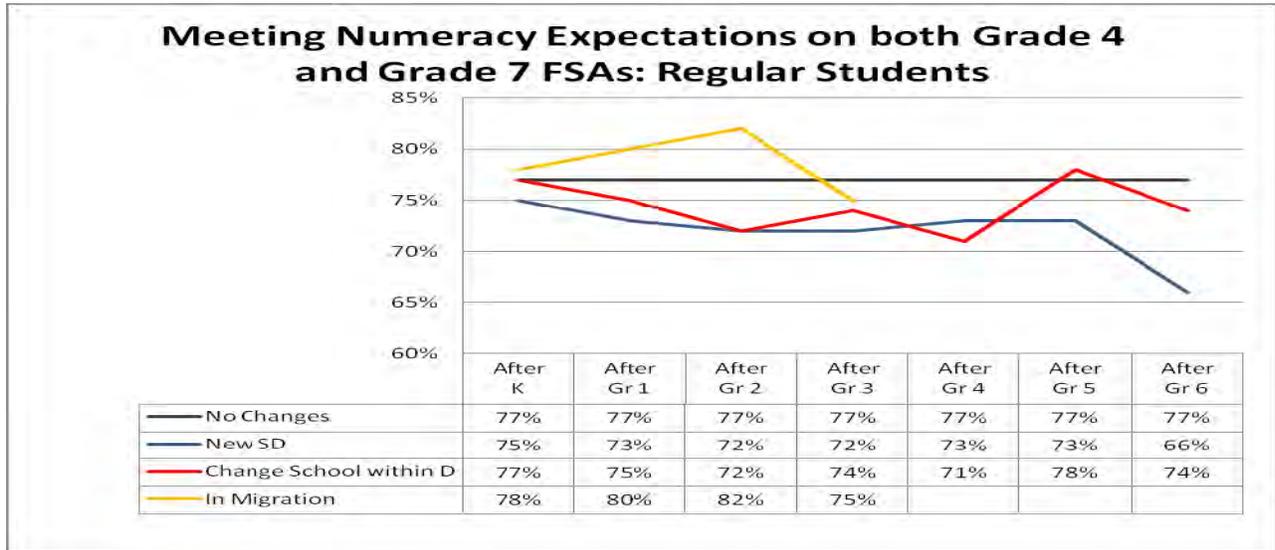
students who had frequent school changes would be included along with those who had a single school change. Analyses from the perspective of what type of school change (i.e., within district, across school districts, and “in migration”) would be approximate given one type of move does not preclude another type of move in subsequent years. When this method is used, school change after any grade is related to fewer students meeting expectations on both Grade 4 and Grade 7 FSAs, (see Appendices 4M and 4P) with seemingly contradictory results in the Band student group. (For Band students there a very small number of participants in both exams.) Results associated with this method are presented in more detail in the next section (Section “e”).

In the second method, the total number of school changes is controlled for (and therefore the type of move is defined), but this leaves fewer student cases to examine. Using this method, any student who moved more than once is excluded. As a result, the figures below (Figures 122 - 125) do not include Aboriginal student groups since very small numbers of these students make a *single* school change over the Kindergarten - Grade 7 trajectory and are also participants in both Grade 4 and Grade 7 FSAs. Additionally, students who migrate to BC after Grade 4 are not represented as logically they can not be participants in both Grade 4 and Grade 7 FSAs. Nonetheless, this second method, confirms the finding that school change at any grade level and of any type is related to fewer participants meeting expectations on both Grade 4 and Grade 7 exams, particularly after Grade 6 (see Appendix 7N).

Regular Program

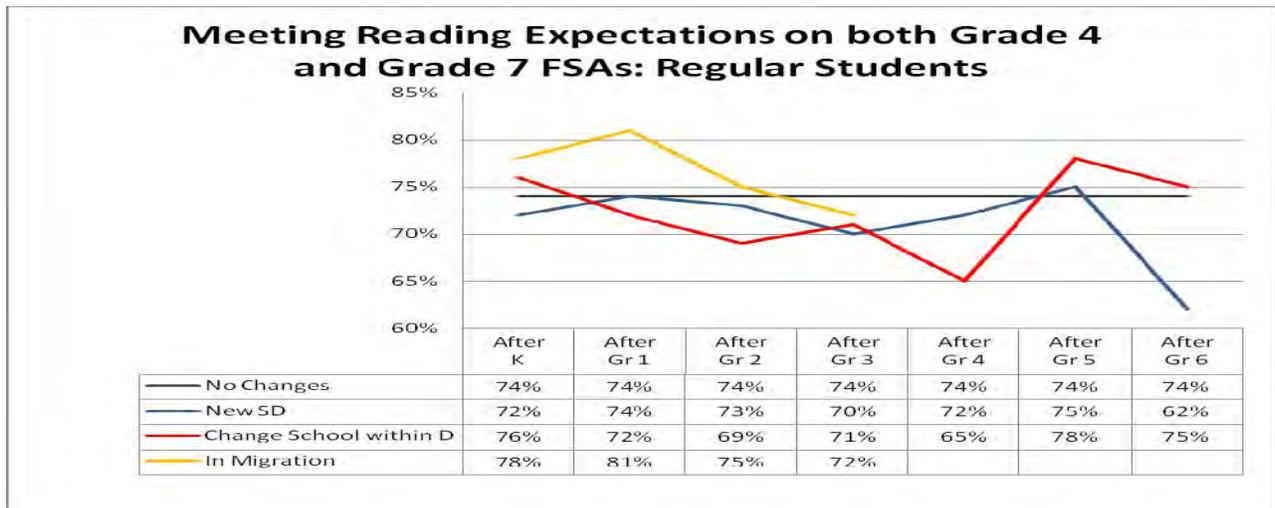
Students in the Regular Program who never move schools (black line) typically have the highest success rates on both Grade 4 and Grade 7 Numeracy FSAs. There are two exceptions to this pattern (see Figure 122). Students who migrate to BC (yellow line) after Kindergarten – Grade 2 and are in the Regular Program outperform students who never change schools. (Students moving into the school system after Kindergarten include the students who deferred enrolment until Grade 1.) When “in migration” occurs in later grades, the same pattern is not observed. As well, students who move after Grade 5 within their own school district (red line) outperform students who are mobile within their district after other grade levels *and* those who never change schools. This anomaly is likely due to the influx of students into French Immersion programs: 17% of students moving after Grade 5 are making this sort of school move.

Figure 122: Regular Program Students and Percentage of Participants Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs



The percentage of participants meeting both Grade 4 and Grade 7 Reading FSAs follows a similar pattern to that seen with the Numeracy results (see Figure 123). When the school change to a new school district (blue line) occurs after Grade 1 and Grade 5, however, the risk of not meeting expectations on the Reading exam seems to disappear. (This is not evident for the Numeracy exam.) Finally, students who move within their district (red line) after Grade 5 and those who do so after Grade 6 outperform those who never change schools on the Reading exam.

Figure 123: Regular Program Students and Percentage of Participants Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs



The following information pertains to students who move a single time. Students moving to a new school district appear to be more at risk of not meeting expectations in Numeracy than students moving within district. This is less often the case for the Reading exam and is only observed after some grades. Students making either type of school change after Grade 6 perform particularly poorly on the Numeracy exam, but only those changing school districts do poorly on the Reading exam.

ESL

ESL participants who never change schools (black line) have a high proportion of students meeting expectations on both Grade 4 and Grade 7 exams. Recall that there is a high proportion (45% of FSA participants) of the ESL students that are “in migrants” (yellow line). While those who arrive to BC in early grades do well, those who arrive in later grades do not (see Figures 124 -125). In later grades (moving after Grade 5 and Grade 6), changing schools within district (red line) is associated with a disadvantage on the Numeracy exam (see Figure 124), though *not* on the Reading exam (see Figure 125). For ESL students moving school districts (blue line) at any grade after Grade 1 there is also a disadvantage on the Numeracy exam. Changing schools within district (red line) is associated with relatively high proportions of ESL students meeting both Grade 4 and Grade 7 Reading FSAs. It should be noted that the small number of ESL FSA participants changing school districts after each grade warrants caution in interpretation (see 70).

Figure 124: ESL Students and Percentage of Participants Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs

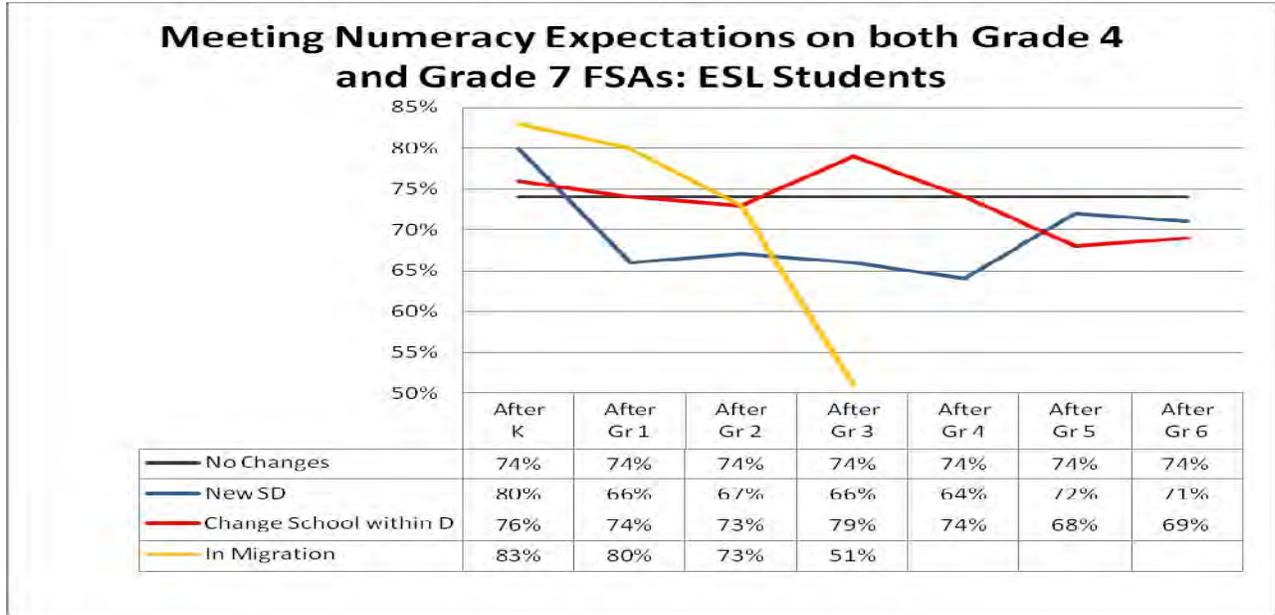
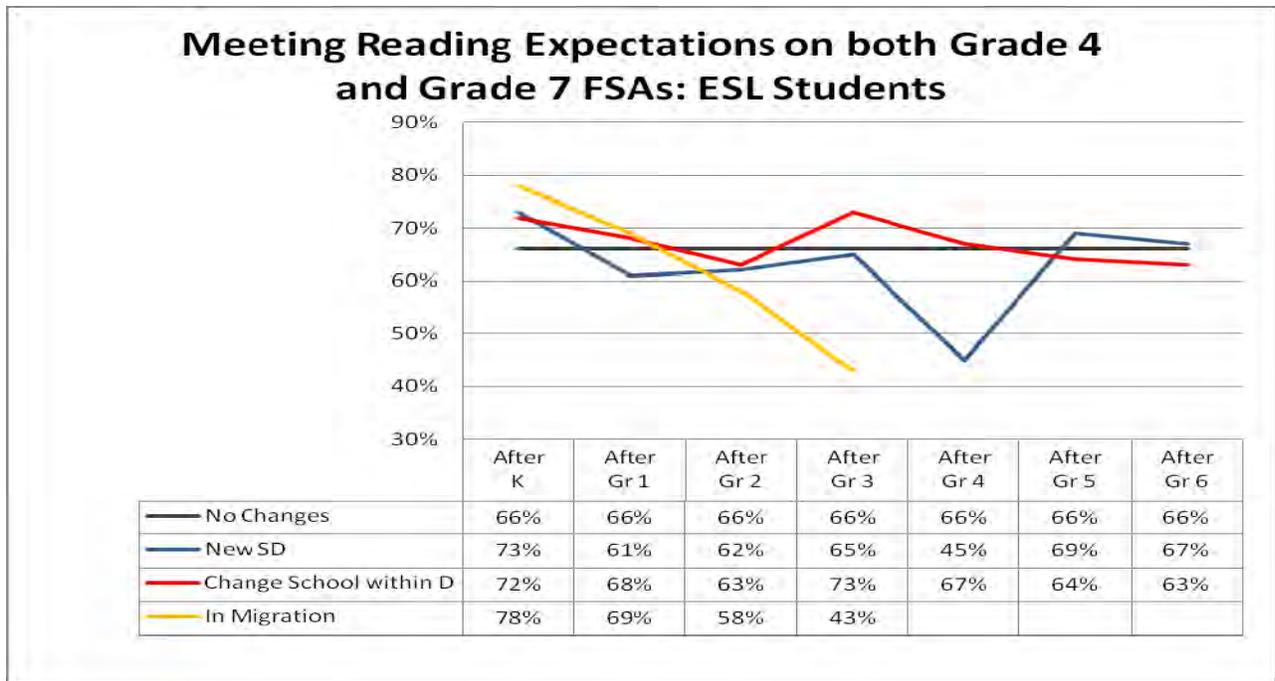


Figure 125: ESL Students and Percentage of Participants Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs



(e) Type of School Change

This section explores the types of school change by including *all* students –the first method described previously--who moved after each grade level (as opposed to just students who moved a single time in their school trajectory). Results are presented for participants moving to a new school district, moving within district and “in migration” (see Appendix 7P). The disadvantage associated with most school change types is evident (see Figures. 126 - 133).

School Change to a New District

School change to a new school district is presented for all four student groups. Where this type of move implies a residential geographic move across BC towns, it may not be the case that students have moved residence. In densely populated areas, such as the lower mainland, students can be within transportation distance of schools in neighbouring districts.

Regular Program

For participants in the Regular Program (see Figures 126-127), the disadvantage associated with school change to a new district (blue line) is observed at every grade level on both the Numeracy and the Reading FSAs.

Figure 126: Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs, Type of School Change, and Regular Program

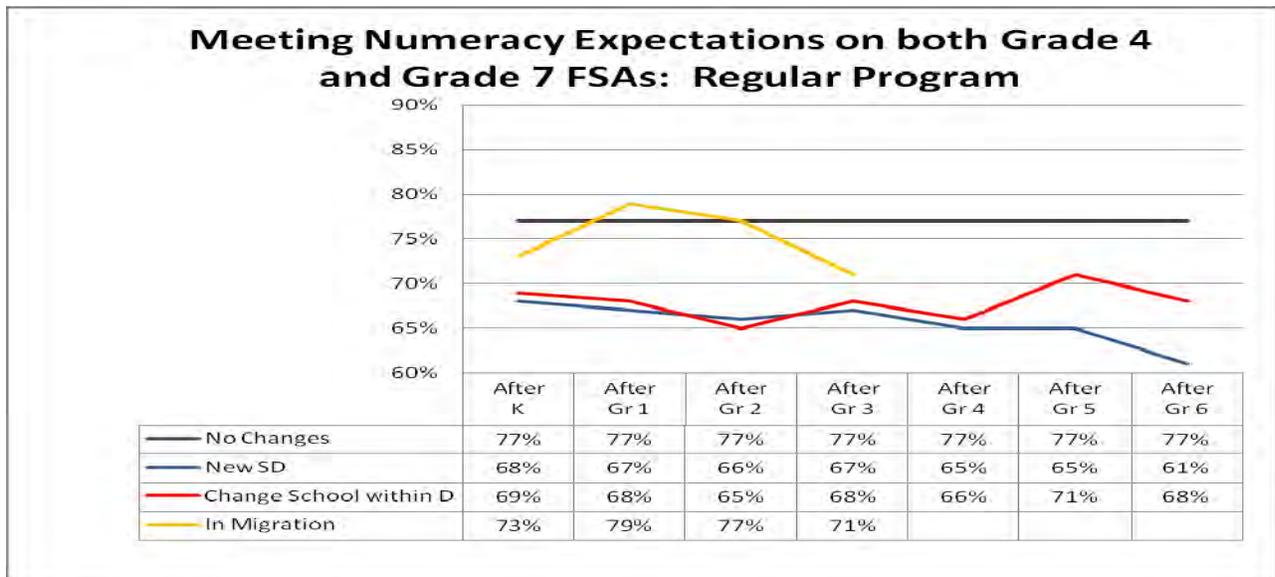
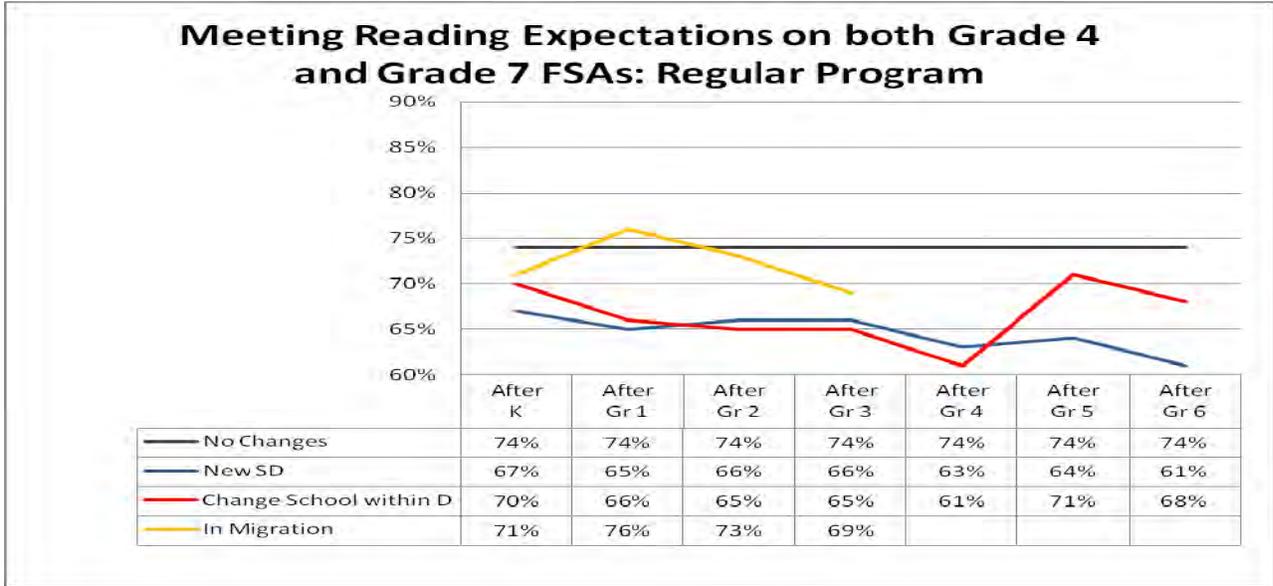


Figure 127: Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs, Type of School Change, and Regular Program



ESL

For ESL participants (see Figures 128 - 129), the pattern of disadvantage associated with this school change to a new district (blue line) is much the same as with the Regular Program students. There is a small peak after Grade 5, but the success rates are still lower than those ESL students who do not change schools (black line).

Figure 128: Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs, Type of School Change, and ESL Students

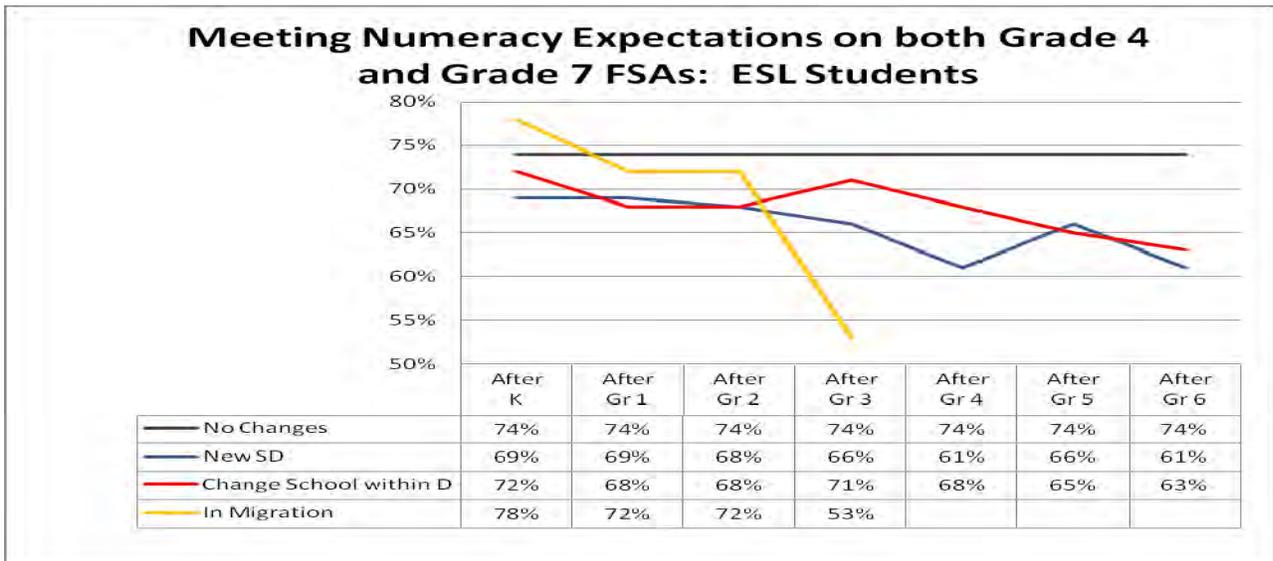
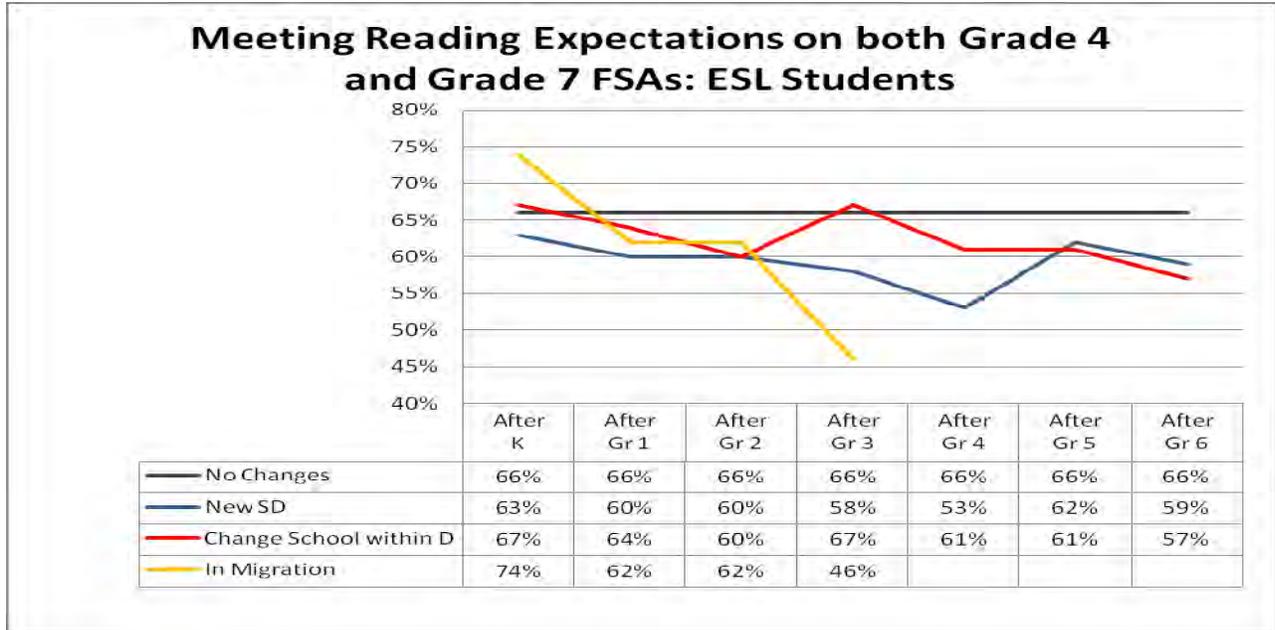


Figure 129: Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs, Type of School Change, and ESL Students



Non Band Aboriginal

For Non Band Aboriginal participants (see Figures 130 -131), the pattern of disadvantage associated with school change to a new district is much the same as for students in the Regular Program, with one difference. Non Band Aboriginal students who move school districts (blue line) after a after Kindergarten meet Reading expectations to the same extent as their peers who do not change schools (black line).

