

# **Compulsory Credit Impact Study**

NSTU Curriculum Committee

February 2002

# Compulsory Credit Impact Study

## *Background*

At its meeting in October 2001, the Curriculum Committee received a letter from the president of the NSTU requesting follow-up on a request by the president of the Association of Science Teachers, an NSTU Special Association.

Among the components of this request was the desire to communicate with the Department of Education about the negative impact that the number of compulsory credits were having on student choice within the high school curriculum.

During the past decade, the number of credits required for graduation has increased from 16 to 18. In addition, there has been an increase in the requirement that credits be achieved in specific areas.

Currently students are required to have three English credits, one each at grades ten, eleven and twelve; one fine arts credit; two mathematics credits; two science credits; two additional credits from science, mathematics or technology; one global studies; one social studies; two half credits in Career and Life Management and Physically Active Lifestyles<sup>1</sup>.

By comparison, in the 1988-89 school year, students were required to complete sixteen high school credits that had to include three English credits, one each at grades ten, eleven and twelve and one course in Canadian studies. From there, the Public School Program (PSP) simply states “It is strongly recommended that all students take a balanced program including some credits in mathematics, and social studies and science as part of the minimum total of 16.”<sup>2</sup>

The rationale for the increase in compulsory credits is that students require a broad range of educational experiences in the modern world and that the only way to ensure that students who graduate are adequately prepared is to require exposure and successful completion of courses in more areas. The Curriculum Committee does not have the resources to evaluate the validity of this rationale. In order to do so, student in-school performance, post-secondary educational success and subsequent employment performance would have to be evaluated. This would have to be done by first examining student performance of those completing high school prior to the increase in the number of credits required for graduation and corresponding increase in the number of compulsory credits that make up those graduation credits. A similar examination would then have to be undertaken with respect to students graduating from high school after the credit changes were implemented.

The Curriculum Committee believes that it is the responsibility of the Department of Education to undertake such a study and that all changes to curriculum should be based on sound educational research and therefore implemented because those changes will assist student learning. This is not the case with respect to the changes to the number of credits required for graduation or the increase in the number of those credits that are specified.

---

<sup>1</sup> On-line document Department of Education Public School Programs 1999-2000 at <ftp://ftp.ednet.ns.ca/pub/educ/psp/psp-b.pdf> page B-12

<sup>2</sup> Nova Scotia Department of Education Public School Programs 1986-87, 1988-89 pp 21-22

Teachers in many schools have identified concerns about the impact of the increase in the number of compulsory credit areas and the restrictions this places on student options. Anecdotal evidence suggests that school administrators have experienced more difficulty utilizing existing staff within a more narrowly defined set of course options. Guidance counsellors and parents have expressed frustration that students must take courses that the student and parents view as irrelevant and sacrifice courses of interest or importance to future educational goals.

In order to obtain a more precise picture of the impact of the change in the number of compulsory credits, the Curriculum Committee chose to ask high school principals to undertake a simple survey to assess the impact of the change in their schools.

### ***Study Design***

A one-page survey was developed. This survey was restricted to one page and kept brief in the hope of maximizing the response rate. It was sent to all 104 schools that included grades ten, eleven and twelve in the province. Some of these schools are exclusively senior high schools and only incorporated grades ten through twelve. Others are junior-senior (middle/senior) high schools encompassing grades from seven to twelve.

The survey requests structural data about the school. Principals were asked to indicate whether the school contained grades other than ten, eleven and twelve.

They were asked to indicate the size of the school. The size was specified with respect to Nova Scotia Athletic Federation division because this was a convenient standard that was uniformly recognized across the province. In addition, most principals would know to which athletic division their school belonged and it avoided any subjective judgement about the size of the school.

The principal was asked to indicate the type of scheduling format used, whether courses were scheduled as year-long courses, semestered courses (block scheduling) or a combination of year-long courses and semestered courses.

There were five substantive questions on the survey. Three questions focused on student access to courses. Principals were asked whether the compulsory credits provided too little, adequate or too much flexibility for students to take the courses of their choice without neglecting subject areas. They were asked whether compulsory credits limited, had no impact or expanded the courses available to students. Finally, they were asked whether the compulsory credits had resulted in a reduction, no change or an expansion of the course available in some programs.

The last two questions focused on the administrative dimension of compulsory credits. Did the compulsory credits make timetabling more difficult, have no impact, or make it easier? Was staff assignment more difficult, no different or easier?

The survey form is included in Appendix A.

Principals were asked to fax their responses to the NSTU. Of the 104 surveys sent out, sixty-six responses were received.

