



# Research Report

**THE TDSB GRADE 9 COHORT STUDY:  
AN INTERIM FOUR-YEAR ANALYSIS,  
2000-2004**

**Robert S. Brown, Ed Doc  
Project Co-ordinator**

**#04/05 – 03**

**May 2005**

**Susan Manning, Senior Manager  
and General Editor**

**Issued by the Organizational Development Department,  
Research and Information Services**



## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>BACKGROUND .....</b>	<b>6</b>
Importance of the Grade 9 Cohort of Fall 2000.....	6
Challenges of the TDSB Student Information System Conversion 2000-2003 .....	6
<b>METHODOLOGY .....</b>	<b>7</b>
Selection of the Grade 9 Cohort.....	7
Sources of Information .....	7
Description of the Grade 9 Cohort .....	8
<b>FINDINGS .....</b>	<b>10</b>
Overall Outcomes .....	10
Gender.....	11
Student Age.....	12
Neighbourhood Income .....	12
Region of Birth .....	14
Absenteeism of Students in Grade 9 (2000-1).....	16
Grade 9 Credit Accumulation .....	17
Math Performance in Grade 9.....	19
English Performance in Grade 9.....	20
School Attended in Grade 10.....	21
Grade 10 Credit Accumulation .....	22
Ontario Secondary School Literacy Results .....	23
Administration of the OSSLT in Grade 10 (February 2002) and Literacy Results as of Grade 12 (Fall 2004).....	24
Administration of the OSSLT in Grade 10 (February 2002) and Achievement by Fall 2004.....	26
Program of Study (Grades 9/10).....	27
Transition from 9/10 to 11/12 Courses .....	29
Returning Students.....	31

Students in Year 5.....	31
Ontario Scholars .....	32
Postsecondary Applications .....	32
<b>SUMMARY-DISCUSSION .....</b>	<b>34</b>
<b>REFERENCES.....</b>	<b>39</b>

## TABLES

Table 1: Gender and Grade 9 Achievement to Fall 2004 .....	11
Table 2: Age of Student and Achievement by Fall 2004.....	12
Table 3: Region of Birth and Achievement to Fall 2004.....	15
Table 4: Grade 9 At-risk (6 or fewer Credits) and Grade 10 At-risk (14 or fewer credits).....	18
Table 5: Grade 9 Math Performance and Achievement by Fall 2004 .....	19
Table 6: Grade 9 English Performance and Achievement by Fall 2004.....	20
Table 7: School Attended in Year 10 (Year 2) and Achievement by Fall 2004.....	21
Table 8: Results of First Administration of OSSLT (Feb 2002) and Literacy Requirement Status Fall 2004.....	25
Table 9: Program of Study Grades 9/10 Compared to Grades 11/12 .....	30

## FIGURES

Figure 1: Grade 9 Cohort of Fall 2000: Interim Results Fall 2004.....	11
Figure 2: Neighbourhood Income and Secondary Achievement by Fall 2004.....	13
Figure 3: Grade 9 Students With < 7 Credits by Region of Birth .....	14
Figure 4: Grade 9 Absenteeism (September 2000 to June 2001) and Secondary Achievement by Fall 2004 .....	16
Figure 5: Grade 9 Credit Accumulation to August 2001 and Secondary Achievement by Fall 2004 .....	17
Figure 6: Grade 10 Credit Accumulation to August 2002 and Secondary Achievement by Fall 2004 .....	22

Figure 7: Grade 9 Cohort of Fall 2000: First OSSLT Test Results and Achievement by Fall 2004 .....	26
Figure 8: Grade 9 Cohort of Fall 2000: Grade 9/10 Program of Study and Achievement by Fall 2004 .....	28
Figure 9: Grade 9 Cohort of Fall 2000: Grade 11/12 Program of Study and Achievement by Fall 2004 .....	30
Figure 10: Grade 9 Cohort of 2000: Post-secondary Applications, 2004.....	33



## EXECUTIVE SUMMARY

The first group of Grade 9 students who could be identified and tracked at the Toronto District School Board level started secondary school in Fall 2000. These were students who were between 13 and 15 and who, according to student records, were new to the secondary school experience in Fall 2000.

They have now finished their fourth year of secondary school, and have started Year 5 in Fall 2004. This is an interim report, showing the progress of these students at the conclusion of Grade 12 (since most students take five years to finish high school, the study will conclude in Fall 2005). These are the first students who wrote the Grade 10 OSSLT. They are also the first students completely in the OSS curriculum (many students in the 2002-3 'double cohort' were registered in both OSS and OS:IS courses).

### OUTCOMES

There were 18,798 students in the initial Grade 9 cohort. In Fall 2000, secondary student information was contained in six different student information systems. By Fall 2004, all student information had been converted into the Trillium SIS system. However, results for 344 students could not be followed over the four-year period. Of the remaining students, by Fall 2004:

- 48% of students (8,865 out of 18,454) had graduated (received an OSSD or successfully completed 30 or more credits);
- 26% (4,697) had not graduated but were still in the TDSB in Fall 2004 for Year 5 of secondary studies;
- 11% (1,976) had transferred outside the TDSB to another educational institution;
- 16% (2,916) had dropped out—i.e. left the TDSB without a record of transferring, or without graduating.

Traditionally, cohort studies remove students who transferred outside the system, since we cannot say what the ultimate outcomes of those students would be. When we remove external transfers, we are left with three categories:

- 54% of students (8,865 out of 16,478) had graduated (received an OSSD or successfully completed 30 or more credits);

- 29% (4,697) had not graduated but were still in the TDSB in Fall 2004 for Year 5 of secondary studies;
- 18% (2,916) had dropped out—i.e. left the TDSB without a record of transferring, or without graduating.

The remaining results are presented out of the base of 16,478, that is, once the external transfers have been eliminated.

## **KEY FINDINGS**

*1. A comprehensive examination of all secondary students will take between 5-7 years from the beginning of secondary studies in Grade 9.*

In theory, a secondary school diploma should take four years to complete. While the majority of university-bound secondary students appear to have finished after four years, students not in the university stream, and those somewhat behind in their credit achievement, are still in the TDSB in the current (2004-5) school year.

A previous cohort study of the Toronto legacy system found that many students took 6-7 years to finish their secondary studies. In fact, it would appear that many resilient students who overcome initial disadvantages, do so over a longer period of secondary study. Given this, the system should take into account and support those students who are taking longer than the "regular" pace to finish their graduation requirements.

*2. The vast majority of at-risk students are clearly identifiable in their first year of secondary study.*

At-risk students have a higher representation in some groups of Grade 9 students than others. A number of groups of students were identified as having higher proportions of at-risk students in Year 1 of secondary school (Grade 9), and likewise with a lower proportion of graduates, and/or higher proportion of dropouts, at the end of Year 4:

- male students;
- students older than the age-appropriate year of birth when they started high school;
- students from lower income neighbourhoods;



- those born in the English-speaking Caribbean, Central and South America/Mexico, Eastern Africa and Western Africa;
- students who had achieved fewer than seven credits by the end of Year 1;
- those who had not completed a Mathematics credit by the end of Year 1, or had a mark of less than 60% in Mathematics;
- those who had not completed an English credit by the end of Year 1, or had a mark of less than 60% in English;
- Students taking a majority of Applied and locally-developed courses;
- Students with high absenteeism.

Some of these characteristics are associated with achievement characteristics, others with demographic and socio-economic characteristics. One should caution that higher representation does not mean causation. More recent TDSB tracking research has clearly identified secondary at-risk status using Grade 8 Report Card data, and preliminary evidence indicates that at-risk status is identifiable at Grade 7 if not before. The obvious next steps are early identification and intervention.

3. *Student mobility is associated with at-risk status, but this is not the full story.* Four successive Secondary Success Indicator reports coupled with this study, have clearly shown that students who move schools after Grade 9 are more at-risk than those who stay in the same school. However, students who attend Junior High Schools in Grade 9, and then transfer to regular high schools in Grade 10, have the same dropout rate and a higher graduation rate than students who remained in the same TDSB school between Grades 9 and 10. Thus, it is not the mobility of students 'per se' that is associated with dropout. Instead, it appears that poorer academic performance in Grade 9 is associated with moving schools between Grades 9 and 10, and this combination is in turn associated with higher dropout rates. However, it is unclear whether the movement of students from one school to another is a net plus or minus for the student. This is something that does need careful attention in future research.

4. *The majority of students still in school by the end of Year 4 had passed their literacy requirement:* that is, 81% of students in the Grade 9 cohort had completed their literacy requirement by the end of Year 4, by passing the literacy test (OSSLT) in one of three administrations, or completing the Ontario Literacy Course (OLC). Of

students who had not completed their literacy requirement by Year 4, about two thirds had dropped out, and only a third were still in the TDSB. It is assumed (perhaps optimistically) that most of those remaining students will complete their literacy requirement by the time they are eligible for graduation at the end of Year 5. There is no evidence (at this time) that the introduction of the OSSLT has had a negative effect on dropout or graduation. However, since many TDSB students are still working on their graduation requirements in Year 5, the jury is still out, so to speak. We will have to wait until next year to have a more complete picture.

5. *EQAO's Fully Participating (Method 2) results for OSSLT first-time eligible students excludes the most at-risk students.*

According to student achievement by the end of Year 4, students who passed the OSSLT during the first administration (Year 2 or Grade 10) are the least at-risk, that is, they are most likely to have finished their high school by the end of Year 4 and least likely to have dropped out. All other first-time eligible student categories have some degree of at-risk status.

If one were to generalize, the students failing Reading only or Writing only should be considered moderately at-risk; students who failed both Reading and Writing should be considered at-risk; while students who were eligible to write the exam but did not-- those who were deferred, or those who were absent during the first administration-- should be considered highly at-risk.

This has implications for the way that EQAO results are released. Currently, EQAO emphasizes the release of OSSLT first-time eligible results using “Fully Participating” (Method 2)-- that is, only the results of students who wrote the test, but excluding the deferred and absent students. *Since these absent and deferred students are the most highly at-risk, this means that Fully Participating (Method 2) is not the most complete depiction of a school's at-risk population.* Looking at “All Students”, or Method 1 (which is the method used in the school-level release of Grades 3, 6 and 9 EQAO results) is a much better summary statistic, in terms of looking at at-risk students.