Figure 130: Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs, Type of School Change, and Non Band Aboriginal Students

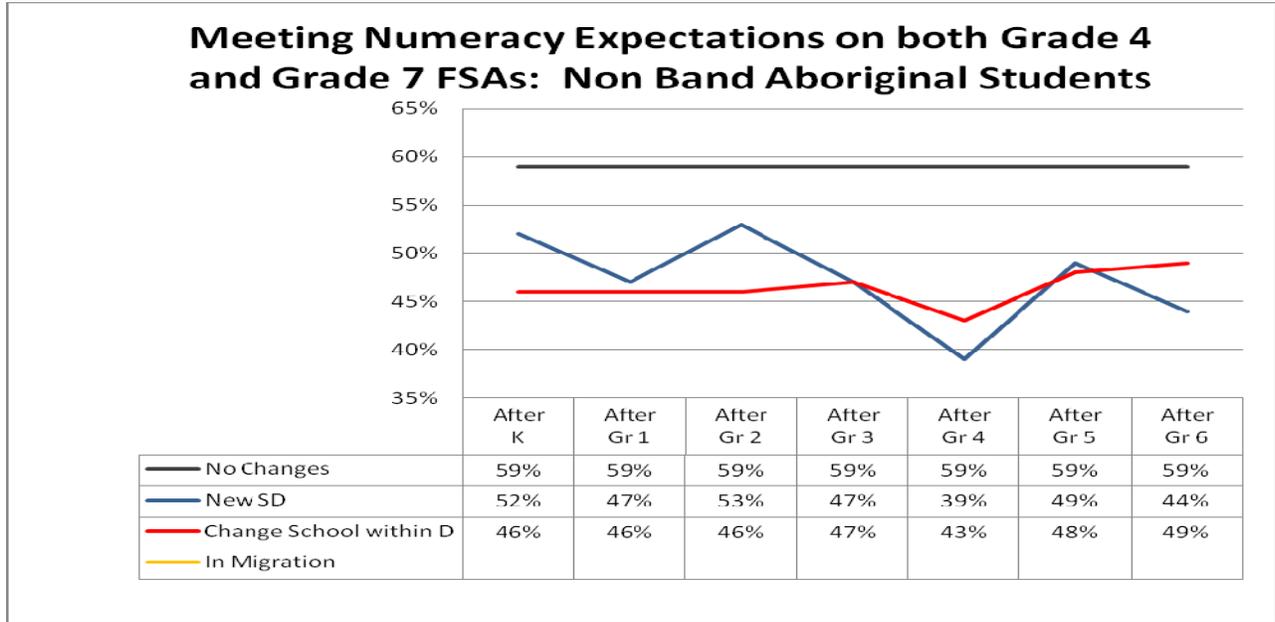
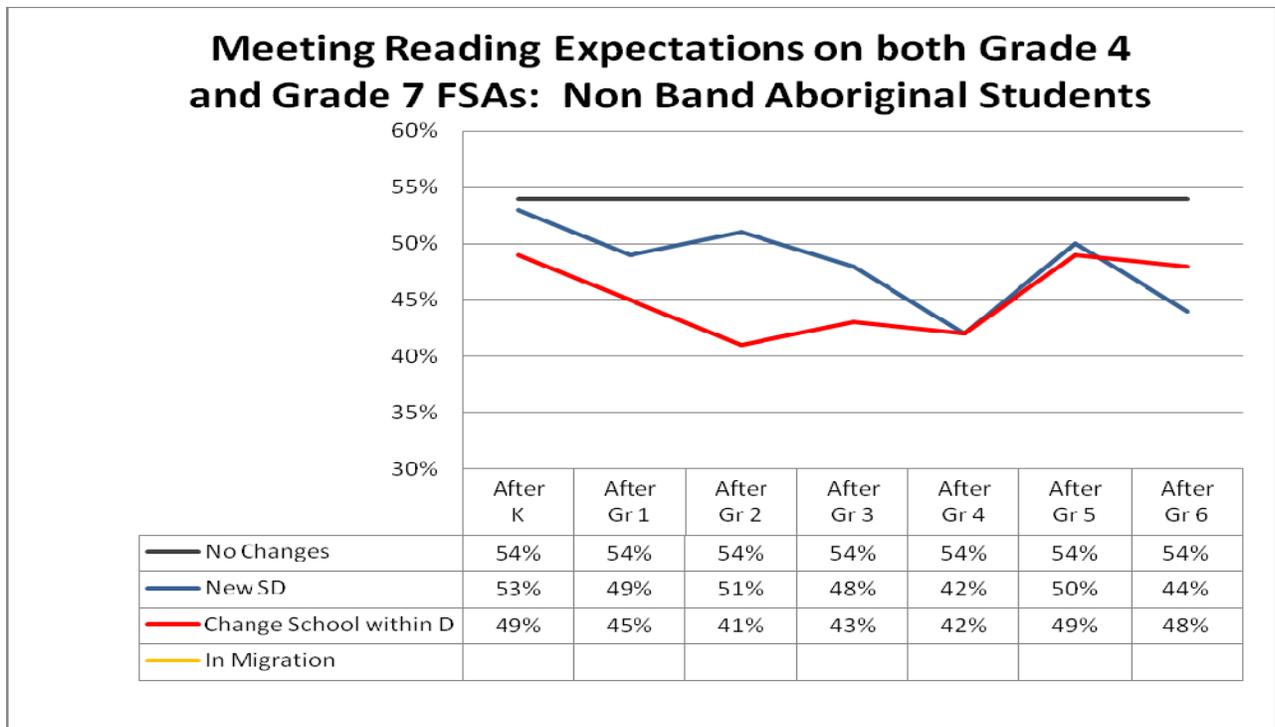


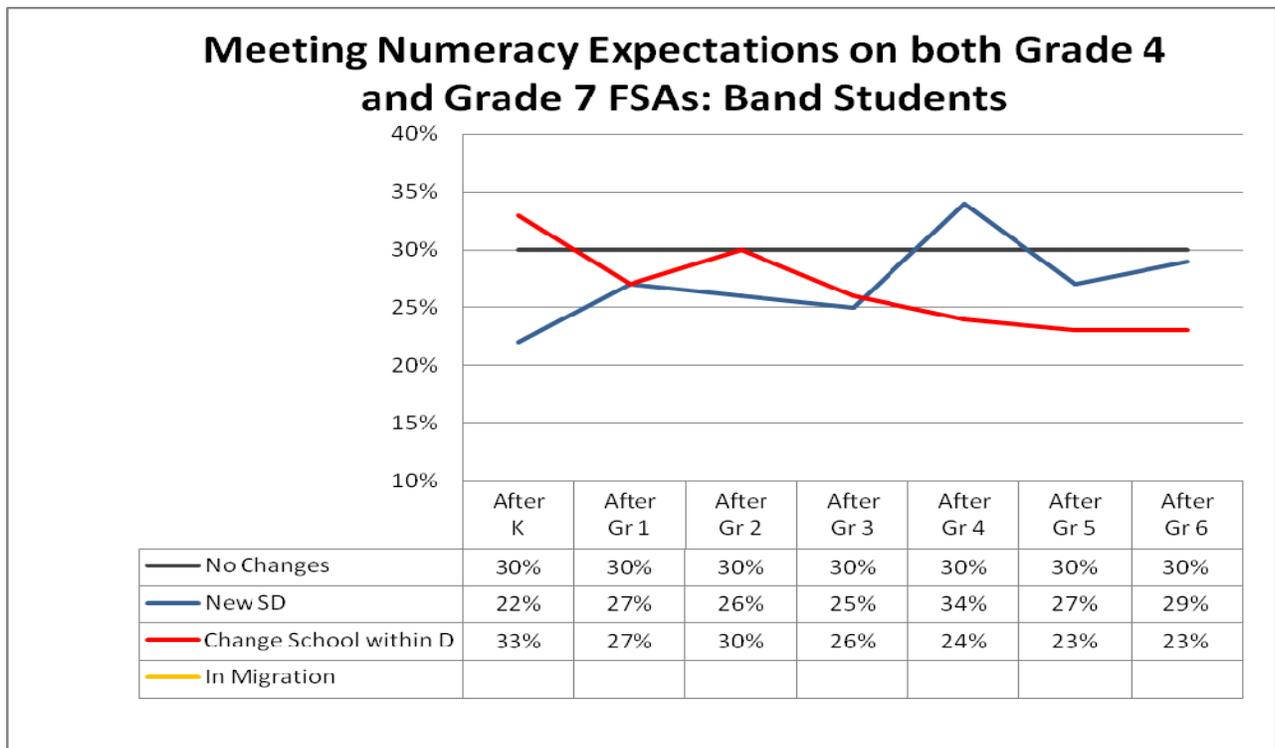
Figure 131: Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs, Type of School Change, and Non Band Aboriginal Students



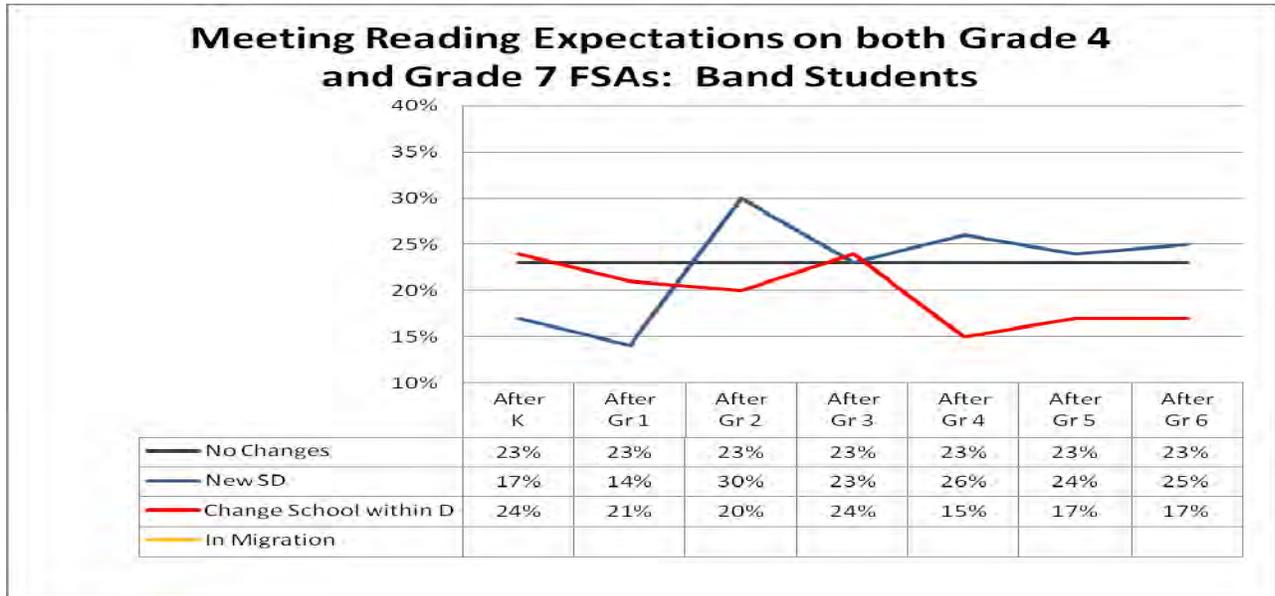
Band

For Band participants (see Figures 132 -138), moving school districts is sometimes *not a disadvantage* in both Numeracy and Reading FSAs. Comparing students who have moved school districts across grade levels reveals an erratic pattern (blue line). Due to the small numbers of Band participants moving to new districts in each year, caution should be used interpretation of these findings.

Figure 132: Meeting Expectations on both Grade 4 and Grade 7 Numeracy FSAs, Type of School Change, and Band Students



**Figure 133: Meeting Expectations on both Grade 4 and Grade 7 Reading FSAs,
Type of School Change, and Band Students**



School Change Involving Moving Schools within District

School change involving a change of schools within students’ own district is the most complex type of school change to consider. Many factors like residence change, grade progression, school choice of magnet programs, and choice of independent schools may be at play. The information in this section controls for grade progression (where students must change schools to enroll in subsequent grade levels), but does not differentiate between other factors behind school change within districts. This type of school change also implies students are moving within the same community. There are some districts, however, that incorporate large geographic areas where a “within district move” may involve a move to a new community.

Regular Program

For Regular Program participants (see Figures 126-127 above), changing schools within district (red line) is associated with lower success rates than when students do not change schools (black line). As in the preceding one-time only school move statistics, the peak in performance when students change schools within district after Grade 5 is explained in part by students

moving to French Immersion programs. (When this is controlled for, the proportion of students moving within their district and meeting both Grade 4 and Grade 7 Reading FSAs is 67 %.) The higher rate of students moving schools within their district after Grade 6 is not explained in this way.

ESL

There are lower proportions of ESL participants who change schools within district (red line) meeting expectations on Numeracy FSAs than for students who do not change schools (black line), but this is less so in Reading FSAs (see Figures 128-129 above). (It should be recalled that the performance of *all* ESL students (mobile or not) on the Reading exam is lower compared to the Numeracy exam.)

Non Band Aboriginal

For Non Band Aboriginal participants (see Figures 130-131 in the preceding section), the association between students changing schools within their own district (red line) and a disadvantage on FSAs is evident.

Band

For Band participants (see Figures 132-133 in the preceding section), the pattern is less evident. In Numeracy, the performance of students changing schools within their own district (red line) is typically lower than that of those who do not change schools (black line) (though school changes after Kindergarten and after Grade 1 are exceptions). In Reading, this lower performance is not observed for school changes after Kindergarten and after Grade 3. As noted previously, small numbers of Band participants warrant caution in interpretation.

School Change Involving In migration

“In migration” findings are presented for only two student groups in above (Figures 126-129) due to the small numbers of FSA participants in Non Band Aboriginal and Band student groups making this kind of move after Kindergarten.

For the after Kindergarten year (where there are larger numbers in Aboriginal participants) a comparison of the percentages of students meeting expectations in both Grade 4

and Grade 7 is possible for Aboriginal groups (see Figure 134 -135 below). This grade level is important because “in migration” after Kindergarten includes students who have deferred enrolment until Grade 1. As stated earlier, “in migration” in Regular Program and ESL participants includes only students who have migrated before Grade 4 because those who come later to BC are not participants on both Grade 4 and Grade 7 FSAs. In both Aboriginal groups those who start after Kindergarten have lower success rates.

Figure 134: Meeting Expectations on both Grade 4 and Grade 7 FSAs, Type of School Change, and Non Band Aboriginal Students (After K/Deferred Grade 1)

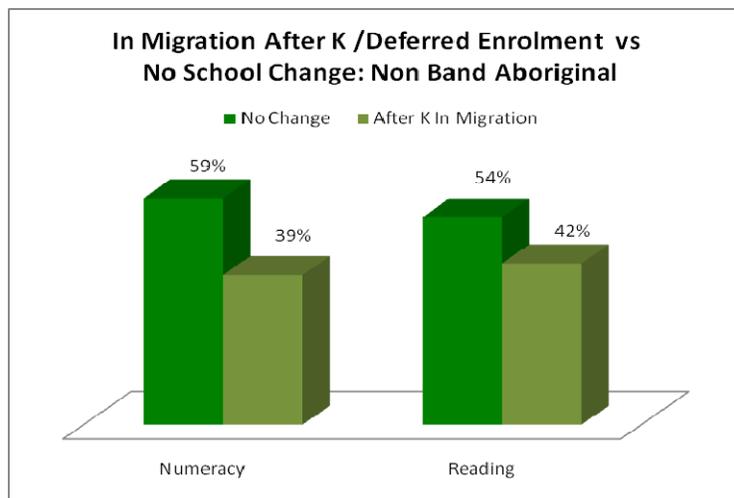
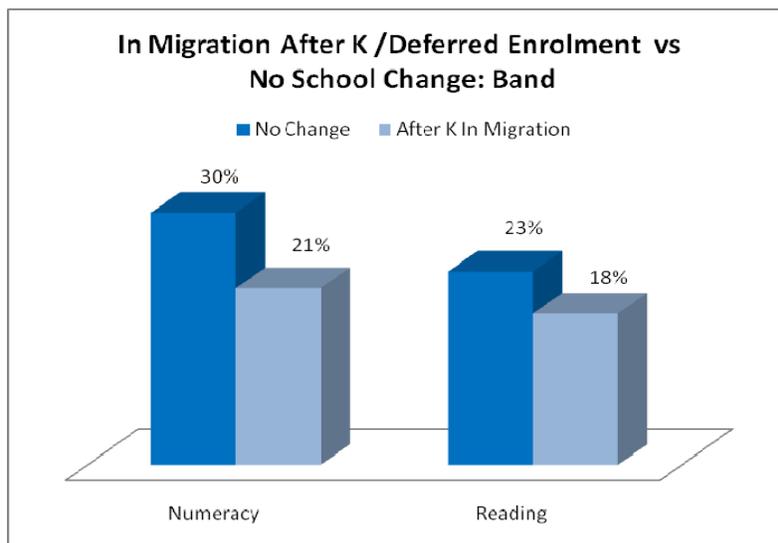


Figure 135: Meeting Expectations on both Grade 4 and Grade 7 FSAs, Type of School Change, and Band Students (After K/Deferred Grade 1)



Regular Program

For students in the Regular Program “in migration” (yellow line) after Kindergarten is associated with a smaller percentage of students meeting FSA expectations (this group includes deferred enrolment) (see Figures 126-127 above). This is not the case for “in migration” students arriving after Grade 1 and Grade 2. For students arriving just before the first FSA (moving to BC after Grade 3), however, this school change is associated with a disadvantage on FSAs.

ESL

For ESL students, “in migration” (yellow line) is associated with a steep decrease in success rates the later this school change occurred (see Figures 128-129 above).

Part Four: Looking at Differences within Mobile Participants Who Changed Schools and Met FSA Expectations and those who Did Not Meet FSA Expectations

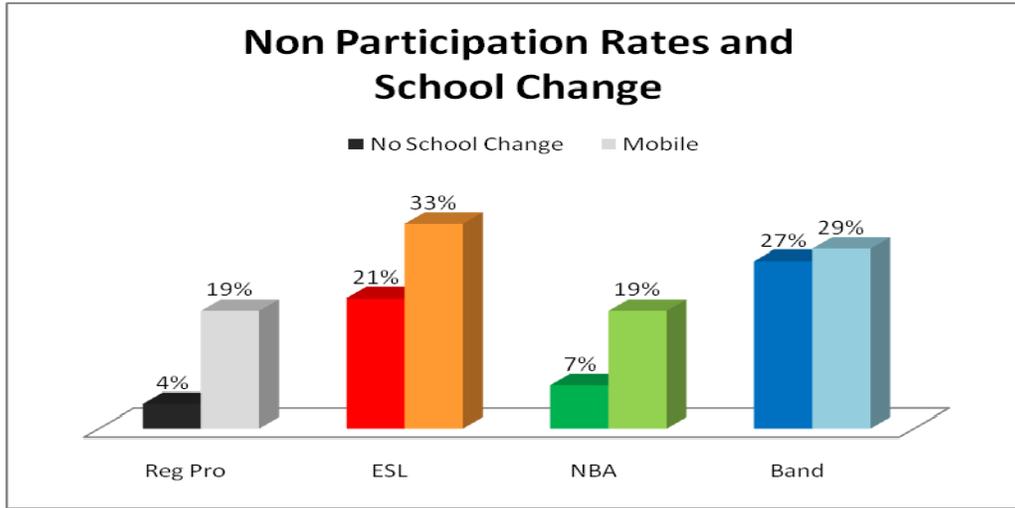
Part Four explores very briefly some factors that may be relevant in the ability of mobile students to meet expectations on FSAs. Here participants who met expectations by the Grade 7 exam are included in the calculation of “meeting expectations”. Participants who never changed schools are also included here for the sake of additional comparison.

