

November 2019

A Recipe for Failure: The Math Proficiency Test for Beginning Teachers



The Ontario Teachers' Federation (OTF) and its Affiliates – l'Association des enseignantes et des enseignants franco-ontariens (AEFO), the Elementary Teachers' Federation of Ontario (ETFO), the Ontario English Catholic Teachers' Association (OECTA) and the Ontario Secondary School Teachers' Federation (OSSTF) – have a long-standing commitment to teaching excellence, founded on strong working relationships, ongoing, self-directed professional development, research-driven resources and the teaching profession's unique ability to be self-reflective practitioners.

Consideration will always be given to initiatives that support improvement and success in the area of mathematics through the investment in professional development, modern resources for the classroom, and supports for growing success in mathematics. As such, OTF and its Affiliates consider the government-imposed Math Proficiency Test (MPT) an affront to the teaching profession in Ontario, and we stand unequivocally opposed to it.

Furthermore, it is our assertion that the MPT represents an undue hardship on future generations of teachers who are being forced to meet a requirement that in no way predicts, supports or reflects their capacity to be effective educators. The current cohort of teacher candidates enrolled in Ontario's initial teacher education programs have been placed in a particularly tenuous position due to the imposition of this ill-conceived and arbitrary new requirement.

Ontario's teachers are considered to be among the best qualified and most effective in the world. Ontario's public education system has been recognized by the Organisation for Economic Co-operation and Development (OECD), National Center for Education and Economy (NCEE) and the McKinsey Group as one of the best in the world (Barber, Chijioke & Mourshed, 2010; Fullan, 2012).

Despite this widespread recognition, in August 2019 the Ford Government announced it was moving ahead with a new requirement for beginning teachers in the province to pass a proficiency test in mathematics. Details of the MPT are outlined in Ontario Regulation 271/19: Proficiency in Mathematics, filed under the *Ontario College of Teachers Act* and Ontario Regulation 272/19: Objects of the Office, filed under the *Education Quality and Accountability Act*. According to these Regulations:

- all graduates of Ontario teacher preparation programs, regardless of division or subject specialization, who complete their certification applications to the College of Teachers (OCT) on or after March 31, 2020, will be required to provide proof of having successfully passed the test in order to be granted an Ontario Certificate of Qualification;
- the test will be developed by the Education Quality and Accountability Office (EQAO) and may be administered by Faculties of Education. EQAO will be responsible for communicating the results to OCT;
- the test will consist of multiple-choice questions, 70% of which will cover mathematical content and 30% of which will address math pedagogy;

OTF and its Affiliates consider the government-imposed Math Proficiency Test (MPT) an affront to the teaching profession in Ontario, and we stand unequivocally opposed to it.

First and foremost, OTF and its Affiliates do not consider results from the EQAO to be valid policy drivers for Ontario's publicly funded education system (OTF, 2017).

- the content component will include questions drawn from the Ontario Math curriculum for Grades 3 to 11;
- a grade of at least 70% on each component (content and pedagogy) will be required in order to pass;
- there is no limit to the number of times the test may be taken, but only the first attempt will be free of charge;
- the faculties will have five days to provide completed tests to EQAO;
- EQAO will have 10 days to mark the tests, communicate the mark on the test to the person who took it, and provide a statement of successful completion to the Registrar of the College;
- practicing teachers may opt to take the test voluntarily;
- internationally educated teachers will have up to two years to pass the test, and will receive a conditional Certificate of Qualification and Registration until they do so; and
- teachers who become certified to teach in other Canadian jurisdictions are exempt from taking the test, due to the *Ontario Labour Mobility Act*.

Rationale for Cancellation of the Math Proficiency Test

First and foremost, OTF and its Affiliates do not consider results from the EQAO to be valid policy drivers for Ontario's publicly funded education system (OTF, 2017). The education system in Ontario, as a whole, has evolved and modernized, especially assessment and evaluation practices, yet the EQAO testing has failed to progress at the same pace (Campbell et al, 2018).

