Response to the Croll and Lee Comprehensive Review of Second Language Programs and Services Within the Anglophone Sector of the NB Department of Education.

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Preamble

The Croll and Lee FSL report has recommended the total elimination of Early French Immersion in New Brunswick schools. This report has stimulated an intense and emotional debate in the public. When we initially read their recommendations, we were surprised and curious as to why their results and conclusions were so different from those of previous reports prepared by education experts in NB and elsewhere in Canada. Consequently, we decided to read the report carefully. In the process of doing this, we found that it is a deeply flawed document which fails to provide valid evidence in support of the sweeping policy changes that its authors propose. We also found the biased tone used, in what is presumably an objective report, to be troubling. Here, we systematically point out errors in both analysis and interpretation by copying sections of the report into the document and commenting on them. When possible, we provide alternative analyses to document our findings. We restrict most of our comments to quantitative aspects of the report, though at the end we also provide general comments and suggestions based on our analysis. We hope that the NB government will read this document and seriously consider the points we raise. Based on much of the public reaction to this document, we are very concerned that most people are simply accepting the conclusions of the report at face value, and that those who question it are criticized as having an agenda or belonging to a special interest group. The flaws in this report are significant and are of particular concern if the government is considering acting on its main recommendations.

We have copied relevant sections and page numbers from the FSL report and pasted them below. Comments on each of these sections follow directly after the pasted segments.

"Overview of issues":

p. 23:

In order to further clarify the issue concerning the relationship between declining school enrolments and the status in FSL registrations, the following table shows the relatively high (r=.951) , significant correlation (p=0.004) between New Brunswick's declining school enrolments and decreasing registrations into Late Immersion Programs between 2001-2 and 2006-7 academic years. Between September of 2001 and September of 2006, registrations into Late FSL Immersion have declined by approximately 4% while the Grade 6 student populations have declined by 755 students (11.2%).

TABLE 2: Correlation* Between Late FSL Immersion and Total Grade 6 Enrolments in New Brunswick between[3] 2001 and 2006

	2001	2002	2003	2004	2005	2006
Late Immersion[1]	1462	1261	1269	1161	1074	1020
Total Enrolment[2]	6765	6548	6565	6413	6304	6010
Proportion	21.6%	19.3%	19.3%	18.1%	17.0%	17.0%

*r= .951, p=.004
[1] Department of Education, Policy and Planning 2003 – 2006; School District Files
[2] "Summary Statistics, School Year 2006-2007", Policy and Planning, Department of Education.
[3] Anglophone students only

Response:
The math is flawed here. The decline in late French immersion (LFI) in number of students is 30%, not 4% (1462-1020/1462). The 4.6% is the decline in "proportion" of total grade 6 children in the program. Hence, the implication that the program has declined by so little in view of a much larger overall enrollment decline is incorrect. Controlling for overall enrollment declines, the relative decline in the program is approximately 21% (i.e., 4.6%/21.6%=0.21). If enrollment decline was solely responsible, there should have been 162 students lost (1462*11.2%). Instead there were 442. This means that enrollment is responsible for only 37% of the decline. The way this is presented is misleading – an apples and oranges comparison.

p. 24:

Similarly, employing Department of Education data for over the same period, one can readily see that the "declining enrolments" in the Early French Second Language Immersion Program is highly and significantly (p=.002) correlated (r=.842) to the over-all decline in total student enrolments. In fact, the annual proportion of enrolments to Early Immersion registrations between 1997 and 2006 has only varied by less than 4 percent (3.9%) but, since 2000, there has been a drop of 13.6% enrolment.

TABLE 3: Correlation* between Early FSL Immersion and Total Grade 1 Enrolments 1997-2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total Enrolment[1]	6325	6145	6020	5879	5729	5520	5567	5389	5257	5036
Early French Immersion[2]	1822	1876	1881	1905	1830	1783	1706	1655	1624	1646
Proportion	28.8%	30.5%	31.2%	32.4%	31.9%	32.3%	30.6%	30.7%	30.9%	32.7%

*r=.842; p=.002

[1] "Summary Statistics, School Year 2006-2007", Policy and Planning, Department of Education

[2] Policy and Planning, Department of Education, 2002 – 2007; District Records, 1995-2006; Annual Reports, Department of Education 1996-2007;

Response:

We see the same math problem here, but the outcome is reversed – EFI enrollment (# of students) has dropped by 9.6%, whereas total enrollment has dropped by 13.6%, which means a small proportional increase in EFI (as noted in the table). Therefore, in this case, the decline observed is completely explained by declining enrollments, and in fact relatively more parents (though likely not significantly more) are choosing EFI.

So the bottom line from these 2 tables is that LFI is in decline and EFI is relatively stable or slightly increasing. We are not entirely sure if that was the point the commissioners wanted to make, but it is clearly the case.

“The programs”:

Core program

p. 35:

TABLE 4 : Core Program[a] Oral Proficiency Assessment Results

	1999	2000	2001	2002	2003	2004	2005	2006
Number[b]	362	299	305	238	239	264	198	189
Basic or Higher	96%	92%	94%	93%	93%	95%	87%	91%
Basic Plus or Higher	61%	58%	64%	59%	66%	75%	52%	65%
Intermediate[c] or Higher	19%	18%	22%	18%	23%	38%	17.2%	14.7%
Intermediate Plus or Higher	2%	2%	2%	2%	5%	9%	2.5%	3%
Advanced or Higher	0%	0%	0%	0%	.8%	2%	0%	0%

[a] 1999 – 2006 Grade 12 FSL Oral Interviews
[b] number of students tested
[c] Policy Statement 309 (2002) Oral Proficiency Goal

The data in Table 4, presenting the numbers of Core students who have been tested for oral proficiency testing each year since 1999, provides a picture of the steadily declining numbers of Core students who continue with their FSL study into Grade 12, coupled with the declining proportion of Core students who have reached the Provincial goal of Intermediate proficiency.
In 2006-7, only 14.7% of those students who persisted to Grade 12 met the minimum goal of Intermediate Proficiency.

Response:
Two points arise when looking at this table and associated text: 1) Given that the oral proficiency test is not compulsory, how can one conclude that only 189 students were still in French in grade 12? Is this actually the case? Even if it is, many students could easily have taken French through grade 10 or 11, and if assessed, some may have met the goal. Assuming all the others did not get anything out of the program is wrong. 2) **The purported downward trend of those students meeting intermediate proficiency is not real** – a linear regression of percent meeting the level against year shows absolutely no trend (r^2=0.01, p=0.85), which means that there is absolutely no correlation between year and success rate for intermediate proficiency. Two bad years simply cannot imply a downward trend. We do not in any way want to imply that the core program is working, because it does not seem to be, but at the same time we need to point out inaccuracies in analysis and interpretation.