(a) Participation and Non Participation on both Grade 4 and Grade 7 FSAs

As indicated earlier, longitudinal information on FSA performance is missing for large shares of the BC student population. This section examines the degree to which non participants on both Grade 4 and Grade 7 level FSAs are mobile. Non participation rates are higher among mobile students. Overall, there is a 23% rate of non participation when students change schools, as opposed to a 4% rate when students do not change schools.

The rates differ across student groups (see Figure 136). In the Regular Program and Non Band Aboriginal student groups, mobile students are non participants to a much greater degree than their peers who do not change schools. The rates of non participation are substantially higher for ESL and Band students who do not change schools than for Regular and Non Band Aboriginal students who do not change schools, though non participation rates are higher still when students in these groups are mobile.

Figure 136: Mobility and Non Participation Rates across Student Groups



(b) ESL Designation in Non Band Aboriginal and Band Participants

Eleven percent of Non Band Aboriginal student participants and 23% of Band participants are designated ESL. ESL designation is more prevalent among mobile participants than among those who do not change schools. As well, ESL designates are represented to a greater degree in the “never meeting” and “no longer meeting FSA expectations” groups. Of the participants receiving ESL designation, however, mobility is associated with higher proportions of students meeting expectations, compared to peers receiving ESL designation who did not change schools. It is difficult to say whether or not ESL designation serves as an advantage on FSAs for mobile Aboriginal students until factors related to policy regarding ESL designation across school districts in Aboriginal students are better understood.

(c) Gender

Regular Program

Success rates in Numeracy were equivalent between mobile female students in the Regular Program and mobile male students. Female students were at an advantage on the Reading exam (their success rate was 10 percentage points higher). This is a slightly higher advantage than seen in the students who do not change schools (females have an eight percentage point lead).

ESL

As in the Regular Program students in Numeracy, mobile female ESL students had equivalent success to male counterparts. Mobile female ESL students have a clear advantage on Reading FSAs (their success rate is 10 percentage points higher than the rate of mobile ESL males. This is a higher advantage than seen in the students who do not change schools (females have a six percentage point lead).

Non Band Aboriginal

There is no disadvantage associated with gender in Numeracy for Non Band Aboriginal students. Both male and female mobile students have a similar disadvantage compared to their peers who do not change schools. In Reading, mobility is associated a greater advantage for female students than mobile male students (a 13 percentage point lead) a slight narrowing of the gender gap in non mobile success Reading success rates (17%). There is no difference between female and male success rates in Numeracy in mobile Non Band Aboriginal students.

Band

Mobile female and male Band students have similar Numeracy success rates (of interest the rate is the same as non mobile Male Band students. Non Mobile female Band students have a success rate that is 10 percentage points higher than male peers and all mobile peers. Unexpectedly as mobile students tend to fare worse on FSAs, in Reading, the gender gap is slightly reduced in the mobile Band student groups compared to non mobile peers. Mobile female advantage is 14 percentage points.

(d) Home Language within ESL Participants

There are wide variations in the association between student mobility and FSA results across different language groups. Mobility tends to be more highly associated with lower Reading scores, but there are examples where students who have moved (many as “in migrants”) outperform local ESL students within the same language group. There are some groups where mobile students and their peers who have not changed schools have identical or highly similar Numeracy results (for example, Chinese, Hindi, Korean,) and other groups where the mobile students are at a disadvantage (11 percentage points in Persian speakers, 15 percentage points in

Spanish speakers.) In Reading, Punjabi speakers have no gap, and Chinese speakers are similar (3 percentage points disadvantage to mobile students). Other groups have a sizable difference favouring non mobile students (in Spanish speakers 11 percentage, Persian speakers 9%).

(e) Consistency of Identification in Aboriginal Student Groups

Non Band Aboriginal Participants

Students who consistently identify as “Aboriginal” have lower success rates on Numeracy and Reading than those who are inconsistently identified. As well, overall, mobile students do less well peers who are not mobile. In Numeracy consistency appears to have little difference on success rates for mobile students. In Reading, mobility has a larger negative association (success rate is 8 percentage points lower) with consistently identified students than inconsistently-identified peers.

Band Participants

Students who consistently identify as Band have lower success rates on Numeracy and Reading than those who inconsistently identify as such. There is little difference in the Numeracy or Reading success rate of consistently identified Band students whether they are mobile or not. The small number of inconsistently identified Band students who have not changed schools precludes analysis.

(f) French Immersion

For students ever enrolled at French Immersion schools, mobility is not associated with lower success rates on Reading FSAs. The success rates on Numeracy FSAs is slightly lower (4 percentage points) in mobile French Immersion students compared to Non mobile peers.

(g) Independent Schools

Mobile students at both independent and public schools do not perform as well as their non mobile peers. This association between mobility and lower success rates on FSAs is more evident, however, for students moving to or from an independent school. On Reading, mobile students from independent schools have an 8 percentage point disadvantage, compared to 4 percentage points in public school counterparts. In Numeracy, mobile school students have a 9 percentage point disadvantage, compared to 6 percentage points in their mobile public school peers.

(h) Grade Progression

Students who have changed schools due to grade progression only slightly underperform (2-3 percentage points) compared peers who have never moved for this reason.

(i) Income Differences (Grade 7 Residential Family Average Income)

On average, mobile students reside in neighbourhoods where family income is lower than students who never change schools. The average income rates are approximately \$1500 less in the neighbourhoods where mobile students failed Reading FSAs or Numeracy FSAs compared to non mobile students who fail.

Part Five: Looking at School Districts

Part Five presents comparisons of the degree to which mobile and no school change student participants meet expectations on FSAs at the school district level. School districts vary widely in the discrepancy between these two student populations across the four student groups.

Districts where FSA participants who do not change schools have the highest proportion of students meeting expectations on both Grade 4 and Grade 7 FSAs tend to also have high performance among the group of students who are mobile across schools.

The following figures present information in similar ways. Meeting expectations on the Grade 4 and Grade 7 Reading FSAs is the outcome measure. In the first figure of each grouping, school districts are ordered from smallest discrepancy (where mobile students have the advantage) to increasingly larger discrepancies (where mobile students perform less well). The second figure of each grouping displays these discrepancies as vertical bars of percentage points in the same order of lowest to highest discrepancy. And finally, the third figure of each grouping is organized from school districts with the lowest rate of no school change participants meeting FSA expectations to the highest rate. In some cases, where there is no discrepancy, school district performance for both mobile and no school change peers is low. In others, both groups do well. It should be noted, therefore that “no discrepancy” is not always positive news for a school district. As well, districts with high performance and low discrepancy may not exhibit the same performance across all student groups.

Regular Program

Districts with over 100 participants in the Regular Program who changed school at least once are presented below (see Figures 137-139). In the first two figures, the districts are ordered from least discrepancy gap (actually where mobile students have higher success rates than non mobile students) to highest gap. The first graph compares the success rate of both groups in the district, and the second conveys the size of the gap in success rate. The final, third figure below presents similar information but the order is in lowest success rate (not success gap) to highest success rate of non mobile students. As is most apparent in Figure 138, a 3-7 percentage point disadvantage typically exists in success rate on Reading for mobile Regular Program students. A few school districts (#82, #62, #37, #54 #67 and #91) have even more substantial gaps. Of note, some of these districts are also among the lowest performing districts (#62).

Figure 137: Regular Program: Comparison of No School Change and Mobile Student Meeting Reading FSA Expectations

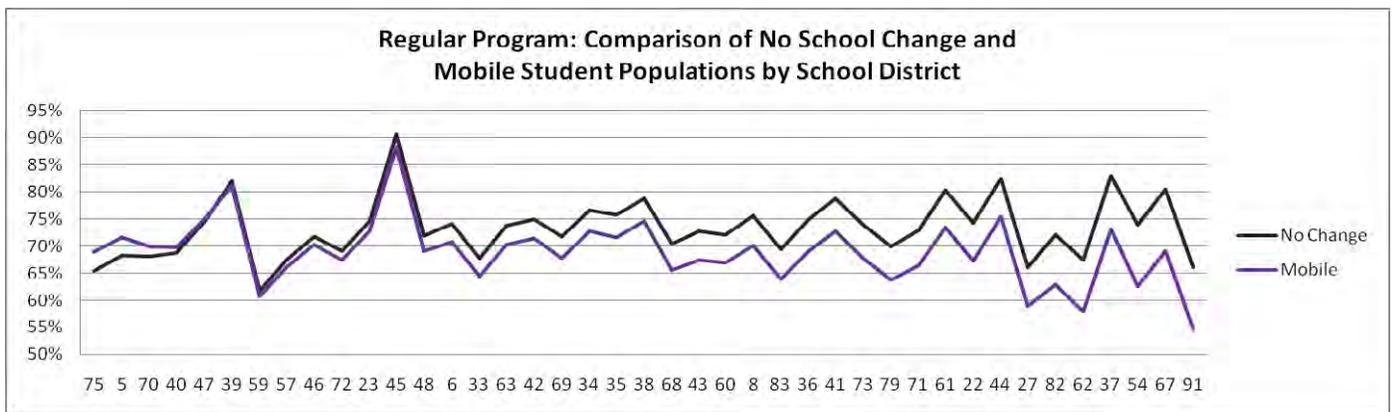


Figure 138: Regular Program: Discrepancy Gaps between No School Change and Mobile Student Meeting Reading FSA Expectations

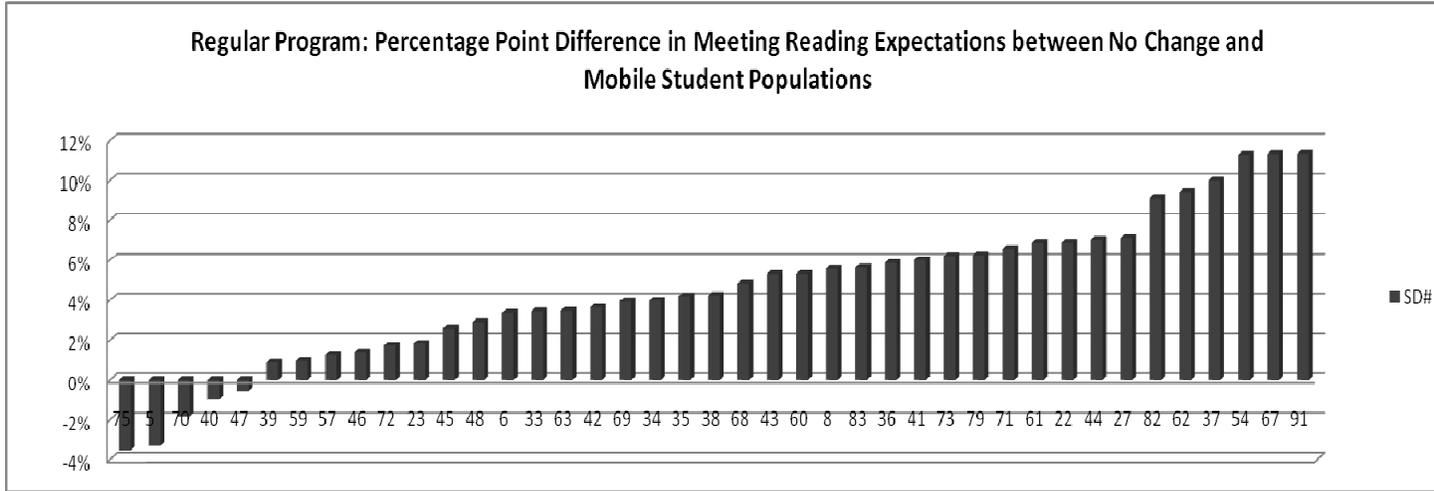
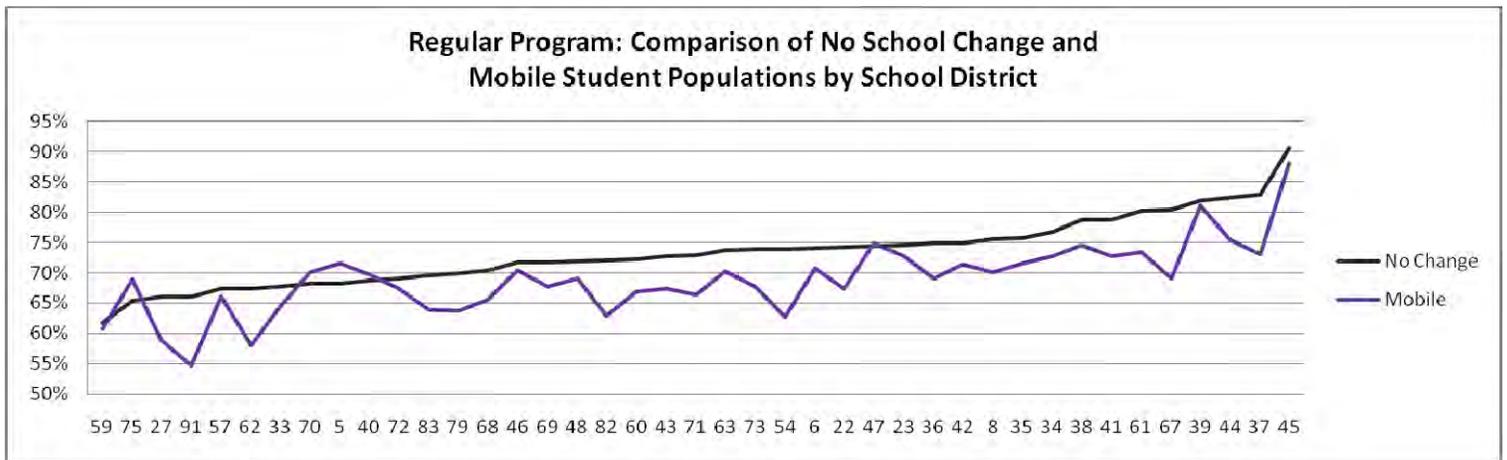


Figure 139: Regular Program: School Districts in order of Lowest Percentage of No School Change Meeting Reading FSA Expectations to Highest



ESL Students

Districts where there are at least 100 ESL participants are presented below (see Figures 140 -142). As above, the first two figures, the districts are ordered from least discrepancy gap (actually where mobile students have higher success rates than non mobile students) to highest gap. The first graph compares the success rate of both groups in the district, and the second conveys the size of the gap in success rate. The final, third figure below presents similar information but the order is in lowest success rate (not success gap) to highest success rate of

non mobile students. Though there are fewer school districts with a substantial ESL population, there is still a range of patterns regarding the difference in success between mobile and non mobile students. There are districts with large gaps in success rates (#41, #43) and low success of mobile ESL (#36, #40 and #61) and low performance of all ESL (#36 and #40).

Figure 140: Regular Program: Comparison of No School Change and Mobile Student Meeting Reading FSA Expectations

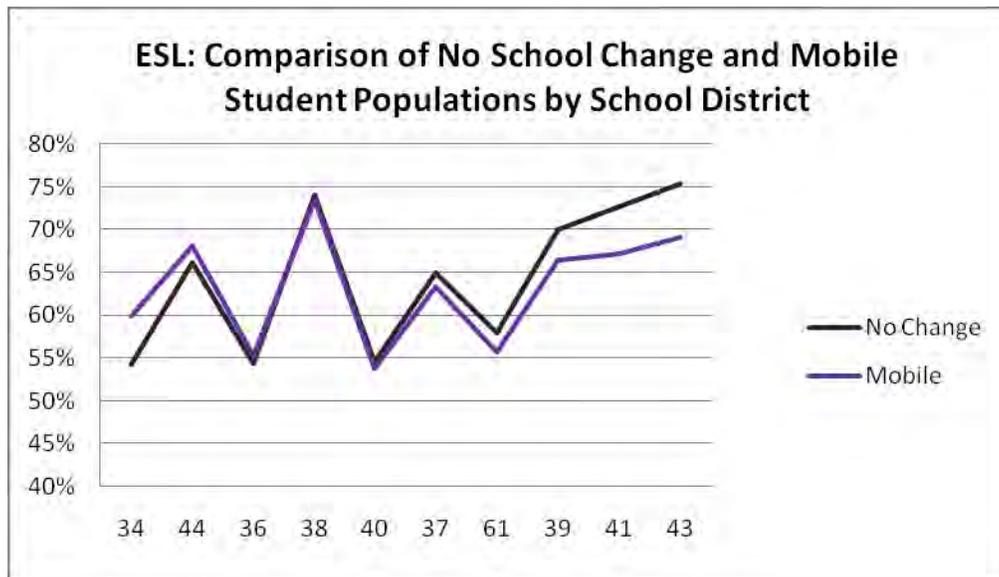


Figure 141: ESL: Discrepancy Gaps between No School Change and Mobile Student Meeting Reading FSA Expectations

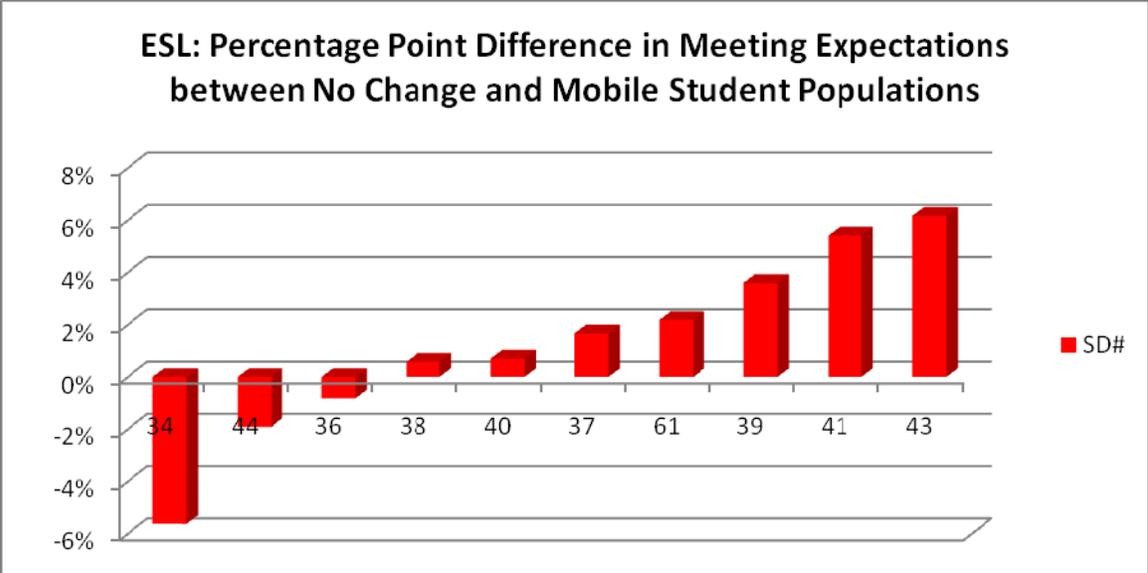
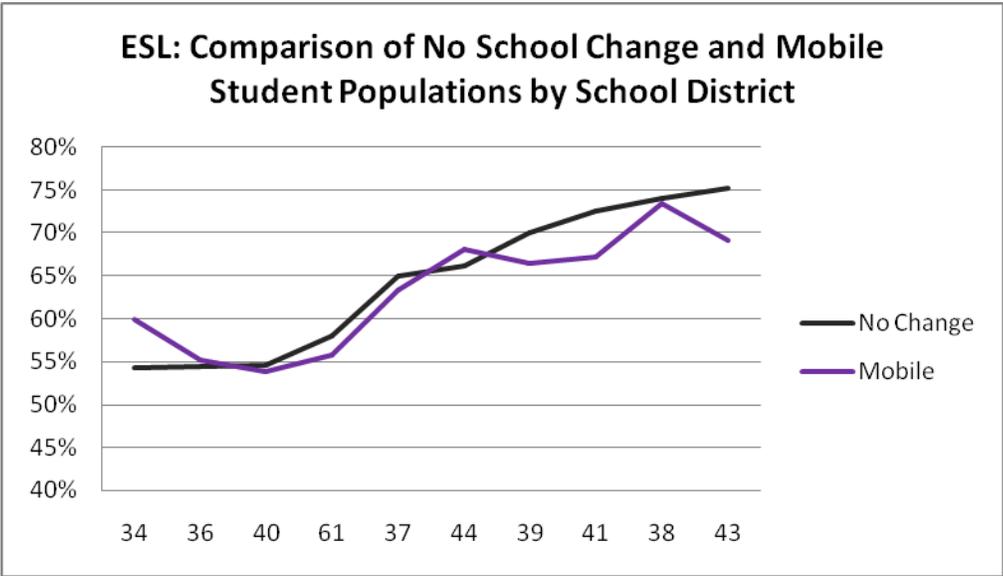


Figure 142: ESL: School Districts in order of Lowest Percentage of No School Change Meeting Reading FSA Expectations to Highest



Non Band Aboriginal

Districts where there are at least 50 Non Band Aboriginal participants are presented below (see Figures. 143-145). As above, the first two figures, the districts are ordered from least discrepancy gap (actually where mobile students have higher success rates than non mobile students) to highest gap. The first graph compares the success rate of both groups in the district, and the second conveys the size of the gap in success rate. The final, third figure below presents similar information but the order is in lowest success rate (not success gap) to highest success rate of non mobile students. While there is still a range of patterns regarding the difference in success between mobile and non mobile students and the gaps between the two appear larger than in other student groups (over 10%). There are districts with large gaps in success rates (#39, #33, #34, and #22). The rates of success of Non Aboriginal students in general is low in all districts with the exception of non mobile students in #22 and #34).