6. *Student Program of Study needs a much more careful examination.* The new OSS curriculum was supposed to have removed 'streaming', yet when the students in this (and subsequent) cohorts are categorized according to the majority of completed

Grade 9/10 credits, it is found that outcomes of Academic students appear similar to the outcomes of Advanced students under OS:IS, and the outcomes of Applied students under OSS appear similar to the outcomes of General students under OSS. Of students taking a majority of courses at the University level in Grades 11/12, 97% of them had taken a majority of Academic level courses in Grades 9/10.

This should not be thought of in a negative light- in fact, the ideal is that students take courses tailored to their level of study. But it should be realized that the OSS systems appears to have reinvented many of the structures of the old OS:IS streams. More in-depth analysis will be conducted with the full five-year cohort study next year.

7. *Dropout is not a permanent status.*

A fifth of dropouts in this study had returned to the TDSB at least once. Given that we do not know who drops out in the TDSB and then returns to other DSB's; nor those who return to education through the community college system; nor those who will return to the TDSB in Years 5-7; it is quite possible that up to 40% of dropouts might return once, twice or thrice to Ontario education.

This report should be thought of as a useful first step. Next year there will be a five-year progress report, and the full cohort study will be completed in Fall 2007. Other directions of at-risk analysis-- most promising, at the elementary level-- should lead to earlier, and ultimately more effective, interventions.

## **BACKGROUND**

### **IMPORTANCE OF THE GRADE 9 COHORT OF FALL 2000**

The first group of Grade 9 students who could be identified and tracked at the TDSB level started secondary school in Fall 2000. These were students who were between 13 and 15 and who, according to student records, were new to the secondary school experience in Fall 2000.

They have now finished their fourth year of secondary school, and have started Year 5 in Fall 2004. This is an interim report, showing the progress of these students at the conclusion of Grade 12 (since most students take five years to finish high school, the study will conclude in Fall 2005).

These are the first students who wrote the Grade 10 OSSLT. They are also the first students completely in the OSS curriculum (many students in the 2002-3 'double cohort' were registered in both OSS and OS:IS courses).

### **CHALLENGES OF THE TDSB STUDENT INFORMATION SYSTEM CONVERSION 2000-2003**

When this tracking study started in Fall 2000, the TDSB had seven different student information systems (SIS) in operation: Trillium (which had finished its pilot year in the North York legacy system), East York, Etobicoke, Toronto, Scarborough elementary, Scarborough secondary, and York. Therefore, all information needed to be converted to a common coding system within SPSS for TDSB-wide level analysis. For example, there were six different exit codes in operation, which described reasons for students transferring out of their legacy system.

This has provided a number of limitations on what information is available for analysis, and has also resulted in occasional examples of missing data. As of Fall 2003, all TDSB student information has been on the one common Trillium framework, and this will make future cohort tracking studies easier to implement and maintain.

## **METHODOLOGY**

### **SELECTION OF THE GRADE 9 COHORT**

At this time, there is no consistent flag to determine Grade 9 students who are new to secondary studies (as opposed to students who had started secondary studies in previous school years). The following selection criteria were used:

The initial process selected students in TDSB secondary grades (including the Grade 9's of 10 TDSB junior high schools) between the ages of 13 and 15, who were present in the TDSB in Fall 2000.

Then, the following students were deleted:

- Any student attending a secondary school in the TDSB during March 2000;
- Any student who had completed more than 1 Grade 10 credit by the end of June;
- Any student awarded an equivalency credit by the end of June 2001;
- Any student who had been awarded more than 9 credits by the end of June 2001.

### **SOURCES OF INFORMATION**

Several sources of information have been used to develop the set of indicators of student success:

- Information drawn from the student information systems currently being used in the TDSB, as provided by the Data Warehouse, for the 2003-4 school year
- Demographic data for all students attending TDSB secondary and junior high day schools (e.g., date of birth, grade, gender, country of birth)
- Exit dates and exit codes of TDSB secondary students
- Snapshots of all TDSB students at various points in time (e.g., Fall 2003, Spring 2004, May 2004, Fall 2004)
- Transcript data for secondary students (including subject, mark, and credit information on all courses)
- Information on Ontario Scholars and attainment of the Ontario community service requirement

- Data on Ontario Secondary Student Literacy Test (OSSLT), intended as a supplement to data as provided by EQAO;
- Similar data provided by the Data Warehouse from the Trillium and legacy systems between March 2000 and Summer 2003, and converted to a common format for analysis purposes;
- Data on TDSB applications, confirmations, and registrations to university, as collected by OUAC (Ontario Universities' Applications Centre) for 2003;
- Data on TDSB applications, confirmations, and registrations to community colleges, as collected by OCAS (Ontario College Applications Services) for 2003;
- Data from the EQAO Ontario Secondary Student Literacy Test (OSSLT) from the February 2002 and October 2003 administrations;
- Family income data from the 1996 Census (the average income of families living in a City of Toronto Enumeration Area, or EA, which was then linked to the student datasets using the postal code of student residence).

## **DESCRIPTION OF THE GRADE 9 COHORT**

A total of 18,798 students were identified as starting their Grade 9 studies at the TDSB in Fall 2000. Of these, 18,068 were still present at the end of the school year (June 2001, using the Data Warehouse download of that month). Nearly all (98%) had an identifiable Grade 9 homeroom. Gender distribution was normal: 47.4% female, 52.6% male.

The Grade 9 Cohort demonstrated high mobility. While 79% were identified as elementary students in their legacy SIS system in March 2000, 21%, or over a fifth, were not. Most of these would have come from outside the TDSB, either from other educational authorities in Ontario, or from other countries. Some might have transferred from Grade 8 in one legacy system to Grade 9 in another legacy system, e.g. Grade 8 in Etobicoke to Grade 9 in North York, and thus be given a new student number.

Students who were retained in the elementary system tend to be much more highly at-risk than students who were not retained. Of this cohort, 91% were age-appropriate for Grade 9 (born in 1986) while 7% were a year older (born in 1985) and 1% were a year younger (born in 1987).

Grade 9 students in the TDSB were born in over 150 countries. To simplify analysis, these countries have been categorized into major geographical regions of birth (e.g. East Asia for the area including China and Hong Kong, South Asia for the area including India, Pakistan and Bangladesh). The majority of Grade 9 students (54%) were born in Canada. Most frequent regions of birth outside Canada were: South Asia (9%), Eastern Asia (8%), Eastern Europe (5%), the English-speaking Caribbean and region (4%) and Western Asia (4%). The region of birth for 8% of students in this cohort could not be identified.

## FINDINGS

### OVERALL OUTCOMES

There were 18,798 students in the initial Grade 9 cohort. In Fall 2000, secondary student information was contained in six different student information systems. By Fall 2004, all student information had been converted into the Trillium SIS system. However, results for 344 students could not be followed over the four year period. Of the remaining students, by Fall 2004:

- 48% of students (8,865 out of 18,454) had graduated (received an OSSD or successfully completed 30 or more credits);
- 26% (4,697) had not graduated but were still in the TDSB in Fall 2004 for Year 5 of secondary studies;
- 11% (1,976) had transferred outside the TDSB to another educational institution;
- 16% (2,916) had dropped out—i.e. left the TDSB without a record of transferring, or without graduating.

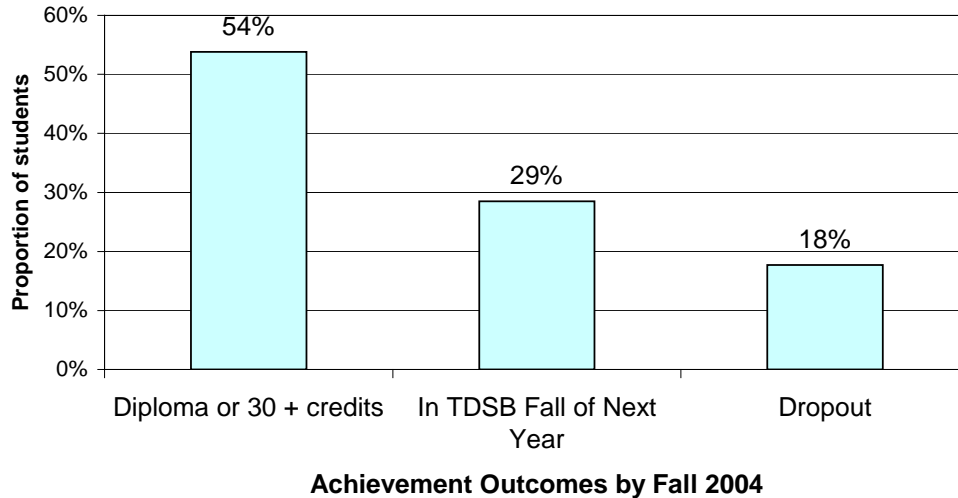
Traditionally, cohort studies removed the students who transferred outside the system, since we cannot say what the ultimate outcomes of those students would be.

When we removed external transfers, we are left with three categories:

- 54% of students (8,865 out of 16,478) had graduated (received an OSSD or successfully completed 30 or more credits);
- 29% (4,697) had not graduated but were still in the TDSB in Fall 2004 for Year 5 of secondary studies;
- 18% (2,916) had dropped out—i.e. left the TDSB without a record of transferring, or without graduating.



**Figure 1: Grade 9 Cohort of Fall 2000: Interim Results  
Fall 2004**



The remaining results will present out of the base of 16,478, that is, once the external transfers have been eliminated.

**GENDER**

Female students in the cohort were more likely to graduate by Fall 2004 (61%, compared to 47% of males) while male students were more likely to still be working on graduation requirements in the TDSB in Year 5 (33% compared to 23% of females) and to drop out (20% compared to 15% of females).

