

A Call for Evidence-Based Athletic Training Education

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THE CALL

"Evidence-based practice" has become a buzzword in medical and health professions. As our colleagues build a body of best evidence in medical education,¹ so must athletic training educators recognize, and act upon, the obligation to incorporate these concepts into both our teaching and our research.² It is time to conduct research studies and implement education guidelines that reflect this trend. To foster this type of scholarly work, the Research and Education Foundation can proactively encourage and solicit grant proposals regarding athletic training evidence-based education.

HEEDING THE CALL

The timeliness of this call can be recognized in the overall theme of the 2010 Lilly Conferences, "Evidence-Based Learning and Teaching." Information regarding these conferences states that evidence-based learning is the key to the development of critical thinking. Using evidence in teaching is scholarly teaching and producing evidence in teaching is the basis of the Scholarship of Teaching and Learning.³ In case you are not familiar, Lilly conferences are retreats that combine workshops, discussion sessions, and major addresses, with opportunities for informal discussion about excellence in college and university teaching and learning. Internationally-known scholars join new and experienced faculty members and administrators from all over the world to discuss topics such as gender differences in learning, incorporating technology into teaching, encouraging critical thinking, using teaching and student portfolios, implementing group learning, and evaluating teaching.³

Lucky for us, this call for evidence regarding our educational practice is supported by the availability of a repository for such information. Similar to Cochran Systematic Reviews to locate evidence for clinical practices, Campbell Systematic Reviews and

Campbell Library Approved Reviews provide evidence regarding educational practices, through a monograph series readily available online.⁴ The library also gives access to registered titles, approved protocols, and user abstracts. One such example of evidence in this repository is that according to a new meta-analysis just released by the U.S. Department of Education, online learning has been determined to have definite advantages over face-to-face instruction when it comes to teaching and learning.⁵ Certainly, this gives us pause to consider more online learning opportunities for our students.

SUCCEEDING IN THE CALL

The call for evidence-based athletic training education needs to include careful preparation of our athletic training educational manuscripts. Certainly, the standards for evaluating such papers should be as high as that of any other original papers that are published in athletic training.⁶ Perhaps guidelines produced by the *British Medical Journal* to review original papers that describe educational innovations could be used by authors who are preparing their work for the *Athletic Training Education Journal*.⁶ These suggestions for well-written (and conducted) studies could be used by researchers and authors to improve publication rates, ultimately having a greater impact on clinical practice. Of course, the studies and associated papers may take various forms--detailed observational studies, properly conducted questionnaire surveys, or randomized controlled studies. In all cases, the criteria listed in Table 1 could be applied.

CONCLUSION

Because our educational practices may impact patient care as well as individuals' learning,⁷ we must impose high standards of scientific rigor on our educational practices.³ Clinical research findings, however clear and useful, are diminished when their instruction lacks basis and rigor.

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Table 1. Criteria for Preparing an Athletic Training Educational Research Manuscript**Does it add anything new and valuable?**

Studies should be genuinely original. This could include confirming and extending previous studies (particularly if they are methodologically superior to previous work). Studies confirming what has been shown several times before are of little interest.

Is it suitable for a general readership?

Papers that are intended primarily for an audience with a specialized interest in education should be published elsewhere. Educational jargon should be avoided, or at the very least, be explained simply and fully.

Is it readable?

Papers should be logical, coherent, and readable, visually attractive, with relevant tables and diagrams.

Are the aims and objectives clearly stated?

The educational rationale, context of the study, and methodology should relate to the aims and objectives. The research techniques used must be appropriate to answer the question(s) posed in the aims, and to achieve the study objectives.

Is the educational rationale explicit?

It should be obvious from the paper that the study is founded on the application of theoretical principles. An adequate review of the literature should be given to support the basis of the study.

Is the educational intervention described in context?

The paper should describe the population and its stage of educational development. This could include details regarding the individual course or module, its place within the curriculum, and the physical environment in which the study took place.

Are the Methods described in enough detail?

Balance is key, avoiding information overload but providing sufficient detail to allow scrutiny and reproducibility. The evaluation tool needs to also be described in enough detail.

Is recruitment of participants described in enough detail?

The method of recruitment needs justification. If control groups are used, the process of selecting controls should be fully described and rigorous.

Are the results meaningful?

Educational interventions are often difficult to analyze because multiple variables are involved, and because there may be more than one explanation for the results. The results need to be presented in sufficient detail to be meaningful, and the statistical analysis should be appropriate for the study design.

Is the discussion structured and useful?

The discussion should begin with a sentence on the principal finding, followed by a thorough examination of the strengths and weaknesses of the study itself (including in relation to other studies). Any differences in results, and why different conclusions have been reached, should be emphasized, discussing the generalizability and meaning and implications of the results (including implications for clinicians). Finally, unanswered questions and future research ideas should be discussed.

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