

A re-evaluation of an Experimental Methods in Pharmacology module for M.Sc. Neuropharmacology and Toxicology programmes

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Background and Aims: Postgraduate training in experimentally-based disciplines require considerable emphasis on proficiency in experimental methods. The term “Experimental Methods” encompasses a multitude of activities including demonstrating competency in the laboratory, experimental design and statistics, as well as in computer and presentation skills. Shaping a cohesive module that can cover such an array of skills has proven to be extremely challenging, and as witnessed by a continual tweaking of the delivery of the module over the 20+ years since it was first introduced. Thus, the purpose of this project was to reevaluate the experimental methods module in order to see how it might be more effective in achieving its aim of providing a foundation in these skills. This project was grounded in the theory of Action Research (AR) which involves a series of iterative steps including planning an intervention, acting and observing the process and consequences, reflecting and following up with further action (Kemmis and McTaggart, 2000)

Summary of work and outcomes: The first stage of the project was a discussion with stakeholders in the Summer of 2015, where the data-handling aspects of the module came under particular scrutiny. From these discussions, three interventions emerged for implementation in 2015-2016, namely:

1. Division of the data handling aspects into 4 discrete segments;
2. A group-based poster designed to engage the students with their specialty, whilst at the same time introducing a range of methodological aspects, accompanied by a weekly tutorial during which progress could be assessed informally;
3. A weekly reflective blog.

The student body consisted of 17 M.Sc. Neuropharmacology and 7 M.Sc. Toxicology students. The end of trimester examinations produced the best results in recent years. Student feedback revealed that the data-handling portion of the module has now become the most popular aspect, contrary to feedback from the previous cohort. A follow-up end of year survey showed very positive feedback for the module in shaping preparedness for the more research-intensive aspects of the year.

Conclusion: The interventions achieved a greater linkage between the different strands of the module than had hitherto been the case, and have made a significant contribution to the operation of this module, and as a foundation into the remaining elements of the M.Sc. programme.

Reference: Kemmis S. and McTaggart R (2000). Participatory action research. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (2nd ed., pp. 567-607). Thousand Oaks, CA: Sage.