

# MERIT PAY: A TOOL FOR IMPROVING THE EDUCATION SYSTEM

It is universally acknowledged that a quality education system has a profound influence on economic prosperity. In the long run, only a trained and productive population can improve its quality of life in a sustained manner. It is after all in order to promote access to education that the Quebec Department of Education was established in 1964. Today, this Department has an annual budget of \$15.5 billion, the equivalent of 25% of Quebec government program spending.<sup>1</sup> Despite the multiple measures adopted over the decades and the sums invested, Quebec's education system must once again rise to important challenges in order to contribute fully to the development of the economic potential of the province's people.



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## Challenges to be met

One of these challenges, among others, is the dropout rate. Indeed, 11.7% of Quebecers 20 to 24 years of age do not possess a high school diploma and are not in school.<sup>2</sup>

A solution often put forward is to increase the budgets allocated to education. However, the dropout rate in Quebec is systematically higher than that observed in the rest of Canada, despite higher spending on education per student than is seen in the other provinces.<sup>3</sup>

These results confirm the conclusions of a vast body of research showing that the quantity of resources invested into an education system is no guarantor of the quality of that system, and that raising this quantity does not significantly contribute to improved student performance.<sup>4</sup> We must pay close attention not merely to the amount of funds spent but also and especially to the manner in which they are spent.

Since the quality of the instruction received has an important influence on educational results, it is this variable that should be evaluated and the behaviours related to it that should be rewarded. In Quebec, however, as elsewhere in North America,

public school teachers are remunerated solely on the basis of seniority and level of schooling, as stipulated in the collective agreements negotiated at the provincial level (see Figure 1).

Many researchers have shown, though, that these characteristics have at best a very marginal effect on the quality of instruction and student performance.<sup>5</sup>

## Motivating teachers to do a better job

The desire to improve one's lot is among the principal motivations of individuals. Economic theory has established a clear link between the method of remuneration and worker productivity. Just as an income dependent

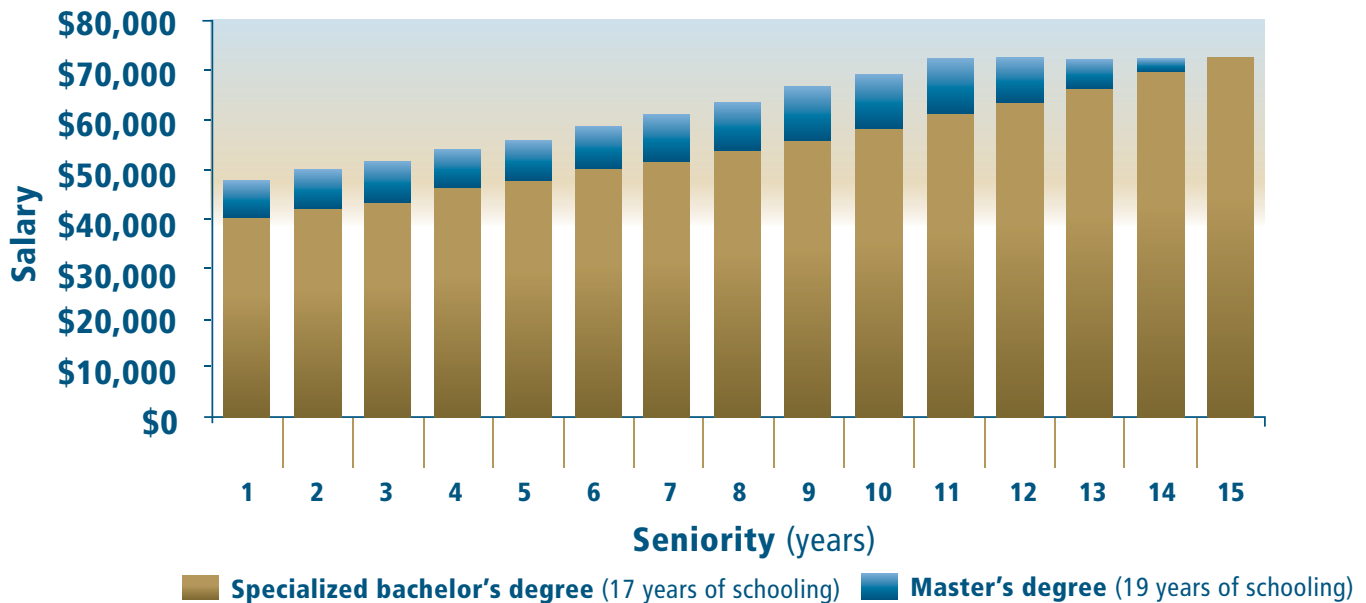
on attaining specific results motivates salespeople, managers, manual labourers and academic researchers to make an effort and strive to be better, there is every reason to think that teachers, too, are susceptible to this general rule of human nature.