As TABLE 5 unambiguously shows, the attainment data relating to Core students is a most serious indictment of the efficacy of this program. Of those 4063 students who began their FSL Core program 12 years prior to their assessment in Grade 12 (September of 1994 to 2006-7), only 189 (4.65%) remained in the program. Of the 189 in Grade 12 who were given the Oral Proficiency Examination, only 28 met the minimum attainment goal level. **Therefore of the 4063 students who entered into the Core Program in 1994, only .689 percent attained the provincial minimum goal of Intermediate Proficiency by the spring of 2007!**

TABLE 5: Core Attainment Results 2001-2 to 2006-7

Year	Entered Program [a] Grade 1	Number Evaluated [b] Grade12	Number Passed [b]	% Attained Intermediate Goal [c]
2006-7	4063	189	28	.689
2005-6	4181	198	34	.813
2004-5	4279	264	100	2.337
2003-4	4494	239	54	1.202
2002-3	3726	238	43	1.154
2001-2	4902	305	77	1.571

[a] CPF and "Summary Statistics", School Year 2006-2007, Policy and Planning, March 2007. (total registration 12 years previously minus total immersion registrations during first six years)
[b] Department of Education FSL Oral Interview Results "Briefing Note" July 2005 and July 2007
[c] Policy Statement 309

Response:
This would be fine if there really were only 189 students taking core French in grade 12. What are the actual numbers? It's clear that few took the test, but again, what about others who may have dropped out shortly before grade 12, or those in grade 12 who opted not to write the test? The only way to adequately assess this is to make the test mandatory for all students at whatever point they stopped taking French, and wait a few years to see how people are actually doing.

Early French Immersion:

p. 41

TABLE 6: Showing Average Declines in FSL Early Immersion Enrolments from Grade 1 to Grade 5, Between September 1997 and September 2006[a]

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Grade 1	1,822	1,876	1,881	1,905	1,830	1,783	1,706	1,655	1,624	1,646
Grade 2	1,537	1,618	1,686	1,701	1,717	1,670	1,642	1,589	1,505	1,450
Grade 3	1,261	1,483	1,490	1,577	1,574	1,595	1,564	1,528	1,479	1,390
Grade 4	1,337[b]	1,226	1,380	1,406	1,487	1,491	1,522	1,502	1,457	1,391[b]
Grade 5 [b]	1,201	1,265	1,132	1,301	1,346	1,417	1,443	1,449	1,437	1,401[b]
Net Change	621	611	749	604	484	366	263	206	187	245
% Change	-34.1%	- 32.6 %	-39.8%	-31.7%	-26.4%	-20.5%	-15.4 %	-12.4%	-11.5%	-14.9%

[a] Department of Education, "Summary Statistics: School Year 2006-2007, Policy and Planning Department, March 2007.
[b] anomalies may be due to merging of middle immersion students – Department data does not differentiate

Response:
The attrition rates are calculated incorrectly in this table. Cohorts of children need to be followed across years, rather than looking at different grades with in a year. Not doing so ignores inter-year variation in registration. The correct attrition rates for children starting school in 1997 through 2002 (the last group for which there is grade 5 data) are as follows:

cohort	grade 1	grade 2	grade 3	grade 4	grade 5	actual attrition (%)	attrition noted in report (%)
1997	1822	1618	1490	1406	1346	26.1	34.1
1998	1876	1686	1577	1487	1417	24.5	32.6
1999	1881	1701	1574	1491	1443	23.3	39.8
2000	1905	1717	1595	1522	1449	23.9	31.7
2001	1830	1670	1564	1502	1437	21.4	26.4
2002	1783	1642	1528	1457	1401	21.4	20.5

We see from this that the report substantially overestimates attrition in the elementary years in all except 2002 and misrepresents the extent of loss of children at this point in the program.

p. 43:

> Using the 2006–7 data (Tables 6, 7 and 8) as our example, from the start of grade 1 to the beginning of grade 12, there is a total drop in enrolments from 1,646 to 613 (2006 enrolment) or 63%. The 196 students who dropped out between grades 1 and 2 (Table 7) represented a 11.9% decrease from the entry registrations. The major decrease in enrolments within this cohort of students took place between grades 9 and 12 with a decrease from 1257 to 613, a decline of a further 48.8%.

Response:
Again, we see a peculiar use of enrollment figures in that it does not take into account inter-year variation in cohort size. As before, the authors should have used longitudinal analyses of single cohorts to work out attrition rates, i.e., they should have followed classes over time. This could be challenging given that quality of data was low a decade ago, but it is still possible to follow year classes through a few years and observe trends. We reiterate that **these data as presented do not represent attrition rates unless you look at the tables on a diagonal.** It is difficult to do with grades 6 through 8 omitted, but the data exist and this could be tested appropriately. We worked through some of this in a comparison with late French immersion below.

p. 43:

> If one were to attend carefully to the volumes of written and oral anecdotal information provided to the Commission pertaining to this drop-out phenomenon, by teachers, parents and educational administrators, the two reasons for the major decline in early immersion enrolments between grades 9 and 12 may be easily explained. The first reason for dropping out of the FSL Early Immersion Program is the students' perceived need to complete their education in English in preparation for university. The second major reason for dropping Early Immersion is the fact that the program in grades 11 and 12 are perceived as "maintenance" years of French thus serves as little advantage.

Response:
This makes sense, but there are two troubling aspects to it: 1) The commissioners talked a lot about the attrition rates for EFI as a major problem for it, and assumed that if students didn't proceed through grade 12 the program failed and they did not achieve any proficiency. This is inaccurate – if they stopped after grade 9 or 10, they may very well have achieved intermediate plus proficiency or higher, but it was never checked. More on this topic is coming up. 2) The proposal to make some courses available in either language (see recommendations in the document) would negate this concern – under the new scheme these same students may very well not "drop out". Hence, attrition in EFI would decline as a result of implementing the "flexibility" aspect of the report with respect to high school courses. One of the recommendations would therefore "strengthen" EFI under their method of assessment.

p. 44

Table 10 presents an overview of the attainment levels of Early Immersion students who have reached Grade 12 while remaining within the program. It is important to note that of the 554 students[d] who persisted to Grade 12, 42 percent attained the Advanced goal. Thus, in the 2006-2007 academic year, within the Anglophone population of New Brunswick grade 12 students, there were 554 Early Immersion students who presented themselves for assessment.[1]

TABLE 10 : Early Immersion Program[a] Oral Proficiency Assessment Results

	1999	2000	2001	2002	2003	2004	2005	2006
Number [b]	396	412	440	409	432	391	391	554[d]
Basic or Higher	100%	100%	100%	100%	100%	100%	100%	100%
Basic Plus or Higher	100%	100%	100%	100%	100%	100%	100%	100%
Intermediate or Higher	100%	100%	100%	100%	99%	99%	99%	99%
Intermediate Plus or Higher	83%	79%	79%	81%	79%	83%	86%	85%
Advanced[c] or Higher	38%	27%	25%	28%	32%	35%	37%	42%

[a] 1999 – 2006 Grade 12 FSL Oral Interviews
[b] number of students tested
[c] Policy Statement 309 (2002) Oral Proficiency Goal
[d] includes the balance of Middle Immersion students

Response:
Again – is this everyone in the program? What about those who stopped in high school? Had they been assessed, numbers would have been higher, and many would likely have reached intermediate plus. **So, it seems the report is measuring success of the program as receiving a certificate rather than testing how much French the children who went through all or most of it actually learned.** Presumably we should be more concerned with actual learning than optics and certificates to hang on the wall. As indicated above for core French, **students should be tested at whatever point they leave the program.** We suspect that results would be radically different. See p. 14 below for more on this table.

