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I write to you in support of school Science Operations Officers. I do so as Patron of both the Science Teachers Association of Western Australia and LabNetWest, the association for school science laboratory technicians (equivalent to Science Operations Officers in Queensland) within independent schools in Western Australia. I was invited to assume these roles whilst I was the Chief Scientist of Western Australia, having previously been Professor of Zoology and Neuroscience at the University of Western Australia.

As has often been quoted recently some 75 per cent of new jobs projected to be created in the next ten years in Australia will require Science, Technology, Engineering and Mathematics (STEM) skills. In this regard, the Minister of Education for Queensland Kate Jones has stressed “a focus on STEM will help to ensure that every Queensland student can succeed in our changing world”. Teaching of STEM embraces specialist subjects highly relevant to Queensland such as Marine Science and Agriculture as well as VET Certificates for subjects such as Laboratory Skill and Wine Chemistry.

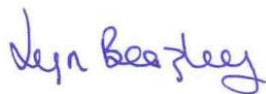
If we are to enthuse students to study STEM subjects and to allow them to experience a full learning experience, practical science is essential. In this regard, Science Operations Officers have a crucial role to play. The majority of Science Operations Officers have extensive experience in a scientific field and/or have earned the minimum of a Certificate IV in Laboratory Skills. Approximately 50% in Queensland hold a Diploma or a higher qualification, enabling them to support and enhance the quality of science teaching in high schools.

The Officers represent an invaluable resource for Queensland teachers in regards to experimental protocols in all streams of science, often beyond an individual teacher’s particular area of expertise. The Officers are available for consultation with detailed technical knowledge and experience to support teachers, as well as ensuring all technical equipment is tested and working correctly and safely, prior to being delivered to teachers and students, and that the experiments can be completed in the time allocated. The Officers are also on hand to troubleshoot technical problems during practical classes.

A particularly key role is to support the increasing numbers of teachers who teach science yet have no formal science qualifications and hence are teaching beyond of their subject area. These teachers, as well as teachers in their early years of teaching, are supported by being shown the correct techniques and safety aspects of the experiments they will conduct with the students.

The Officers have invaluable in-depth knowledge of equipment including data loggers, software and sensors used across all areas of junior and senior science. They keep up to date with the latest scientific and technological innovations so that these can be incorporated into a school's teaching. The Officers' technical knowledge ensures practical classes are relevant and up to date. For example, within the field of biology, Officers have specialised knowledge in microbiology, gene splicing, gel electrophoresis, microscopy, tissue culture and data logging. For chemistry, they bring experience of spectrophotometry, the safe use & handling of chemicals (organic & inorganic) and glassware, and in physics of robotics, electrical circuitry, electromagnetism, nuclear physics, dynamics and optics.

I do hope you can appropriately support Science Operations Officers as part of state-of-art STEM teaching in Queensland. The Officers are an essential component of a State that aims to be internationally competitive and to move towards a future that is economically, environmentally and socially sustainable.



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