In order to encourage teacher excellence, to attract and retain the profession's best candidates, and to thereby improve student results, particular attention must be paid to remuneration methods in the field of education.



1. Ministère des Finances du Québec, *2011-2012 Budget Plan*, March 2011, p. A.17.
2. Jason Gilmore, *Trends in Dropout Rates and the Labour Market Outcomes of Young Dropouts*, Statistics Canada, 2010. This definition of the dropout rate is different from the one used by the Institut de la statistique du Québec, which considers students leaving high school without a diploma to be dropouts. According to this definition, the dropout rate reached 25.3% in the province of Quebec as a whole in 2006-2007.
3. *Id.*; Ministère de l'Éducation du Québec, *Indicateurs de l'éducation*, 2010, p. 22 (spending per student in school boards as a percentage of GDP per capita).
4. Eric A. Hanushek, "The Failure of Input-Based Schooling Policies," *Economic Journal*, Vol. 113 (2003), No. 485, pp. F64-F68.
5. Thomas J. Kane, Jonah E. Rockoff and Douglas O. Staiger, "What does certification tell us about teacher effectiveness? Evidence from New York City," *Economics of Education Review*, Vol. 27 (2008), p. 615-631; Eric A. Hanushek and Steven G. Rivkin, "Generalizations about Using Value-Added Measures of Teacher Quality," *American Economic Review*, Vol. 100 (2010), No. 2, pp. 267-271; Daniel Aaronson, Lisa Barrow and William Sander, "Teachers and Student Achievement in the Chicago Public High Schools," *Journal of Labor Economics*, Vol. 25 (2007), No. 1, pp. 95-135; Eric A. Hanushek, *op. cit.*, footnote 3.

Figure 1 - Quebec teacher salary according to seniority and years of schooling (2011-2012)



Source: Fédération des syndicats de l'enseignement (CSQ), *Entente nationale 2010-2015*, April 2011, p. 85. Notes: the collective agreement provides a different scale for teachers with a doctorate or with less than 17 years of schooling. The salary presented does not take into account potential additional amounts due to economic growth or certain other factors (e.g.: exceeding the maximum number of students per class).

The principle of merit pay has existed for a long time in a large number of professions. For a few decades now, it has been applied to the field of education in several countries (the United Kingdom, India, Portugal, Israel, the United States, etc.), in various socioeconomic contexts, in schools of various sizes and according to multiple formulas.

This diversity of experiments is such that the results obtained vary widely, depending on the models evaluated. Researchers note, for example, that many of the programs put in place in the United States were watered down or co-opted for the benefit of teachers.<sup>6</sup> Instead of keeping track of “outputs,” or results obtained (student grades, graduation rates, or even supervisor evaluations), these programs focus on “inputs,” and basically offer bonuses to teachers who pursue university studies, complete training programs or obtain new certification. In effect, they amount to simple extensions of

traditional remuneration on the basis of seniority and years of schooling.