p. 45

Of these 554 students (which includes the remaining Middle Immersion cohort of approximately 140), 234 or 42.2% attained the goal of Advanced Proficiency or above. Perhaps more importantly, this group of 234 successful students is all that remains of 1,469 students who entered Early Immersion in 1995. Therefore, of the 1,469 students who entered into an Early Immersion program in 1995, **only 234 or 15.93% persisted to achieve the Program Goal of Advanced or above.**[1] Using the 2005-6 data as a basis of comparison (without the inflated 2006-7 numbers), of the 391 Grade 12 students who presented themselves , 137 attained the goal of Advanced or higher, which represents **9.3% of the students who initially enrolled in Early French Immersion in 1995 or only 2.08% of all 1995 Grade 1 students.**

When the same data is used to re-calculate the program efficacy in terms of revising the Early Immersion Program Goal downwards to Intermediate Plus or above (the same level which is currently in place for the Late Immersion Program[2]) **84.6% achieved this goal but this is only 22.8% of those who entered the Early Immersion Program in 1995.**[3]

Response:

It isn't clear to us what the inflated 2006-07 numbers refer to, but it is clear that for some reason the commissioners decided to use 2005-06 students (391) against initial enrollment of the 06-07 cohort – dealing with two different sets of students. An earlier table refers to the 06-07 numbers as being inflated by approximately 140 – so why not reduce the 554 by that, for a number of 414, rather than a clearly inaccurate 391. Further, **the claim that only 22.8% of EFI students met intermediate plus proficiency once again ignores all those who were not tested** – and it would be hard to argue that many EFI students who pulled out in grade 10 or 11 would not meet this goal. Given that one of the major attrition points is high school, failing to at least acknowledge this point demonstrates serious bias. **Surely we are not going to destroy a program because a large number of students got what they needed from it, but didn't feel the need to get a certificate.**

Comparison of EFI and LFI:

TABLE 8: Showing Early Immersion Registrations by Grades 9, 10, 11 and 12 for 2004 - 5
Through 2006 – 7[a]

Year	Grade 9	Grade 10	Grade 11	Grade 12	% Decline 9 - 12
2004	1146	973	618	466	59.3%
2005	1188	1031	740	548	53.9 %
2006	1257	1131	845	613	51.2%

[a] numbers are derived from actual school records in Department of Education data base

TABLE 11: Showing Declines in FSL Late Immersion Registrations from Grade 9 to Grade 12, Between September 2004 and September 2006[a]

	2004-5	2005-6	2006-7
Grade 9	1,068	914	857
Grade 10	988	953	806
Grade 11	868	816	795
Grade 12	811	675	711
Net Change	257	239	146
% Change	- 24.06%	-26.15 %	- 17.04%

[a] Department of Education, School Year 2006-2007, Policy and Planning Department, March 2007.

Response:
These two tables purportedly show massive differences in attrition rates between the two programs. However, the data are meaningless because, as before, they ignore age cohorts. For example, we have 1146 grade 9 EFI students in 2004. **That cohort is down to 845 grade 11 students by 2006, for a loss of 26%. By ignoring the cohorts (which is mathematically indefensible), the authors suggest that the 2004 grade 9 year class was down to 618 students by grade 11 (a loss of 46%), irrespective of the fact that they are now counting different students who are two years younger.** Using the same group for LFI, we see that in 2004 there were 1068 students in grade 9. That cohort had dwindled to 795 student by grade 11 (2006), for a loss of 25.5%. Their equivalent calculation compares 1068 to 868 (grade 11, 2004), for a loss of 18.7%. In an effort to work out how serious the bias in this reporting method was, we followed all year classes possible for either 2 or 3 years. The same cohorts were examined for both groups (i.e., **comparisons were identical for EFI and LFI**). Following are the appropriate tables (values from the above tables following age cohorts):

EFI:

cohort	grade 9	grade 10	grade 11	grade 12	Actual attrition (%)	Attrition as would have been calculated using the report's approach (%)
2004 grade 9	1146	1031	845		26.3	46.1
2004 grade10		973	740	613	37.0	52.1
2004 grade 11			618	548	11.3	24.6
2005 grade 9	1188	1131			4.8	13.2

LFI:

cohort	grade 9	grade 10	grade 11	grade 12	Actual attrition (%)	Attrition as would have been calculated using the report's approach (%)
2004 grade 9	1068	953	795		25.6	18.7
2004 grade10		988	816	771	22.0	17.9
2004 grade 11			868	675	22.2	6.6
2005 grade 9	914	806			11.8	-4.3

The average actual attrition over 2 and 3 year blocks for EFI was 19.8%, and for LFI 20.3%. This is not total attrition because with the limited data available, students could not be followed for more that 3 years. However, for consistency, we calculated those same values under the mathematically flawed calculation scheme used in the report. They were 34.0% and 9.7%, respectively, for EFI and LFI. **The method used provides a gross misrepresentation of the data – claiming there is a huge difference when in fact there is none. Clearly one of the main reasons cited to dismantle EFI in favour of LFI is based on incorrect and inaccurate analysis.** The two programs have similar attrition rates.

p. 46-47

An important basis of comparison concerning persistence within the two programs is presented in Table 12 insofar that in each of the high schools in the province, students from the Early Immersion programs and those from the Late Immersion programs are merged into one cohort in either grade 9, 10 or, in some cases, grade 11. This practice has, for the purposes of this report, presented a somewhat unique opportunity to gather anecdotal information concerning the differences in the linguistic abilities of students from the two programs.

TABLE 12: Comparing FSL Early and Late Immersion Registrations for Grades 9 through 12 between September 2004 and 2006

	2004-5		2005-6		2006-7	
	Early	Late	Early	Late	Early	Late
Entry (G1/6)	1,655	1,161	1,624	1,045	1,646	1,020
Grade 9	1,146	1,068	1,188	914	1,257	857
Grade 10	973	988	1,031	953	1,131	806
Grade 11	618	868	740	816	845	795
Grade 12	466	811	548	675	613	711
% Persistence from entry	28.15%	69.85%	33.74%	64.6%	37.22%	69.7%

Response:
There is exactly the same serious problem here as was documented above. This table does not measure persistence from entry in any way, because they are dealing with 5 different cohorts of children in each within-year comparison. Following cohorts, the same comparisons that were completed in the previous section are possible. Numbers are identical – persistence is simply the inverse of attrition. **In other words – persistence within the high school years does not differ among the two programs. Again, the argument is false and data are presented in an incredibly misleading way.** We lack data to evaluate earlier years' persistence in the two programs.

p. 47

When asked for statements defining the differences between the products of the two programs, most teachers responded by stating that, clearly, the Early Immersion students had better enunciation and accents than did the Late Immersion students. Also, not surprisingly, the Late Immersion students tended to be weaker in their French, particularly in the early high school years but those differences tended to dissipate as the students moved along towards grade 12.

Response:
Given the clearly much higher achievement levels of the EFI students doing grade 12 proficiency tests, how can it be that differences dissipate by grade 12?

pp. 48-49

Employing the same means to test the efficacy of the Late Immersion program by revising the Late Immersion program goal downward one level to that of **Intermediate proficiency, 94.6% of students tested achieved this goal, which is 570[1] students or 35.33% of all students who entered a Late Immersion program.**

Response:
It is not surprising that if you lower the bar, more students will get over it. This statement essentially says that LFI students can meet the objectives of the core program – not a ringing endorsement of the LFI program, and it certainly doesn't put it ahead of the EFI program.

p. 49

Table 14: Comparisons of Early and Late Immersion Registrations – 1997 - 2006

	1997	1998	1999	2000	2001	2002	2003	20004	2005	2006
Early Immersion[2]	1882	1876	1881	1905	1830	1783	1706	1655	1624	1646
Late Immersion[3]	1171	1268	1430	1535	1462	1261	1269	1161	1074	1020

By using the available declining persistence data, the increasingly high attrition rates within the Early Immersion program, **by 2012 nearly 80% of the immersion classes within New Brunswick at the Grade 9 level and above will have to be combined Early and Late Immersion.** The latter statement is based upon the Department of Education's Policy Statement 309, which stipulates the minimum enrolment requirements for immersion programs.

