

Information Bulletin for MAFA Members
Is there an Enrolment Crisis? Much Better Data Needed on Student Numbers
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At the October 1, 2014 Faculty Council meeting there was a lively discussion of the question of whether there was a student enrollment crisis at Mount Allison, arising from the President's claim that the numbers of students had dropped by about 250 from two years ago. At that meeting I presented some data on student enrolment in response to the President's remarks (the table at the end of these notes). These data were originally collected in response to arguments advanced by the Employer in their initial and rebuttal briefs for the interest arbitration to establish our new collective agreements. The Employer routinely presents student enrolment data, but often these data and the claims made raise as many questions as they answer. In response to member inquiries and requests I am recirculating the data table from the Faculty Council discussion, and exploring some of the issues that were raised in that meeting.

What is student enrolment?

There are many definitions of a "student": full-time, part-time, full-time equivalent, fee-paying, fall-term, winter-term, and more. There are also definitions based on multi-institution reporting agreements (MPHEC, AAU). We need these multiple definitions because we care about many different aspects of enrolment. We need to know about revenue tied to enrolment (tuition, internally-funded scholarships, and government grant). We need to know where students are coming from and how long they are staying. We need to know how many actual students we will have in our classes. And we want to know how all these quantities change over time.

How have enrolments changed over time?

The clearest answer is that student enrolments go up and down. Over the past 18 years student enrolments (by many measures) have varied by about 25% from the low to the high. I have incorporated all the data I can find into a table and graph (below). I "selected" 1997-98 as the starting point for the analysis for the simple reason that I could not find any data older than that. The numbers of students in any one year are strongly linked to the numbers in the following year because most students come back to study another year. Despite this, enrolment has gone up and down, by as many as 200 students in a single year. The year-over-year change in enrolment varies widely from year to year, but is about zero on average. There are no obvious systematic changes over time. The Employer frequently reports enrolment changes relative to some arbitrary reference date. At Faculty Council enrolment was reported as down about 250 in the last two years and in the initial arbitration brief the reported result was an increase of 38 students since 2002-03. The Employer didn't bother to report the dramatic enrolment increase since 2007-08 or the lack of any trend in enrolment over time. Reporting changes from arbitrarily chosen years is pointless; we can all play the game of selecting starting and ending years and reporting the changes, but we learn little by doing this. As far as I can tell from these data the answer to our question appears to be: student enrolments change randomly with no trend.

What is the role of demographic change in New Brunswick?

The Employer has for many years (at least since I arrived at Mount A in 2004) pointed out that the number of university-aged adults in New Brunswick is decreasing by about 1-2% per year. I have

heard many times that this means it will be increasingly difficult to attract students to Mount Allison. But I have never heard any argument or been provided with any evidence to substantiate this claim. It is unclear whether we are supposed to think that the eventual decline of the institution is inevitable or if we are supposed to congratulate ourselves (in high enrolment years) for overcoming this inexorable demographic trend.

The enrolment and population data do not support the claim that demographic decline imply anything at all about enrolment. (1) Enrolment fluctuates by up to 0-8% in any given year -- which is much more variable than the population of 18-24 year olds -- and there is no long-term decrease in enrolment. There also appears to be no pattern in the size of the fluctuations in enrolment, although this is harder to determine. (2) Mount Allison accounts for only 13% of the enrolment of the undergraduates in New Brunswick, so it is certainly possible that fluctuations in our enrolment could be driven by factors independent of population. (3) Mount Allison does not attract generic New Brunswick students; far from it, we attract students with a specific profile. (4) Only 2/3 of our students come from the Maritimes and student populations in other areas are not generally declining for the foreseeable future. It may be true that demographic changes are affecting enrolment at Mount Allison, but this is not clearly demonstrated and it seems likely that the effect is swamped by other factors.

Is there an enrolment crisis?

We must act prudently and in full knowledge of changes in the world around us. In light of recent recruitment results and Maritime population trends, we should look to see if there is a looming crisis and respond to it if it exists. Mount Allison currently has roughly the 5th highest enrolment in the past 18 years. We appear to have relatively high enrolment with declines in the past two years. This is the second "decreasing-enrolment event" I have witnessed since arriving at Mount Allison in 2004. By contrast, members may remember the year we took in 819 (as I recall) first-year students between these two events. This also provoked a crisis of sorts as the unusually large classes worked their way through our programs. Fluctuations in enrolment at Mount Allison appear to be the rule rather than the exception. These fluctuations may be a consequence of changes in recruitment practice at Mount Allison and elsewhere or changes in student supply and demand (e.g., driven by economic factors), but the data as routinely presented do not illuminate questions linked to these mechanisms. If there is a looming enrolment crisis, it is not evident.

Transparency and clear communication

If we are to use student enrolment data in service of reasoned discussion about the future, we must be clear about the data we are using and why the definitions we choose are the correct ones for any particular argument. In particular, we need to:

- (1) assemble the definitions of student enrolment in use and make those available to the community;
- (2) make reference to the appropriate definitions when reporting enrolment data; and
- (3) have a clear understanding of the appropriateness of each definition for any particular discussion.

We need to use the same definitions each year or it will be impossible to compare data from one year to another. The differences between the different enrolment data (e.g., AAU, MPHEC, and the President's 2013 report) are changing over time, which suggests definitions may have changed over time. If the definitions have not changed, these changing differences require explanation if we are to use these data for analysis of enrolment trends.