Secondly, in the early 2000's, Ontario attempted to implement a test for newly qualified teachers, the Ontario Teacher Qualifying Test (OTQT). From the outset, the test was plagued with administration problems including test registration, fabricated cut-off scores, lost tests, language translation issues and delays in scoring, to name but a few. The test had to be administered three times a year to accommodate teacher graduates in all regions of the province.

More specifically, in 2003, the first year it was administered, more than 97% of teacher candidates passed the OTQT, leading critics to question whether the cost and administration burdens were justified. By the time of its final administration in 2004-05, more than 98% of beginning teachers passed the OTQT on their first attempt. The test cost the Ontario Government approximately \$2.6 million to administer annually, monies that could have been better spent on teacher development and modern resources for the classroom (OTF, 2004).

Furthermore, researchers at three Ontario universities concluded that the test was "an ineffective, unauthentic and unnecessary measure of teacher candidate preparedness to teach in Ontario's schools" (Portelli, Solomon & Mujawamariya, 2003). Research on the OTQT also concluded that "the test may actually serve to reward less qualified teachers as it exclude[d] critical inquiry and divergent knowledge and perspectives in favour of a standardized, homogenized approach to teaching practice" (OISE/UT, 2004).

Evidence does not support the notion that standardized teacher tests can predict teacher efficacy or student success. A 2009 meta-analysis of 123 studies on teacher testing similarly showed that “test scores were at best moderately related to teaching competence and that performance in preparation programs was a significantly better predictor of teaching skill” (D’Agostino & Powers, 2009). According to Michael Fullan, “evidence shows that paper-and-pencil tests [for teachers] don’t do much good in assessing performance ... and probably should not occur” (Fullan, 2003).

A 2019 literature review produced by the Government’s own agency tasked with the development of the MPT, concluded that the poor link between standardized teacher tests and teacher performance does not justify the widespread implementation of teacher testing. The academic literature around teacher testing suggests that the fundamental goals of these politicized tests are often not met (EQAO, 2019). The review also highlights multiple challenges to linking teacher competency test scores to student outcomes. At best, there is “mixed evidence concerning the association between standardized teacher competency testing and student achievement.”

Standardized proficiency tests contribute to equity issues for educators just as they do for students. A range of research studies have found that teacher competency testing has an impact on the diversity of the teaching population, since built-in biases against marginalized groups negatively impact who passes the test (Libman, 2009). Equally alarming is the evidence from several studies that the imposition of standardized teacher tests may actually serve to dissuade individuals with potential from pursuing a career in teaching (D’Agostino & Powers, 2009).

The province’s decision to test math content knowledge drawn from the Ontario math curriculum for Grades 3 to 11 means that even those teaching only to a Grade 6 level will be expected to demonstrate proficiency in math content at the Grade 7 to 11 level. Requiring a teacher who is certified in the Primary and Junior divisions to demonstrate the same content and pedagogical proficiency as those who have elected to specialize in mathematics at the intermediate and senior levels is unreasonable. The corollary is also true. Many intermediate/senior certified teachers will never teach math, as they are specialized in other subjects, so they have not been required to take math content or pedagogy courses during the initial teacher education (ITE) program. Such an approach overlooks the subject and division specialization that characterize Ontario’s ITE programs.

Impact on Fair Hiring Practices

The existence of the MPT, mandated for new teachers and voluntary for tenured, creates an unlevel playing field for hiring. The risk of unilateral application of a passed MPT for all teaching positions effectively eliminates teachers who do not specialize in mathematics. This also creates a culture of competition between new teachers and tenured teachers who elect not to take the MPT, as is their right under the regulation. We are concerned that the MPT could end up being a tool that is misused in the hiring process and a pressure tactic for those who are already employed.

A 2019 literature review produced by the Government’s own agency tasked with the development of the MPT, concluded that the poor link between standardized teacher tests and teacher performance does not justify the widespread implementation of teacher testing.

Any shortcomings in the testing instrument will certainly be open to challenge, especially since the MPT is a high-stakes assessment and will undoubtedly affect the long term livelihood of teachers.