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There are, however, numerous empirical studies that conclude that linking teachers’ remuneration with their performance and with the results of their students leads to substantial improvements in educational quality.<sup>7</sup> A recent study showed, moreover, that the students who obtain the best results on Programme for International Student Assessment (PISA) tests are generally from countries that apply a certain form of merit pay.<sup>8</sup>

### Necessary conditions for the success of merit pay

Merit Pay having produced conclusive results in many cases, it is important to determine how merit should be measured and how this kind of incentive could be implemented in the Quebec

6. Stuart Buck and Jay P. Greene, “Blocked, Diluted, and Co-opted – Interest groups wage war against merit pay,” *Education Next*, vol. 11 (2011), no 2, p. 26-31.  
 7. Derek Neal, *The Design of Performance Pay in Education*, National Bureau of Economic Research, Working Paper No. 16710, January 2011; Michael J. Podgursky and Matthew G. Springer, “Teacher Performance Pay: A Review,” *Journal of Policy Analysis and Management*, Vol. 26 (2007), No 4, p. 909-949; David Figlio and Lawrence W. Kenny, “Individual Teacher Incentives and Student Performance,” *Journal of Public Economics*, Vol. 91 (2007), No 5-6, p. 901-914; Ludger Woessmann, “Cross-Country Evidence on Teacher Performance Pay,” *CESifo*, Working Paper No. 3151, August 2010; Karthik Muralidharan and Venkatesh Sundararaman, “Teacher Performance Pay: Experimental Evidence from India,” *Journal of Political Economy*, Vol. 119 (2011), No 1, p. 39-77; Victor Lavy, “Performance Pay and Teachers’ Effort, Productivity, and Grading Ethics,” *American Economic Review*, Vol. 99 (2009), No 5, p. 1979-2011.  
 8. Ludger Woessmann, *op. cit.*, footnote 6, p. 12.

school system. Here are a few conditions that should be respected based on the experiments carried out so far.<sup>9</sup>

#### *More autonomous schools*

Each program should be designed according to the goals the school or group of schools has set out for itself, the behaviours it wants to promote and the constraints to which it is subject. What is needed, then, is not a single program for all Quebec public schools, but ideally a variety of programs to respond to particular needs. Setting up such a system therefore implies greater autonomy for schools in the management of pedagogical programs and the negotiation of collective agreements. This debate obviously deserves to take place for other reasons, to which must be added that of being able to set up a merit pay system that is effective and adapted to its environment.

In the case of teachers whose skills are found to be below a reasonable minimum level, schools should have the possibility of dismissing them (which remains impossible in practice in Quebec's current regime).

#### *The size of financial incentives*

Remuneration that would depend 100% on performance is not desirable because too much uncertainty in their remuneration risks motivating teachers to choose another profession entirely. A common base salary should therefore be established for all teachers, to which would be added some remuneration based on performance.

Financial incentives must be sufficiently large to motivate teachers and ensure the efficiency of the program. Denver's ProComp, for example, offers a bonus that varies from 1% to 9% for each of its twelve criteria.

#### *The basis of evaluation*

Measuring merit by using student results exclusively is not recommended, since this method favours those who teach students who have been cherry-picked, and can also encourage teachers to "teach to the test" and nothing else. Programs that only take into account student progress are also not advisable, as they favour those teachers whose students start off with very poor results.

Better to aim for a program like Denver's ProComp,<sup>10</sup> which combines several variables and allows for the creation of those incentives required to reach the goals of the school or group of schools with regard to value-added teacher effects.

Particularly in the case of small schools, where a proactive teacher can be not only very effective in his own class but also have an influence on his colleagues and on his work environment, certain variables should measure the performance of the school as a whole with regard to fixed objectives: student attendance, Department of Education exam success rates, graduation rates, etc.

Other variables should evaluate the skills and the involvement level of each teacher. Several methods can be considered: evaluations by inspectors who show up in classes unannounced; student evaluations (as is already done in most universities); students' success rates, progress and academic performance; extracurricular activities; coaching; preparation of pedagogical material; class management and discipline; degree of availability; team spirit and collaboration with colleagues, advanced training, etc.