**Table 1: Gender and Grade 9 Achievement to Fall 2004**

			Grade 9 Outcomes 2000-2004			Total
			Grad or 30+ credits	In TDSB Fall 2004	Dropout	
GENDER	F	Count	4837	1836	1213	7886
		% within GENDER	61.3%	23.3%	15.4%	100.0%
	M	Count	4028	2861	1703	8592
		% within GENDER	46.9%	33.3%	19.8%	100.0%
Total		Count	8865	4697	2916	16478
		% within GENDER	53.8%	28.5%	17.7%	100.0%

## STUDENT AGE

Students in the cohort were between the ages of 13 (born in 1987) and 15 (born in 1985), although 91% were age-appropriate at 14 (born in 1986). As seen in Table 2, age-appropriate students had “average” achievement by Fall 2004 (hardly surprising, given they comprise the vast majority of the cohort), but students a year older had less than half the graduation rate, and nearly three times the dropout rate, than age-appropriate 14 year old students. This is consistent with previous TDSB research (e.g. Brown, 2003). It is probable that many of these older students had been retained (failed by a grade) in the elementary level, and the academic research has been consistent in showing the negative effects of elementary grade failing on future academic achievement (e.g. Roderick, 1995).

**Table 2: Age of Student and Achievement by Fall 2004**

			Grade 9 Outcomes 2000-2004			Total
			Grad or 30+ credits	In TDSB Fall 2004	Dropout	
Student age	15	Count	273	332	504	1109
		% within Year of birth	24.6%	29.9%	45.4%	100.0%
	14	Count	8467	4316	2399	15182
		% within Year of birth	55.8%	28.4%	15.8%	100.0%
	13	Count	125	49	13	187
		% within Year of birth	66.8%	26.2%	7.0%	100.0%
Total	Count	8865	4697	2916	16478	
	% within Year of birth	53.8%	28.5%	17.7%	100.0%	

## NEIGHBOURHOOD INCOME

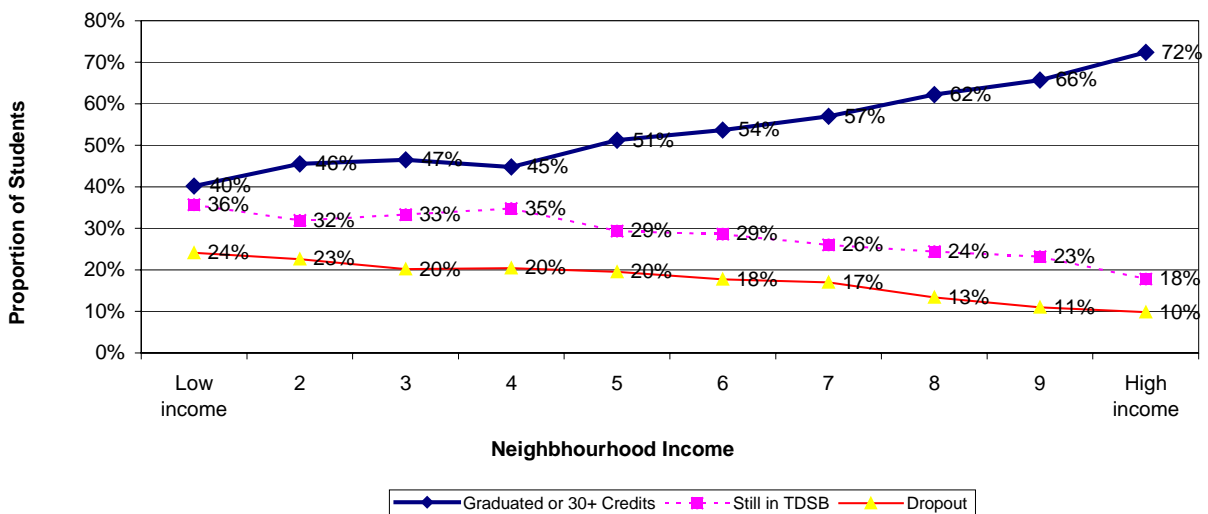
We do not have information on the income of student families. However, we can use a ‘proxy’ variable, the average family income of the neighbourhood in which the student lives. For this study, this was calculated by taking the postal code of where the student lived in Fall 2000, and matching it to the average family income of the student neighbourhood (Enumeration Area) from the 1996 national Census. Students were then divided into ten income groupings, from lowest income to highest income.

The initial Year 1 report on these students (Academic Accountability, 2002) had found that Grade 9 at-risk status was strongly related to income: 30% of Grade 9 students in the lowest income grouping had achieved less than 7 credits by the end of Year 1 (Grade 9), while only 9% of students in the highest income grouping had achieved less than 7 credits by the end of Grade 9.

Not surprisingly, a similar pattern can be seen by the end of Year 4 (Grade 12). Students in the lowest income grouping had a dropout rate of 24%, almost three times that of students in the highest income grouping (10%). Students in the lowest income group were less likely to have graduated by the end of Year 4 (40%, compared to 72% of students in the highest income grouping).

Likewise, the proportion of students who were still working on their secondary requirements in Year 5 was 36% among the lowest income group, twice that of the highest income group (18%). Previous research (e.g. Brown, 2002) has suggested that resilient students are more likely to take longer to complete their secondary school graduation requirements. The findings of this cohort study suggest that assisting students taking longer than the “regular” 4 year high school graduation pattern may be important in addressing equity issues within the TDSB.

**Figure 2: Neighbourhood Income and Secondary Achievement by Fall 2004**



## REGION OF BIRTH

Figure 3 is taken from the original analysis of Grade 9 student outcomes in 2000-2001, showing the proportion of students at-risk using Grade 9 credit accumulation, and region of birth. The at-risk status with respect to Grade 9 credit accumulation showed a great deal of variability depending on where students were born.<sup>1</sup>

**Figure 3: Grade 9 Students With <7 Credits by Region of Birth**

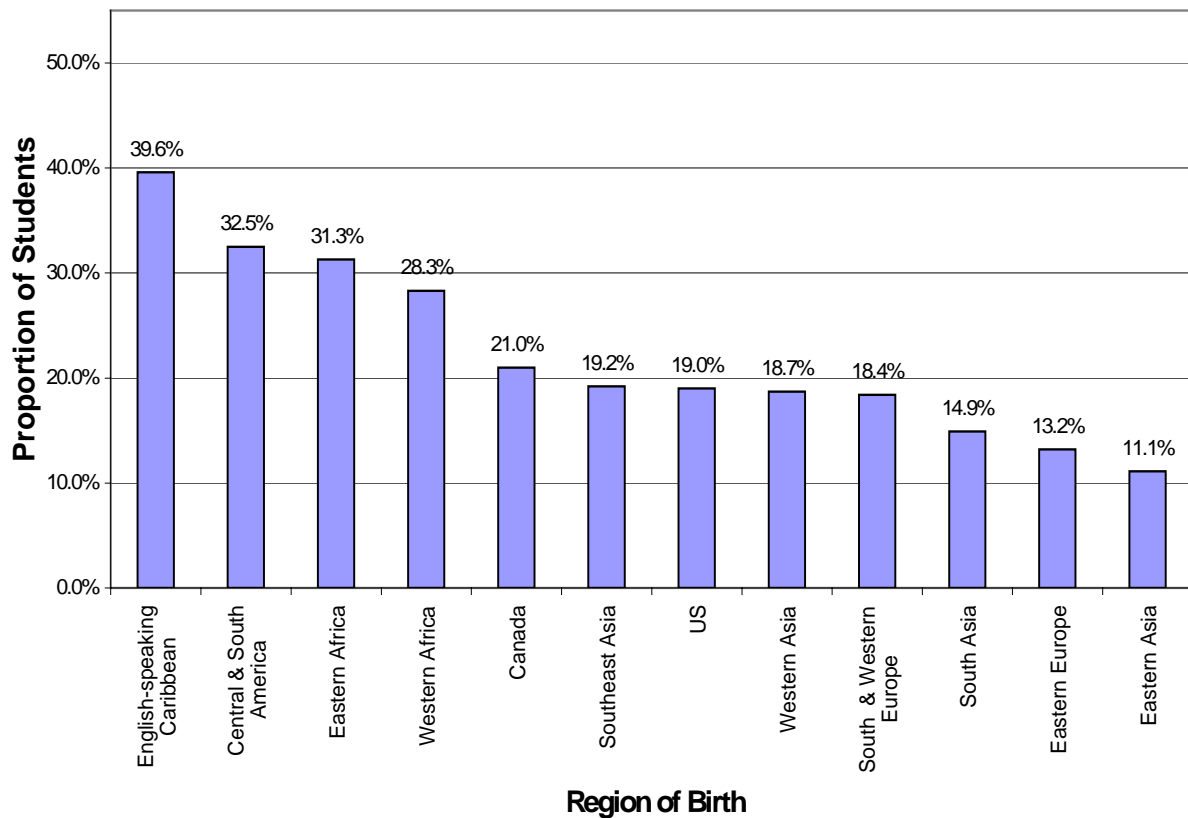


Table 3 shows achievement of these students to Fall 2004. Looking at the proportion of students who graduated, it can be seen the four regions of birth with the highest proportion of at-risk Grade 9 students (the English-speaking Caribbean, Central/South America/Mexico, Eastern Africa, and Western Africa) had the lowest proportion of graduates by Fall 2004; the three regions of birth with the lowest proportion of at-risk Grade 9 students (South Asia, Eastern Europe, and Eastern Asia) had the highest

<sup>1</sup> Results for regions of birth with 100 students or more are reported.

proportion of graduates by Fall 2004. Students born in Canada, who had an “average” proportion of at-risk students in Grade 9, had an “average” proportion of graduates by Fall 2004 (understandable given that these comprise the majority of students in the cohort).