Logistics and Implementation

In addition to the rationale stated above, the unilateral implementation of the MPT without Federation input, consideration of timelines, stakeholder feedback, a technology audit and consideration of the recent changes of one-year initial teacher education programs to two-year, leaves this endeavour mired with causing damage to public perception of the profession, teacher morale and the overall perception of mathematics as a subject.

Finally, there is no evidence to suggest that it is possible to create a valid or reliable online, multiple-choice test that can adequately assess the diverse pedagogical approaches to learning that vary day to day, student to student, subject to subject. Any shortcomings in the testing instrument will certainly be open to challenge, especially since the MPT is a high-stakes assessment and will undoubtedly affect the long term livelihood of teachers.

Conclusion

The Ministry-imposed Math Proficiency Test will serve only to devalue the teaching profession at large and, consequently, initial teacher education programs. Ontario's publicly funded education system is world-renowned for its collaborative, modern practices, not for a divisive and competitive culture that serves the political whim of the time. If education is truly a priority, then a modern, research-based approach that considers all stakeholders' contributions is the best course of action. Investment in professional development, modern classroom resources and supports for growing success in mathematics are key elements to success. The introduction of a standardized test in a sector that is anything but standardized is a disservice to the teaching profession and to all educators who hold student success as their ultimate priority.

Recommendations

1. That the government cancel the Math Proficiency Test
2. That the government invest in professional development that is teacher-directed
3. That the government reinstate AQ subsidies for mathematics across the province
4. That the government invest in supports and modern classroom resources in both official languages

References

- Barber, M., Chijioke, C. & Mourshed, M. (2010).** *How the World's Most Improved Systems Keep Getting Better*. McKinsey & Company. Retrieved from <https://www.mckinsey.com/industries/social-sector/our-insights/how-the-worlds-most-improved-school-systems-keep-getting-better>.
- Campbell, C., Clinton, J., Fullan, M., Hargreaves, A., James, C. & Longboat, K.D. (2018).** *Ontario: A Learning Province – Findings and Recommendations from the Independent Review of Assessment and Reporting*. Toronto: Ontario Ministry of Education. Retrieved from <https://www.oise.utoronto.ca/preview/lhae/UserFiles/File/OntarioLearningProvince2018.pdf>.
- D'Agostino, J. V. & Powers, S. J. (2009).** Predicting teacher performance with test scores and grade point average: A Meta-analysis. *American Educational Research Journal* 46(1):146-182.
- Education Quality and Accountability Office (2019).** *Literature Review of the Empirical Evidence on the Connection Between Compulsory Teacher Testing and Student Outcomes*. Retrieved from http://www.eqao.com/en/research_data/communication-docs/report-literature-review-teacher-competency-testing.pdf.
- Fullan, M. (2003).** Quoted in the *Toronto Star*, April 3, 2003. Retrieved from OTF Archives.
- Fullan, M. (2012).** What America Can Learn from Ontario's Education Success. *The Atlantic*, May 4, 2012. Retrieved from <https://www.theatlantic.com/national/archive/2012/05/what-america-can-learn-from-ontarios-education-success/256654/>.
- Libman, Z. (2009).** Teacher licensing examinations – True progress or an illusion? *Studies in Educational Evaluation*, 35(1): 7-15.
- Ontario Institute for Studies in Education, University of Toronto (2004).** Media Advisory, March 30, 2004. Retrieved from OTF Archives.
- Ontario Teachers' Federation (2004).** Letter from Secretary-Treasurer Ruth Baumann to Deputy Minister Sue Herbert, April 27, 2004.
- Ontario Teachers' Federation (2017).** *More than Dots on a Chart – Setting a New Course for Assessment in Ontario*. Retrieved from <https://www.otffeo.on.ca/en/wp-content/uploads/sites/2/2018/01/More-than-dots-on-a-chart-Setting-a-New-Course-for-Assessment-in-Ontario-1.pdf>.
- Portelli, J. P., Solomon, R. P., & Mujawamariya, D. (2003).** A critical analysis of the Ontario Teacher Qualifying Test: Pre-service teachers' perspectives (preliminary research report). Unpublished manuscript. Retrieved from http://home.oise.utoronto.ca/%7Ejportelli/OTQT_report.pdf.