Figure 143: Non Band Aboriginal: Comparison of No School Change and Mobile Student Meeting Reading FSA Expectations

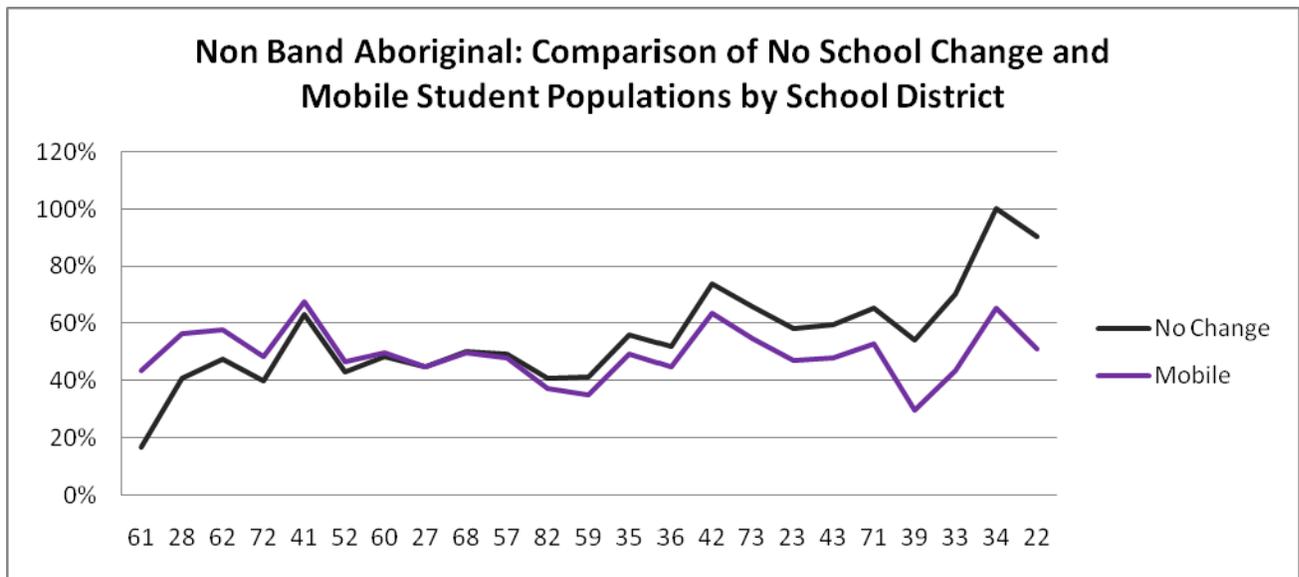


Figure 144: Non Band Aboriginal: Discrepancy Gaps between No School Change and Mobile Student Meeting Reading FSA Expectations

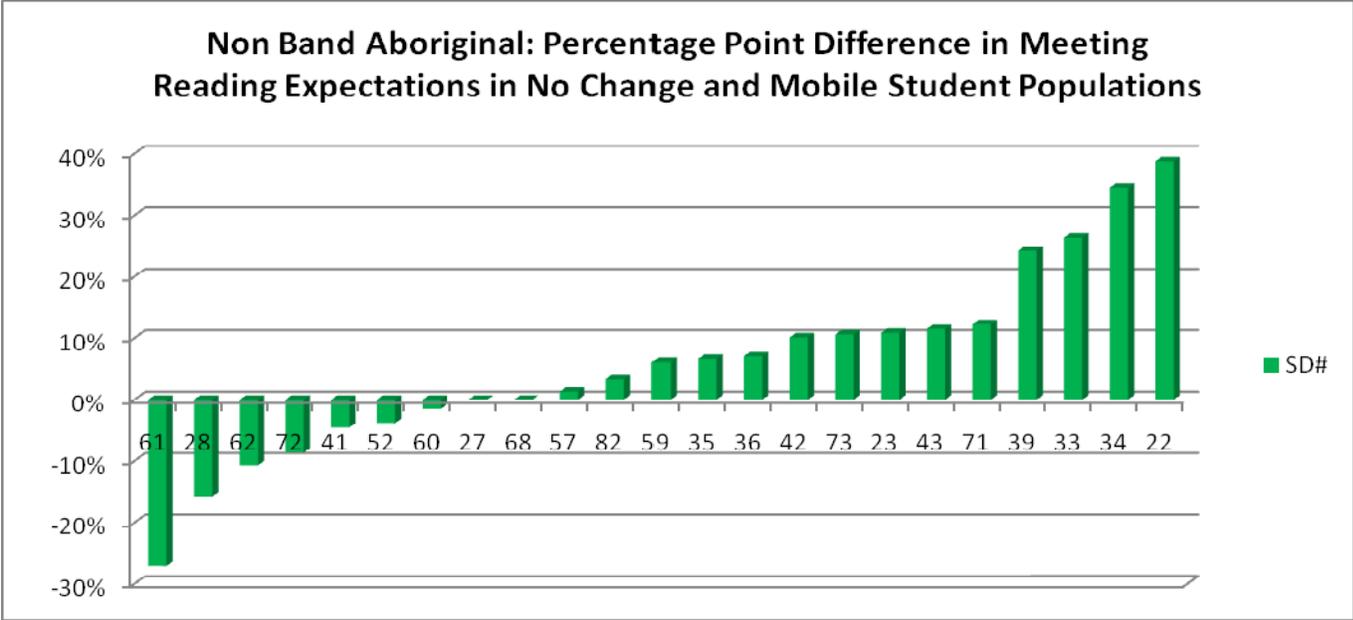
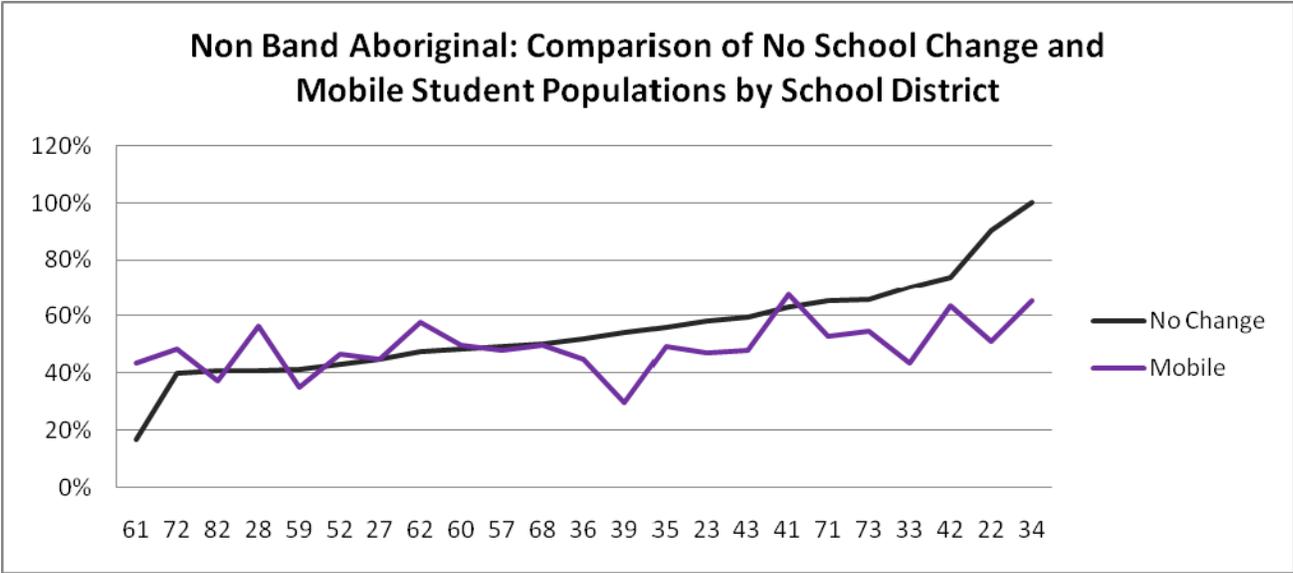


Figure 145: Non Band Aboriginal: School Districts in order of Lowest Percentage of No School Change Meeting Reading FSA Expectations to Highest



Band

Districts where there are at least eight Band participants are presented below (see Figures 146-148). As above, the first two figures, the districts are ordered from least discrepancy gap (actually where mobile students have higher success rates than non mobile students) to highest gap. The first graph compares the success rate of both groups in the district, and the second conveys the size of the gap in success rate. The final, third figure below presents similar information but the order is in lowest success rate (not success gap) to highest success rate of non mobile students. There are six school districts where all Band students have changed schools; therefore there is no comparison group of Band students. As well, there are four school districts where no Band participants in the no school change group meet expectations. While there is still a range of patterns regarding the difference in success between mobile and non mobile students and the gaps between the two appear larger than in other student groups as seen in the Non Band Aboriginal group. There are districts with large gaps in success rates. In many districts the mobile Band students are at an advantage (#44, #48, and #78 for example). Typically the success rates of Band students are low but there are some exceptions (non mobile #39, and mobile #6). Caution is needed to interpret results as small numbers in the school change categories may exist.

Figure 146: Band: Comparison of No School Change and Mobile Student Meeting Reading FSA Expectations

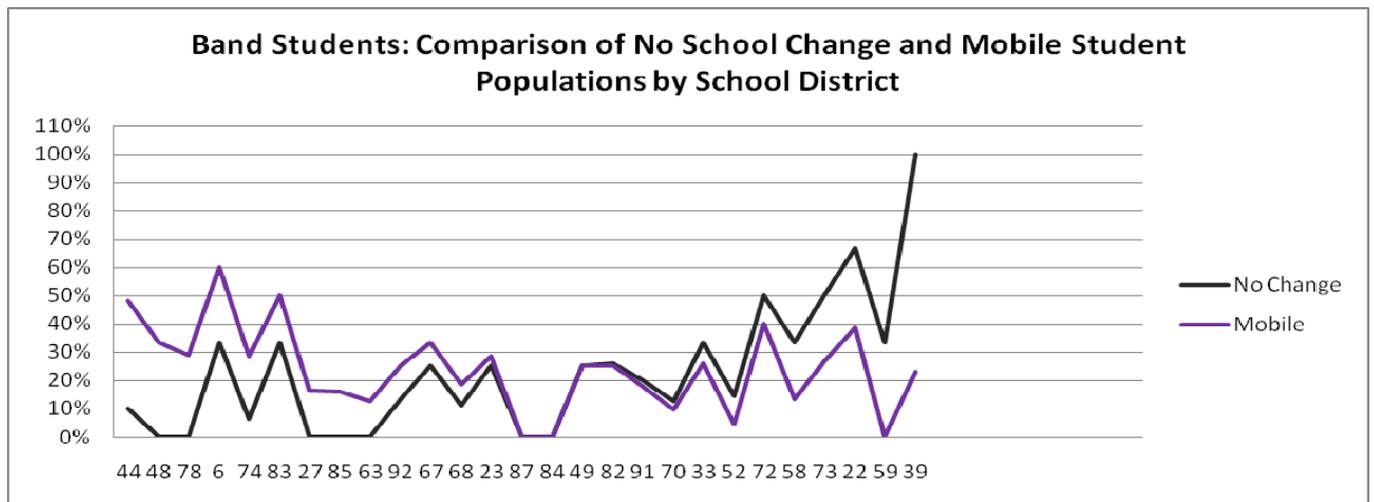


Figure 147: Band: Discrepancy Gaps between No School Change and Mobile Student Meeting Reading FSA Expectations

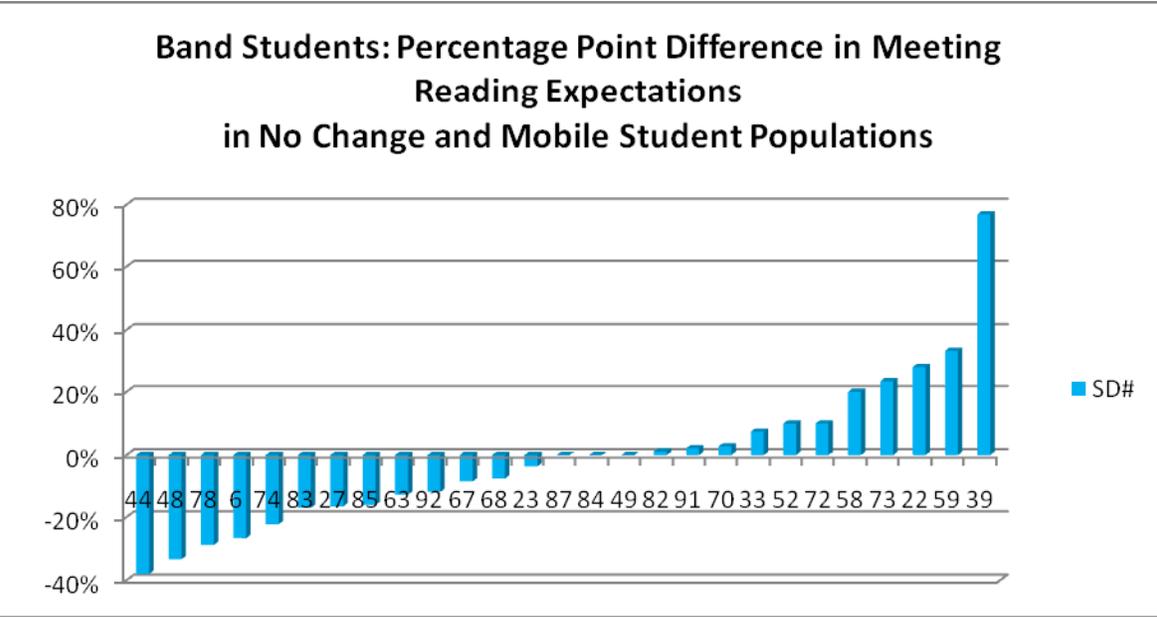
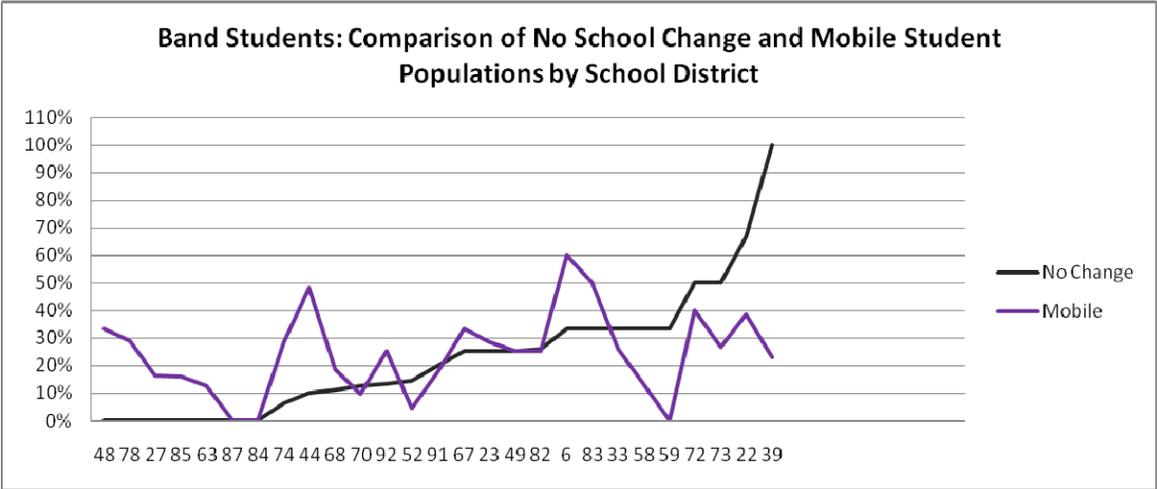


Figure 148: Band: School Districts in order of Lowest Percentage of No School Change Meeting Reading FSA Expectations to Highest



Summary and Implications for Chapter Seven

Analysis of Kindergarten – Grade 7 data affords an opportunity to extend the research findings of the Kindergarten – Grade 4 cohorts. In addition, there is an opportunity to make observations on the longitudinal progress of students given an FSA is written in both Grade 4 and Grade 7. The prevalence of school mobility is more extensive given the longer grade trajectory – approximately 60% of the cohort has made at least one school change over the eight school years. The demographic difference in student groups experiencing school mobility are the same: Aboriginal students have the highest rates of school change. School change in the Kindergarten-Grade 7 cohorts occurs consistently at each grade level and to nearly the same degree across school districts and within school districts. As evident in the Kindergarten – Grade 4 cohorts, Band students have an elevated rate of deferred entry into the school system. Also, as evident in previous analysis of Grade 4 FSAs, the non participation rate on Grade 7 FSAs is highest in the Aboriginal student groups (15% for Non Band Aboriginal students, 28% for Band students compared to 8% in Regular Program students). In Chapter Six, some demographic variables emerge as relevant to FSA success. The differences associated with Aboriginal status, consistency of Aboriginal status, consistency of Band affiliation, ESL designation, Home Language and gender are confirmed. In Chapter Six, the difference in success rates of the cohort vs. the exam participants is delineated. Again, here, whether the cohort or FSA participants are examined, school mobility is associated with poorer FSA outcomes. More frequent mobility is associated with lower success. When school mobility (a single move) is examined comparatively after each grade level, school change generally has similar association to lower success rates. Finally, there are substantial differences across school districts in how students perform and the difference in performance between mobile and non mobile students within the district. A localized and nuanced analysis is needed for each school district to understand the demographics and dynamics of mobility and student vulnerability.

Chapter Eight: Summary

The initial scope of this research was to determine the extent of school change across the BC student population and compare academic outcomes of mobile and non mobile students across the elementary grade trajectory. Due to the wealth of the data source, several province-wide cohorts were available for study. Particular demographic subgroups (defined by gender, Aboriginal status, ESL designation or Home Language) were available for further comparative study.

As is evident here, school change, or student mobility, is highly prevalent in with over 50% of the student population changing schools for reasons unrelated to grade progression at least once in the elementary grade levels (Kindergarten – Grade 7). Rates of moving schools within or across school districts are nearly the same. Some student populations experience greater degrees of mobility (both Non Band Aboriginal and Band-affiliated students). No school district is immune from the challenge of understanding the demographics, dynamics and risk associated with mobile students. Understanding the influence of school change on student populations in BC is a complex and difficult undertaking. Student performance on FSA exams (the main outcome variable in this study) differs by demographic group *and* by geographic location even across student who do not change schools. School change is not a single event -- for a fair proportion of the student population it occurs several times (and often involving different types of moves) over the elementary trajectory. This means establishing reasonable “norm group” comparisons must be done with care. The contexts *from* which students change schools to the contexts *in which they arrive* at their new schools vary widely, meaning many different variations of “school change” occur.

Generally, school change is associated with poorer school outcomes and lower rates of success on FSAs. This is true in the Regular Program students, Non Band Aboriginal students, and recently arriving ESL students and mobile ESL students. School change within school districts appears to be associated with lower outcomes than across school districts. Results associated with Band students are mixed. Though performance of this group is much lower than Non Aboriginal counterparts, often a single school move in the Band –affiliated student group is

associated with positive outcomes. There are some school changes that are associated with positive outcomes (changes to French Immersion, independent schools and changes coupled with moves to wealthier residential areas are examples).

Students who change schools are disproportionately represented in the group of students not participating in one or both Grade 4 and Grade 7 FSAs and therefore results over time cannot be determined for many mobile students. This is a particular challenge in understanding the performance over time of Band students as so few participate in FSAs at both grade levels. Indications from those mobile students who are available for study confirm that mobility is not helpful over the school trajectory for any student group.

Finally, the performance of school districts indicates that differences between mobile and non mobile students on FSAs overall *or by student group* can vary dramatically. Therefore a localized analysis is necessary to understand which mobile students are most vulnerable in specific jurisdictions.

Appendices

Appendix 5A: Participation Rates in Grade 4 Numeracy, Reading and Writing FSAs over Three Cohorts

NUMERACY FSA GRADE 4

Cohort Year	Participated	Excused	Out Migrated	Out of Grade Sync	Absent
'99 Cohort	N=45,322 (84.4%)	N=2199 (4.1%)	N=4161 (7.7%)	N=1514 (2.8%)	N=519 (1.0%)
'00 Cohort	N=44,443 (84.7%)	N=2160 (4.1%)	N=3923 (7.5%)	N=1396 (2.7%)	N=545 (1.0%)
'01 Cohort	N=43,271 (84.3%)	N=2661 (5.2%)	N=3640 (7.1%)	N=1281 (2.5%)	N=451 (1.0%)

READING FSA GRADE 4

Cohort Year	Participated	Excused	Out Migrated	Out of Grade sync	Absent
'99 Cohort	N=45,173 (84.1%)	N=2347 (4.4%)	N=4161 (7.7%)	N=1514 (2.8%)	N=520 (1.0%)
'00 Cohort	N=44,411 (84.6%)	N=2191 (4.2%)	N=3923 (7.5%)	N=1396 (2.7%)	N=546 (1.0%)
'01 Cohort	N=43,312 (84.4%)	N=2620 (5.1%)	N=3640 (7.1%)	N=1281 (2.5%)	N=451 (1.0%)

WRITING FSA GRADE 4

Cohort Year	Participated	Excused	Out Migrated	Out of Grade Sync	Absent
'99 Cohort	N=45,203 (84.2%)	N=2317 (4.3%)	N=4161 (7.7%)	N=1514 (2.8%)	N=520 (1.0%)
'00 Cohort	N=44,379 (84.6%)	N=2224 (4.2%)	N=3923 (7.5%)	N=1396 (2.7%)	N=545 (1.0%)
'01 Cohort	N=43,373 (84.5%)	N=2559 (5.0%)	N=3640 (7.1%)	N=1281 (2.5%)	N=451 (1.0%)

Appendix 5B: Student Sub Group Participation on Grade 4 FSAs over Three Cohorts

GRADE 4 NUMERACY

Cohort Year	Regular Program	ESL	Non Band Aboriginal	Band
'99	88.6%	82.8%	82.0%	81.5%
'00	88.7%	83.4%	83.0%	82.4%
'01	88.4%	82.4%	81.6%	80.1%

GRADE 4 READING

Cohort Year	Regular Program	ESL	Non Band Aboriginal	Band
'99	88.4%	82.2%	81.4%	81.4%
'00	88.7%	83.0%	82.8%	82.6%
'01	88.6%	82.0%	82.1%	81.5%

GRADE 4 WRITING

Cohort Year	Regular Program	ESL	Non Band Aboriginal	Band
'99	88.5%	82.3%	81.3%	80.9%
'00	88.7%	82.8%	82.9%	81.8%
'01	88.7%	82.3%	82.0%	81.7%

Appendix 5C: Excused Rates by Student Sub Groups over Three Cohorts

GRADE 4 NUMERACY

Cohort Year	Regular Program	ESL	Non Band Aboriginal	Band
'99	3.0%	6.4%	7.8%	11.5%
'00	3.0%	6.4%	7.9%	11.4%
'01	4.2%	7.2%	8.6%	12.8%

GRADE 4 READING

Cohort Year	Regular Program	ESL	Non Band Aboriginal	Band
'99	3.2%	7.0%	8.4%	11.6%
'00	3.0%	6.8%	8.2%	11.2%
'01	4.0%	7.5%	8.1%	12.3%

GRADE 4 WRITING

Cohort Year	Regular Program	ESL	Non Band Aboriginal	Band
'99	3.1%	7.0%	8.4%	12.2%
'00	3.0%	6.9%	8.0%	12.0%
'01	4.0%	7.3%	8.3%	12.0%

Appendix 5D: Absence Rates by Student Sub Groups over Three Cohorts

GRADE 4 NUMERACY, READING, WRITING

Cohort Year	Regular Program	ESL	Non Band Aboriginal	Band
'99	0.97%	0.98%	1.29%	1.16%
'00	1.12%	0.94%	0.94%	1.15%
'01	0.78%	1.11%	1.28%	1.54%

*The absent rate of students in the Regular Program subgroup increases in the 2000 cohort group. In this particular cohort year (compared to the previous year) higher numbers of “EU” (Elementary Ungraded) students were absent, higher numbers of Home Schooled students were absent, in addition to higher numbers of students in Grade 4 in the school system Again, the rate of exam absence is very small across student groups and cohort years.

