



BCSLs “Under the Microscope” newsletter, April 2022

Two lenses, One microscope: Education and Industry in the face of MLT shortages

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Introduction

It has been difficult to settle on a topic that would be both relevant and meaningful to Medical Laboratory Technologists (MLTs) in British Columbia (BC). It's reasonable to assume that MLTs, like all front-line health care workers, have been giving of themselves, going through the rigors of a caring profession for the last two years. Yet, we hardly see MLTs represented in the images and hashtags that tell the story of glory, of the sacrifices made in the fight against a global pandemic. Why is that when according to Public Health Ontario, “Laboratory testing is an essential component of Ontario’s response to COVID-19? Laboratory testing is essential, not only because it tells us if someone has COVID-19 or not, but also because it sheds light on where and how the virus is spreading.”

Have we stopped to think of how many hours would have been spent in laboratories, diagnosing the over 353, 000 cases of COVID-19 in BC and the over 3, 380,000 in Canada? What does that volume of new testing mean for MLTs who work in a current shortage which is expected to continue in the coming years. On top of this, WorkBC asserts that, “there will be an increased demand for general medical laboratory technologists throughout Canada, and that workers in rural and remote communities may be particularly needed.” Imagine with me, if you will, a small rural and remote community in Northern British Columbia. Imagine what delays in diagnosis of any disease may mean for that community amidst shortages of laboratory professionals. Imagine the turmoil for families waiting to know next steps in their treatment or even if their conditions are treatable. Imagine the costs to halted lives, hanging in the balance. I think by now we have got the picture. Medical Laboratory Technologists are crucial to the health care system. By our skills, we save lives.

WorkBC estimates that there will be 1480 job openings for Medical Laboratory Technologists in BC by 2031, 1020 of those attributed to replacing retiring workers, with 450 needed due to economic growth and new job opportunities. When we think of laboratory professionals, do we envision individuals behind a microscope in a sterile laboratory setting? Do our minds’ eyes, ever take us to a classroom setting? Do we



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consider the essential role of training institutions in keeping the wheels of modern medicine turning; what it must mean for those institutions to innovate, to shape the next generation of laboratory technologists who understand the value of their work, their place on interprofessional healthcare teams? My assessment, we should envision both the classroom and the clinical laboratory setting. An MLT training program is dependent upon partnerships with clinical laboratories, where students may learn the entry level professional skills and values under the keen eye of experienced laboratory staff. On the other hand, clinical laboratories are dependent on training programs to meet their labour market needs by providing quality training to the students.

A symbiotic Training Relationship

This symbiotic relationship is often not well understood. Training programs feel pressured to produce technologist who are deemed to be competent for clinical rotation, while clinical laboratories feel pressured to sign off on competencies that deem students suitable for educational credentials. This relationship requires a balanced view of entry level competence. Is this when the student leaves the institution for clinical practicum or is this when the student leaves the clinical laboratory for graduation? To come to that answer is to understand the complexities of the training relationship between MLT programs and clinical laboratories. I will focus on two common issues: curriculum limitations and insufficient/inexperienced laboratory trainers in the workforce.

Perceived Curriculum Limitations

MLT programs must meet quality assurance standards through their accrediting bodies. The Canadian Society of Medical Laboratory Science outlines the competencies that are required to be met before an individual is allowed to sit the national certifying examinations. MLT programs must demonstrate that these competencies are mapped to the curriculum through thorough evaluation of course outlines by accreditors. This is a robust process. Institutions spend huge sums of money to secure first rate equipment to allow students to practice and simulate laboratory experiences. Faculty spend an inordinate amount of time ensuring that they are teaching to the competencies and that students are able to demonstrate their learning through written tests, laboratory practice and performance tests. Students attest to the rigor of MLT programs and decry their onslaught on school-life balance. Yet, every once in a while, MLT programs receive feedback that a student is not cutting the grade. They are not meeting industry standards, they are just not performing to expectations. Deeper investigations may find underlying circumstances: a communication issue, anxiety about the tremendous responsibility of “working” in a real-life clinical environment, stress about financial



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resources, family challenges, navigating language and cultural differences, pure raw fear of failure. Science curricula have traditionally been designed to reward the fittest of the fit. We are within the era where this curriculum design no longer fits today's generation of students. Students bring their whole beings to their educational experiences. An expanded exploration of student-centered mechanisms to facilitate learning should govern the symbiotic relationship needed for producing the next generation of MLTs.

Insufficient/inexperienced laboratory trainers in the workforce

The shortages of MLTs spurred by retirement of experienced technologists have left its mark on the symbiotic relationship between training programs and clinical laboratories. The available training seats are not enough to quickly replace the numbers of retirees that are leaving the profession. Retirement translates to experience graduating from the workforce. The spaces where academia meets experience are becoming fewer and emptier. As retirees are replaced by newer graduates, there is a loss of knowledge translation from those who have honed their skills through years of experience. It will take years for new graduates to build experience and gain the knowledge of their retiring counterparts. This does not bode well for training programs which depend on practicing technologists to impart professional skills to students. This is tantamount to teaching, but not every MLT is skilled at teaching, or understand what is expected of them in regards to clinical practicums. This issue is compounded by lack of recognition of the role of MLTs as educators in the laboratory and a lack of teaching experience of MLTs (Mortazavi, 2020). Miller, 2014 proposes that teacher identity among laboratory technologists require belief in one's teaching ability, desire to expand one's professional responsibilities, and reflection on one's teaching.

Enhancing the Relationship, Stimulating Change

Medical Laboratory Technology programs have a dual responsibility in producing quality MLTs for tomorrow's workforce: training of students and influencing graduates to embrace training of students. This is best achieved through having the right representatives on program advisory committees, expanded communications with technologist who are in direct contact with students on the benches and enhanced preceptorship training. Of course, none of this is to be done in isolation. The symbiotic relationship between training institutions and clinical laboratories involves influencing changes at the policy level, greater involvement of laboratory professionals in health leadership roles and a commitment to the advancement of our profession. In keeping with the vision and mission of the Canadian Society for Medical Laboratory Science,



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embracing this symbiotic relationship, means, we save lives, enhance “excellence in medical laboratory science” and “advance the medical laboratory profession through certification, education and advocacy”.

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References

Conducting covid-19 PCR testing at pho. Public Health Ontario. (n.d.). Retrieved March 14, 2022, from <https://www.publichealthontario.ca/en/diseases-and-conditions/infectious-diseases/respiratory-diseases/novel-coronavirus/lab-testing-ontario/covid-19-pcr-testing>

Medical Laboratory Technologists (NOC 3211). WorkBC. (n.d.). Retrieved March 14, 2022, from <https://www.workbc.ca/careers/3211>

Miller, W. (2014). Developing a theory of clinical instructor identity using the experiences of medical laboratory science practitioners. *Clinical Laboratory Science : Journal of the American Society for Medical Technology*, 27(2), 97–104.

Mission, Vision & Values. CSMLS. (n.d.). Retrieved March 14, 2022, from <https://www.csmls.org/About-Us/About-CSMLS/Mission,-Vision-Values.aspx>

Mortazavi, R. (2020). Critical Look at Challenges in the Medical Laboratory Science Training in the Workplace. *International Journal of Medical Science and Education*, 7(4), 1–4.