**Table 3: Region of Birth and Achievement to Fall 2004**

			Grade 9 Outcomes 2000-2004			Total
			Grad or 30+ credits	In TDSB Fall 2004	Dropout	
REGION	Canada	Count	4839	2674	1509	9022
		% within REGION	53.6%	29.6%	16.7%	100.0%
	US	Count	59	23	23	105
		% within REGION	56.2%	21.9%	21.9%	100.0%
	English-speaking Caribbean and region	Count	186	273	197	656
		% within REGION	28.4%	41.6%	30.0%	100.0%
	Central & South American & Mexico	Count	128	151	100	379
		% within REGION	33.8%	39.8%	26.4%	100.0%
	Eastern Africa	Count	138	111	77	326
		% within REGION	42.3%	34.0%	23.6%	100.0%
	Western Africa	Count	47	47	26	120
		% within REGION	39.2%	39.2%	21.7%	100.0%
	South & Western Europe	Count	63	38	39	140
		% within REGION	45.0%	27.1%	27.9%	100.0%
	Eastern Europe	Count	503	181	120	804
		% within REGION	62.6%	22.5%	14.9%	100.0%
	Eastern Asia	Count	884	215	139	1238
		% within REGION	71.4%	17.4%	11.2%	100.0%
	Southeast Asia	Count	141	92	79	312
		% within REGION	45.2%	29.5%	25.3%	100.0%
	South Asia	Count	783	364	221	1368
		% within REGION	57.2%	26.6%	16.2%	100.0%
	Western Asia	Count	285	149	124	558
		% within REGION	51.1%	26.7%	22.2%	100.0%
Total		Count	8056	4318	2654	15028
		% within REGION	53.6%	28.7%	17.7%	100.0%

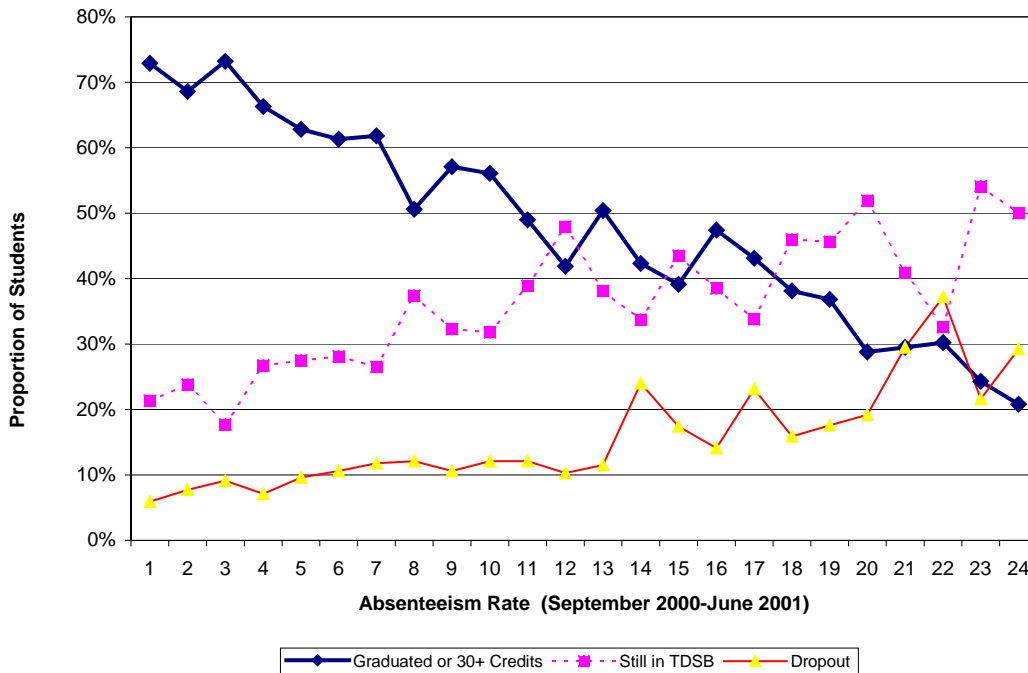
## ABSENTEEISM OF STUDENTS IN GRADE 9 (2000-1)

Figure 4 shows the relationship between Grade 9 absenteeism in 2000-1, and student progress as of Fall 2004, for students in the Toronto legacy system (N = 3,955)<sup>2</sup>. There is a strong relationship between Grade 9 absenteeism and student progress by the end of four years of secondary study, a relationship repeatedly noted in earlier studies (e.g. Brown, 1997).

As Grade 9 absenteeism increases, the proportion of students graduating by the end of Grade 12 decreases, and the proportion of students still in the TDSB in Year 5 increases, as does dropouts.

While the majority of students with absenteeism of 10% or less graduate by the end of four years, students with greater than 10% absenteeism are more at-risk, and students with greater than 20% absenteeism are highly at-risk—again, a pattern noted in other studies (e.g. Brown, 2004b).

Figure 4: Grade 9 Absenteeism (September 2000 to June 2001) and Secondary Achievement by Fall 2004



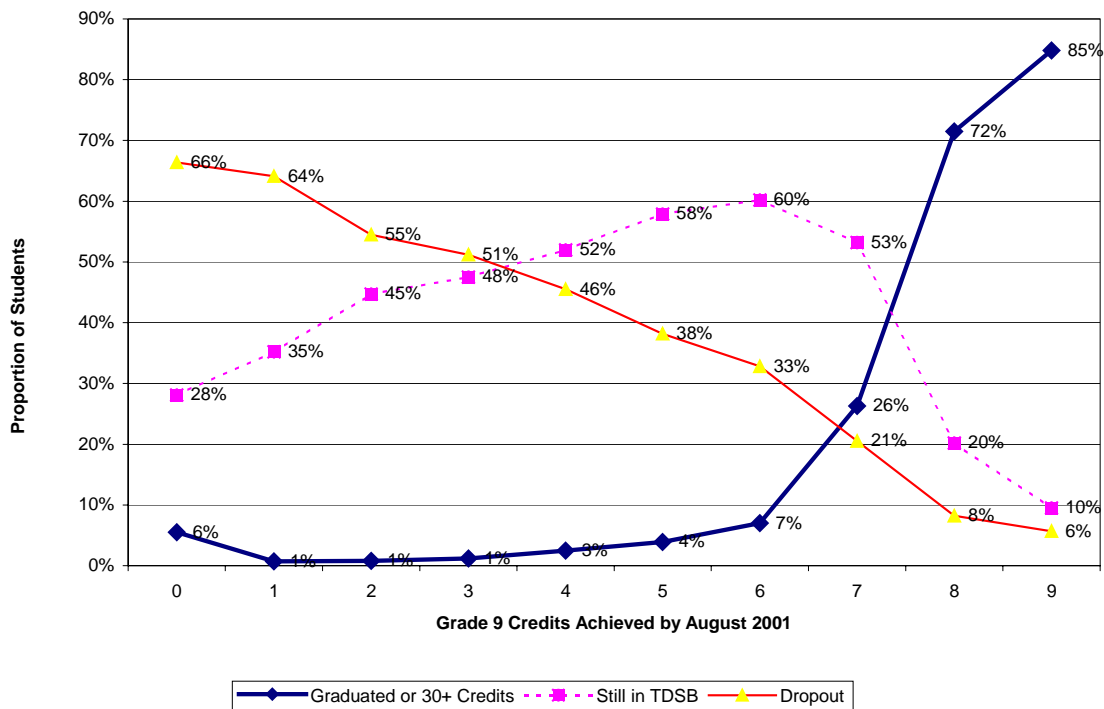
<sup>2</sup> As noted earlier, at the beginning of this study in Fall 2000, there were six functioning SIS systems in the TDSB, and absenteeism information was extracted only for the Toronto legacy system SIS system. As of Fall 2003, all TDSB students were on Trillium, and absenteeism data is now extracted from Trillium. Note that absenteeism for 0% is not shown. This is due to a problem in the Toronto legacy SIS system: some schools did not report absenteeism for their students, but the system would report this as 0% absenteeism. This problem has been corrected in absenteeism data in the current TDSB Trillium SIS system.

## GRADE 9 CREDIT ACCUMULATION

Previous cohort tracking studies from TDSB legacy board research (e.g. Brown 1997, Turner 1997) have demonstrated a close relationship between credit accumulation in the early years of high school, and future academic achievement.

This patterns certainly holds true for the TDSB Grade 9 cohort of Fall 2000. As seen in Figure 5, the vast majority of students who had 8 credits (72%) or 9 credits (85%) had graduated by the end of Grade 12 (Year 4); little more than a quarter of students who had finished 7 credits by the end of Grade 9 had graduated by Fall 2004, while fewer than 10% of students who had completed 6 or fewer credits by the end of Grade 9 had graduated by Fall 2004<sup>3</sup>.

Figure 5: Grade 9 Credit Accumulation to August 2001 and Secondary Achievement by Fall 2004



The majority of students who had achieved 4-7 Grade 9 (Year 1) credits were still in the TDSB in Year 5 (the 2004-5 school year); by comparison, only 20% of students with 8 credits were present in Year 5. It may be that, under the new OSS curriculum,

<sup>3</sup> In the TDSB annual Success Indicators studies, students with 6 or fewer credits by the end of Grade 9 are considered to be highly at-risk, students with 7 or more credits by the end of Grade 9 are considered to be at medium or low.

staying in school beyond four years is associated with moderate at-risk status. This is something that will have to be studied over the next few years (Year 5-7) for the complete picture to emerge.

It would appear that the patterns of low credit accumulation, once established, are difficult to break. Thus in Table 4, of students identified as highly at-risk according to low credit accumulation in Grade 9, 96% were also identified as highly at-risk according to low credit accumulation in Grade 10.

**Table 4: Grade 9 At-risk (6 or fewer credits) and Grade 10 At-risk (14 or fewer credits)**

			Grade 10 At-Risk 2 Categories		Total
			Highly At risk	Moderate-low risk	
At Risk (6 or fewer credits) in Grade 9	at risk	Count	2704	108	2812
		Percent	96.2%	3.8%	100.0%
	not at risk	Count	1698	10535	12233
		Percent	13.9%	86.1%	100.0%
Total		Count	4402	10643	15045
		Percent	29.3%	70.7%	100.0%



## MATH PERFORMANCE IN GRADE 9

Students in the cohort were categorized according to Mathematics achievement to the end of Grade 9. There were five categories:

- Students who had not achieved a Math credit by the end of their first year of high school: they had failed, withdrew, or completed only part of a Math credit;
- Students who completed a Math credit with an average mark of 50-59% in their completed Math credits;
- Students who completed a Math credit with an average mark of 60-69%;
- Students who completed a Math credit with an average mark of 70-79%;
- Students who completed a Math credit with an average mark of 80% or more.