## Data Analysis

### Aggregate Data

With small variations, the overwhelming and consistent indication is that the compulsory credit regime in Nova Scotia is problematic for the Province's high schools.

An average of 62% of high schools report that the compulsory credit system has limited the course selection available to students. 79% of high schools report that programs have been limited and 80% indicate that there are fewer courses available to students. Similarly, the compulsory credit system has made timetabling more difficult and the task of assigning appropriate teaching staff is more difficult.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>62%</b>	<b>79%</b>	<b>80%</b>	<b>79%</b>	<b>77%</b>
<b>No Effect</b>	<b>38%</b>	<b>14%</b>	<b>15%</b>	<b>17%</b>	<b>23%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>8%</b>	<b>5%</b>	<b>5%</b>	<b>0%</b>

On all dimensions of the information requested, the compulsory credit system imposes difficulties on students, staff and administration.

### Analysis by School Size

#### Division 1 Schools:

Surprisingly, the largest schools in the province are not immune from the limiting effects of compulsory credits on students. In comparison with a provincial average of 62% of schools seeing reduced flexibility for students, 65% of the Division 1 schools report such a problem. Similarly 82% report a reduction of courses in some programs in contrast to 79% across the province and 88% of Division 1 schools indicate few courses available to students rather than the 80% provincial average. The larger schools did have an easier time scheduling both students and staff.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>65%</b>	<b>82%</b>	<b>88%</b>	<b>71%</b>	<b>76%</b>
<b>No Effect</b>	<b>35%</b>	<b>12%</b>	<b>12%</b>	<b>18%</b>	<b>24%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>6%</b>	<b>0%</b>	<b>12%</b>	<b>0%</b>

#### Division 2 Schools:

The most noticeable result here is that while the impact on students is consistent with provincial averages, Division 2 schools experienced a much more difficult time scheduling both students and staff.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>62%</b>	<b>71%</b>	<b>76%</b>	<b>90%</b>	<b>86%</b>
<b>No Effect</b>	<b>38%</b>	<b>14%</b>	<b>10%</b>	<b>10%</b>	<b>14%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>14%</b>	<b>14%</b>	<b>0%</b>	<b>0%</b>

### Division 3 Schools:

The results from division three schools are consistent with the provincial average.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>58%</b>	<b>75%</b>	<b>75%</b>	<b>67%</b>	<b>58%</b>
<b>No Effect</b>	<b>42%</b>	<b>17%</b>	<b>25%</b>	<b>25%</b>	<b>42%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>8%</b>	<b>0%</b>	<b>8%</b>	<b>0%</b>

### Division 4 Schools:

Division 4 schools reported the largest impact on programs with 88% indicating that there had been a reduction of courses available in some programs. Across the board, Division 4 schools indicated that they found the imposition of the additional compulsory credits problematic.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>63%</b>	<b>88%</b>	<b>81%</b>	<b>81%</b>	<b>81%</b>
<b>No Effect</b>	<b>38%</b>	<b>13%</b>	<b>19%</b>	<b>19%</b>	<b>19%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

### Conclusion

There appears to be no strong general relationship between the size of a school and whether or not the increase in compulsory credits has proven problematic. Across the board, schools are having difficulty providing options to students and assigning teaching staff to accommodate those options.

### Impact of School Format

Schools were asked to identify whether they were strictly 10, 11 and 12 senior high schools or if the school included other grades. Further refinement was not sought. Consequently no data were collected to determine whether those schools that indicated that they incorporated grades other

than senior high had grades seven through twelve, nine to twelve, primary to twelve or some other combination.

Of the schools that were exclusively senior high 64% reported that the course selection offered to students was limited by the compulsory requirement. 86% of those schools indicated that the program offerings were limited and 93% indicated that the compulsory credits had reduced the number of courses offered. The impact on scheduling displayed similar results with 79% of the senior high only schools reporting that scheduling students posed increased difficulty and 82% indicating that it was harder to assign staff to teach appropriate courses. 36%, 11%, 7%, 14% and 18% of these schools in each respective category reported that there was no impact of the credit system. A positive impact of the compulsory credit system was identified by 0%, 4%, 0%, 7% and 0% in each of the respective categories among senior high only schools.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>64%</b>	<b>86%</b>	<b>93%</b>	<b>79%</b>	<b>82%</b>
<b>No Effect</b>	<b>36%</b>	<b>11%</b>	<b>7%</b>	<b>14%</b>	<b>18%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>4%</b>	<b>0%</b>	<b>7%</b>	<b>0%</b>

Of the schools that contained grades other than ten, eleven and twelve, 61% reported a more limiting course selection for students, 74% that programs had been limited and 71% that fewer courses were available for students. 79% of these schools reported that scheduling students was more difficult and 74% reported that staff assignment was also more difficult.

