

Times Have Changed

Frank Jenkins

A few years back I wrote an article for *The Science Teacher* indicating the critical shortage of chemistry, physics and mathematics teachers in the province (and worldwide). The typical situation was that we at the University of Alberta supplied about 75 biology majors and 12 physical science majors (a 6:1 ratio)—whereas the demand in the high schools was for a ratio of 2:3 (biology:chemistry+physics). About four years ago we graduated two chemistry teachers from the University of Alberta. Fortunately we have had a surplus of biology majors to take some of the physical science positions; however, many of these students did not even have a physical science minor.

Compounding the critical shortage in Alberta was the same shortage worldwide. Many of our physical science and mathematics students use a major and/or minor as a ticket to travel and see the world. This is a recruitment tool that sometimes backfires. We hope that some of these students will be back some day.

Today I am happy to report that we have had some success turning this situation around. For example, the numbers of majors plus minors in the physical sciences now exceeds the number of majors plus minors in biological sciences. The word has got out to students about the career opportunities for physical science and mathematics teachers, and we have created chemistry and physics majors and minors to remove some barriers to specialization and honours science students entering our faculty. The numbers of our students in the University of Alberta education system—year 2–5—are:

Subject	Majors	Minors	Total
Biology	131	117	248
Chemistry	51	48	99
General	81	39	120
Physical	46	33	79
Physics	31	28	59
Math	200	139	339

One problem that remains is to communicate this information to department heads, principals, human resource officers and superintendents; that is, the people who are hiring chemistry, physics and mathematics teachers. There are still reports of non-science majors being hired to fill science positions, because the person doing the hiring thinks that there is still a critical shortage of graduating science–education students. On the contrary, we now have specialists to fill these vacant positions. Similar conditions exist for mathematics–education students.

Please help by getting the word out to the people who do the hiring in your district—send them a copy of this article. Talk to them directly.

It's nice to have some good news to spread.

Frank Jenkins is an adjunct associate professor and director of the Imperial Oil Centre for Mathematics, Science and Technology Education in the Department of Secondary Education at the University of Alberta.