

# DO LESS TO BOOST STUDENTS' PERFORMANCE

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## ABSTRACT

Do you find yourself talking too much in class whilst your students are poorly engaged? Or do some of your students perform poorly even though they seem to understand the concepts without asking questions in class? If yes, this workshop is for you. Instruction in physics classes is often represented as the instructor spending a lot of time teaching a large amount of information, with students passively listening and taking notes. This can often lead to decreased student engagement. But often the best forms of instruction occur when students are discussing concepts with peers, with the teacher facilitating and guiding the discussions. In a sense the teacher does less but the learning is better. In the session, Paul and Catherine, using a variety of proven instructional techniques, share a number of strategies that allows for greater student engagement and performance. They will model what a “less is more” lesson looks like.

Intended Audience: Secondary School Educators

## PRESENTERS



Paul Looyen has over 28 years Physics teaching experience in both government and independent schools, including three years in the USA. He is the Physics Expert Facilitator at CrookED Science. From 2004 to 2022, he was Faculty Head of Science at Macarthur Anglican School. He has extensive marking experience of external exams, and has been on numerous examination writing committees. He has a number of professional development sessions for teachers, on the physics of CERN, for ANSTO and CONASTA. In 2019, he was invited to attend the International Teacher Program run at CERN, Switzerland, and the following year he was invited to attend the International Teacher Program at LIGO, based in the USA. In 2022, he was co-author on a HSC exam book published by Cengage Learning. He also has had articles published in *The Conversation* and *Australian Physics*. He also runs a popular YouTube channel, called *Physics High*, developing content that aid in understanding physics at a high school level.



Catherine Zhou is a High School Physics Teacher at the Jakarta Intercultural School in Indonesia. She has taught Physical Science, A-level and AP Physics, IB MYP Science, and IB DP Physics. Catherine is an IB examiner, moderator, workshop leader, course outline reader, and school visit team member. She is experienced in marking external exams and lab reports, designing different assessment formats for students to demonstrate their learning, and training new teachers. Catherine has designed and worked on some science curricula. She runs workshops to support teachers in inquiry-based learning, enhancing engagement and collaboration, and responsive teaching. Catherine actively seeks opportunities for professional development, such as participating in the High School Teacher Program at CERN in 2019 and International Teacher Program at LIGO in 2020.

Proceedings of the IUPAP International Conference on Physics Education, ICPE 2022 5-9 December 2022, page 40, ISBN: 978-1-74210-532-1.