

Editorial – Welcome to Volume 20 Number 3

This special edition of IJ-ISME on “Lessons learnt: Stepping forward from negative results” comes to you imbued with the spirit of science, with the essence of the calls from Australia’s Chief scientist to teach science as science is done, but here we concentrate on learning to teach science using the principles of scientific research. One of the contributors to this edition, Gerry Rayner, has put it most appropriately when he writes, “In fact it might be argued that many scientists spend a greater amount of time trying to discover why certain experiments either do not work or yield the predicted results, rather than carrying out experiments and generating results that confirm their predications or actually generate the ‘aha’ or ‘yahoo’ moments.” This edition was borne of the frustrations of having teaching colleagues say, “Oh I tried that, yeah it does not work unless you do X...” So often we hide our negative results and failures, especially in the scholarship of learning and teaching which for many is a secondary area of research or concern, and one that they perhaps have the least confidence in and hence reluctant to share any disappointing outcomes. We thought this edition would provide our emerging scholars with a place to bring forth the lessons they have learnt and share them with others so that our community of science and mathematics educators could learn, and so, as Isaac Newton said (and Google Scholar proudly states on its home page) we can “Stand on the shoulders of giants.”

What we did not expect was that the contributing authors would be such relative giants in the field of scholarship of learning and teaching, which makes the lessons they share perhaps even more telling and relevant. We invite you to peruse these pages if you want to find out if you can spend more time teaching and less time marking by replacing short answer questions with multiple choice questions – without reducing academic rigour. If you are thinking of using peer teaching as a learning strategy then the paper by Hodgson et al is a must read! If your bill for field work is making you look at virtual experiences then Gerry Rayners paper will give you food for thought, and perhaps have you walking the boundaries of your campus looking for a middle ground solution. Are you wrestling with computer room space and engaging students with statistics (which they think sounds too much like ‘sadistic’) – then read the comparison of teaching methods by Baglin and De Costa with your morning coffee and sketch a new plan that fits your needs. On the larger scale, see what happens when administrators (like me) with good intentions and conscious of the need to enhance the ‘student experience’ think of student needs in an economically rational manner, forgetting to consider the voice of discipline scholars. However, thanks to a great project officer, the diversity of the disciplines and academic autonomy win the day!

Finally, before bed I recommend you read about the Triune project of Martini and Caceres and fall asleep dreaming of your own international inter-professional project. Their story was such a success (especially when you consider only a handful of participants did the work for any assessment recognition) that they were nearly rejected for this edition!



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In closing, two other lessons learnt from this process: (i) pick a great team mate to work with; we have had a blast working together and with the authors, thank you! and (ii) do not think out loud about what is missing from the publishing space if the editor in chief of a progressive and contemporary journal is sitting next to you – next thing you know you have a special edition to put together. Having said that, thank you to Manju Sharma for this opportunity! We commend these papers to you.



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