Appendix 5E: School Institution and FSA Participation

Schools enrolling grade 4 in'99 Cohort Year	Number of Schools	Number of Students Enrolled in Spring	Number of Students Participating on Numeracy FSA	Percentage of Students Participating in Numeracy FSA
Standard Public Schools	1116	42,862	39,461	92.1%
Non Standard Public Schools	44	769	644	83.8%
Independent Schools	250	5,303	4,860	91.7%
Band Schools	22	205	143	69.8%
Distance Education Schools (SD #101)	3	7	0	0%
Conseil scolaire francophone schools (SD #93)	22	298	272	91.3%

*These participation rates have been calculated using the available cohort members in the Grade 4 school year. In other words, their peers who have migrated out of province in prior school years are not included in this calculation of participation.

Appendix 5F: Absence Rates by School Institution on Numeracy FSA 4 by Student Group

	Number of Students Enrolled in Spring	Students EXCUSED from Participating	Students Unaccounted for
Standard Public Schools	42,862	N=2027 (4.7%)	N=308 (0.7%)
Regular Program	29,731	N=981 (3.3%)	N=177 (0.6%)
ESL	9,120	N=673 (7.4%)	N=93 (1.0%)
Non Band Aboriginal	3,058	N=252 (8.2%)	N=33 (1.1%)
Band Affiliated	953	N=121 (12.7%)	N=5 (0.5%)
Non Standard Public Schools	769	N=37 (4.8%)	N=19 (2.5%)
Regular Program	665	N=31 (4.7%)	N=31 (2.4%)
ESL	41	N=3 (7.3%)	N=0 (0%)
Non Band Aboriginal	46	N=3 (6.5%)	N=2 (4.4%)
Band Affiliated	17	N=0 (0.0%)	N=1 (5.9%)
Independent Schools	5,303	N=127 (2.4%)	N=69 (1.3%)
Regular Program	4,593	N=108 (2.4%)	N=61 (1.3%)
ESL	582	N=9 (1.6%)	N=6 (1.0%)
Non Band Aboriginal	73	N=5 (6.7%)	N=2 (2.7%)
Band Affiliated	55	N=5 (9.1%)	N=0 (0%)
Band Schools	205	N=3 (1.5%)	N=3 (1.5%)
Regular Program	6	N=0 (0%)	N=0 (0%)
ESL	0	N=0 (n/a)	N=0 (n/a)
Non Band Aboriginal	7	N=0	N=0

Band Affiliated	192	(0%) N=3 (1.6%)	(0%) N=3 (1.6%)
Conseil scolaire francophone schools (SD #93)	298	N=10 (3.4%)	N=5 (1.7%)
Regular Program	189	N=4 (2.1%)	N=1 (0.5%)
ESL	96	N=6 (6.3%)	N=4 (4.2%)
Non Band Aboriginal	13	N=0 (0%)	N=0 (0%)
Band Affiliated	0	N=0 (n/a)	N=0 (n/a)

**Appendix 5G: Differences across School Districts on FSA Participation by Student Group
School Districts' Range of Participation Rates and Student Groups**

	Number of SD with 7+ students	Range of Participation Rates
Regular Program	58	78% - 99%
ESL	37	71% - 100%
Non Band	52	67% - 100%
Band	37	32% - 100%

*There are 58 geographically defined School Districts in BC

School Districts' Range of Excusal Rates and Student Groups

	Number of SD with 7+ students	Range of Excusal Rates
Regular Program	58	0% - 11%
ESL	37	0% - 25%
Non Band	52	0% - 33%
Band	37	0% - 46%

*There are 58 geographically defined School Districts in BC

School Districts' Range of Unaccounted Absence Rates and Student Groups

	Number of SD with 7+ students	Range of Unaccounted Absence Rates
Regular Program	58	0% - 3%
ESL	37	0% - 22%
Non Band	52	0% - 6%
Band	37	0% - 13%

*There are 58 geographically defined School Districts in BC

School Districts' Range of No Longer in Grade Synchronicity Rates and Groups

	Number of SD with 7+ students	Range of No Longer in Grade 4 Rates
Regular Program	58	0% - 11%
ESL	37	0% - 65%
Non Band	52	0% - 6%
Band	37	0% - 64%

*There are 58 geographically defined School Districts in BC

**Appendix 5H: Factors Associated with Non Participation
Frequency Ratio by Student Group**

Excusal Frequency by Student Group

	Regular Program	ESL	Non Band Aboriginal	Band
Male (compared to Female)	1.6X	1.3X	1.5X	1.7 X
Entry in Grade 1 (compared to Kindergarten entry)	1.2X	1.5X *ESL students who enter after Kindergarten are increasingly likely as entry grades progress to be excused from participation. The more recent the arrival to the system, the less likely FSA participation will be.	1.4X	1.3X
Ever designated ESL	*No students in this group are designated ESL	**All students in this group are designated ESL	2.1X	1.7X
Ever enrolled in French Immersion Programs	.5X	Small n	Small n	Small n
Ever changed School Districts	1.5X	2.8X	As likely	1.5X
Ever changed Schools (UNCONTROLLED FOR EXODUS)	1.5X	2.4X	As likely	1.2X
Ever changed residential postal code	1.4X	2.2X	As likely	1.3X

Unaccounted for Frequency by Student Group

	Regular Program	ESL	Non Band Aboriginal	Band
Male (compared to Female)	As likely	As likely	As likely	1.9X
Entry in Grade 1 (compared to Kindergarten entry)	3.2X	5.8X	1.7X	1.5X
Ever designated ESL	*No students in this group are designated ESL	**All students in this group are designated ESL	Small n	Small n
Ever enrolled in French Immersion Programs	0.7X	Small n	Small n	Small n
Ever changed School Districts	4.4X	8.7X	3.2X	Small n
Ever changed Schools (UNCONTROLLED FOR EXODUS)	3.9X	6.5X	2.7X	Small n
Ever changed residential postal code	3X	5.8X	2X	5X

No Longer in Grade Synchronicity Frequency by Student Group

	Regular Program	ESL	Non Band Aboriginal	Band
Male (compared to Female)	1.5X	1.2X	2X	1.6X
Entry in Grade 1 (compared to Kindergarten entry)	2.1X	2.1X	1.8X	0.6X
Ever designated ESL	*No students in this group are designated ESL	**All students in this group are designated ESL	1.9X	0.8X
Ever enrolled in French Immersion Programs	0.8X	Small n	Small n	Small n
Ever changed School Districts	1.8X	2.1X	1.6X	-0.6X
Ever changed Schools (UNCONTROLLED)	2.5X	2.9X	1.4X	0.7X

FOR EXODUS)				
Ever changed residential postal code	1.6X	1.7X	1.4X	-1.3X

*Each cohort year a small number of students (about 50) not at grade level (not enrolled in grade 4) are expected by the Ministry to participate in the FSA exam. Of these, about 2/3rds are associated with independent schools. The majority of these students met or exceeded exam requirements.

Appendix 5I: Proportion of Participants in Ministry Classifications

Assigned Category on Numeracy FSA4	Number of Cohort '99	Percentage of Cohort '99
Meets or Exceeds Expectations	N=37,770	79.4%
Does not meet expectations, Insufficient meaningful information, Student did not respond, Unspecified.	N=9,814	20.6%
Assigned Category on Reading FSA4	Number of Cohort '99	Percentage of Cohort '99
Meets or Exceeds Expectations	34,875	73.3%
Does not meet expectations, Insufficient meaningful information, Student did not respond, Unspecified.	12,708	26.7%
Assigned Category on Writing FSA4	Number of Cohort '99	Percentage of Cohort '99
Meets or Exceeds Expectations	38,720	81.4%
Does not meet expectations, Insufficient meaningful information, Student did not respond, Unspecified.	8,863	18.6%

Appendix 5J: FSA Percentage of Participants Meeting Expectations by Student Group

Assigned Category on Numeracy Grade 4 FSA	Number of Cohort 99	Percentage of Cohort '99
Regular Program	N=27,976	82.4%
ESL	N=7,367	76.8%
Non Band Aboriginal	N=1979	65.9%
Band	N=448	42.9%

Assigned Category on Reading Grade 4 FSA	Number of Cohort 99	Percentage of Cohort '99
Regular Program	N=26,469	78.0%
ESL	N=6,339	66.1%
Non Band Aboriginal	N=1,708	56.9%
Band	N=359	34.4%

Assigned Category on Writing Grade 4 FSA	Number of Cohort 99	Percentage of Cohort '99
Regular Program	N=28,311	83.4%
ESL	N=7,904	82.4%
Non Band Aboriginal	N=1,984	66.1%
Band	N=521	49.9%

**Appendix 5K: Factors Associated with Not Meeting Expectations
Frequency Ratio by Student Group**

Numeracy Grade 4 FSA

	Regular Program	ESL	Non Band Aboriginal	Band
Male (compared to Female)	As likely	1.1X really?	As likely	As likely
Entry in Grade 1 (compared to Kindergarten entry)	1.3X	As likely	1.3X	1.1X
Ever designated ESL	n/a	100% are ESL	0% of these students failed to meet expectations	0% of these students failed to meet expectations
Ever changed School Districts	1.5X	1.4X	1.2X	1.1X
Ever changed Schools (UNCONTROLLED FOR EXODUS)	1.5X	1.3X	1.3X	As likely
Ever changed residential postal code	1.3X	1.3X	1.3X	As likely
Factors Associated with Frequency of Success of Meeting Expectations				
Ever enrolled in French Immersion Programs	All students enrolled in French Immersion all met expectations	All students enrolled in French Immersion all met expectations	All students enrolled in French Immersion all met expectations	The small number of Band students enrolled in French Immersion all met expectations

Reading Grade 4 FSA

	Regular Program	ESL	Non Band Aboriginal	Band
Male (compared to Female)	1.3X	1.3X	1.2X	1.2X
Entry in Grade 1 (compared to Kindergarten entry)	1.1X	0.9X	1.2X	1.2X
Ever designated ESL	n/a	100% are ESL	0.7X	0.9X

Ever changed School Districts	1.4X	1.3X	1.1X	1.1X
Ever changed Schools (UNCONTROLLED FOR EXODUS)	1.3X	1.2X	1.2X	As likely
Ever changed residential postal code	1.3X	1.2X	1.2X	1.1X
Factors Associated with Frequency of Success of Meeting Expectations				
Never enrolled in French Immersion Programs	0.5X	0.7X	0.5X	0.4X

Writing Grade 4 FSA

	Regular Program	ESL	Non Band Aboriginal	Band
Male (compared to Female)	1.9X	1.6X	1.7X	1.5X
Entry in Grade 1 (compared to Kindergarten entry)	1.4X	1.2X	1.3X	1.1X
Ever designated ESL			0.8X	0.6X
Ever changed School Districts	1.5X	1.9X	1.2X	As Likely
Ever changed Schools (UNCONTROLLED FOR EXODUS)	1.5X	1.6X	1.2X	As Likely
Ever changed residential postal code	1.3X	1.5X	1.2X	As Likely
Factors Associated with Frequency of Success of Meeting Expectations				
Ever enrolled in French Immersion Programs	0.6X	0.4X	0.7X	0.8X

Appendix 7A: Cohort '96 Frequency of Moves by Student Group

	No Change	1 Move	2 Moves	3+ Moves
Regular Program	43%	32%	14%	11%
ESL	25%	40%	22%	12%
Non Band Aboriginal	27%	27%	20%	26%
Band	24%	30%	19%	27%

*Controlled for out migration

** Controlled for grade progression

Appendix 6A: School Change in '99 Cohort by Grade Level

PERCENTAGE OF COHORT				
Type of School Change	TIMING OF SCHOOL CHANGE			
	After K	After Gr.1	After Gr. 2	After Gr.3
No Change	N=41859 (80%)	N=44101 (84%)	N=43561 (82%)	N=43190 (82%)
Grade Progression	N=236 (>1%)	N=195 (>1%)	N=389 (1%)	N=1046 (2%)
Move SD	N=2694 (5%)	N=2352 (7%)	N=2536 (5%)	N=2577 (5%)
Move School within SD	N=4905 (9%)	N=3836 (5%)	N=4419 (8%)	N=4137 (8%)
Interrupt School	N=363 (1%)	N=259 (>1%)	N=402 (1%)	Not known
Returning to School	n/a	N=221 (>1%)	N=252 (>1%)	N=347 (1%)
In Migration	N=2574* (5%)	N=1490 (3%)	N=1306 (2%)	N=1319 (3%)

Appendix 6B: School Districts and Student Mobility

School District	Rate of Students Not Changing Schools	Rate of New Students from Out of District	Rate of Students Moving to a New School within District	Rate of Students Moving to a New School District
#05	84%	7%	12%	4%
#06	83%	6%	10%	6%
#08	82%	9%	12%	6%
#10	86%	9%	5%	9%
#19	85%	4%	9%	6%
#20	82%	7%	13%	5%
#22	86%	9%	9%	5%
#23	82%	8%	14%	4%
#27	83%	8%	11%	6%
#28	85%	7%	10%	5%
#33	84%	9%	11%	5%
#34	83%	7%	12%	5%
#35	88%	8%	6%	6%
#36	85%	8%	11%	5%
#37	90%	8%	5%	5%
#38	87%	9%	9%	4%
#39	86%	8%	9%	5%
#40	86%	13%	4%	10%
#41	86%	11%	6%	8%
#42	88%	7%	7%	5%
#43	85%	9%	8%	7%
#44	89%	6%	5%	5%
#45	92%	8%	4%	3%
#46	89%	9%	5%	6%
#47	89%	6%	7%	4%
#48	86%	6%	8%	6%
#49	71%	0%	1%	28%
#50	86%	13%	5%	9%
#51	83%	12%	7%	10%
#52	78%	4%	14%	8%
#53	89%	9%	4%	7%
#54	91%	8%	4%	5%
#57	81%	6%	14%	5%
#58	85%	9%	4%	11%
#59	85%	9%	10%	5%

Elementary Cohorts and School Mobility

#60	85%	9%	10%	5%
#61	86%	6%	9%	5%
#62	87%	9%	7%	5%
#63	89%	8%	4%	8%
#64	87%	8%	7%	6%
#67	85%	8%	9%	6%
#68	83%	8%	11%	6%
#69	89%	9%	6%	5%
#70	81%	5%	14%	5%
#71	86%	8%	9%	5%
#72	83%	8%	11%	6%
#73	84%	8%	11%	5%
#74	76%	14%	6%	17%
#75	81%	13%	10%	9%
#78	85%	11%	6%	9%
#79	84%	7%	12%	4%
#81	90%	5%	5%	5%
#82	81%	6%	12%	7%
#83	84%	13%	10%	6%
#84	84%	18%	2%	14%
#85	86%	5%	6%	8%
#87	93%	6%	2%	5%
#91	83%	12%	6%	11%
#92	85%	10%	5%	9%

**Appendix 6C:
School Change by Student Group and Grade Level**

		PROPORTION OF COHORT '99			
Type of School Change		TIMING OF SCHOOL CHANGE			
		<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	Regular Program	82%	87%	85%	84%
	ESL	79%	81%	81%	81%
	Non Band Aboriginal	72%	76%	75%	73%
	Band	68%	75%	77%	74%
Grade Progression	Regular Program	1%	>1%	>1%	2%
	ESL	>1%	>1%	>1%	2%
	Non Band Aboriginal	>1%	>1%	>1%	4%
	Band	1%	>1%	1%	4%
Move SD	Regular Program	5%	5%	5%	5%
	ESL	4%	4%	4%	4%
	Non Band Aboriginal	8%	8%	8%	8%
	Band	8%	10%	9%	10%
Move School within SD	Regular Program	9%	6%	8%	7%
	ESL	10%	8%	9%	9%
	Non Band Aboriginal	15%	14%	15%	14%
	Band	9%	12%	11%	10%
In Migration	Regular Program	4%	2%	2%	2%
	ESL	7%	7%	6%	5%
	Non Band Aboriginal	5%	2%	2%	1%
	Band	14%	4%	1%	2%

Appendix 6D
Frequency of School Change Within ESL Cohort

Home Language	No School Change	1 Move	2 Moves	3 Moves	4 Moves
Arabic	N= 27 15.4%	N=84 48.0%	N=48 27.4%	N=13 7.4%	N=3 1.7%
Chinese	N=1428 39.9%	N=1487 41.6%	N=558 15.6%	N=95 2.7%	N=8 0.2%
Hindi	N=129 43.3%	N=115 38.6%	N=46 15.4%	N=8 2.7%	N=0 0.0%
Korean	N=57 9.8%	N=303 52.3%	N=185 32.0%	N=31 5.4%	N=3 0.5%
Persian	N=75 28.2%	N=118 44.4%	N=59 22.2%	N=11 4.1%	N=3 1.1%
Philippino	N=166 31.7%	N=224 42.8%	N=115 22.0%	N=15 2.9%	N=3 0.6%
Punjabi	N=1281 55.1%	N=781 33.6%	N=217 9.3%	N=45 1.9%	N=0 0.0%
Spanish	N=83 21.9%	N=182 48.0%	N=87 23.0%	N=23 6.1%	N=4 1.1%
Vietnamese	N=174 29.1%	N=207 34.7%	N=147 24.6%	N=61 10.2%	N=8 1.3%

Appendix 6E: Participation on FSAs Types of School Change and Timing

Numeracy and Reading FSA4: Participation				
Type of School Change	TIMING OF SCHOOL CHANGE			
	After K	After Gr.1	After Gr. 2	After Gr.3
No Change	N=41859 (97%)	N=44101 (97%)	N=43561 (97%)	N=43190 (97%)
Grade Progression	N=236 (88%)	N=195 (96%)	N=389 (96%)	N=1046 (98%)
Move SD	N=2694 (93%)	N=2352 (92%)	N=2536 (92%)	N=2577 (92%)
Move School within SD	N=4905 (94%)	N=3836 (93%)	N=4419 (94%)	N=4137 (94%)
Interrupt School	N=363 (87%)	N=259 (89%)	N=402 (84%)	Not known
Returning to School	n/a	N=221 (86%)	N=252 (89%)	N=347 (86%)
In Migration	N=2574* (92%)	N=1490 (95%)	N=1306 (93%)	N=1319 (94%)

*Students who appear to be entering the BC school system after Kindergarten include those who have migrated to the BC system from other jurisdictions *and* those who have deferred entry until Grade 1.

