

MEDIA RELEASE – 5.30pm 1 May 2023



2022 TE PUIAKI KAIWHAKAAKO PŪTAIAO SCIENCE TEACHER PRIZE

Physics teacher inspires students throughout Aotearoa with online lessons

Utilising technology, building relationships and making learning fun are the keys to involving and advancing college students in science, says Prime Minister's Science Teacher Prize winner Doug Walker.

The Wellington teacher has built a large online following of students who enjoy his explosive experiments and his NCEA exam paper tutorials, and established a network of teachers providing online classes for students throughout Aotearoa.

Head of Science at St Patrick's College, Kilbirnie, for the past 11 years, Doug's work connecting science teachers in Wellington has led him to the role of President of New Zealand Association of Science Educators, which provides professional development to science teachers.

His achievements include introducing a senior science programme that enables more students to achieve University Entrance and bolstering science resources at his school, and developing and sharing science learnings widely online.

Doug says making science hands-on with practical experiments and a little competition helps to engage students. "I get a real kick out of developing new demonstrations in my spare time and building toys that will help engage students with their learning."

He says building good resources that enrich teaching and learning, and collaborating with local partners like Wellington Zoo, Carter Observatory, NIWA and Te Papa in the community has also enhanced learning experiences for students.

His own love of science developed from an appreciation of natural phenomena. "The world around us is fascinating and I enjoy sharing that with others. I get much joy from the students' enthusiasm - that's when you know you are making a difference."

Persevere with science

Going through high school in Scotland, Doug says he struggled with many subjects, and that science was one he could understand, although physics was challenging. He later achieved his Bachelor of Sciences before being offered a PhD at the University of Otago in Dunedin.

The PhD didn't eventuate due to cost, and instead Doug completed his teaching qualification at Cambridge University followed by a Masters in Education. Two years of teaching followed in England before he emigrated to Aotearoa.

Starting out as a biology teacher, he overcame his aversion to physics when offered the opportunity to study and teach the subject. "I am a biology teacher by degree but a physics teacher by demand and one of a growing number of non-specialist physics teachers."

He says he encourages students to persevere with science, which has a role in teaching young people how to recognise reliable information. "It is important to learn the ability to separate fact from fiction and understand how to make sense of the information we get in the modern world of mixed messages, media and conspiracy theories."

When he noticed that many lower achieving students at his school were dropping science from year 11, he introduced new general science subjects and a pathway to study and gain University Entrance (UE science).

The number of senior students taking science has increased 60 percent since the initiative in 2017, with more students achieving UE each year since. By 2020 all Level 3 students had identified gaining University Entrance as their goal.

“It is great to see a lot more akonga, pursuing science and getting excited by it,” says Doug.

With his team he has increased assessment opportunities and methods in science, and expanded the tools available for practical learning through DIY endeavours and grants.

Using technology to share science

Over the past 10 years Doug has shared 34 NCEA science videos on a YouTube channel, amassing 1400 subscribers and 157,000 views.

Doug says providing his work for students and teachers to online channels is an efficient way to share his learnings and teachings. “It becomes very easy to show somebody else without having to repeat the individual steps and you are not limited to just sharing the work face to face.”

His videos started out when he began keeping records of his new pieces of work through photography and videoing.

Video recording of lessons was further prompted by an asbestos scare at the college in 2016, which prevented use of classrooms for several days. “We made videos of what we would have taught in the classroom.”

When Covid-19 hit in 2020 Doug identified a need to support students prepare for NCEA exams. He hosted webinar tutorials and involved more teachers from around the country. The videos were seen by thousands of students, with views during the pre-exam period growing from 24,000 in 2021 to 60,000 in 2022.

Doug presents at science education seminars and conferences in Aotearoa and overseas, and, with colleague Andrew Sargent, produced 30 videos of innovative practical science ideas for the New Zealand Institute of Physics in 2022.

He says he has a passion for connecting with other educators to foster more interest in science. “There is a huge value in sharing and I get a lot of enjoyment out of learning from others, sharing ideas and seeing those taken up and carried further.”

The Science Teacher Prize is valued at \$150,000. Doug says the prize will be used toward enabling his team to travel to learn from other kura and purchasing new learning equipment for St Patrick’s College.

Doug says he is looking to take further professional development and extend his work as a visiting university lecturer to student teachers. “Through my career I’ve been inspired by some great mentors and lecturers and I would like to carry that work forward.”

ENDS

Mō Te Puiaki About the Prize

TE PUIAKI KAIWHAKAAKO PŪTAIAO SCIENCE TEACHER PRIZE

Awarded to a registered teacher kaiako who has been teaching science, mathematics, technology, pūtaiao, hangarau or pāngarau learning areas of the New Zealand curriculum to school-age children in a primary, intermediate or secondary New Zealand registered school or kura kaupapa.

This is one of five prizes awarded each year.

The Government of New Zealand introduced The Prime Minister's Science Prizes in 2009 as a way of raising the profile and prestige of science among New Zealanders, in Aotearoa and internationally.

www.pmscienceprizes.org.nz/