Response:
As demonstrated previously, **the attrition rate of EFI is no higher than LFI, at least at the high school level**. The statement may be true, but the situation should not be blamed exclusively on EFI attrition.

Student achievement of French language skills:

TABLE 10 : Early Immersion Program[a] Oral Proficiency Assessment Results

	1999	2000	2001	2002	2003	2004	2005	2006
Number [b]	396	412	440	409	432	391	391	554[d]
Basic or Higher	100%	100%	100%	100%	100%	100%	100%	100%
Basic Plus or Higher	100%	100%	100%	100%	100%	100%	100%	100%
Intermediate or Higher	100%	100%	100%	100%	99%	99%	99%	99%
Intermediate Plus or Higher	83%	79%	79%	81%	79%	83%	86%	85%
Advanced[c] or Higher	38%	27%	25%	28%	32%	35%	37%	42%

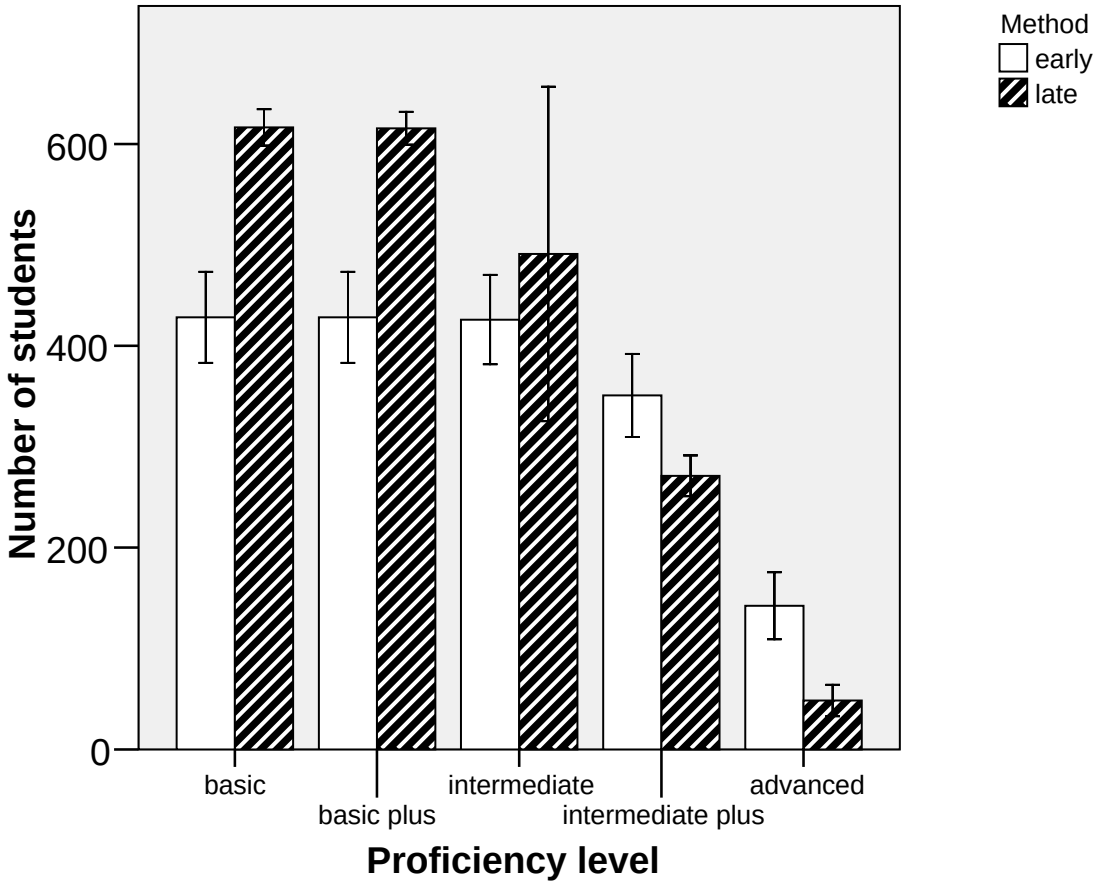
[a] 1999 – 2006 Grade 12 FSL Oral Interviews
[b] number of students tested
[c] Policy Statement 309 (2002) Oral Proficiency Goal
[d] includes the balance of Middle Immersion students

TABLE 13 : Late Immersion Program[a] Oral Proficiency Assessment Results

	1999	2000	2001	2002	2003	2004	2005	2006
Number[b]	598	618	601	666	618	617	611	602
Basic or Higher	100%	100%	100%	100%	100%	100%	100%	100%
Basic Plus or Higher	100%	100%	100%	99%	100%	100%	100%	100%
Intermediate or Higher	95%	90%	5%	92%	97%	96%	65%	95%
Intermediate Plus[c] or Higher	45%	37%	40%	43%	46%	48%	47%	46%
Advanced or Higher	5%	5%	7%	6%	7%	14%	10%	9%

[a] 1999 – 2006 Grade 12 FSL Oral Interviews
[b] number of students tested
[c] Policy Statement 309 (2002) Oral Proficiency Goal

Response:
Using the numbers and percentages provided in the above two tables, we calculated how many actual students achieved the various levels of proficiency in each year for each program (bearing in mind that this is a serious underestimate because testing was voluntary and many students dropped out near the end). We compared these numbers statistically with the following results:

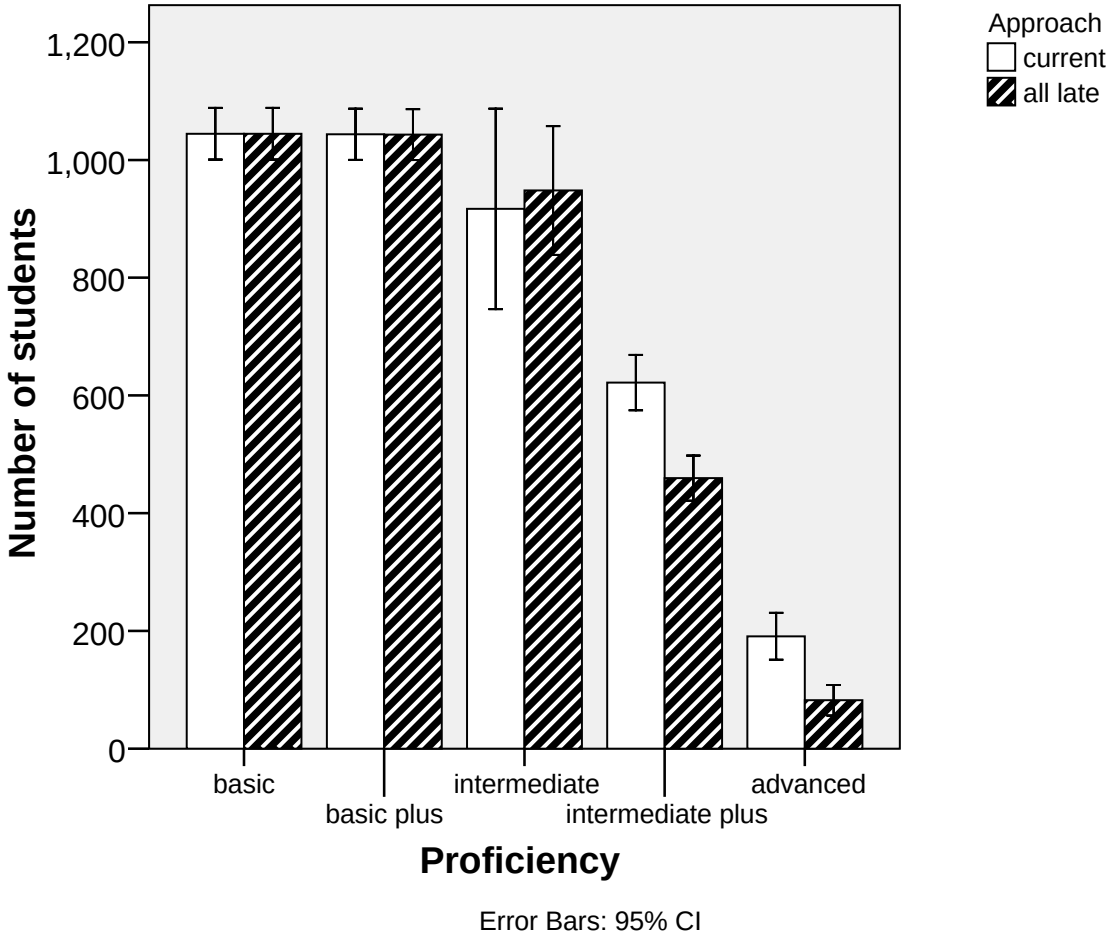


This figure is the actual number of students in each of the two immersion methods meeting particular levels of proficiency, averaged over all years of available data. This is calculated as percent meeting a particular level x number of students (from tables 10 and 13). So, this means that if a student met intermediate proficiency, he/she was also counted as having met basic and basic plus proficiency. We employed a repeated measures analysis of variance with year as the subject, method as the within-subjects factor, and proficiency as the between subjects factor. The difference between the two programs varies with proficiency level (method by proficiency interaction, $p<0.001$). For basic levels, significantly more students were present in LFI than EFI, reflecting the fact that virtually all students in both programs attained those levels, and there were more students tested from the LFI group. Number of students attaining intermediate proficiency did not differ among the groups. However, **for both intermediate plus and advanced proficiency, there were more students from the EFI stream than LFI (post hoc paired t-tests, $p=0.004$ and $p<0.001$ respectively), reflecting the fact that they did achieve better outcomes, even with the reduction of students tested.**

Perhaps a better analytical approach is to calculate how many children in total meet particular proficiency levels (i.e., combine LFI and EFI numbers calculated above), and compare that to what would have happened if all these children had gone thorough the LFI program (which is what is being proposed). To do this, we took all children in FI and calculated numbers attaining

particular proficiency levels based on the LFI percentages. **In this way, we are comparing total output from the current dual system with what would happen under a single LFI system.**

Following are the results:



This figure shows actual numbers of students tested under the current system, and projected numbers under the proposed system. Bars are averages across years. Using repeated measures ANOVA as described above, we see that the difference between the two approaches varies with proficiency level (approach by proficiency interaction, $p<0.001$). Post hoc paired t-tests for each proficiency level indicate no differences through intermediate, but significantly fewer students reaching intermediate plus or advanced levels under the proposed system than currently do so ($p<0.001$ in both cases). **This translates into about 270 students each year doing worse, and this is likely a substantial underestimate of the possible loss in proficiency given that not all students are tested.** If intensive French worked and many more students were attracted into LFI, this deficiency may be mitigated somewhat, but it is hard to imagine a scenario under the new system where more students would come out speaking at an intermediate plus or advanced level than currently do so.

p. 50 – a comment from a parent

Parents:

French Immersion is a very elite program and segregates the school system and children. Most behavioural and other challenged children are in the English (Core) stream. I can see the parents of French Immersion children do not want to let go, since their children receive far better education, due to smaller classes and less problem children but it is a very unfair system in this way and effects the system as a whole making it weak overall.[sic]

Response:
Are core classes larger than FI classes? The commissioners seem willing to present this comment, but there are no data to back it up. It would be interesting to see the numbers. Caps do not differ, and last year in our son's school, many FI classes were at the cap.

Exceptional students:

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TABLE 15 : Students with Exceptionalities by Program [a]

[a] copied from "Report on the Population of Public School Students with Exceptionalities: Anglophone Sector", New Brunswick Department of Education, Students Services Division, March 23, 2006, p.10.

Program	Frequency	Percent	Valid
English Core	13 759	93.1	93.2
French Immersion	1 002	6.8	6.8
Total	14 761	99.8	100.0
Missing	24	.2	
Total	14 785	100.0	

Response:
This table is very misleading – the authors have not taken into account the fact that there are many fewer students in total in FI. We do not have the data to estimate the actual proportion of exceptional students in programs. This is done for grade 2 in Table 17, but should be available throughout. The grade 2 results certainly shows a strong skew (4.6% versus 23.6%), but is not nearly as extreme as what is presented above. Hence, while we don't disagree that students with special needs are concentrated in the English stream, we would like to see extreme and misleading values like those presented here avoided.

p. 53

TABLE 17: 2005 Grade 2 Enrolments of Exceptional Children in French Immersion and English Core Programs

	2005	French Immersion	English Core
Total Enrolments	5,546[a]	1,505[b]	4,041
Exceptional Children	1,024[c]	70 (4.6%)	954 (23.6%)

[a] "Summary Statistics: School Year 2006-2007", Policy & Planning, March 2007, Table 18, p.45
[b] Summary Statistics: School Year 2006-2007", Policy & Planning, March 2007, Table 18a, p.47
[c] "Report on the Population of Public School Students with Exceptionalities: Anglophone Sector", New Brunswick Department of Education, Students Services Division, March 23, 2006, p.10.

Response:
We propose here an exercise to see how the elimination of EFI would improve the current situation where most exceptional children are concentrated in core classrooms. Working with the above grade 2 data and estimating an average class size of 23 students (the actual number doesn't matter because these values would scale accordingly), this works out to an **average of 5.4 exceptional students in core classrooms** and 1.05 exceptional students in EFI classrooms. **If EFI were eliminated, we would have 4.25 exceptional students per classroom.** While that is slightly better, it clearly isn't going to produce the massive reduction that many have implied.

Student success and streaming in the different programs

p. 55

TABLE 18: 2006-7, Grade 2, Provincial Reading Assessment – French Immersion – Descriptive Statistics (Percentages)

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
readpc	1405	87	13	100	68.23	16.455	-.295	.065
Valid N (listwise)	1405							

TABLE 19: 2006-7, Grade 2, Provincial Reading Assessment – English Core – Descriptive Statistics (Percentage)

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error
readpc	3825	100	0	100	69.29	.303	18.764	-.577	.040
Valid N (listwise)	3825								

Comparing Tables 18 and 19, there are a number of very important apparent issues. The average Grade 2 Provincial Reading Attainment level of the English Core students (mean = 69.29) is higher than that of the French Immersion students (mean = 68.23). The criteria by which these results have been reported by the Department of Education,[1] employing proportions of students of each program attaining achievement levels, has led to the misconception that the French Immersion Program has produced superior results. In point of fact, as Tables 18 and 19 clearly show, on average: i) the English Core program has produced better results in terms of attainment average and ii) a greater number of students who have attained the Provincial Achievement Level!