*Controlled for out migration

*There is no difference in participation across Numeracy and Reading FSAs

**Appendix 6F: Percentage of Cohort FSA Participation across Student groups
by School Change Type and Timing**

		FSAs Gr.4: Participation			
Type of School Change		TIMING OF SCHOOL CHANGE			
		<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	Regular Program	N=30230 (97%)	N=32085 (97%)	N=31545 (97%)	N=31353 (97%)
	ESL	N=8340 (98%)	N=8536 (98%)	N=8527 (98%)	N=8485 (98%)
	Non Band Aboriginal	N=2442 (95%)	N=2563 (95%)	N=2534 (94%)	N=2444 (95%)
	Band	N=847 (84%)	N=917 (86%)	N=955 (85%)	N=908 (85%)
Grade Progression	Regular Program	N=197 (87%)	N=175 (95%)	N=334 (96%)	N=722 (99%)
	ESL	<i>N=22 (100%)</i>	<i>N=12 (100%)</i>	<i>N=21 (95%)</i>	N=150 (98%)
	Non Band Aboriginal	<i>N=8 (88%)</i>	<i>N=6 (100%)</i>	<i>N=19 (95%)</i>	N=122 (96%)
	Band	<i>N=9 (100%)</i>	<i>N=2 (100%)</i>	<i>N=15 (100%)</i>	<i>N=52 (98%)</i>
Move SD	Regular Program	N=1875 (93%)	N=1750 (92%)	N=1707 (91%)	N=17228 (92%)
	ESL	N=451 (97%)	N=398 (96%)	N=454 (96%)	N=460 (96%)
	Non Band Aboriginal	N=273 (91%)	N=267 (90%)	N=259 (91%)	N=266 (91%)
	Band	N=95 (89%)	N=117 (84%)	N=116 (86%)	N=123 (85%)
Move School within SD	Regular Program	N=3267 (94%)	N=2407 (93%)	N=2864 (93%)	N=2648 (93%)
	ESL	N=1013 (98%)	N=825 (97%)	N=909 (98%)	N=905 (97%)
	Non Band Aboriginal	N=511 (93%)	N=459 (92%)	N=503 (92%)	N=460 (92%)
	Band	N=114 (90%)	N=145 (84%)	N=143 (85%)	N=124 (86%)
In Migration	Regular Program	N=1462 (91%)	N=649 (96%)	N=609 (94%)	N=710 (93%)
	ESL	N=759 (95%)	N=723 (95%)	N=622 (92%)	N=543 (96%)
	Non Band Aboriginal	N=180 (89%)	<i>N=75 (93%)</i>	<i>N=59 (91%)</i>	<i>N=45 (84%)</i>
	Band	N=173	<i>N=43</i>	<i>N=16</i>	<i>N=21</i>

		(90%)	(87%)	(86%)	(95%)
--	--	-------	-------	-------	-------

Appendix 6G
Cohort vs. Participants on FSAs and Changing to a New School District across Student Groups

Regular Program

REGULAR PROGRAM	Number of Students	% of Cohort Meeting Numeracy Expectations*	% Point Diff No Change	% of Participants Meeting Numeracy Expectations**	% Point Diff from No Change	% of Cohort Meeting Reading Expectations*	% Point Diff No Change	% of Participants Meeting Reading Expectations**	% Point Diff from No Change
No SD Changes	N=26,984 (70.9%)	N=22,069 (81.8%)		N=22,069 (86.7%)		N=20,879 (77.4%)		N=20,879 (82.2%)	
One SD Changes	N=8317 (21.9%)	N=4,673 (73.7%)	8.1%	N=4,673 (81.6%)	5.1%	N=4,433 (69.2%)	8.2%	N=4,433 (77.7%)	4.5%
Two or More SD Changes	N=2732 (7.2%)	N=1,234 (62.8%)	19.0%	N=1,234 (75.3%)	11.4%	N=1,157 (58.9%)	18.5%	N=1,157 (70.4%)	11.8%

ESL

ESL	Number of Students	% of Cohort Meeting Numeracy Expectations*	% Point Diff No Change	% of Participants Meeting Numeracy Expectations**	% Point Diff from No Change	% of Cohort Meeting Reading Expectations*	% Point Diff No Change	% of Participants Meeting Reading Expectations**	% Point Diff from No Change
No SD Changes	N=6,221 (57.1%)	N=4,880 (78.4%)		N=4,880 (83.0%)		N=4,239 (68.1%)		N=4,239 (72.4%)	
One SD Changes	N=3639 (33.4%)	N=2,010 (68.2%)	10.2%	N=2,010 (81.9%)	1.1%	N=1,700 (57.5%)	10.6%	N=1,700 (70.2%)	2.2%
Two or More SD Changes	N=1032 (9.5%)	N=477 (71.7%)	6.7%	N=477 (83.7%)	-0.7%	N=400 (60.2%)	7.9%	N=400 (71.8%)	0.6%

Non Band Aboriginal

Non Band Aboriginal	Number of Students	% of Cohort Meeting Numeracy Expectations*	% Point Diff No Change	% of Participants Meeting Numeracy Expectations**	% Point Diff from No Change	% of Cohort Meeting Reading Expectations*	% Point Diff No Change	% of Participants Meeting Reading Expectations**	% Point Diff from No Change
No SD Changes	N=2,158 (61.6%)	N=1,396 (64.7%)		N=1,396 (74.3%)		N=1,207 (55.9%)		N=1,207 (64.8%)	
One SD Changes	N=872 (24.9%)	N=395 (56.9%)	7.8%	N=395 (68.0%)	6.3%	N=347 (50.0%)	5.9%	N=347 (59.7%)	5.1%
Two or More SD Changes	N=474 (13.5%)	N=188 (53.6%)	11.1%	N=188 (67.1%)	7.2%	N=154 (43.9%)	12.0%	N=154 (55.4%)	9.4%

Band

Band	Number of Students	% of Cohort Meeting Numeracy Expectations*	% Point Diff No Change	% of Participants Meeting Numeracy Expectations**	% Point Diff from No Change	% of Cohort Meeting Reading Expectations*	% Point Diff No Change	% of Participants Meeting Reading Expectations**	% Point Diff from No Change
No SD Changes	N=677 (52.6%)	N=255 (37.8%)		N=255 (50.0%)		N=207 (30.6%)		N=207 (40.8%)	
One SD Changes	N=386 (30.0%)	N=132 (37.0%)	.8%	N=132 (48.9%)	1.1%	N=97 (27.2%)	3.4%	N=97 (35.5%)	5.3%
Two or More SD Changes	N=223 (17.3%)	N=65 (32.6%)	5.2%	N=65 (44.9%)	5.1%	N=55 (29.4%)	1.2%	N=55 (41.0%)	-2.0%

*Controlling for Out Migration

** Controlling for Excused, Elementary Ungraded and Out of Grade Synchronicity, Home Schooled, Absent and Out Migration students.

**Appendix 6H: Meeting Expectations by School Change Type
NUMERACY**

NUMERACY FSA4: MEETING AND EXCEEDING EXPECTATIONS				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=38491 (80%)	N=40270 (80%)	N=39492 (81%)	N=38,674 (82%)
Grade Progression	N=195 (83%)	N=182 (79%)	N=368 (83%)	N=1027 (73%)
Move SD	N=2329 (75%)	N=2212 (74%)	N=2262 (72%)	N=2380 (73%)
Move School within SD	N=4316 (75%)	N=3403 (74%)	N=4031 (74%)	N=3872 (73%)
Interrupt School	N=285 (74%)	N=206 (71%)	N=171 (65%)	Not known
Returning to School	n/a	N=164 (71%)	N=196 (70%)	N=300 (71%)
In Migration	N=1952* (74%)	N=1125 (76%)	N=1041 (73%)	N=1240 (59%)

*Students who appear to be entering the BC school system after Kindergarten include those who have migrated to the BC system from other jurisdictions *and* those who have deferred entry until Grade 1.

Continued...

READING

READING FSA4: MEETING AND EXCEEDING EXPECTATIONS				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=38,490 (74%)	N=40,269 (74%)	N=39,491 (75%)	N=38,673 (76%)
Grade Progression	N=195 (85%)	N=182 (77%)	N=368 (80%)	N=1,027 (68%)
Move SD	N=2,329 (69%)	N=2,212 (68%)	N=2,262 (67%)	N=2,300 (62%)
Move School within SD	N=4,316 (70%)	N=3,403 (67%)	N=4,031 (67%)	N=3,872 (67%)
Interrupt School	N=285 (68%)	N=206 (64%)	N=171 (58%)	Not known
Returning to School	n/a	N=164 (70%)	N=196 (62%)	N=300 (62%)
In Migration	N=1,952* (69%)	N=1,125 (68%)	N=1,041 (64%)	N=1,240 (50%)

*Students who appear to be entering the BC school system after Kindergarten include those who have migrated to the BC system from other jurisdictions *and* those who have deferred entry until Grade 1.

Figure A: No School Change and Timing of School Change

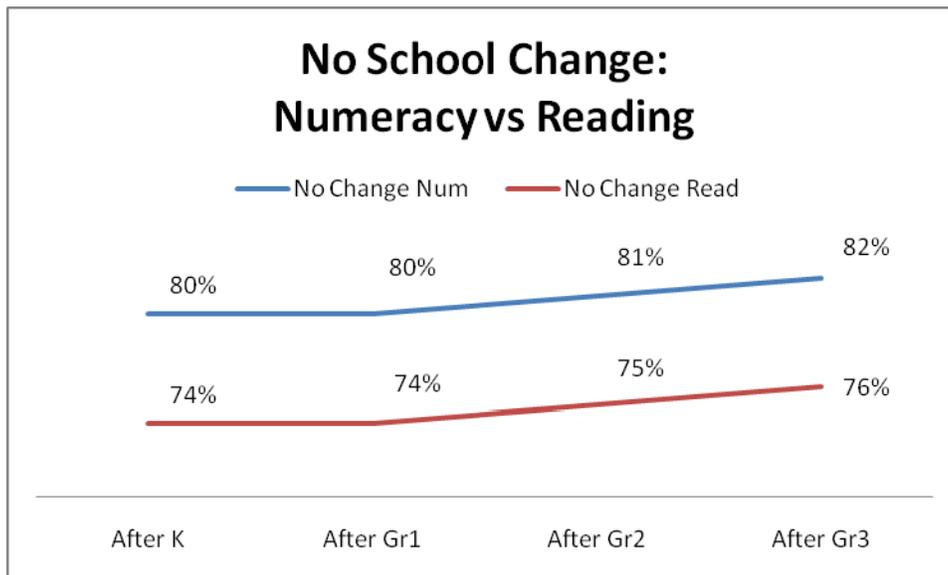


Figure B: Change to a New School District and Timing of School Change

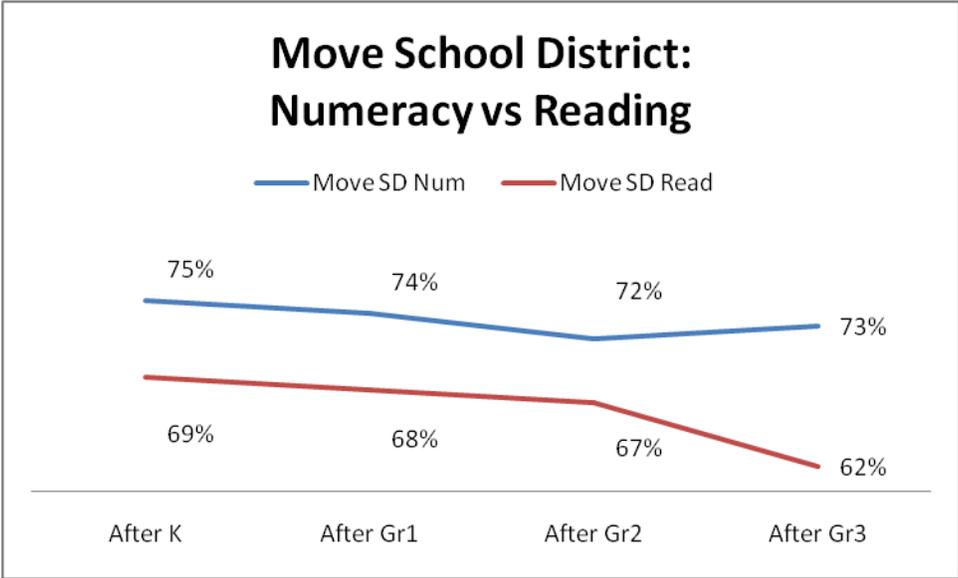


Figure C: Moving within School Districts and Timing of School Change

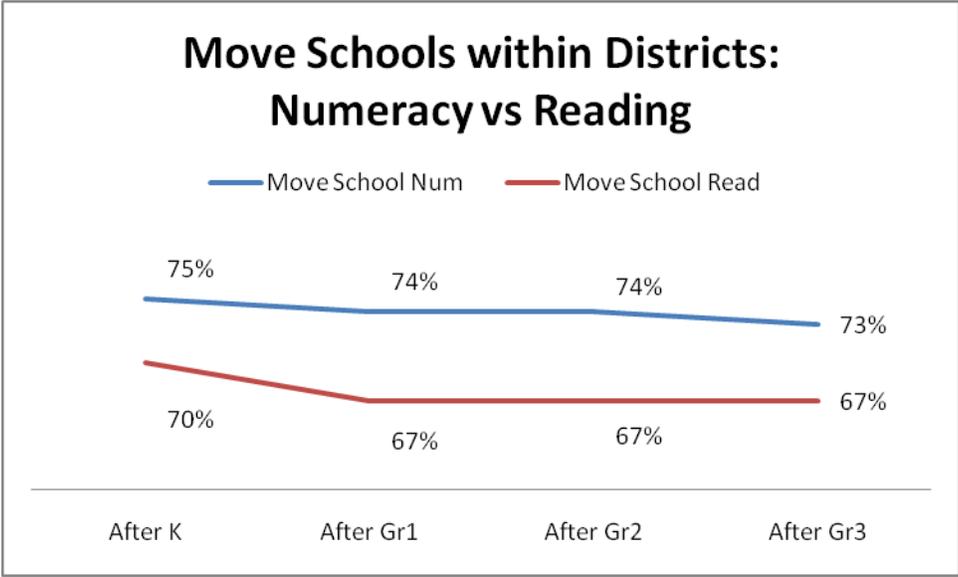
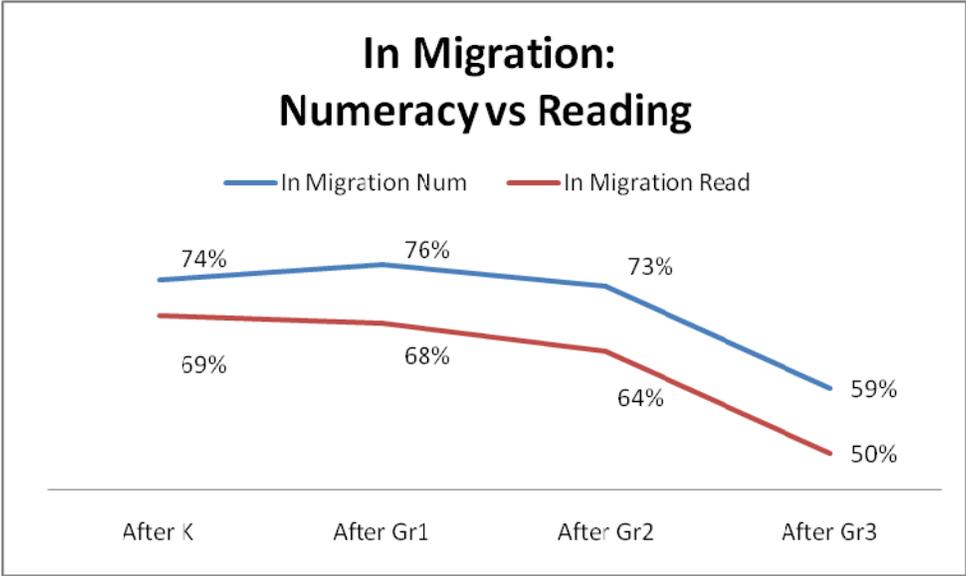


Figure D: In Migration and Timing of School Change



**Appendix 6I: Meeting Expectations by School Change Type
Across Student Groups**

Regular Program

FSA4: MEETING AND EXCEEDING EXPECTATIONS: Numeracy				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=23367 (83%)	N=29426 (83%)	N=24062 (83%)	N=23748 (84%)
Grade Progression	N=162 (84%)	N=162 (81%)	N=315 (85%)	N=712 (72%)
Move SD	N=1614 (77%)	N=1530 (77%)	N=1512 (74%)	N=1593 (77%)
Move School within SD	N=2883 (78%)	N=2127 (77%)	N=2608 (77%)	N=2464 (78%)
In Migration	N=1091 (77%)	N=468 (77%)	N=466 (78%)	N=663 (70%)

Regular Program

FSA4: MEETING AND EXCEEDING EXPECTATIONS: Reading				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=28,013 (79%)	N=29,425 (79%)	N=28,808 (79%)	N=28,273 (80%)
Grade Progression	N=162 (85%)	N=162 (78%)	N=315 (83%)	N=712 (74%)
Move SD	N=1614 (72%)	N=2,127 (72%)	N=1,512 (70%)	N=1,593 (66%)
Move School within SD	N=2,883 (74%)	N=1,530 (72%)	N=2,608 (72%)	N=2,464 (72%)
In Migration	N=1,091 (76%)	N=468 (74%)	N=466 (75%)	N=663 (64%)

ESL

FSA4: MEETING AND EXCEEDING EXPECTATIONS Numeracy				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=7617 (76%)	N=7790 (76%)	N=7686 (77%)	N=7531 (80%)
Grade Progression	N=17 (82%)	N=12 (67%)	N=20 (80%)	N=147 (80%)
Move SD	N=402 (79%)	N=361 (80%)	N=424 (80%)	N=441 (76%)
Move School within SD	N=899 (78%)	N=758 (80%)	N=859 (77%)	N=878 (74%)
In Migration	N=592 (79%)	N=589 (79%)	N=521 (70%)	N=519 (45%)

Continued...

ESL

FSA4: MEETING AND EXCEEDING EXPECTATIONS				
Reading				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=7,617 (65%)	N=7,790 (66%)	N=7,686 (67%)	N=7,531 (69%)
Grade Progression	N=17 (100%)	N=12 (67%)	N=20 (80%)	N=147 (67%)
Move SD	N=402 (72%)	N=361 (68%)	N=424 (70%)	N=441 (62%)
Move School within SD	N=899 (70%)	N=758 (68%)	N=859 (66%)	N=878 (67%)
In Migration	N=592 (72%)	N=589 (67%)	N=521 (56%)	N=519 (32%)

Non Band Aboriginal

FSA4: MEETING AND EXCEEDING EXPECTATIONS:				
Numeracy				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=2179 (66%)	N=2286 (68%)	N=2217 (68%)	N=2127 (68%)
Grade Progression	N=7 (86%)	N=6 (50%)	N=18 (78%)	N=117 (53%)
Move SD	N=231 (63%)	N=229 (61%)	N=228 (60%)	N=242 (65%)
Move School within SD	N=434 (61%)	N=400 (58%)	N=446 (61%)	N=423 (60%)
In Migration	N=123 (57%)	N=41 (44%)	N=42 (60%)	N=38 (66%)

Continued....

Non Band Aboriginal

FSA4: MEETING AND EXCEEDING EXPECTATIONS				
Reading				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=2,179 (58%)	N=2,286 (59%)	N=2,217 (59%)	N=2,127 (59%)
Grade Progression	N=7 (86%)	N=6 (67%)	N=18 (72%)	N=117 (50%)
Move SD	N=231 (54%)	N=229 (53%)	N=228 (52%)	N=242 (53%)
Move School within SD	N=434 (55%)	N=400 (49%)	N=446 (51%)	N=423 (49%)
In Migration	N=123 (49%)	N=41 (41%)	N=42 (48%)	N=38 (55%)

Band

FSA4: MEETING AND EXCEEDING EXPECTATIONS:				
Numeracy				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=681 (44%)	N=768 (43%)	N=780 (44%)	N=742 (46%)
Grade Progression	N=9 (56%)	N=2 (100%)	N=15 (53%)	N=51 (33%)
Move SD	N=82 (50%)	N=92 (44%)	N=98 (41%)	N=104 (39%)
Move School within SD	N=100 (40%)	N=118 (46%)	N=118 (38%)	N=107 (32%)
In Migration	N=146 (37%)	N=27 (33%)	N=12 (33%)	N=20 (25%)

Continued...

Band

FSA4: MEETING AND EXCEEDING EXPECTATIONS: Reading				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=247 (36%)	N=768 (37%)	N=780 (34%)	N=742 (36%)
Grade Progression	N=9 (44%)	N=2 (100%)	N=15 (33%)	N=51 (25%)
Move SD	N=82 (43%)	N=92 (32%)	N=98 (41%)	N=104 (35%)
Move School within SD	N=100 (28%)	N=118 (36%)	N=118 (30%)	N=107 (33%)
In Migration	N=146 (23%)	N=27 (37%)	N=12 (17%)	N=20 (5%)

Appendix 6J:

**Percentage Point Differences between Numeracy and Reading
By School Change Type by Timing across Student groups**

	After K	After Gr. 1	After Gr.2	After Gr.3
No Change Regular Program	4%	4%	4%	4%
No Change ESL	11%	10%	10%	11%
No Change Non Band Aboriginal	8%	9%	9%	9%
No Change Band	8%	9%	9%	9%
Move SD Regular Program	5%	5%	4%	11%
Move SD ESL	7%	12%	10%	14%
Move SD Non Band Aboriginal	9%	8%	8%	12%
Move SD Band	7%	12%	0%	4%
Move School Regular Program	4%	5%	5%	6%
Move School ESL	6%	9%	10%	11%
Move School Non Band Aboriginal	6%	9%	10%	11%
Move School Band	12%	10%	8%	-1%
In Migration Regular Program	1%	3%	3%	6%
In Migration ESL	7%	12%	14%	13%
In Migration Non Band Aboriginal	8%	-	-	-
In Migration Band	14%	-	-	-

**Appendix 6K: Gender and Grade 4 FSA Meeting Expectations
By School Change Type and by Timing**

Numeracy

FSA4: MEETING AND EXCEEDING EXPECTATIONS and GENDER								
Type of School Change	TIMING OF SCHOOL CHANGE							
	<i>After K</i>		<i>After Gr. 1</i>		<i>After Gr2</i>		<i>After Gr.3</i>	
	M	F	M	F	M	F	M	F
No Change	N=19873 (80%)	N=18618 (81%)	N=20748 (80%)	N=19522 (81%)	N=19867 (81%)	N=19228 (81%)	N=19867 (81%)	N=18807 (82%)
Grade Progression	N=111 (86%)	N=84 (79%)	N=99 (78%)	N=83 (81%)	N=534 (72%)	N=170 (81%)	N=534 (71%)	N=493 (75%)
Move SD	N=1204 (75%)	N=1125 (74%)	N=1114 (75%)	N=1098 (73%)	N=1251 (71%)	N=1119 (71%)	N=1251 (71%)	N=1129 (69%)
Move School within SD	N=2188 (75%)	N=2128 (75%)	N=1781 (74%)	N=1622 (74%)	N=2013 (73%)	N=1879 (74%)	N=2013 (73%)	N=1859 (73%)
In Migration	N=985 (75%)	N=967 (73%)	N=577 (74%)	N=548 (77%)	N=652 (71%)	N=480 (74%)	N=652 (56%)	N=588 (61%)

*Students who appear to be entering the BC school system after Kindergarten include those who have migrated to the BC system from other jurisdictions *and* those who have deferred entry until Grade 1.