Academic results used to evaluate student performance must be based on uniform exams for students at each level, the results of which are conserved in a database. This measure allows for longitudinal studies to be carried out and for teacher evaluations to be even more objective. The Department of Education's exams could serve this purpose, but schools could also use others better suited to their goals.

As for seniority, since it is not correlated with quality of instruction, it should at best have only a small influence on salary increases for teachers.

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#### *Clarity and simplicity*

Each school or group of schools must establish performance standards and explicitly inform everyone concerned. The link between performance and reward must be clearly defined and understood by all. In certain cases, the link can be direct (e.g., a \$500 bonus if objective X is reached). In other cases, it can be more abstract if it takes into account several performance variables.

9. To establish these conditions, we drew particularly from the analyses and recommendations of: Rodney Clifton and Peter Holle, *A Merit Pay Plan for Manitoba's Teachers*, Frontier Centre for Public Policy, January 2003.  
10. Edward W. Wiley, Eleanor R. Spindler and Amy N. Subert, *Denver ProComp: An Outcomes Evaluation of Denver's Alternative Teacher Compensation System*, University of Colorado at Boulder, 2010.

The programs that achieved the most success had scrupulously informed teachers of the impact of their performance and of each type of behaviour on their pay checks. Denver's ProComp was a leader in this regard by making available on their Web site a table<sup>11</sup> indicating the rewards associated with the achievement of each component.

## *The role of school administration*

In education, the teacher is not the sole architect responsible for classroom atmosphere and student results. For example, few teachers will succeed in maintaining discipline in their classrooms if the school administration does not back them up by helping or sanctioning students that are disruptive in some manner.

The administration of a school therefore plays an essential role in teachers' performance. It must make the necessary resources available to teachers who want to improve their performance (rigorous disciplinary framework, availability of pedagogical material, advanced training programs, etc.), failing which the efforts of those teachers will be in vain and the merit pay program will prove ineffective.

School principals as well as administrators should also be targeted by the merit pay program, since their skills influence school atmosphere, teacher motivation, and as a consequence, student performance. This measure also encourages principals to recruit the best teachers and to dismiss those who do not live up to expectations.

## *Concrete implementation and teacher involvement*

In order to attract and retain teachers, they must feel confident and have a favourable attitude toward merit pay. The program must be effective, which is to say that it must actually lead to the best teachers receiving higher salaries than their less skilled colleagues. It must also be perceived

to be simple, just and fair, not only in design but also in evaluation methods, requirements, sums allocated, payment methods, procedures and the manner in which it is run. Bureaucratic procedures must be minimal to keep from discouraging the people concerned and to limit the cost of compliance.

*Teacher remuneration in its current form, based on seniority and years of schooling, does not motivate teachers to excel and can be discouraging for good teachers.*

In order to increase the chances of success for a merit pay program, it is recommended to begin with a pilot project. This allows the people concerned to familiarize themselves with the program, to identify its flaws and to make the necessary adjustments before it is put in place on a large scale.

Each school must also assign someone the job of merit pay specialist in order to be ready and able to answer questions, give advice and keep the channels of communication open between workers and program administrators.

## Conclusion

Teacher remuneration in its current form, based on seniority and years of schooling, is simple and easy to manage. On the other hand, it does not motivate teachers to excel and can be discouraging for good teachers.

The numerous experiments that have already been carried out show that a merit pay program can correct these shortcomings and markedly improve the quality of educational services delivered. These experiments also allow us to determine the characteristics that a program must have in order to bear fruit.

Even if the elaboration and implementation of this kind of program requires effort and a change of mentality, we should contemplate such a formula for Quebec. Because let's not forget that while our children have a responsibility to study hard, we too have a responsibility to our children: to offer them the best education possible.



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11. Denver Public Schools, Teacher ProComp: Eligibility & Payment, <http://denverprocomp.dpsk12.org/eligibility> (click on "Incentive Payment Chart").