[1] "Of the 3930 second grade students registered in the English program, 72 % met or exceeded the appropriate achievement level in reading, an increase of 1>0% from 2006." "Of the 1407 second graders registered in the French Immersion program, 79% met or exceeded the appropriate achievement level in reading, an increase of 5% from 2006."

Response:
Both of the two "clear" points the authors present above are inaccurate. 1) **The percentage difference in attainment average between the two groups is so small (69.29 versus 68.23) that it is meaningless.** Further, even with the massive sample size employed (which means statistical power would be extremely high), **the difference between them is not statistically significant, though it approached it (t-test t=1.87, 0.1>p>0.05)**. We calculated this value based on the provided means and standard deviations. The fact that the authors omitted a statistical analysis here, when they used it in so many other places, even if unintentional, unfortunately suggests a desire to avoid showing the fact that the difference is not significant. 2) **The fact that a higher absolute number of students in the core stream attained the provincial achievement level is not surprising given that there were 2420 more enrolled in the program! That the authors even stated this makes it hard to take their conclusions as being anything other than biased.** Examining their footnote (above), it is clear that a somewhat higher proportion of FI students met the standard (79 versus 72). This is the only appropriate way to present these results, and the department of education has not been creating misconceptions, as suggested in the report.

The difference in the sizes of the negative skewness between the distributions of FI and Core students (-.295 versus -.577) presents the entire picture concerning the program differences. The distributions in Tables 15 and 16 clearly show that the two programs are distinctly different and comparing them in terms of proportions of attainment levels presents a totally inaccurate picture of the efficacy of the English Core program. The presence of exceptional children constituting 23.6% of the total population of the English Core program versus only 4.6% of those in the French Immersion program tells the entire story.

Response:
We performed a t-test on skewness, and, as the authors indicate, it is significantly different between the two groups ($p<0.05$). We agree that the presence of exceptional children is likely the cause of this. However, saying that comparing them in terms of proportion of attainment levels is

inaccurate suggests that each student should not be counted as an individual. We suspect that it was not possible to separate children on SEPs from the general population or surely the authors would have done that and compared the groups with those children removed.

The veiled argument that EFI is not working because EFI students are not doing better than core students is circular. It is based on an assumption that children in EFI are stronger students and therefore should be doing better. Perhaps that isn't the case, which, except in the case of exceptional students, would derail the streaming argument. Hence, we see these results as encouraging. While the core program does not work for French language acquisition, perhaps it is just fine for everything else, which means the demise of EFI would not help.

p. 56

The data surrounding the 2006-7 Grade 4 Provincial Reading Assessments presents many of the same results as did the Grade 2 Reading Assessments. In order to examine the actual efficacy of these results, it is essential to place the Grade 4 distributions of exceptional children within the programs in their proper context. Table 20 provides an overview of the enrolments of exception children in both the English Core and Immersion programs. It is interesting to note that the proportion of exceptional children in the Grade 4 English program is greater than it was in the Grade 2 program (26.4% to 23.6%), while the proportion within the Immersion Program is also greater at 5.8% (compared to 4.6%).

The increase in the proportion of exceptional children between Grades 2 and 4 is, no doubt, due to the fact that a greater number of children have been assessed and thus identified as 'exceptional'. Concomitant with the increased numbers of identified children is the likelihood that greater numbers of children are experiencing academic difficulty as they progress through the various grade levels. Thus, more children will evidence learning difficulties in Grade 4 than in Grade 2, and this will be manifested in their academic performance

Response:
Perhaps this is true, but given that they are yet again comparing two different cohorts of children, they cannot say this. The differences are small and could easily represent year-to-year variation. An extremely easy way to appropriately test this idea is to look at children who were in grade 2 in 2004 and the same children in grade 4 in 2006. Proportion of exceptional children could then be compared. It is hard to see why the authors did not take this approach.

pp. 57-58

TABLE 21: 2006-7, Grade 4 Provincial Reading Assessment - English Core Descriptive Statistics (Percentage)

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error
Readpc	4104	96	4	100	66.61	.279	17.880	-.575	.038
Valid N (listwise)	4104								

Table 22: 2006-7, Grade 4 Provincial Reading Assessment - French Immersion - Descriptive Statistics (Percentages)

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error
readpc	1357	84	16	100	68.63	.511	18.824	354.362	-.498	.066
Valid N (listwise)	1357									

A comparison of averages resulting from the assessment results indicates that the English Core students' average is less than that of the French Immersion program students' (mean = 66.61 and 68.63). This latter difference is a direct result of the increase in the numbers of exceptional children in the English Core program between Grades 2 and 4, along with the theory that the learning difficulties of these children are exacerbated with the increasingly difficult curricula content .

Response:
This difference is now highly significant ($t=3.48$, $p<0.001$), but again small. Significance is a result of the very large sample size. The suggestion that the difference is because there are now more exceptional children in English is a substantial stretch – there are also more exceptional children in French in this cohort. In fact, with such similar distributions for the two groups (similar skewness values), it seems entirely unreasonable to draw this conclusion. **Further, once again across-grade comparisons are made using different children, which renders results meaningless.** As mentioned above, the authors should have looked at a single cohort in grade 2 and then again 2 years later in grade 4. It would be very interesting to see this analysis and compare it to what they have here.

p. 58-59

Despite the differences in average Literary Assessment results which have been produced in Grade 4, the students in the English Core program produced a superior proportion of grades which "met or exceeded the appropriate achievement level in reading".[1] An examination of the relative similarity of sizes of skewness between the two distributions of students within the programs (-.575 and -.498) suggests that the French Immersion program's students have become a much more heterogeneous population between Grades 2 and 4 while, at the same time, there has been virtually no difference within the English population (-.577 and -.575). This would explain why the French Immersion Program's students fared relatively less well on the Grade 4 assessment – "Of the 1365 fourth graders registered in the French Immersion program, 66.8% met or exceeded the appropriate achievement level in reading, an increase of 4.1% from 2006."[1]

[1] "Of the 4267 fourth graders registered in the English program, 69.5% met or exceeded the appropriate achievement level in reading…". –"Briefing Note: Assessment Results", Department of Education, 2007

Response:
Here the authors propose that 69.5% is meaningfully greater than 66.8%, yet offer no analytical support for the statement. These are total numbers, so analysis on just these two values is not possible. However, these data exist for many years. Presenting one year and claiming that it is representative of the entire school system is a poor way to really assess what is happening. Further, even if these results are consistent across years, it's hard to see why they are bad. Of course both groups should be higher, but the fact that they are so similar should make us think that the core program is not doing as badly as thought.

p. 60

Table 23: 2006-7, Grade 5, Mathematics Provincial Assessment - English Core

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Math Total Core	4312	95.00	5.00	100.00	59.33	20.370	-.111	.037
Valid N (listwise)	4312							

TABLE 24: 2006-7, Grade 5, Mathematics Provincial Assessment - French Immersion

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Math Total Immersion	1392	88.00	12.00	100.00	64.47	19.337	-.217	.066
Valid N (listwise)	1392							

Further examination of Tables 23 and 24 reveals a most interesting fact, the amount of skew in the distribution of the French Immersion data, particularly when compared with that of the English Core program, containing such a relatively much greater proportion of exceptional students (27.97 of English Core and 6.3% of French Immersion students). One would assume a significantly greater level of homogeneity within the French Immersion program's grades. The data provided in Table 25 underlines the fact that there in a distinct lack of homogeneity of variance between the two programs' distributions, as indicated by the Levene's Test ($F = 7.529$; $p = .006$). Because of the lack of homogeneity of distributions between the two data sets, the corrected data set from a test of differences of means (ANOVA) is used to indicate that there is a significant difference between these two distributions.