Continued...

Reading

FSA4: MEETING AND EXCEEDING EXPECTATIONS and GENDER								
Type of School Change	TIMING OF SCHOOL CHANGE							
	<i>After K</i>		<i>After Gr. 1</i>		<i>After Gr2</i>		<i>After Gr.3</i>	
	M	F	M	F	M	F	M	F
No Change	N=19,872 (71%)	N=18,618 (78%)	N=20,747 (71%)	N=19,522 (78%)	N=20,263 (71%)	N=19,228 (78%)	N=19,866 (72%)	N=18,807 (79%)
Grade Progression	N=111 (88%)	N=84 (80%)	N=99 (77%)	N=83 (78%)	N=198 (77%)	N=170 (84%)	N=534 (62%)	N=493 (75%)
Move SD	N=1,204 (67%)	N=1,125 (72%)	N=1,114 (65%)	N=1,098 (70%)	N=1,143 (64%)	N=1,119 (70%)	N=1,251 (60%)	N=1,129 (65%)
Move School within SD	N=2,188 (67%)	N=2,128 (74%)	N=1,781 (64%)	N=1,622 (69%)	N=2,152 (63%)	N=1,879 (72%)	N=2,013 (63%)	N=1,859 (71%)
In Migration	N=985 (65%)	N=967 (72%)	N=577 (62%)	N=548 (75%)	N=561 (60%)	N=480 (67%)	N=652 (46%)	N=588 (53%)

READING FSA4: MEETING AND EXCEEDING EXPECTATIONS				
Type of School Change	TIMING OF SCHOOL CHANGE			
	<i>After K</i>	<i>After Gr.1</i>	<i>After Gr. 2</i>	<i>After Gr.3</i>
No Change	N=38491 (74%)	N=40270 (74%)	N=39492 (75%)	N=38674 (76%)
Grade Progression	N=195 (85%)	N=182 (77%)	N=368 (80%)	N=1027 (68%)
Move SD	N=2329 (69%)	N=2212 (68%)	N=2262 (67%)	N=2380 (62%)
Move School within SD	N=4316 (70%)	N=3403 (67%)	N=4031 (67%)	N=3872 (67%)
Interrupt School	N=285 (68%)	N=206 (64%)	N=171 (58%)	Not known
Returning to School	n/a	N=164 (70%)	N=196 (62%)	N=300 (62%)
In Migration	N=1952* (69%)	N=1125 (68%)	N=1041 (64%)	N=1240 (50%)

*Students who appear to be entering the BC school system after Kindergarten include those who have migrated to the BC system from other jurisdictions *and* those who have deferred entry until Grade 1.

Appendix 6L: French Immersion

NUMBER and PROPORTION French Immersion				
Band	ESL	Non Band Aboriginal	Regular Program	Total
N= 4 (<1%)	N=99 (1.0%)	N=103 (3.4%)	N=2349 (6.9%)	N=2555 (5.3%)

Changing Schools within District and French Immersion

NUMBER and PROPORTION Changing Schools Within Their School District FRENCH IMMERSION after Gr3					
	Band	ESL	Non Band Aboriginal	Regular Program	Total
French Immersion to Public	1 (<1%)	1 (<1%)	2 (<1%)	53 (2.2%)	57 (1.5%)
Public to French Immersion	0 (0%)	0 (0%)	7 (1.7%)	20 (<1%)	27 (<1%)
Public to Public	106 (99.1%)	873 (99.4%)	408 (96.5%)	2293 (93.1%)	3680 (95.0%)

Gr. 4 FSA Average Scores

NUMERACY: French Immersion					
	Band	ESL	Non Band Aboriginal	Regular Program	Overall
French Immersion	59.8%	54.6%	54.5%	58.2%	57.9%

READING: French Immersion					
	Band	ESL	Non Band Aboriginal	Regular Program	Overall
French Immersion	55.5%	60.3%	64.0%	69.3%	68.7%

Continued...

AVERAGE Numeracy: Changing Schools Within Their School District FRENCH IMMERSION after Gr3					
	Band	ESL	Non Band Aboriginal	Regular Program	Overall
French Immersion to Public	21.0%	0%	36.5%	48.3%	46.6%
Public to French Immersion	n/a	n/a	35.7%	64.0%	56.7%
Public to Public	25.7%	50.8%	37.4%	49.2%	47.6%

AVERAGE READING: Changing Schools Within Their School District FRENCH IMMERSION after Gr3					
	Band	ESL	Non Band Aboriginal	Regular Program	Overall
French Immersion to Public	29.0%	0%	50.0%	58.1%	56.2%
Public to French Immersion	n/a	n/a	41.3%	70.8%	63.1%
Public to Public	37.0%	59.5%	48.2%	61.1%	58.6%

Appendix 6M: Independent Schools

Number and Cohort Percentage

Independent/Public School					
	Band	ESL	Non Band Aboriginal	Regular Program	All Students
From Independent to Public	2 (1.9%)	44 (5.0%)	13 (3.1%)	138 (5.6%)	197 (5.1%)
From Public to Independent	3 (2.8%)	69 (7.9%)	14 (3.3%)	157 (6.4%)	243 (6.3%)
From Public to Public	75 (70.1%)	748 (85.2%)	376 (88.9%)	1901 (77.2%)	3540 (80.1%)

FSA Average Scores

NUMERACY FSA 4					
	Band	ESL	Non Band Aboriginal	Regular Program	All Students
From Independent to Public	47.0%	45.6%	53.6%	54.6%	52.4%
From Public to Independent	21.0%	67.0%	46.9%	58.4%	59.7%
From Public to Public	24.1%	49.7%	36.6%	49.2%	47.2%

READING FSA 4					
	Band	ESL	Non Band Aboriginal	Regular Program	All Students
From Independent to Public	52.0%	57.1%	70.3%	70.8%	67.5%
From Public to Independent	41.3%	70.9%	57.4%	69.1%	68.6%
From Public to Public	34.9%	58.6%	47.7%	61.2%	58.3%

Appendix 6N: Average Family Income of Residential Neighbourhoods

DISTRIBUTION ACROSS RESIDENTIAL SES				
Student Group	Lowest 10 th	Low Average	High Average	Highest 10 th
Band	29.8%	53.7%	15.3%	1.2%
ESL	9.0%	39.2%	43.6%	8.1%
Non Band Aboriginal	15.7%	52.5%	29.1%	2.7%
Regular Program	9.1%	38.6%	40.7%	11.5%

Within ESL: DISTRIBUTION ACROSS RESIDENTIAL SES				
Home Language	Lowest 10 th	Low Average	High Average	Highest 10 th
Arabic	13.2%	35.3%	47.8%	3.7%
Chinese	8.7%	38.0%	43.4%	9.9%
Hindi	6.9%	42.5%	44.0%	6.5%
Korean	8.5%	25.8%	49.4%	16.3%
Persian	7.5%	32.5%	46.7%	13.3%
Philippino	11.5%	46.7%	39.1%	2.7%
Punjabi	4.2%	43.0%	48.2%	4.6%
Spanish	12.9%	39.3%	40.8%	7.1%
Vietnamese	14.1%	36.3%	41.4%	9.8%

Regular Program Students in School Change Categories by Residential Income				
Neighbourhood SES	Move SD	Move Schools Within SD	No School Change	Total Regular Program
Lowest 10%	N=163 (5.2%)	N=293 (9.4%)	N=2500 (79.8%)	N=3131
Lower half	N=719 (5.4%)	N=1108 (8.3%)	N=10759 (81.0%)	N=13280
Upper half	N=636 (4.5%)	N=958 (6.8%)	N=11861 (84.7%)	N=14003
Highest 10%	N=958 (3.8%)	N=211 (5.3%)	N=3398 (86.0%)	N=3951

ESL Students in School Change Categories by Residential Income				
Neighbourhood SES	Move SD	Move Schools Within SD	No School Change	Total ESL
Lowest 10%	<i>N=33</i> (3.8%)	<i>N=59</i> (6.7%)	N=687 (78.8%)	N=8 72
Lower half	N=53 (4.0%)	N=350 (9.3%)	N=2986 (78.9%)	N=3 783
Upper half	N=211 (5.0%)	N=400 (9.5%)	N=3312 (78.7%)	N=4 206
Highest 10%	<i>N=56</i> (7.2%)	<i>N=73</i> (9.3%)	N=566 (72.4%)	N=7 82

Non Band Aboriginal Students in School Change Categories by Residential Income				
Neighbourhood SES	Move SD	Move Schools Within SD	No School Change	Total Non Band Aboriginal
Lowest 10%	<i>N=47</i> (9.7%)	<i>N=60</i> (12.3%)	N=358 (73.5%)	N=487
Lower half	N=128 (7.9%)	N=256 (15.8%)	N=1145 (70.5%)	N=1625
Upper half	N=74 (8.2%)	N=124 (13.8%)	N=616 (68.4%)	N=901

Highest 10%	N=5 (6.0%)	N=10 (11.9%)	N=65 (77.8%)	N=84
Band Students in School Change Categories by Residential Income				
Neighbourhood SES	Move SD	Move Schools Within SD	No School Change	Total Band
Lowest 10th	N=36 (11.5%)	N=34 (10.9%)	N=219 (70.0%)	N=313
Lower half	N=60 (10.6%)	N=74 (13.1%)	N=401 (71.0%)	N=565
Upper half	N=15 (9.3%)	N=11 (6.8%)	N=109 (67.7%)	N=161
Highest 10%	N=1 (7.7%)	N=1 (7.7%)	N=11 (84.6%)	N=13

Appendix 7B: Cohort '96 Timing of School Change by Student Groups

	After K	After Gr1	After Gr2	After Gr3	After Gr4	After Gr5	After Gr6
Regular Program	19%	14%	13%	13%	12%	17%	16%
ESL	21%	17%	16%	17%	17%	21%	17%
Non Band Aboriginal	28%	25%	25%	23%	22%	25%	23%
Band	31%	26%	25%	24%	22%	24%	23%

*Controlled for out migration
 **Controlled for grade progression

Appendix 7C: Cohort '96 Types of School Change by Student Group

School Change to a New School District							
	After K	After Gr1	After Gr2	After Gr3	After Gr4	After Gr5	After Gr6
Regular Program	6%	6%	5%	5%	5%	5%	5%
ESL	4%	5%	4%	4%	4%	5%	4%
Non Band Aboriginal	8%	11%	11%	9%	9%	9%	8%
Band	8%	11%	10%	12%	11%	11%	10%
School Change within District							
Regular Program	8%	7%	6%	7%	5%	8%	8%
ESL	8%	7%	6%	7%	5%	8%	8%
Non Band Aboriginal	14%	13%	12%	12%	11%	13%	10%
Band	10%	9%	12%	9%	10%	11%	7%
In Migration							
Regular Program	4%	2%	1%	1%	1%	1%	2%
ESL	9%	6%	5%	5%	6%	6%	5%
Non Band Aboriginal	4%	2%	2%	2%	1%	1%	1%
Band	13%	3%	3%	2%	1%	1%	1%

*Controlled for out migration
**Controlled for grade progression

Appendix 7D: Cohort '96 Province Wide Non Participation Rate '96 Cohort

	Numeracy	Reading
Regular Program	8%	8%
ESL	9%	10%
Non Band Aboriginal	16%	15%
Band	28%	28%

*Controlled for out migration

Appendix 7E: Cohort '96 Participation Rate by Exam and by Number of Moves Cohort '96

Numeracy: Regular Program				
	No Change	1 Move	2 Moves	3+ Moves
FSA Participants	83%	81%	76%	68%
Cohort	81%	78%	73%	64%
Difference	2%	3%	3%	4%
Numeracy: ESL				
FSA Participants	83%	83%	83%	77%
Cohort	81%	76%	79%	71%
Difference	2%	7%	4%	6%
Numeracy: Non Band Aboriginal				
FSA Participants	67%	66%	63%	54%
Cohort	62%	59%	58%	48%
Difference	5%	7%	5%	6%
Numeracy: Band				
FSA Participants	42%	41%	45%	36%
Cohort	37%	35%	40%	31%
Difference	5%	6%	5%	5%

Reading: Regular Program				
	No Change	1 Move	2 Moves	3+ Moves
FSA Participants	83%	81%	77%	70%
Cohort	81%	78%	74%	67%
Difference	2%	3%	3%	3%

Reading: ESL				
FSA Participants	78%	74%	75%	74%
Cohort	74%	67%	72%	69%
Difference	4%	7%	3%	5%
Reading: Non Band Aboriginal				
FSA Participants	65%	68%	63%	54%
Cohort	60%	62%	58%	48%
Difference	5%	6%	5%	6%
Reading: Band				
FSA Participants	32%	32%	41%	28%
Cohort	27%	28%	37%	25%
Difference	5%	4%	4%	3%

Appendix 7F: Cohort '96 Meeting Expectations on Both Exams Numeracy

Non Participants of both Grade 4 and Grade 7 FSAs	
Regular Program	12%
ESL	26%
Non Band Aboriginal	16%
Band	29%

Appendix 7G: Cohort '96 Percentage of Students in FSA Exam Categorizations by Student Group

Numeracy: Meeting Expectations on Both Grade 4 and Grade 7			
	Cohort	Participants	Difference
Regular Program	68%	73%	5%
ESL	63%	71%	7%
Non Band Aboriginal	45%	53%	8%
Band	21%	28%	8%
Numeracy: No Longer Meeting on Grade 7 FSA			
Regular Program	11%	12%	0%
ESL	7%	8%	0%
Non Band Aboriginal	17%	18%	1%
Band	16%	20%	4%
Numeracy: Now Meeting on Grade 7 FSA			
Regular Program	6%	7%	0%
ESL	11%	12%	1%
Non Band Aboriginal	9%	10%	2%
Band	11%	14%	4%
Numeracy: Never Meeting FSA Expectations			
Regular Program	15%	8%	-6%
ESL	18%	9%	-9%
Non Band Aboriginal	29%	19%	-11%
Band	53%	38%	-15%

Reading: Meeting Expectations on Both Grade 4 and Grade 7			
	Cohort	Participants	Difference
Regular Program	66%	71%	5%
ESL	56%	64%	8%
Non Band Aboriginal	43%	51%	7%

Band	16%	22%	6%
Reading: No Longer Meeting on Grade 7 FSA			
Regular Program	8%	9%	1%
ESL	5%	6%	1%
Non Band Aboriginal	10%	12%	2%
Band	10%	14%	4%
Reading: Now Meeting on Grade 7 FSA			
Regular Program	8%	9%	1%
ESL	14%	15%	2%
Non Band Aboriginal	11%	13%	2%
Band	9%	12%	3%
Reading: Never Meeting FSA Expectations			
Regular Program	17%	11%	-6%
ESL	25%	15%	-10%
Non Band Aboriginal	35%	25%	-11%
Band	64%	51%	-13%

Appendix 7H: Cohort '96 Grade 4 and Grade 7 Participants

	No School Change	1+ School Changes	Total
Regular Program	N=15368 47%	N=17278 53%	N=32646
ESL	N=2433 33%	N=4939 67%	N=7372
Non Band Aboriginal	N=888 30%	N=2074 70%	N=2962
Band	N=264 25%	N=801 75%	N=1065

*Controlling for Grade Progression

** Controlling for Out Migration

Appendix 7I: Cohort '96 Gender and Meeting Expectations on both Grade 4 and Grade 7 FSAs

Numeracy: Regular Program			
	Female	Male	Difference
No Longer Meet	52%	48%	-3%
Now Meet	51%	49%	-2%
Never Meet	54%	46%	-8%
Meet on Both	49%	51%	2%
Numeracy: ESL			
No Longer Meet	49%	51%	1%
Now Meet	47%	53%	5%
Never Meet	50%	50%	0%
Meet on Both	47%	53%	5%
Numeracy: Non Band Aboriginal			
No Longer Meet	53%	47%	-5%
Now Meet	50%	50%	0%
Never Meet	53%	47%	-7%
Meet on Both	52%	48%	-4%
Numeracy: Band			
No Longer Meet	49%	52%	3%
Now Meet	49%	51%	2%
Never Meet	53%	47%	-6%
Meet on Both	53%	47%	-6%

Reading: Regular Program			
	Female	Male	Difference
No Longer Meet	39%	61%	23%
Now Meet	49%	51%	2%
Never Meet	39%	61%	22%
Meet on Both	53%	47%	-6%
Reading: ESL			
No Longer Meet	42%	58%	16%
Now Meet	47%	53%	6%
Never Meet	36%	64%	28%

Meet on Both	51%	49%	-3%
Reading: Non Band Aboriginal			
No Longer Meet	43%	57%	15%
Now Meet	55%	45%	-11%
Never Meet	43%	57%	13%
Meet on Both	58%	42%	-15%
Reading: Band			
No Longer Meet	55%	45%	-9%
Now Meet	62%	38%	-23%
Never Meet	44%	56%	12%
Meet on Both	62%	38%	-24%

Appendix 7J: Cohort '96 Average Residential Family Income

Numeracy				
	Regular Program	ESL	Non Band Aboriginal	Band
No Longer Meet	\$59,205	\$59,754	\$55,234	\$45,546
Now Meet	\$59,031	\$59,766	\$54,151	\$48,892
Never Meet	\$57,298	\$57,476	\$53,063	\$44,536
Meet on Both	\$63,389	\$62,398	\$55,255	\$49,604
Reading				
No Longer Meet	\$59,413	\$59,848	\$55,164	\$45,350
Now Meet	\$59,917	\$60,328	\$53,935	\$46,190
Never Meet	\$57,143	\$58,644	\$53,287	\$46,250
Meet on Both	\$63,421	\$62,471	\$55,499	\$49,277

Appendix 7K: Cohort '96 Proportion of Group Meeting Expectations on Both Grade 4 and Grade 7 and Frequency School Change

Numeracy				
	No Change	1	2	3+
Regular Program	77%	75%	70%	60%
ESL	74%	72%	70%	62%
Non Band Aboriginal	59%	58%	51%	41%
Band	30%	28%	32%	25%

Reading				
	No Change	1	2	3+
Regular Program	74%	73%	68%	60%
ESL	66%	65%	62%	59%
Non Band Aboriginal	54%	55%	52%	41%
Band	23%	23%	30%	16%

Appendix 7L: Cohort '96 Average Number of Moves

	No Longer Meet	Now Meet	Never Meet	Meet on Both
Regular Program	1.09	1.04	1.22	0.82
ESL	1.23	1.33	1.33	1.10
Non Band Aboriginal	1.65	1.91	1.84	1.37
Band	1.74	1.68	1.80	1.57

**Appendix 7M: Proportion Meeting Expectations on Both grade 4 and Grade 7 FSAs /
Timing and Type of School Change (All Participants)**

Regular Program: School Change to a New School District								
	Never	After K	After Gr1	After Gr2	After Gr3	After Gr4	After Gr5	After Gr6
Numeracy	77%	68%	67%	66%	67%	65%	65%	62%
Reading	74%	67%	65%	66%	66%	63%	64%	61%
ESL: School Change to a New School District								
Numeracy	74%	69%	69%	65%	66%	61%	66%	62%
Reading	66%	63%	60%	60%	58%	53%	62%	59%
Non Band Aboriginal: School Change to a New School District								
Numeracy	59%	52%	47%	53%	47%	39%	49%	44%
Reading	54%	53%	49%	51%	48%	42%	50%	44%
Band: School Change to a New School District								
Numeracy	30%	22%	27%	26%	25%	38%	27%	27%
Reading	23%	17%	14%	30%	23%	26%	24%	25%

Regular Program: School Change within Same School District								
	Never	After K	After Gr1	After Gr2	After Gr3	After Gr4	After Gr5	After Gr6
Numeracy	77%	69%	68%	65%	68%	66%	71%	68%
Reading	74%	70%	66%	65%	65%	61%	71%	68%
ESL: School Change within Same School District								
Numeracy	74%	72%	68%	68%	71%	68%	65%	63%
Reading	66%	67%	64%	60%	67%	61%	61%	57%
Non Band Aboriginal: School Change within Same School District								
Numeracy	59%	46%	46%	46%	47%	43%	48%	49%

Reading	54%	49%	33%	41%	43%	42%	49%	48%
Band: School Change within Same School District								
Numeracy	30%	33%	27%	30%	26%	24%	23%	23%
Reading	23%	24%	15%	20%	24%	15%	17%	17%

Regular Program: In Migration					
	Never	After K	After Gr1	After Gr2	After Gr3
Numeracy	77%	73%	79%	77%	71%
Reading	74%	71%	76%	73%	69%
ESL: In Migration					
Numeracy	74%	78%	72%	72%	53%
Reading	66%	74%	62%	62%	46%
Non Band Aboriginal: In Migration					
Numeracy	59%	39%	41%	46%	54%
Reading	54%	42%	33%	34%	54%
Band: In Migration					
Numeracy	30%	21%	16%	36%	29%
Reading	23%	18%	15%	20%	36%

* Not controlled for more than one move.