As seen in Table 5, the relationship between Year 1 (Grade 9) Math performance and overall academic achievement by the end of Year 4 (Grade 12) was *very* strong. Only 8% of students who had not achieved a Math credit by the end of Year 1 had graduated three years later; this increased to 88% of students who had an average of 80% or more (Level 4).

**Table 5: Grade 9 Math Performance and Achievement by Fall 2004**

			Grade 9 Outcomes 2000-2004			Total
			Grad or 30+ credits	In TDSB Fall 2004	Dropout	
Grade 9 Math Performance	Failed or withdrew	Count	253	1394	1423	3070
		%	8.2%	45.4%	46.4%	100.0%
	50-59%	Count	1393	1513	663	3569
		%	39.0%	42.4%	18.6%	100.0%
	60-69%	Count	1651	911	379	2941
		%	56.1%	31.0%	12.9%	100.0%
	70-79%	Count	1996	561	278	2835
		%	70.4%	19.8%	9.8%	100.0%
	80-100%	Count	3572	318	173	4063
		%	87.9%	7.8%	4.3%	100.0%
Total	Count	8865	4697	2916	16478	
	%	53.8%	28.5%	17.7%	100.0%	

## ENGLISH PERFORMANCE IN GRADE 9

Students in the cohort were categorized according to English achievement to the end of Grade 9. There were six categories:

- Students who had not achieved a English credit by the end of their first year of high school: they had failed, withdrew, or completed only part of a English credit;
- Students who had not completed an English credit by their end of their first year, but had completed an ESL/ELD credit;
- Students who completed an English credit with an average mark of 50-59% in their completed English credits;
- Students who completed an English credit with an average mark of 60-69%;
- Students who completed an English credit with an average mark of 70-79%;
- Students who completed an English credit with an average mark of 80% or more.

Table 6 shows that the relationship between Year 1 (Grade 9) English performance and overall academic achievement by the end of Year 4 (Grade 12) was as powerful as the relationship of Grade 9 Math with overall achievement. Thus, only 4% of students who had not achieved an English or ESL/ELD credit by the end of Year 1 had graduated; 89% of students with an average of 80 or more (Level 4) had graduated.

Students who had completed an ESL/ELD credit by the end of Year 1 (Grade 9) had outcomes similar to those of students at Level 2 (60-69% in English). That is, the proportion of ESL/ELD students who had graduated by the end of Year 4 was slightly lower, and the proportion of dropouts slightly higher, than students at Level 2.

**Table 6: Grade 9 English Performance and Achievement by Fall 2004**

			Grade 9 Outcomes 2000-2004			Total
			Grad or 30+ credits	In TDSB Fall 2004	Dropout	
Grade 9 English Performance	Failed or withdrew English course	Count %	80 4.0%	858 43.0%	1058 53.0%	1996 100.0%
	Completed ESL-ELD Course	Count %	482 44.0%	371 33.9%	242 22.1%	1095 100.0%
	50-59% in English	Count %	733 27.5%	1288 48.4%	640 24.1%	2661 100.0%
	60-69% in English	Count %	1559 48.7%	1146 35.8%	499 15.6%	3204 100.0%
	70-79% in English	Count %	2755 71.4%	781 20.2%	325 8.4%	3861 100.0%
	80-100% in English	Count %	3256 88.9%	253 6.9%	152 4.2%	3661 100.0%
	Total	Count %	8865 53.8%	4697 28.5%	2916 17.7%	16478 100.0%

## SCHOOL ATTENDED IN GRADE 10

In general, students who transferred to a different secondary school in Grade 10 had less than half the graduation rate, and double the dropout rate, of students who stayed in the same TDSB school. However, students who transferred from Grade 9 in a junior high school to a Grade 10 secondary school had the same dropout rate, and a higher graduation rate, of students who stayed in the same TDSB secondary school. It appears that school mobility 'per se' is not the problem; rather, 'at-risk' students are more likely to transfer schools between Grade 9 and Grade 10.

**Table 7: School Attended in Year 10 (Year 2) and Achievement by Fall 2004**

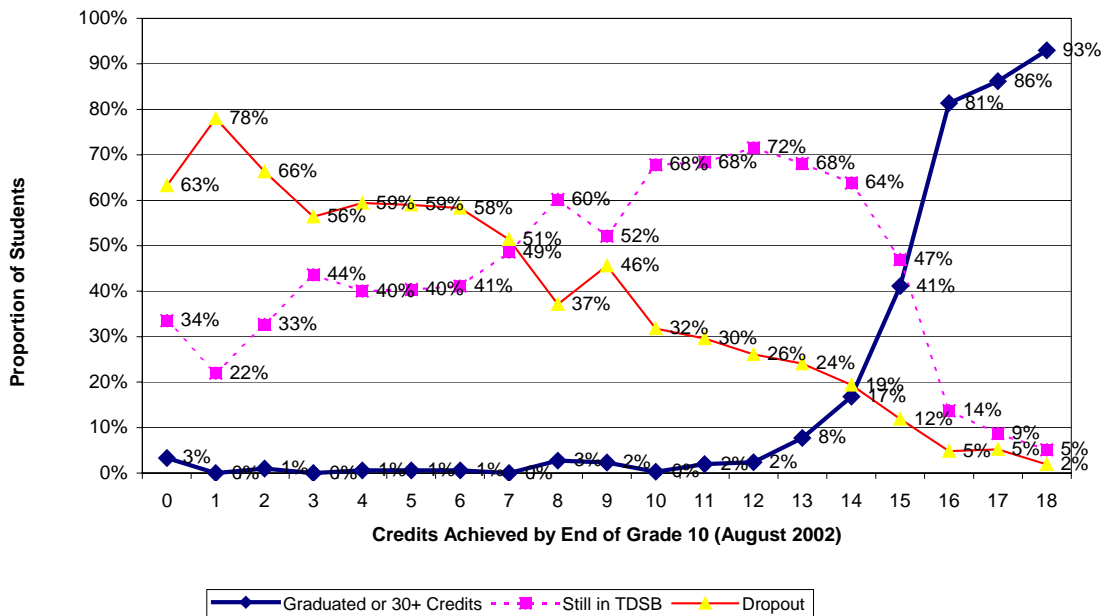
			Grade 9 Outcomes 2000-2004			Total
			Grad or 30+ credits	In TDSB Fall 2004	Dropout	
School Attended in Year 10 (Year 2)	Different School in Year 2	Count	273	377	309	959
		% within School Attended in Year 10 (Year 2)	28.5%	39.3%	32.2%	100.0%
	Same School in Year 2	Count	7732	3894	1878	13504
		% within School Attended in Year 10 (Year 2)	57.3%	28.8%	13.9%	100.0%
	JHS to HS Transfer in Year 2	Count	815	298	185	1298
		% within School Attended in Year 10 (Year 2)	62.8%	23.0%	14.3%	100.0%
Total		Count	8820	4569	2372	15761
		% within School Attended in Year 10 (Year 2)	56.0%	29.0%	15.0%	100.0%

## GRADE 10 CREDIT ACCUMULATION

A common phrase in the TDSB is “16 by 16”—that by the end of Grade 10, when most students have turned 16, students who finish 16 credits are most likely to graduate on time. This can certainly be seen in Figure 6. This shows the Grade 12 (Year 4) achievement patterns of students according to their credit achievement August 2002, the end of Grade 10 (Year 2). The vast majority of students who had finished 16 credits by the end of Grade 10 (Year 2) had graduated (or had enough credits to graduate) by the Fall 2004, the end of Grade 12 (Year 4). However, less than half (47%) of students who had finished 15 credits by the end of Grade 10 graduated by the end of Year 4; less than a fifth a students who finished 14 credits by Grade 10 had graduated by Year 4; and less than 10% of students who finished 13 or fewer credits by the end of Grade 10 had graduated by Year 4.

The majority of students who completed 7-14 credits by the end of Grade 10 (Year 2) were still in the TDSB in Year 5 (the current 2004-5 school year). We will not know for several more years what proportion of these students will ultimately graduate from the TDSB.

Figure 6: Grade 10 Credit Accumulation to August 2002 and Secondary Achievement by Fall 2004



## **ONTARIO SECONDARY SCHOOL LITERACY RESULTS**

The first formal administration of the Grade 10 literacy test (OSSLT)-- that is, where results served as an exit requirement for high school graduation-- took place in February 2002, when students in the cohort were in the middle of Year 2 (Grade 10). To satisfy their literacy requirement, students needed to pass both the Reading and the Writing components of the test. Students who failed one or both of the components had the option of rewriting the test in future administrations (2002-3 and 2003-4), or passing the Ontario Literacy Course (OLC).

Excluding transfers, 81% of students in the Grade 9 cohort had completed their literacy requirement as of the end of Year 4 (Fall 2004) —that is, they had passed the OSSLT in one of three administrations, or they had successfully completed the Ontario Literacy Course (OLC).

Of the students who had not completed their literacy requirement, under two thirds (63%) had dropped out by the end of Year 4 (Fall 2004). A bit over a third of students who had not completed their literacy requirement were still in the TDSB at the beginning of Year 5. We will have a comparatively complete picture next year, when we incorporate the October 2004 OSSLT results, and 2004-5 OLC course completion information.

## **ADMINISTRATION OF THE OSSLT IN GRADE 10 (FEBRUARY 2002) AND LITERACY RESULTS AS OF GRADE 12 (FALL 2004)**

Student-level data from the first administration of the Grade 10 literacy test (OSSLT) in February 2002 were provided back to the TDSB by EQAO. However, there were no student numbers or other numeric identifiers to match students. Therefore, a manual matching process was initiated. The match process was by no means perfect, due to spelling differences or missing information in such existing identifiers as student name. In addition, students identified as “absent” for the test were also more likely to have left the TDSB, making a match with administrative data more difficult. Of students in this Grade 9 cohort who were also in the TDSB in Grade 10, 82% were matched. This does enable us to draw a number of important conclusions about this first OSSLT.