Response:

A point here: The heterogeneity of variance is very small (note the small difference standard deviations above; variance is standard deviation squared). It is significant because the sample size is so large – all else equal, a test involving a larger sample is more likely to detect a significant difference. It is more important to consider whether magnitude of the difference is meaningful.

TABLE 25: 2006-7 Grade 5 Mathematics - Provincial Assessment - English Core and French Immersion

Univariate Analysis of Variance

program	Mean	Std. Deviation	N
English Core	59.33	20.370	4312
French Immersion	64.47	19.337	1392
Total	60.58	20.242	5704

Levene's Test of Equality of Error Variances(a)

Dependent Variable: allmath

F	df1	df2	Sig.
7.529	1	5702	.006

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Tests of Between-Subjects Effects

Dependent Variable: allmath

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	27816.137 (a)	1	27816.137	68.692	.000	.012
Intercept	1.613E7	1	1.613E7	39824.406	.000	.875
program	27816.137	1	27816.137	68.692	.000	.012
Error	2308954.443	5702	404.938			
Total	2.327E7	5704				
Corrected Total	2336770.589	5703				

a R Squared = .012 (Adjusted R Squared = .012)

Response:

This analysis is perhaps not the best way to deal with heterogeneous variances (transformation or use of test statistics in t-test or ANOVA designed to account for it would likely be better). However, results are almost certainly fine, because ANOVA is robust to violations of assumptions, especially when this small. Hence, we agree that there is a significant difference. However, we reiterate our comment that significance is a function of sample size as well as magnitude of difference. In this case, the sample is very large and the difference relatively small. The Partial Eta Squared (see above table) is extremely low. **It means that only 1.2% of the variation in math scores is explained by program.** The authors should acknowledge how little bearing program has on math achievement.

Returning now to the interpretation of these results: The authors state that the reason EFI students are doing better in math is because they have fewer exceptional students. Again, that unfortunately appears to be untestable. **Further, we find it interesting that EFI students in grade 5 seem to do a bit better in math, yet we have heard various anecdotal comments about students having difficulty doing math in French. We think it is encouraging that the results presented do not support that view. If there were difficulties, we might expect them to manifest early in the school years where grasp of French is not as strong, but this is not happening. Clearly, EFI is not detrimental to learning of math.**

pp. 60-61

In an attempt to discover wherein the distributions of grades difference(s) between the two programs lie, two simple arithmetic analysis were carried out. The first analysis, presented in Table 26, was a simple examination to compare the proportionate distributions of grades over 50%. Due to the fact that, using the entire data sets as the basis for proportionate distributions was not providing any more information than the comparisons of means (comparing averages), the data was re-examined (Table 27) using only the grades above 50%. This procedure, although not perfect, was carried out in an attempt to compensate for those 1,244 exceptional children in the data base (who were not otherwise identified). Using the portion of each program population which scored above 50% as the basis for comparison purposes, it is evident that despite there being a difference between the English Core Results and those of the French Immersion program, this relatively small difference is "underwhelming" in light of the fact that nearly 28% (27.97%) of the Core students are children with special needs.

TABLE 27: Distribution of Grades 50% and Over in 2006-7
Grade 5 Mathematics Provincial Assessment.

	Core English (n=2,829)	French Immersion (n=1,039)
50 – 59	22.8%	19.4%
60 – 69	23.5%	21.7%
70 – 71	17.4%	24.4%
80 – 89	27.0%	21.1%
90 – 100	9.3%	13.4 %

Response:
This approach is interesting – we think the goal is to demonstrate that when the exceptional children are removed, there are not really any major differences between the two streams. First – this should be taken as good news. Again, the underlying current seems to be that EFI students should be doing a lot better because they are stronger students, and the fact that they are not suggests the program is not as good as everyone thought it was. We reiterate that this is a rather circular interpretation of the results – it could just as easily be that streaming isn't nearly the problem everyone claims it is, and the core classrooms do work with the exception of teaching French well.

The last analysis in this section – grade 8 mathematics, seems to be generally correct. FI students are doing better in math by grade 8 than core students. Based on everything we have seen in the previous tables though, we are not convinced that streaming is the only thing involved in this trend, unless it is becoming substantially more pronounced as children progress through grades. Teaching math in French is certainly no worse, and possibly better, than teaching it in English.

Olson and Burns note that French Immersion is better understood "*functionally* as a process of *class* identification" (p.7). These authors explain that French Immersion children are elite not only in terms of their socio-economic background, but also in terms of the selection that happens when "problem" and "language difficulty" children are "exiled" from the Immersion classes: "the effect, if not the intent, has been to generate an elite cohort".[1]

Judging from the data presented within this section of the Commission's report, Olson and Burn's statement of elitism has been most prophetic in terms of the New Brunswick experience in French immersion.

Response:
The above statement is a stretch. We agree that there is a certain degree of streaming, especially with respect to exceptional students, but based on our interpretation of results, it isn't as pronounced as the authors have implied.

A final comment on this "streaming" section – analyses are presented for only a single year. Again, to really assess the situation, several years of data should have been considered. This would have allowed the authors to partition variation in results. They would have been able to determine how much was really attributable to core versus FI, and how much due to random variation among years. Their results may very well be representative, but we cannot know. There are more data – they should have been used.

Intensive French

In this section, the conclusions of the authors seem to match the data – intensive French does appear to be effective at increasing French skills over a very short period of time.

Costs

p. 74.

During the 2006 – 2007 school year, 554 Early Immersion program students presented themselves for assessment, of whom 234 achieved the program goal of Advanced or above. In summary, of the 1,469 Grade 1 students enrolled into Early French Immersion in September of 1995 , (detailed in Table 37) only 612 persisted to Grade 12, and of that number, 554 presented themselves for assessment and 234 achieved the oral proficiency goal of Advanced[2] or above. Calculating the persistence/attrition rates of the 1995 Early Immersion cohort, and converting it into 2007 – 2008 dollars, as shown in Table 37, it cost over $4 ½ million ($4,603,080. in incremental dollars) for 612 students to reach Grade 12, or to bring those 554 students to assessment of whom only 234 achieved oral proficiency, which resulted in a cost of $19,671.28 (incremental dollars) for each student who attained the goal of Advanced or higher.