How have student enrolments changed over time? A compilation from MtA reports.
Presented at Faculty Council, October 1, 2014.

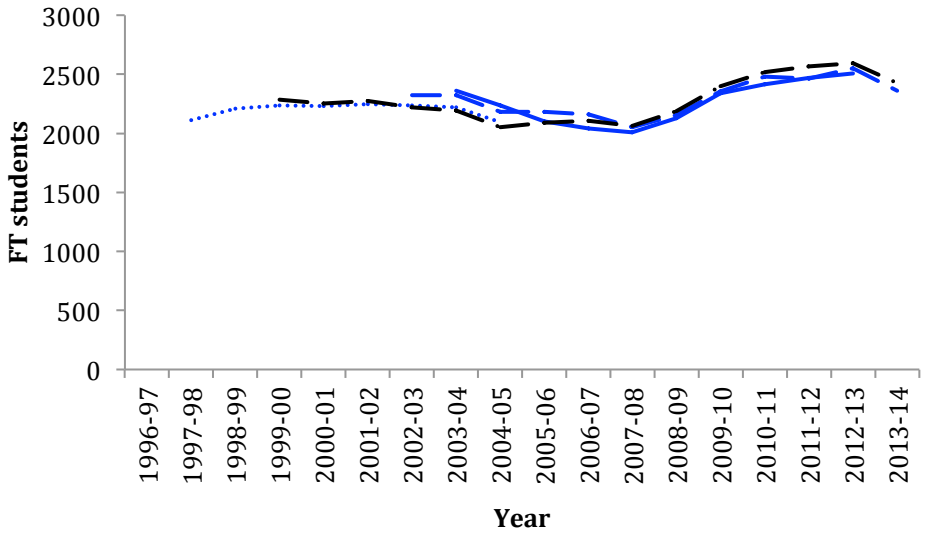
	MtA		President	Arbitration		MPHEC	Planning		President
	2005	2006	2013	MPHEC FTE	AAU FT	FT	FT	FT+ PT	2014
Source notes:	1	2	3	4	5	6	7	7	8
Academic Year									
1997-98	2110								
1998-99	2208	2209							
1999-00	2236	2238			2283				
2000-01	2231	2233			2251				
2001-02	2248	2249			2276				
2002-03	2235	2237		2324	2221	2294			
2003-04	2221	2223	2359.5	2321	2194	2292			
2004-05	2094	2097	2235.2	2184	2051	2161			
2005-06		2094	2099.2	2185	2089	2162			
2006-07			2043.6	2158	2107	2133			
2007-08			2008.6	2050	2063	2020			
2008-09			2127.9	2156	2187	2135			
2009-10			2337	2356	2398	2336	2328	2404	
2010-11			2415.6	2479	2520	2458	2419	2501	
2011-12			2470.5	2463	2569	2445	2445	2534	
2012-13			2505.8	2552	2593	2529	2493	2586	2609
2013-14				2362	2426		2412	2477	2426
2014-15							2319	2422	2343

Although some of these data are known to report different quantities, there are puzzling changes in the differences between the data series. For example, (i) AAU FT enrolment is currently larger than MPHEC FT, but the order was reversed in the early 2000s, and (ii) the President's enrolment data for 2012-13 increased by about 100 students between May 2013 and September 2014.

Source notes:

- 1) full-time students, paying regular tuition, Review of operations 2004-05
- 2) "students paying full-time tuition fees", Review of operations 2005-06 (read from graph)
- 3) "student numbers", President's "Reflections on MTA's Budget, 2013-14", May 9, 2013 (Faculty Council and Senate), computed as the product of faculty and student/faculty ratios.
- 4) "number of students", Employer's initial brief for interest arbitration, September 5, 2014 and the total full-time equivalent enrolment as of December 1, MPHEC
- 5) "full-time student enrolment", Employer's rebuttal brief for interest arbitration, September 16, 2014 and the October 1 survey of preliminary full-time enrolments as reported by AAU (atlanticuniversities.ca)
- 6) Total full-time fall-term enrolment, MPHEC (www.mphec.ca/research/maritimeuniversitystatistics/enrolment.aspx)
- 7) Full-time and part-time, undergraduate majors (including unknown majors), Academic departmental overviews for Planning, September 29, 2014
- 8) "students", President's remarks to Faculty Council, October 1, 2014

Changes in full-time student enrolment over time as reported by the Employer. The most obvious features are the presence of periods of 4-8 years when enrolment is relatively high or low compared to the recent past. The current enrolment is among the highest levels we have experienced in the last 18 years, although we may be entering a period of relatively low enrolment compared to the last couple of years, as we did in 2003-04. (Legend: blue dotted line, source 1 from table; blue solid line, source 3; blue dashed line, source 4; black dashed line, source 5)



Full-time enrollment at Mount Allison versus NB population of 18-24 year olds from 2002-03 to 2013-14 (Employer interest arbitration initial brief §38, source 4, and MPHEC FTE; Statistics Canada). The same data are presented two ways: on the left, the vertical scale emphasizes the absolute variation in MtA enrolment and on the right the range of scales on both axes are chosen to put the variation in enrolment and population on a similar footing. The two data sets vary independently (coefficient of determination, $R^2=0.03$; this means that only 3% of the variation in the MtA enrollment data can be predicted by changes in the population of 18-24 year olds in New Brunswick although temporal autocorrelation complicates the statistical analysis.)