As noted above, the vast majority (81%) of students in the cohort had completed their literacy requirement by Fall 2004. While the majority had passed the OSSLT with the first administration, others completed the requirement through subsequent administrations, or through passing the literacy course (OLC). However, there were pronounced differences in final literacy completion patterns between those who did not pass the OSSLT the first time. As seen in Table 8, only a comparatively small proportion of those who failed one of the two components in February 2002 had not yet passed the literacy component by Fall 2004: 13% of those who failed their Reading component in February 2002, and 8% of those who failed their Writing component in February 2002, had not yet completed the literacy requirement by Fall 2004. By comparison, over a third of those who failed both Reading and Writing in February 2002 had not yet completed their literacy component by Fall 2004 (although one should remember that the vast majority of these students did complete their literacy requirement).

However, over 40% of students absent one or both days over the February 2002 administration had still not completed this requirement by Fall 2004. And the majority of those deferred from writing the test in February 2002 (58%) had not yet completed the requirement by Fall 2004. *This appears to indicate that of first-time eligible participants in the OSSLT, the most ‘at-risk’ students are those who did not write the test, rather than students who wrote the test and failed it.*

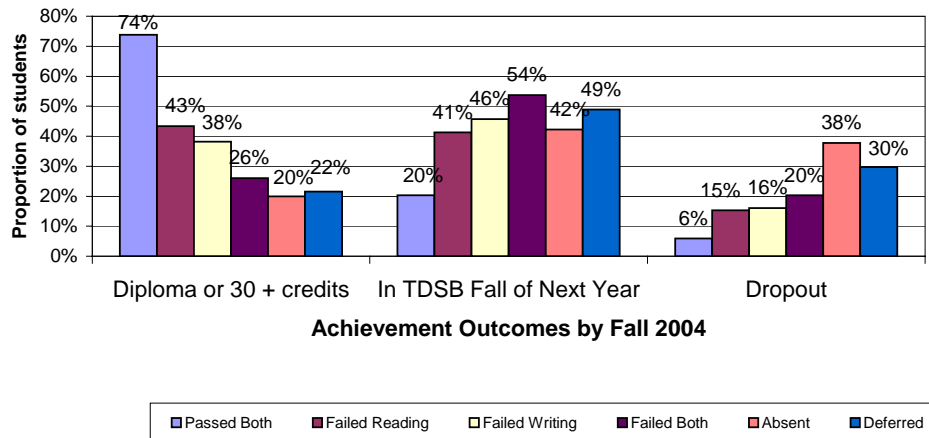
**Table 8: Results of First Administration of OSSLT (Feb 2002) and Literacy Requirement Status Fall 2004**

			Literacy Requirement Status as of Fall 2004			Total
			OSSLT Successful	OLC Successful	No OSSLT or OLC or Did Not Write	
OSSLT Results from Feb 2002	Passed both	Count	8381	3	56	8440
		Percent	99.3%	.0%	.7%	100.0%
	Failed Reading	Count	702	267	138	1107
		Percent	63.4%	24.1%	12.5%	100.0%
	Failed Writing	Count	509	23	49	581
		Percent	87.6%	4.0%	8.4%	100.0%
	Failed both	Count	415	434	426	1275
		Percent	32.5%	34.0%	33.4%	100.0%
	Absent 1 Day	Count	110	16	85	211
		Percent	52.1%	7.6%	40.3%	100.0%
	Absent 2 Days	Count	29	3	28	60
		Percent	48.3%	5.0%	46.7%	100.0%
	Deferred	Count	166	118	390	674
		Percent	24.6%	17.5%	57.9%	100.0%
Exempted	Count	1		19	20	
	Percent	5.0%		95.0%	100.0%	
Total	Count	10313	864	1191	12368	
	Percent	83.4%	7.0%	9.6%	100.0%	

## ADMINISTRATION OF THE OSSLT IN GRADE 10 (FEBRUARY 2002) AND ACHIEVEMENT BY FALL 2004

Figure 7 shows the four-year achievement of students who participated in the February 2002 OSSLT. Earlier research (e.g. Brown, 2003) had found a strong relationship between OSSLT performance and student achievement during that year, in such things as Grade 10 marks and credit accumulation. This relationship is perhaps even stronger two and a half years later. Students who completed the OSSLT the first time around are most likely to have graduated (74%) and least likely to still be in the TDSB in Year 5 (20%), or to have dropped out (6%).

**Figure 7: Grade 9 Cohort of Fall 2000: First OSSLT Test Results and Achievement by Fall 2004**



Students who had not participated in the first OSSLT administration were also the students most likely to be at-risk: 38% of students absent from the OSSLT, and 30% of deferred students, had dropped out by Fall 2004, compared to 15% of those who failed Reading, 16% of those who failed Writing, and 20% of those who failed both Reading and Writing. Thus, while failing the OSSLT appears to be an indicator of *moderate* at-



risk status, being eligible for the OSSLT but not writing it (either being absent or deferred<sup>4</sup>) is an indicator of *high* at-risk status.

This has implications for EQAO programming and reporting. Given that first-time eligible students not writing the OSSLT (absent or deferred) appear to be more at-risk than those failing the OSSLT, these students should be carefully monitored so that they do not fall ‘between the cracks’<sup>5</sup>. As well, the policy of releasing school and student level information using EQAO’s “Fully Participating (Method 2)” —which excludes absent and deferred student results—should be reassessed. That is, given that Fully Participating (Method 2) excludes the most at-risk students, if used by itself and without context, it may provide a misleadingly positive appraisal of OSSLT student performance.

### **PROGRAM OF STUDY (GRADES 9/10)**

Under the new OSS curriculum, courses in Grades 9 and 10 were offered with three programs of study: Academic, Applied, and Essentials (locally-developed). Students in the Grade 9 cohort of Fall 2000 were the first to take their courses totally within the new OSS curriculum.<sup>6</sup>

Students in the cohort were classified into program according to the majority of Grade 9/10 courses taken (regardless of subject). Thus, if a majority of a student’s Grade 9/10 courses were in the “Academic” program, the student was classified as an “Academic” student.<sup>7</sup> Excluding those who transferred outside the TDSB, 71% of the cohort were classified as taking courses in the Academic program; 23% were classified as taking Applied courses; 2% were classified as taking Essentials (locally-developed) courses; while the program of 4% of the students could not be determined.

---

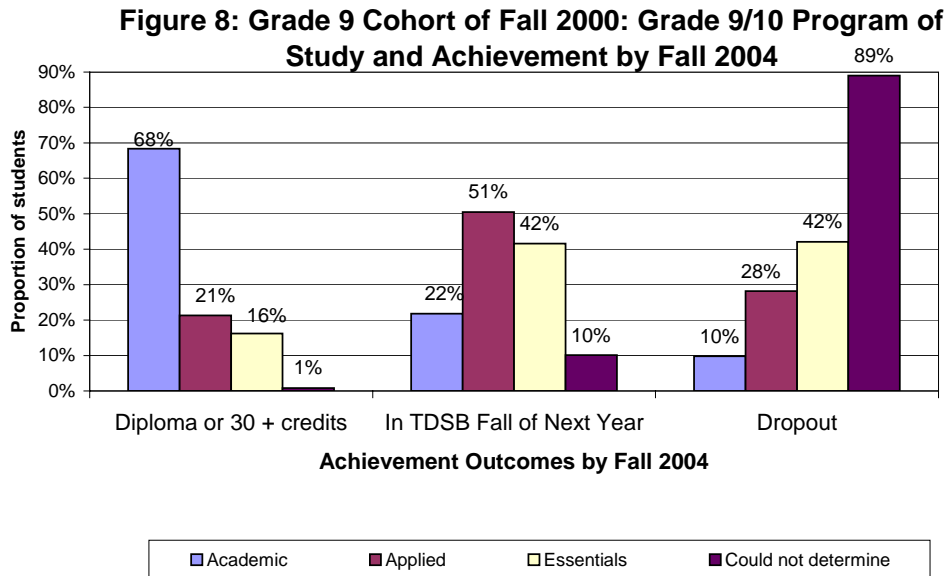
<sup>4</sup> Deferred students are sometimes deferred because they are recent arrivals from other countries without necessary proficiency in English, and sometimes because they have literacy challenges and need supplemental support. It may be useful to differentiate between these two types of exemptions.

<sup>5</sup> Also, at this time there is preliminary evidence that Absent students are also much more mobile, making them more difficult to monitor and to include in intervention programs.

<sup>6</sup> In theory, OSS was implemented in Fall 1999. However, analysis of students in the ‘double cohort’ — those who started Grade 9 in Fall 1998 and Fall 1999—found that many students in both were taking courses from the old OS:IS curriculum, and those in the new OSS curriculum, perhaps depending upon the availability of courses offered at the school.

<sup>7</sup> As the base, this study used the Data Warehouse transcript data from student registered at some point in the 2003-4 school year. If no records for the student could be found, the program of student was determined through the majority of completed credits from the student’s Grade 9 year.

As seen in Figure 8, over two thirds of students taking Grade 9/10 Academic courses (68%) had graduated or completed over 30 credits by Fall 2004; slightly under a quarter (22%) were still in the TDSB in Year 5 working on their graduation requirements, while 10% had dropped out.



Slightly over a fifth (21%) of students taking Applied courses had graduated by Fall 2004; the majority (51%) were still in the TDSB in Year 5 working on their graduation requirements, while slightly over a quarter (28%) had dropped out.

Less than an sixth (16%) of students taking Essentials (locally-developed) courses had graduated by Fall 2004; the remainder were equally split between those still in the TDSB in Year 5 working on their graduation requirements, and dropouts (42%).

89% of students with an undetermined program of study had dropped out by Fall 2004. However, this may be an artifact of the study—that is, many of these students dropped out without enrolling in or completing Grade 9/10 courses with defined programs of study.<sup>8</sup>

<sup>8</sup> Among the legacy SIS systems, and prior to the implementation of Trillium as the common SIS system in the TDSB, the rules on retaining dropped or failed Grade 9/10 courses were inconsistent. Thus, many of the students with an undetermined program of study may have dropped or failed all Grade 9/10 courses; having no record of courses, we would be unable to categorise the student’s program of study. Regardless of the reason, the vast majority of these students were highly at-risk.