Response:
This is a completely biased accounting of costs. Many students drop immersion programs in late high school, or are simply not tested. There are numerous reasons for this, which are provided in the report (e.g. some may want to prepare for university by taking more English courses, others can't get the particular courses they want in French). That said, automatically assuming that these students did not reach the advanced level, or even intermediate plus, is totally unreasonable. Considering that with EFI, French instruction in grades 11 and 12 is rather limited anyway, it is entirely possible that children in grades 9 or 10 are bilingual, conclude that they don't need a certificate, and move on. **In other words, this calculation is the cost of handing out FI certificates, not the cost of turning out bilingual graduates.** The same problem exists with late immersion cost calculations.

There is a further issue in that the bar is set at two different levels for EFI and LFI. This is reasonable and acknowledged throughout the report. However, if our goal in doing the costing estimates is to work out how much it costs to allow a student to speak French at various levels, perhaps all should be considered at a common level. In other words, work out how much it costs under both EFI and LFI to produce a graduate at intermediate plus, and a graduate at advanced. This is as follows using total numbers and percentages reported in tables 10 and 13 for 2006 (the same could and should be done for each of the other years to provide a clearer picture of relative costs):

program	incremental cost	total students assessed	# intermediate plus	# advanced	cost per student for intermediate plus	cost per student for advanced
EFI	$4,603,080	554	471	233	$9,772.99	$19,755.71
LFI	$3,111,757	602	277	54	$11,233.78	$57,625.13

Note that these are upper estimates, because as stated previously there will be students who have attained these levels who have not written the test. **However, even considering that, it is far more cost-effective to get students to intermediate plus and advanced levels using the EFI model.**

p. 76

Early French Immersion, with 19% of the students in French Second Language programs, costs over 28.5% (28.69 %) of the total FSL budget. On the other hand, the Core program, with over 73% of the students in FSL, costs 54.75 % of the total FSL budget. The cost of the Late French Immersion program, with 7.7% of the FSL students, constitutes 16.55 %[1] of the annual FSL budget.

Response:
From the wording of this statement, we get the impression that the authors think EFI is costing too much (notwithstanding the previous analysis we conducted). While clearly core is the least costly on a per student basis, it is also the one in which students receive the least French instruction, so that makes sense. Given that argument, LFI should cost less than EFI. However,

when we look at a ratio of % program cost to % student population, we see that EFI is actually less expensive. Following are calculations using the figures presented above:

program	% students	%costs	ratio
EFI	19	28.69	1.51
LFI	7.7	16.55	2.149351
core	73	54.75	0.75

This means that a core student is only getting $0.75 of every dollar that should be allocated to him/her on the assumption that every student should receive the same investment in French education. Early immersion students are getting $1.51, in other words, 1.51 times what they should be entitled to. Late immersion students are getting $2.15, 2.15 times their allotment. These results, together with our cost per student estimates above, demonstrate that **any premise that LFI is more cost effective than EFI is clearly rejected. EFI is the better financial choice if the goal is to produce French-speaking graduates.**

Comments on recommendations found in the report:

Based on our study of the document, we see serious problems with the first two recommendations.

Recommendation #1:

That all French Second Language programming for Anglophone New Brunswick children begins at Grade 5 with Intensive French.

Response:

If adopted, this will reduce French competence of hundreds of graduates per year, and result in a general lowering of standards. Perhaps it will result in more people getting over the bar, but that doesn't mean much if the bar has been lowered…

Recommendation #2:

That Late Immersion, beginning in Grade 6, be adopted as the sole French Immersion program for Anglophone students in New Brunswick.

For the various reasons outlined in "Part Three" of this report and the "Summary" section preceding this "Recommendations" section, the Late Immersion program is clearly superior to the Early Immersion program in both its efficacy measured in student persistence and student achievement plus its sustainability and economy of program time and resources.

Response:
This will generate poorer results (as stated above), and may very well cost more (see financial comments above). Further, we have the following issues with this statement: **1) Persistence is not a useful measure of success. 2) Attrition in EFI is not more than in LFI in high school. 3) Cost estimates suggest that EFI is not nearly as expensive as claimed, especially when learning French rather than getting a certificate is the metric.**

EFI appears to be the more economically and pedagogically sound choice.

Recommendation #2a

"That after Grade 10, students who have chosen to study through Late Immersion, will not be required to study their Science and Mathematics courses in French and that schools shall have the option of offering Science and Mathematics courses for Late Immersion students in either French or English between grades 6 through 10."

From the data gathered during the course of this study, there are two points at which significantly large numbers of students attrite from the FSL Immersion programs. The first point of significant attrition, which pertains only to the Early Immersion program, is at the end of Grade 1, driven principally by the belief that the children are not capable of adjusting to the choice of an immersion program. The second point of departure from the program is at the end of Grade 10. This latter attrition is huge and jeopardizes the sustainability of the immersion programs, particularly the Early Immersion program. By far, in fact almost universally, the sole reason for this attrition is students' desire to take their more difficult courses in the English language in order to be better prepared and have better grades for university entrance. These courses are science and mathematics. By waiving the requirement to take their grade 10, 11 and 12 science and mathematics courses in French, the perceived necessity to withdraw from the Immersion program is virtually eliminated. By way of an addendum to the latter point is the recognized inability of some middle and high schools to provide suitable numbers and levels of French language courses. This conundrum should be eliminated by relaxing the necessity of taking science and mathematics courses in the French language.

Response:
Implementing this, in all likelihood, would drastically reduce attrition rates in both EFI and LFI, so this could go a long way to solving the perceived problem of dropping out. However, it runs the risk, particularly for LFI students who have had less time to learn the language, of reducing French proficiency. Therefore, we are not convinced that this would be an appropriate approach.

Recommendation #2b

that, except under exceptional circumstances, all students who choose to enrol in the French Immersion program shall continue their program through Grade 12.

Response:
Telling students they may not drop out will certainly make at least some of them less inclined to sign up in the first place. Having no escape hatch is likely to be a scary prospect for children and parents. Ensuing reduced enrollment would further erode overall French proficiency of graduates. It seems hard to see how the 70% goal will be reached under that plan.

Concluding comments:

We have identified many problems with this report that undermine its basic legitimacy, and certainly make its recommendations questionable at best. We suggest that the government should not accept the major recommendation of this report (termination of EFI), let alone act on it. In many cases, data were presented and analyzed in a way that was not only incorrect, but also biased the results in favour of terminating EFI. We found no examples of errors in analysis that supported EFI (and we did look). This one-sided approach is troubling; presumably the goal of the commission was to generate an objective, unbiased review of existing data. That said, there were areas where we agreed with the findings. It appears that core French is not successful (though it's hard to see how unsuccessful because of the lack of standardized testing), and that intensive French is promising. Streaming does appear to be a bit of a problem with respect to special needs children, but eliminating EFI classrooms is not going to substantially reduce the number of these children in each class. Rather than eliminating EFI for such a questionable gain, a more appropriate solution would be to provide the kinds of learning support in EFI that are now available the core program. This would ensure an equal opportunity for exceptional children to participate in the early immersion experience. Further, replacing core French with Intensive French seems like a good

idea, but it should not be at the cost of losing EFI, the program that is proven to produce the best French speakers. Finally, loss of an EFI program in New Brunswick, the only bilingual province in Canada, seems to be a terrible step backwards. It will severely restrict options for families looking to move to the province, and in some cases would likely prevent them from coming at all. It will handicap some of our graduates in the long term, making them less competitive for bilingual jobs relative to students from other provinces.

Numerous education experts have stated that EFI is the best program, and based on our analysis, we fully agree.