The high schools with additional grades reported no impact of the compulsory credit system in 39%, 16%, 21%, 18% and 26% of the cases in each of the respective categories. These schools reported that the situation was augmented in each of the categories in 0%, 11%, 8%, 3% and 0% of the categories, respectively.

Although there are slight differences between schools that were strictly senior high and those with additional grades, those differences are only slight. Again, the conclusion that can be drawn is that schools found that the increase in the number of compulsory credits has limited student course selection, limited the program offerings, made fewer courses available, made student scheduling more difficult and has made staff assignment more difficult. The proportion of schools that indicate that the increase in compulsory credits has been helpful to either students or staff is very small.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>61%</b>	<b>74%</b>	<b>71%</b>	<b>79%</b>	<b>74%</b>
<b>No Effect</b>	<b>39%</b>	<b>16%</b>	<b>21%</b>	<b>18%</b>	<b>26%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>11%</b>	<b>8%</b>	<b>3%</b>	<b>0%</b>

## Impact of Semestering

When the data are analysed with respect to the scheduling format an additional pattern emerges. Those schools that are strictly semestered are the only schools to deviate from the overall patterns identified by the aggregate numbers, the analysis by school size or by school composition. The schools that reported that they only offered courses in a semester format stated that 33% found that student course selection was limited by the increase in compulsory credits; 58% felt that program offerings had been limited and 67% that there were fewer courses available for students to take. 83% indicated that student scheduling was more difficult and 67% stated that there were more difficulties with staff assignment. There was no impact in 67%, 17%, 17%, 17% and 33% of the schools in this category in each of the respective areas. The situation was improved in 0%, 25%, 17%, 0% and 0% of these schools in each category.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>33%</b>	<b>58%</b>	<b>67%</b>	<b>83%</b>	<b>67%</b>
<b>No Effect</b>	<b>67%</b>	<b>17%</b>	<b>17%</b>	<b>17%</b>	<b>33%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>25%</b>	<b>17%</b>	<b>0%</b>	<b>0%</b>

When schools contain a combination of semestered and year-long courses, the figures move toward the experience reported with the other forms of reporting.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>52%</b>	<b>83%</b>	<b>83%</b>	<b>76%</b>	<b>72%</b>
<b>No Effect</b>	<b>48%</b>	<b>10%</b>	<b>14%</b>	<b>17%</b>	<b>28%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>7%</b>	<b>3%</b>	<b>7%</b>	<b>0%</b>

Finally, the increase in the number of compulsory credits is most problematic for those schools that do not incorporate semestered scheduling and only offer year-long courses.

	Course Selection	Impact on Programs	Course availability	Impact on Scheduling	Impact on Staff Assignment
<b>Problematic</b>	<b>88%</b>	<b>84%</b>	<b>84%</b>	<b>80%</b>	<b>88%</b>
<b>No Effect</b>	<b>12%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>12%</b>
<b>Situation assisted</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>4%</b>	<b>0%</b>

Although it is likely an unintended consequence, it is clear that the increase in the number of compulsory credits is one of the forces that is propelling schools to choose a semester-based course scheduling format.

## ***Conclusions***

It is clear from the data collected that the increase in compulsory credits is problematic for students, teachers and administrators. Overall, we can conclude first of all that the compulsory credits provide too little flexibility for students so that students are not able to take the courses of their choice. While this conclusion is clear, it is also the position with the lowest agreement; the average across all high schools is that 62% of principals expressed this opinion. In schools that only offer a semestered scheduling format, only one third reported this.

The increase in compulsory credits has limited the courses available to students. Overall, 79% or four out of every five schools reported that courses had been limited. The majority of schools reported this, regardless of their size, scheduling format or the grades contained.

The compulsory credits resulted in a reduction of course available in some programs. While similar to the previous question, this specifically addresses the breadth of course offerings within programs. Again, four out of every five schools reported this situation.

The increase in compulsory credits has made timetabling more difficult. This is the case in 79% of cases and is independent of school size, scheduling format or the grades contained within the school.

Finally, the increase in compulsory credits makes staff assignment more difficult and more teachers end up teaching subjects outside their areas of comfort. This is the case in over three quarters (76%) of high schools reporting.

It is worth noting that the number of schools that reported that the increase in compulsory credits facilitated student opportunities or administrative procedures was very small across every dimension.

On the basis of this study, the Department of Education should re-examine the compulsory credit system imposed on students, teachers, administrators and schools. At the least, a comprehensive study that examines the educational and post-educational impact of this change should be undertaken so that these curriculum decisions rest on a sound foundation.





