

Lecture: alternatives and education

Three's a crowd: the 1R of replacement for education and training

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The ideal “replacement alternative” is defined within the 3Rs philosophy of Russell and Burch (1959) as “non-animal”. However, the nature of knowledge and skills acquisition within the life sciences highlights a shortcoming of the 3Rs approach for education and training. Despite the widespread success of replacement of harmful animal use by non-animal alternatives such as multimedia, virtual reality, training mannekins and simulators, they may not be sufficient for full knowledge and skills acquisition in all courses. Specifically, some students and professionals should work with animals, animal tissue and clinical procedures. There is widespread evidence of the ability to meet such teaching objectives in ways that are neutral or beneficial to individual animals and that do not involve animal experimentation or killing. The use of ethically sourced animal cadavers for dissection and skills training, and apprenticeship into clinical practice with animal patients, are examples. Such approaches are themselves ideal replacement alternatives, and complement the non-animal alternative methods. Furthermore, countless examples of successful replacement can be identified across the world within all life science courses. It is argued that the 1R of replacement, when broadened from its non-animal focus, is sufficient to ensure ethical and effective acquisition of knowledge and skills in life science education and training. Policy and practice should therefore move beyond the 3Rs.

References

- Jukes, N., Chiuia, M. (2003). *From Guinea Pig to Computer Mouse: Alternative Methods for a Progressive, Humane Education*, 2nd ed. Leicester, UK: InterNICHE.
- Martinsen, S., Jukes, N. (2008). From policy to practice: Illustrating the viability of full replacement. Proceedings of the 6th World Congress on Alternatives and Animal Use in the Life Sciences. *AATEX 14 Special Issue*, 249-252.
- Policy on the Use of Animals and Alternatives in Education. In N. Jukes, M. Chiuia (2003). *From Guinea Pig to Computer Mouse: Alternative Methods for a Progressive, Humane Education*, 2nd ed. Leicester, UK: InterNICHE, 2003. Updated Version 2b available at www.interniche.org/policy.htm
- Russell, W. M. S., Burch, R. L. (1959). *The Principles of Humane Experimental Technique*. Wheathampstead, UK: Universities Federation for Animal Welfare. Reprinted by UFAW, 1992.

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