** Based on participants in both Grade 4 and Grade 7 exams.

**Appendix 7N: Proportion Meeting Expectations on Both grade 4 and Grade 7 FSAs /
Timing and Type of School Change (Single Move Only Participants)**

Regular Program: Changing to a New School District								
	Never	After K	After Gr1	After Gr2	After Gr3	After Gr4	After Gr5	After Gr6
Numeracy	77%	75%	73%	72%	72%	73%	73%	66%
Reading	74%	72%	74%	73%	70%	72%	75%	62%
ESL: Changing to a New School District								
Numeracy	74%	80%	66%	67%	66%	64%	72%	71%
Reading	66%	73%	61%	62%	65%	45%	69%	67%

Regular Program: Changing within the Same School District								
	Never	After K	After Gr1	After Gr2	After Gr3	After Gr4	After Gr5	After Gr6
Numeracy	77%	77%	75%	72%	74%	71%	78%	74%
Reading	74%	76%	72%	69%	71%	65%	78%	75%
ESL: Changing within the Same School District								
Numeracy	74%	76%	74%	73%	79%	74%	68%	69%
Reading	66%	72%	68%	63%	73%	67%	64%	63%

Regular Program: In Migration					
	Never	After K	After Gr1	After Gr2	After Gr3
Numeracy	77%	78%	80%	82%	75%
Reading	74%	78%	81%	75%	72%
ESL: In Migration					
Numeracy	74%	83%	80%	73%	51%
Reading	66%	78%	69%	58%	43%

Appendix 70: Numbers Meeting Expectations on Both grade 4 and Grade 7 FSAs / Timing and Type of School Change (Single Move Only Participants)

Numeracy After Kindergarten: Changing to New School District					
	No Longer Meet	Now Meet	Never Meet	Meet on Both	Total
ESL	N=12	N=12	N=12	N=97	N=133
Regular Program	N=50	N=62	N=61	N=453	N=626
Numeracy After Grade 1: Changing to New School District					
ESL	N=7	N=16	N=13	N=57	N=93
Regular Program	N=37	N=38	N=38	N=315	N=428
Numeracy After Grade 2: Changing to New School District					
ESL	N=5	N=14	N=12	N=51	N=82
Regular Program	N=23	N=27	N=34	N=229	N=313
Numeracy After Grade 3: Changing to New School District					
ESL	N=3	N=13	N=8	N=44	N=68
Regular Program	N=35	N=33	N=29	N=229	N=326
Numeracy After Grade 4: Changing to New School District					
ESL	N=4	N=11	N=5	N=25	N=55
Regular Program	N=23	N=33	N=28	N=215	N=299
Numeracy After Grade 5: Changing to New School District					
ESL	N=2	N=11	N=6	N=42	N=61
Regular Program	N=36	N=26	N=36	N=294	N=392
Numeracy After Grade 6: Changing to New School District					
ESL	N=5	N=7	N=6	N=36	N=54
Regular Program	N=48	N=25	N=39	N=183	N=295

Numeracy After Kindergarten: Changing within Same School District					
	No Longer Meet	Now Meet	Never Meet	Meet on Both	Total
ESL	N=24	N=37	N=33	N=241	N=335
Regular Program	N=91	N=84	N=97	N=885	N=1157
Numeracy After Grade 1: Changing within Same School District					
ESL	N=15	N=19	N=21	N=116	N=171
Regular Program	N=54	N=77	N=83	N=539	N=753
Numeracy After Grade 2: Changing within Same School District					
ESL	N=6	N=29	N=20	N=93	N=148
Regular Program	N=59	N=70	N=78	N=471	N=678
Numeracy After Grade 3: Changing within Same School District					
ESL	N=8	N=22	N=14	N=118	N=162
Regular Program	N=50	N=54	N=71	N=436	N=611
Numeracy After Grade 4: Changing within Same School District					
ESL	N=6	N=20	N=18	N=88	N=132
Regular Program	N=46	N=69	N=77	N=360	N=552
Numeracy After Grade 5: Changing within Same School District					
ESL	N=16	N=27	N=31	N=129	N=203
Regular Program	N=90	N=89	N=85	N=951	N=1215
Numeracy After Grade 6: Changing within Same School District					
ESL	N=12	N=21	N=17	N=84	N=134
Regular Program	N=81	N=85	N=80	N=724	N=970

Numeracy After Kindergarten: In Migration					
	No Longer Meet	Now Meet	Never Meet	Meet on Both	Total
ESL	N=13	N=15	N=20	N=166	N=214
Regular Program	N=32	N=29	N=35	N=342	N=438
Numeracy After Grade 1: In Migration					
ESL	N=5	N=22	N=18	N=99	N=144
Regular Program	N=13	N=8	N=6	N=113	N=140

Numeracy After Grade 2: In Migration					
ESL	N=5	N=36	N=12	N=73	N=126
Regular Program	N=12	N=16	N=11	N=120	N=159
Numeracy After Grade 3: In Migration					
ESL	N=3	N=36	N=21	N=45	N=105
Regular Program	N=21	N=17	N=14	N=137	N=189

Reading After Kindergarten: Changing to New School District					
	No Longer Meet	Now Meet	Never Meet	Meet on Both	Total
ESL	N=25	N=51	N=51	N=214	N=341
Regular Program	N=174	N=186	N=218	N=1154	N=1732
Reading After Grade 1: Changing to New School District					
ESL	N=22	N=72	N=68	N=244	N=406
Regular Program	N=171	N=189	N=229	N=1105	N=1694
Reading After Grade 2: Changing to New School District					
ESL	N=22	N=54	N=71	N=216	N=363
Regular Program	N=152	N=169	N=195	N=1006	N=1522
Reading After Grade 3: Changing to New School District					
ESL	N=20	N=57	N=60	N=192	N=329
Regular Program	N=163	N=158	N=173	N=975	N=1469
Reading After Grade 4: Changing to New School District					
ESL	N=13	N=67	N=72	N=174	N=326
Regular Program	N=141	N=189	N=183	N=869	N=1382
Reading After Grade 5: Changing to New School District					
ESL	N=15	N=67	N=51	N=215	N=348
Regular Program	N=167	N=168	N=192	N=953	N=1480
Reading After Grade 6: Changing to New School District					
ESL	N=11	N=58	N=48	N=170	N=287
Regular Program	N=194	N=131	N=201	N=809	N=1335

Reading After Kindergarten: Changing within Same School District					
	No Longer Meet	Now Meet	Never Meet	Meet on Both	Total
ESL	N=46	N=93	N=101	N=479	N=719
Regular Program	N=251	N=243	N=323	N=1895	N=2712
Reading After Grade 1: Changing within Same School District					
ESL	N=43	N=72	N=93	N=365	N=573
Regular Program	N=210	N=235	N=262	N=1401	N=2108
Reading After Grade 2: Changing within Same School District					
ESL	N=24	N=97	N=93	N=327	N=541
Regular Program	N=219	N=222	N=264	N=1332	N=2037
Reading After Grade 3: Changing within Same School District					
ESL	N=29	N=92	N=88	N=430	N=639
Regular Program	N=45	N=55	N=90	N=143	N=333
Reading After Grade 4: Changing within Same School District					
ESL	N=20	N=99	N=83	N=310	N=512
Regular Program	N=207	N=223	N=261	N=1093	N=1784
Reading After Grade 5: Changing within Same School District					
ESL	N=43	N=107	N=123	N=426	N=699
Regular Program	N=250	N=267	N=300	N=2011	N=2828
Reading After Grade 6: Changing within Same School District					
ESL	N=37	N=89	N=100	N=294	N=520
Regular Program	N=239	N=240	N=276	N=1597	N=2352

Reading After Kindergarten: In Migration					
	No Longer Meet	Now Meet	Never Meet	Meet on Both	Total
ESL	N=35	N=64	N=63	N=460	N=622
Regular Program	N=107	N=100	N=108	N=754	N=1069

Reading After Grade 1: In Migration					
ESL	N=16	N=77	N=58	N=248	N=399
Regular Program	N=24	N=27	N=22	N=231	N=304
Reading After Grade 2: In Migration					
ESL	N=12	N=68	N=38	N=196	N=314
Regular Program	N=27	N=31	N=27	N=226	N=311
Reading After Grade 3: In Migration					
ESL	N=6	N=83	N=44	N=113	N=246
Regular Program	N=34	33	N=28	N=213	N=308

Appendix 7P: Percentage of FSA Participants in Results Categorizations by Student Group, Timing of School Change and Type of School Change

Numeracy After K: School Change to a New School District				
	No Longer Meet	Now Meet	Never Meet	Meet on Both
Regular Program	15%	8%	9%	68%
ESL	11%	11%	9%	69%
Non Band Aboriginal	18%	10%	20%	52%
Band	26%	13%	40%	22%
Numeracy After Gr1: School Change to a New School District				
Regular Program	15%	8%	10%	67%
ESL	8%	11%	12%	69%
Non Band Aboriginal	21%	13%	19%	47%
Band	13%	14%	46%	27%
Numeracy After Gr2: School Change to a New School District				
Regular Program	15%	8%	12%	66%
ESL	7%	13%	14%	65%
Non Band Aboriginal	19%	11%	18%	53%
Band	22%	12%	40%	26%
Numeracy After Gr3: School Change to a New School District				
Regular Program	14%	8%	12%	67%
ESL	9%	12%	14%	66%
Non Band Aboriginal	18%	16%	20%	47%
Band	15%	13%	47%	25%
Numeracy After Gr4: School Change to a New School District				
Regular Program	12%	10%	12%	65%
ESL	19%	18%	23%	39%
Non Band Aboriginal	19%	18%	23%	39%
Band	17%	14%	36%	34%
Numeracy After Gr5: School Change to a New School District				

Regular Program	15%	8%	11%	65%
ESL	9%	16%	10%	66%
Non Band Aboriginal	15%	13%	23%	49%
Band	18%	16%	40%	27%
Numeracy After Gr6: School Change to a New School District				
Regular Program	20%	8%	11%	61%
ESL	8%	19%	11%	61%
Non Band Aboriginal	21%	12%	23%	44%
Band	18%	18%	34%	29%

Numeracy After K: School Change within the Same School District				
	No Longer Meet	Now Meet	Never Meet	Meet on Both
Regular Program	13%	7%	10%	69%
ESL	7%	13%	7%	72%
Non Band Aboriginal	19%	14%	21%	46%
Band	13%	15%	38%	33%
Numeracy After Gr1: School Change within the Same School District				
Regular Program	13%	8%	11%	68%
ESL	10%	11%	11%	68%
Non Band Aboriginal	21%	12%	21%	46%
Band	30%	16%	28%	27%
Numeracy After Gr2: School Change within the Same School District				
Regular Program	15%	9%	11%	65%
ESL	9%	12%	12%	68%
Non Band Aboriginal	21%	11%	21%	46%
Band	24%	13%	33%	30%
Numeracy After Gr3: School Change within the Same School District				
Regular Program	14%	8%	11%	68%
ESL	8%	13%	8%	71%
Non Band Aboriginal	19%	11%	22%	47%

Band	24%	11%	40%	26%
Numeracy After Gr4: School Change within the Same School District				
Regular Program	14%	8%	12%	66%
ESL	9%	14%	9%	68%
Non Band Aboriginal	21%	11%	24%	43%
Band	24%	17%	35%	24%
Numeracy After Gr5: School Change within the Same School District				
Regular Program	12%	7%	9%	71%
ESL	9%	14%	11%	65%
Non Band Aboriginal	21%	13%	18%	48%
Band	20%	15%	42%	23%
Numeracy After Gr6: School Change within the Same School District				
Regular Program	14%	8%	10%	68%
ESL	10%	14%	13%	63%
Non Band Aboriginal	21%	11%	19%	49%
Band	29%	16%	32%	23%

Numeracy After K: In Migration				
	No Longer Meet	Now Meet	Never Meet	Meet on Both
Regular Program	13%	6%	8%	73%
ESL	6%	11%	5%	78%
Non Band Aboriginal	23%	18%	21%	39%
Band	25%	10%	43%	21%
Numeracy After Gr1: In Migration				
Regular Program	9%	3%	9%	79%
ESL	6%	12%	10%	72%
Non Band Aboriginal	14%	14%	32%	41%
Band	13%	9%	63%	16%
Numeracy After Gr2: In Migration				
Regular Program	9%	7%	6%	77%

ESL	6%	15%	7%	72%
Non Band Aboriginal	17%	15%	22%	46%
Band	12%	20%	32%	36%
Numeracy After Gr3: In Migration				
Regular Program	11%	7%	10%	71%
ESL	8%	26%	12%	53%
Non Band Aboriginal	15%	8%	23%	54%
Band	21%	29%	21%	29%

Reading After K: School Change to a New School District				
	No Longer Meet	Now Meet	Never Meet	Meet on Both
Regular Program	10%	11%	13%	67%
ESL	7%	15%	15%	63%
Non Band Aboriginal	12%	12%	24%	53%
Band	13%	21%	49%	17%
Reading After Gr1: School Change to a New School District				
Regular Program	10%	11%	14%	65%
ESL	5%	18%	17%	60%
Non Band Aboriginal	12%	13%	25%	49%
Band	19%	13%	54%	14%
Reading After Gr2: School Change to a New School District				
Regular Program	10%	11%	13%	66%
ESL	6%	15%	20%	60%
Non Band Aboriginal	13%	15%	21%	51%
Band	9%	9%	52%	30%
Reading After Gr3: School Change to a New School District				
Regular Program	11%	11%	12%	66%
ESL	6%	17%	18%	58%
Non Band Aboriginal	17%	10%	25%	48%

Band	12%	15%	51%	23%
Reading After Gr4: School Change to a New School District				
Regular Program	10%	14%	13%	63%
ESL	4%	21%	22%	53%
Non Band Aboriginal	12%	14%	32%	42%
Band	10%	13%	51%	26%
Reading After Gr5: School Change to a New School District				
Regular Program	11%	11%	13%	64%
ESL	4%	19%	15%	62%
Non Band Aboriginal	11%	16%	23%	50%
Band	12%	17%	48%	24%
Reading After Gr6: School Change to a New School District				
Regular Program	15%	10%	15%	61%
ESL	4%	20%	17%	59%
Non Band Aboriginal	18%	12%	26%	44%
Band	14%	13%	48%	25%

Reading After K: School Change within the Same School District				
	No Longer Meet	Now Meet	Never Meet	Meet on Both
Regular Program	9%	9%	12%	70%
ESL	6%	13%	14%	67%
Non Band Aboriginal	13%	11%	27%	49%
Band	17%	17%	42%	24%
Reading After Gr1: School Change within the Same School District				
Regular Program	10%	11%	12%	66%
ESL	8%	13%	16%	64%
Non Band Aboriginal	14%	13%	29%	45%
Band	21%	11%	46%	21%
Reading After Gr2: School Change within the Same School District				
Regular Program	11%	11%	13%	65%

ESL	4%	18%	17%	60%
Non Band Aboriginal	13%	14%	32%	41%
Band	17%	14%	48%	20%
Reading After Gr3: School Change within the Same School District				
Regular Program	11%	11%	13%	65%
ESL	5%	14%	14%	67%
Non Band Aboriginal	14%	17%	27%	43%
Band	16%	10%	50%	24%
Reading After Gr4: School Change within the Same School District				
Regular Program	12%	13%	15%	61%
ESL	4%	19%	16%	61%
Non Band Aboriginal	15%	13%	30%	42%
Band	19%	12%	55%	15%
Reading After Gr5: School Change within the Same School District				
Regular Program	9%	9%	11%	71%
ESL	6%	15%	18%	61%
Non Band Aboriginal	14%	11%	26%	49%
Band	13%	10%	60%	17%
Reading After Gr6: School Change within the Same School District				
Regular Program	7%	17%	19%	57%
ESL	11%	13%	28%	48%
Non Band Aboriginal	11%	13%	28%	48%
Band	19%	21%	43%	17%

Reading After K: In Migration				
	No Longer Meet	Now Meet	Never Meet	Meet on Both
Regular Program	10%	9%	10%	71%
ESL	6%	10%	10%	74%
Non Band Aboriginal	19%	13%	26%	42%

Band	12%	5%	65%	18%
Reading After Gr1: In Migration				
Regular Program	8%	9%	7%	76%
ESL	4%	19%	15%	62%
Non Band Aboriginal	8%	15%	44%	33%
Band	9%	6%	70%	15%
Reading After Gr2: In Migration				
Regular Program	9%	10%	9%	73%
ESL	4%	22%	12%	62%
Non Band Aboriginal	17%	27%	22%	34%
Band	12%	24%	44%	20%
Reading After Gr3: In Migration				
Regular Program	11%	11%	9%	69%
ESL	2%	34%	18%	46%
Non Band Aboriginal	8%	15%	23%	54%
Band	7%	14%	43%	36%

Glossary

Band students: Band students are defined as Aboriginal students with formal Band-affiliation or in other words On-Reserve status.

Cohorts: are defined as the entire population of students who enrolled in Kindergarten in a given year *with the addition* of all those who migrated into the BC system in subsequent grade levels.

Deferred entry: Refers to the option of entering the BC school system in Grade 1 without enrolling in Kindergarten first.

ESL students: English as a Second Language (ESL) students have at some time in their school career been provided ESL designation.

Foundation Skill Assessments (or FSAs): These are standardized test given to all students in BC in Grade 4 and Grade 7 to measure Numeracy, Reading, and Writing skills.

Grade trajectory: The path of a student from the earliest grade level to the latest...typically from Kindergarten through to Grade 12.

In migration: When students move into the BC school system from beyond the BC jurisdiction and join the cohort after Kindergarten.

Non Band Aboriginal students: Non Band Aboriginal students have self identified Aboriginal ancestry on the yearly school census form (form 1701) at least once in their school career, but are not affiliated with a Band.

Participation rate: The number of students who participate in the FSA. The entire cohort does not participate in FSAs. Students may be excused by prior arrangement, absent on FSA test days, or no longer at grade level with their cohort peers. These students are non participants.

Regular Program students: Regular Program students are every other student in the BC system. These students are not Aboriginal and they have never been designated ESL.

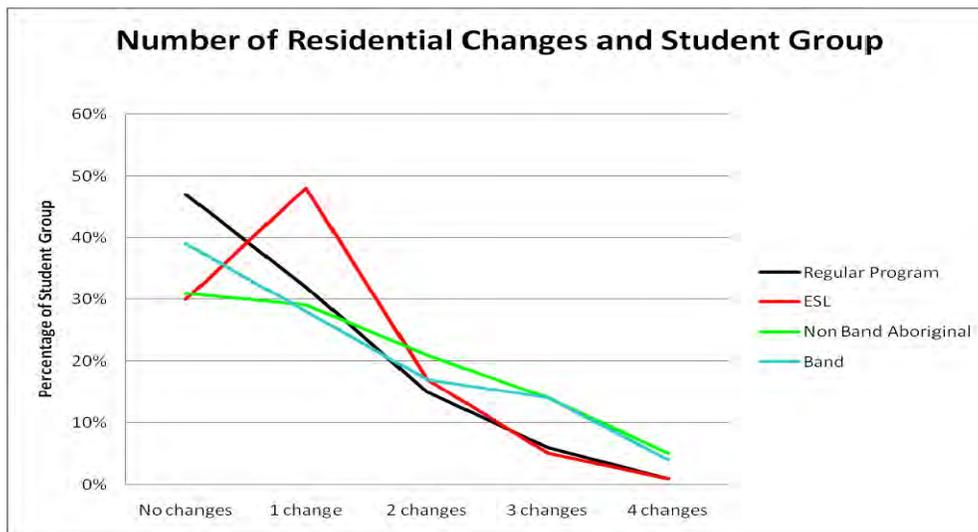
School mobility: This term is used interchangeably with school change. It refers to the act of changing schools over the grade trajectory.

Supplement A: A Brief look at Student Residence Change

While residence change is not examined in great detail in this report, a brief look at the data associated with postal codes suggests that this sort of student mobility commonly occurs by Grade 4 with nearly 50% of the BC student population making one postal code change. These residential moves are associated with smaller proportions of students meeting expectations on FSA exams.

Across the four student groups, there are differences in the proportion of each student group who changes residence (see Figure 1a). Students in the Regular Program have the highest rate of no residence change. ESL students have the highest rate of a single residence change and the ESL students also have the highest rate of two residence changes. (This is most likely due to “in migration”). Both Aboriginal student groups have rates of moving residence three or four times higher than those of students in the Regular Program.

Figure 1a: Residence Change across Student Groups



Exam participants who change residence have lower rates of meeting expectations on FSA exams than peers who do not move at all. (The disadvantage is compounded when student residence move is accompanied by school change.) Students who remain in their schools after a

residence move have higher rates of meeting FSA expectations than those who change schools. The disadvantage associated with student mobility appears to be similar for the Numeracy (see Figure 1b) and the Reading (see Figure 1c) exams in all four student groups.

Figure 1b: Meeting Numeracy Gr.4 FSA Expectations

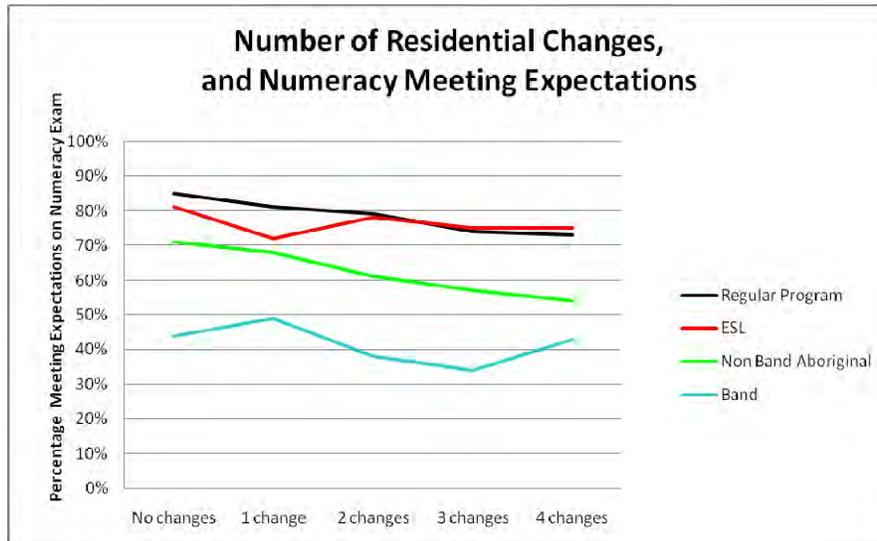


Figure 1c: Meeting Numeracy Gr.4 FSA Expectations