## **TRANSITION FROM 9/10 TO 11/12 COURSES**

Under OSS, students taking Grade 11 and 12 courses have the option of different programs of study or course types: University, College, Mixed (College or University), or Workplace (as well, as with Grade 9/10, Open courses are also offered).

Students in the cohort were classified into program type according to the majority of Grade 11/12 courses taken (regardless of subject). Thus, if a majority of a student's Grade 11/12 courses were in the "University" program, the student was classified as a "University" program student. Excluding those who transferred outside the TDSB, 52% of the cohort were classified as taking University courses; 18% were classified as taking College courses; 12% were taking primarily Mixed courses; 6% were taking Workplace courses; the program of 2% of the students taking Grade 11/12 courses could not be determined. 12% of students in the cohort had no record of Grade 11/12 courses prior to Fall 2003 (either they dropped out, or they had not taken any Grade 11/12 courses in the 2003-4 school year).

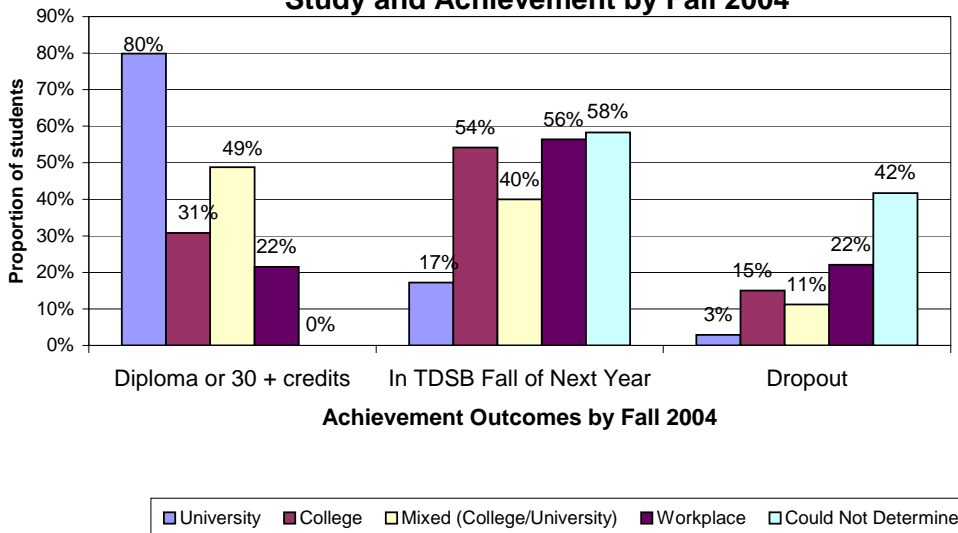
As seen in Table 9, there was a very close relationship between the types of courses taken in Grades 9/10 and those taken in Grades 11/12. Thus, approximately three quarters of students taking Academic courses in Grades 9/10 were taking mostly University courses in Grades 11/12; 14% were taking Mixed (College or University), while 10% were taking College courses. Students taking Applied courses in Grades 9/10 were most likely to take College courses (56%), while 17% took Workplace, and 14% took mixed; only 8% took University courses. Over three-quarters (77%) of students taking Essentials courses in Grades 9/10 were taking mostly Workplace courses in Grades 11/12. It would seem, therefore, that for most students, the type of courses taken in Grades 9/10 tended to define their secondary pathways.

**Table 9: Program of Study Grades 9/10 Compared to Grades 11/12**

			Program Type (Grades 11/12)					Total
			University	College	Mixed	Workplace	Could Not Define	
Program of Study (Grades 9/10)	Academic	Count	8219	1056	1572	167	37	11051
		Percent	74.4%	9.6%	14.2%	1.5%	.3%	100.0%
	Applied	Count	257	1806	447	549	153	3212
		Percent	8.0%	56.2%	13.9%	17.1%	4.8%	100.0%
	Essentials	Count	12	14	8	212	29	275
		Percent	4.4%	5.1%	2.9%	77.1%	10.5%	100.0%
	Not enough level credits	Count	1	2	1	4	21	29
		Percent	3.4%	6.9%	3.4%	13.8%	72.4%	100.0%
Total	Count	8489	2878	2028	932	240	14567	
	Percent	58.3%	19.8%	13.9%	6.4%	1.6%	100.0%	

Students taking mostly University courses were most likely to have finished their high school requirements by Fall 2004 (80%); this fell to 31% of students taking College and 22% of student taking Workplace courses. About half of those taking Mixed (College/University) courses had graduated by Fall 2004: this is about the halfway point between the University and College rates, indicating that the Mixed courses truly were a mixture of College and University characteristics.

**Figure 9: Grade 9 Cohort of Fall 2000: Grade 11/12 Program of Study and Achievement by Fall 2004**



## RETURNING STUDENTS

If the total number of students in the cohort dropping out over four years is added together, there were 3,570 dropouts out of 16,478, or 22%. However, as noted above, there were actually 2,916 dropouts, or 18%. There are two reasons for the difference:

- 318 students (2%) dropped out multiple times—that is, they dropped out of the TDSB, returned to the TDSB, and then dropped out a second (or, in some cases, a third) time.
- 335 students (2%) dropped out but re-entered the system at some point over the four year study: 39 of these dropouts had graduated by Fall 2004; 268 had returned to the TDSB by Fall 2004; 28 re-entered the TDSB but then transferred into another educational system.

In other words, a fifth of TDSB dropouts in this study -- 653 of 3,251 students who had dropped out at one point or another over the four-year tracking period—returned to the TDSB at least once. While only 39 or 6% of these students had graduated after four years, and 318 or 49% had dropped out again, almost half of these students (296, or 45%) were still in secondary studies (in the TDSB or elsewhere) in Year 5.

It is likely that the number of returning students will increase over time, especially given that nearly half the dropouts in the study left relatively recently (between Fall 2003 and Fall 2004). This is one area that will be examined in greater detail in the Year 5 report next year.

## STUDENTS IN YEAR 5

Excluding transfers (but including students who had graduated but returned for a fifth year), 38% of students who started Grade 9 at the TDSB in Fall 2000 (Year 1) were still enrolled in TDSB days schools in Fall 2004 (Year 5)<sup>9</sup>. Most (90%) of the students who graduated in four years and did not return to the TDSB had taken University courses or Mixed courses in Grades 11/12. Likewise, the majority (80%) of returning graduates

---

<sup>9</sup> That is, 4,653 students without a diploma returned for Year 5; 1,642 students with a diploma or 30 or more completed credits returned for Year 5, for a total of 6,295 of 16,478, or 38%.

had taken University or Mixed courses in Grades 11/12. The course description of students returning to complete their OSSD was more varied: slightly under half took University or Mixed courses in Grades 11/12, the rest were a combination of College, Workplace, or those where the type could not obviously be defined.

It seems that to be comprehensive, a secondary panel cohort study will need to follow students for five, or, perhaps, seven years. It will take that length of time to gather an accurate picture of who successfully completes a high school diploma under the OSS curriculum—and who drops out.

### **ONTARIO SCHOLARS**

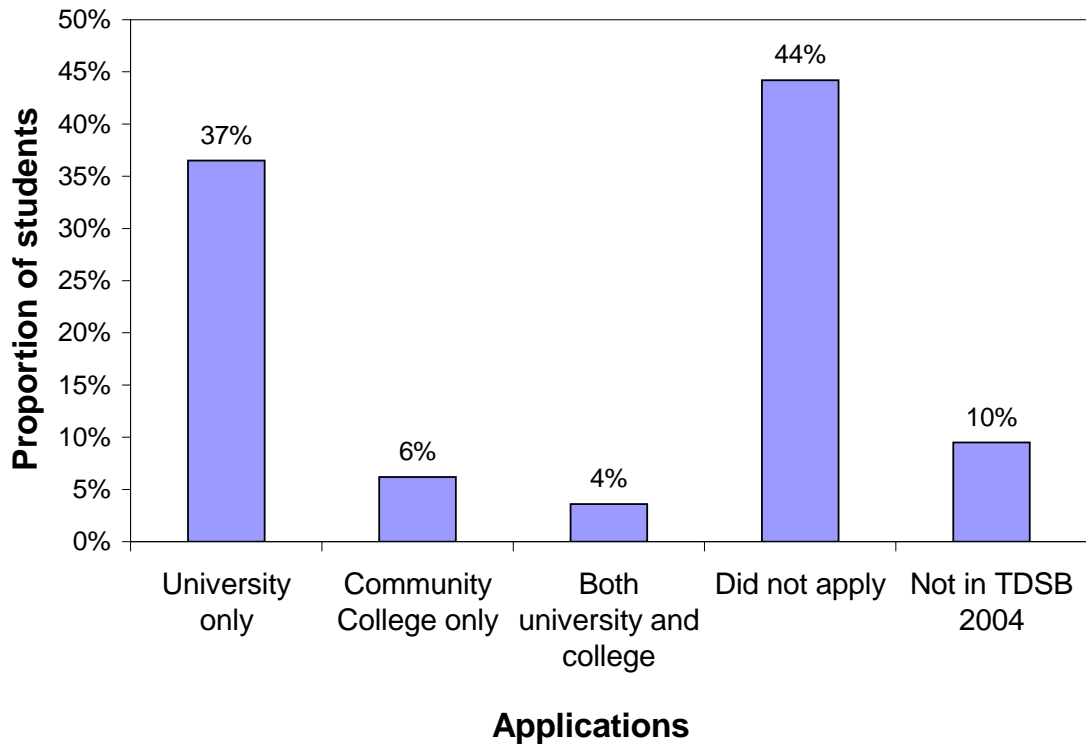
Slightly under a quarter of the cohort (3,816 students or 23%) were granted Ontario Scholarships in 2004. This is 43% of graduates. Females were more likely to be granted Ontario Scholarships—48%, compared to 38% of male graduates.

### **POSTSECONDARY APPLICATIONS**

Slightly under half of the Grade 9 cohort (7,630 students, or 46%) had applied to post-secondary institutions in Ontario in Year 4. 37% applied to university only; 6% applied to community colleges only; 4% applied to both university and community college. 10% of students had dropped out by Year 4, while 44% of students present in Year 4 did not apply to Ontario post-secondary institutions.

Of course, this is only part of the picture. We will not know which of these students were accepted into Ontario post-secondary institutions, and who showed up to take classes, until we receive information back from OUAC and OCAS in Spring/Summer 2005. As well, many students present in the current school year (Year 5) will apply or re-apply to post-secondary institutions in 2005. Finally, students who enter the workplace may apply directly to universities and communities colleges in future years.

**Figure 10: Grade 9 Cohort of 2000: Post-secondary Applications, 2004**



## SUMMARY-DISCUSSION

This first TDSB cohort study examined Years 1 to 4 (Grades 9/12) of students starting their secondary studies in Fall 2000. This was the first full year of the newly-implemented OSS curriculum, and the students were the first ones to write the Ontario Secondary School Literacy Test (OSSLT) as an exit requirement for graduation.

There were data challenges, due to the integration of six different student information systems at the start of study in Fall 2000, into the one Trillium system as of Fall 2004. Nonetheless, there are a number of clear findings:

1. *A comprehensive examination of all secondary students will take between 5-7 years from the beginning of secondary studies in Grade 9.*

In theory, a secondary school diploma should take four years to complete. In fact, while the majority of university-bound secondary students appear to have finished after four years, students not in the university stream, and those somewhat behind in their credit achievement, are still in the TDSB in the current (2004-5) school year.

A previous cohort study of the Toronto legacy system found that many students took 6-7 years to finish their secondary studies. In fact, it would appear that many resilient students who overcome initial disadvantages, do so over a longer period of secondary study (Brown, 2002). Given this, the system should take into account and support those students who are taking longer than the "regular" pace to finish their graduation requirements.

2. *The vast majority of at-risk students are clearly identifiable in their first year of secondary study.*

At-risk students have a higher representation in some groups of Grade 9 students than others. A number of groups of students were identified as having higher proportions of at-risk students in Year 1 of secondary school (Grade 9), and likewise with a lower proportion of graduates, and/or higher proportion of dropouts, at the end of Year 4:

- male students;
- students older than the age-appropriate year of birth when they started high school;
- students from lower income neighbourhoods;



- those born in the English-speaking Caribbean, Central & South America/Mexico, Eastern Africa and Western Africa;
- students who had achieved fewer than seven credits by the end of Year 1;
- those who had not completed a Math credit by the end of Year 1, or had a mark of less than 60%;
- those who had not completed an English credit by the end of Year 1, or had a mark of less than 60%;
- students taking a majority of Applied and locally-developed courses;
- students with high absenteeism.

Some of these characteristics are associated with achievement characteristics, others with demographic and socio-economic characteristics. One should caution that higher representation does not mean causation. Looking at the reasons behind this higher representation is outside the bounds of this study.

More recent TDSB tracking research has clearly identified secondary at-risk status using Grade 8 Report Card data, and preliminary evidence indicates that at-risk status is identifiable at Grade 7 if not before (Brown, 2004a and 2004b).

The obvious next steps are early identification and intervention. At this time, there are limitations due to the elementary Report Card format as implemented by the Ministry, but hopefully this and other data challenges will be addressed over time.

3. *Student mobility is associated with at-risk status, but this is not the full story.* Four successive Secondary Success Indicator reports (e.g. Brown 2004b) coupled with this study, have clearly shown that students who move schools after Grade 9 are more at-risk than those who stay in the same school. However, there is an important exception-- students who move from Grade 9 in Junior High Schools to Grade 10 in regular high schools. These students had the same dropout rate, and higher graduation rate, than students in "regular" schools who stayed in the school between Grades 9 and 10. This shows that it is not the mobility of students 'per se' that is associated with dropout. Instead, it appears that poorer academic performance in Grade 9 is associated with moving schools between Grades 9 and 10, and this combination is in turn associated with higher dropout rates. It is, however, unclear whether the movement of students from

one school to another is a net plus or minus for the student. This is something that does need careful attention in future research.

4. *The majority of students still in school by the end of Year 4 had passed their literacy requirement:* that is, 81% of students in the Grade 9 cohort had completed their literacy requirement by the end of Year 4, by passing the literacy test (OSSLT) in one of three administrations, or completing the Ontario Literacy Course (OLC). Of students who had not completed their literacy requirement by Year 4, about two thirds had dropped out, and only a third were still in the TDSB. It is assumed (perhaps optimistically) that most of those remaining students will complete their literacy requirement by the time they are eligible for graduation at the end of Year 5. We will be following this cohort to see if this is the case.

Unfortunately, because this is the first Grade 9 cohort followed within the TDSB, we cannot compare these outcomes to previous cohorts. However, at this point, there appears to be limited dropout rate differences in the TDSB annual outcomes (looking at the outcomes of TDSB 14-19 year old students each year, from 2000-1 to 2003-4). Therefore, there is no evidence (at this time) that the introduction of the OSSLT has had a negative effect on dropout or graduation. However, since many TDSB students are still working on their graduation requirements in Year 5, the jury is still out, so to speak. We will have to wait until next year to have a more complete picture.

5. *EQAO's Fully Participating (Method 2) results for OSSLT first-time eligible students excludes the most at-risk students.*

Although OSSLT results of first-time eligible students appear to be a good predictor of at-risk status, the results are not necessarily interpreted in the best way-- that is, the public dialogue around OSSLT results centres on “Fully Participating Students” (Method 2), which is a less accurate depiction of at-risk results than “All Students” (Method 1).

The match of the cohort to the first administration of the OSSLT is not complete, but it is high enough that the findings should be carefully considered.

According to student achievement by the end of Year 4, students who passed the OSSLT at the first (Grade 10) administration are the least at-risk, that is, they are most likely to have finished their high school by the end of Year 4 and least likely to have

dropped out. All other first-time eligible student categories have some degree of at-risk status.

If one were to generalize, the students failing Reading only or Writing only should be considered moderately at-risk; students who failed both Reading and Writing should be considered at-risk; while students who were eligible to write the exam but did not-- those who were deferred, or those who were absent during the first administration of the test-- should be considered highly at-risk.

This has implications for the way that EQAO results are released. Currently, EQAO emphasizes the release of OSSLT first-time eligible results using Fully Participating Students (Method 2)-- that is, only the results of students who wrote the test, but excluding the deferred and absent students. *Since these absent and deferred students are the most highly at-risk, this means that Fully Participating (Method 2) is not the most complete depiction of a school's at-risk population.* Looking at "All Students", or Method 1 (which is the method used in the school-level release of Grades 3, 6 and 9 EQAO results) is a much better summary statistic, in terms of looking at at-risk students.

6. *Student Program of Study needs a much more careful examination.* The new OSS curriculum was supposed to have removed 'streaming', yet when the students in this (and subsequent) cohorts are categorized according to the majority of completed Grade 9/10 credits, it is found that outcomes of Academic students appear similar to the outcomes of Advanced students under OS:IS, and the outcomes of Applied students under OSS appear similar to the outcomes of General students under OSS (see, e.g., Brown 1997, Turner 1997).

Moreover, three quarters of students taking Academic courses in Grades 9/10 were taking mostly University level courses in Grades 11/12; when the Mixed (College/University) courses are added, the proportion rises to 90%.

Or, another way to look at it is that of students taking a majority of courses at the University level in Grades 11/12, 97% of them had taken a majority of Academic level courses in Grades 9/10.

This should not be thought of in a negative light- in fact, the ideal is that students take courses tailored to their level of study. But it should be realized that the OSS systems appears to have reinvented many of the structures of the old OS:IS streams.

There is a need for much more analysis. For example, many students will take one or two locally-developed courses but a majority of courses in other programs of study, and this report has not looked at the difference. Also, it would be important to examine exactly who changed programs of study, and what were the results of this change. This type of more in-depth analysis will be conducted with the full five-year cohort study next year.

7. *Dropout is not a permanent status.*

A fifth of dropouts in this study had returned to the TDSB at least once. Given that we do not know who drops out in the TDSB and then returns to other DSB's; nor those who return to education through the community college system; nor those who will return to the TDSB in Years 5-7; it is quite possible that up to 40% of dropouts might return once, twice or thrice to Ontario education.

This report should be thought of as a useful first step. Next year there will be a five-year progress report, and the full cohort study will be completed in Fall 2007. Other directions of at-risk analysis-- most promising, at the elementary level-- should lead to earlier, and ultimately more effective, interventions.

## REFERENCES

- Academic Accountability (2002). *Student Success Indicators, 2000-2001*. Toronto: Toronto District School Board.
- Brown, R. (1997). *The Toronto Board Grade 9 Cohort of 1991: A Five Year Tracking Study 1991-1996*. Toronto: Toronto Board of Education.
- Brown, R. (1999). *A Study of the Grade 9 Cohort of 1993, 1993-1998: The Last Grade 9 Cohort of the Toronto Board of Education*. Toronto: Toronto District School Board.
- Brown, R. (2002). "The Toronto Grade 9 Cohort of 1993: An Eight-Year Tracking Study, 1993-2001". Paper presented to the CSSE Annual Conference, Toronto.
- Brown, R. (2003). *TDSB Secondary Student Success Indicators, 2002-2003*. Toronto: Toronto District School Board.
- Brown, R. (2004). *TDSB Elementary Report Card Data, 2001-2003: A Descriptive Analysis*. Toronto: Toronto District School Board.
- Brown, R. (2004). *TDSB Secondary Student Success Indicators, 2003-2004*. Toronto: Toronto District School Board.
- Roderick, M. (1995, December). *Grade retention and school dropout: Policy debate and research questions* (Research Bulletin No. 15). Washington, DC: Phi Delta Kappa Center for Evaluation, Development, and Research.
- Turner, C. (1997). *Tracking Educational Outcomes for a Cohort of Grade 9 Students: 1991-1996*. Scarborough: Scarborough Board of Education.