



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

***School of Education***

Te Kura Toi Tangata

**Waikato Journal of Education**

Te Hautaka Mātauranga o Waikato

Volume 10 : 2004

10th Anniversary Issue: Commentary by Professor Clive McGee  
Inaugural Addresses by Professors Bevan Grant & Doug Booth  
Special Section on Bodies in Motion

# WAIKATO JOURNAL OF EDUCATION

TE HAUTAKA MĀTAURANGA O WAIKATO

VOLUME 10, 2004

<b>Commentary: Ten Years of the Waikato Journal of Education</b> CLIVE MCGEE	3
<hr/>	
<b>Introduction to Special Section: Bodies in Motion: Sport, Health, Physical Activity and Physical Education</b> CLIVE C. POPE AND TONI BRUCE	7
<b>Commentary: Relecting and Asserting: Thoughts on a lengthy Career in Physical Education</b> BOB STOTHART	11
<b>Commentary: Physical Education as HPE: 'Rational' Reflections or Rueful Ruminations?</b> RICHARD TINNING	15
<b>Commentary: Evidence-based Practice in Health and Physical Education</b> DOUNE MACDONALD	21
<b>Commentary: School Physical Education: Reflections on Key Issues Shaping the Field</b> ALAN OVENS	27
<b>They're Not Doing Bad for their Age: Ageing, Leisure and Active Living</b> BEVAN C. GRANT	33
<b>Remnants of the Past, History and the Present</b> DOUGLAS BOOTH	51
<b>Challenges to State Physical Education: Tikanga Māori, Physical Education Curricula, Historical Deconstruction, Inclusivism and Decolonisation</b> BRENDAN HOKOWHITU	71
<b>The Indigenous Factor: The Role of Kapa Haka as a Culturally Responsive Learning Intervention</b> PAROA WHITINUI	85
<b>Whose Knowledge is of Most Worth? The Importance of Listening to the Voice of the Learner</b> MARGARET J. SCRATCHLEY	99

<b>The Ecology of Cooperative Learning in a High School Physical Education Programme</b>	
BEN DYSON AND KEVIN STRACHAN	117
<b>A Crucible of Competition and Cooperation: Where do the Concepts Fit in Recreation Activity Delivery?</b>	
DONNA E. LITTLE	141
<b>Knowing”What My Body Can Do”: Physical Moments in the Social Production of Physicality</b>	
MARTHA BELL	155
<b>Implementing a Game Sense Approach in Youth Sport Coaching: Challenges, Change and Resistance</b>	
RICHARD LIGHT	169
<b>Embodied Boarders: Snowboarding, Status and Style</b>	
HOLLY THORPE	181
<b>Playing to Win or Trying Your Best: Media Reprerations of National Anxieties over the Role of Sport Participation During the 2002 Commonwealth Games</b>	
EMMA H. WENSING, TONI BRUCE AND CLIVE POPE	203
<b>‘Tis Better to be Seen</b>	
RACHEL SAUNDERS	221
<b>Embodied Ways of Knowing</b>	
KAREN BARBOUR	227
<b>My Impossible Dream</b>	
JENNIFER L. WAGGONER	239
<hr/>	
<b>Improving Student Learning? Research Evidence About Teacher Feedback for Improvement in New Zealand Schools</b>	
GAYLE EYERS AND MARY HILL	251
<b>Policy Research and ‘Damaged Teachers’: Towards an Epistemologically Respectful Paradigm</b>	
JOHN SMYTH	263
<b>The Explanation of Social Differences in Reading Attainment: An Inspection of the PIRLS New Zealand Data</b>	
ROY NASH	283
<b>Juggling Priorities: A Comparison of Young and Mature Age Students’ Use of Time During Their First Semester of Teacher Education</b>	
PENNI CUSHMAN	299
<b>Children and Disability: Special or Included</b>	
KEITH BALLARD	315

## COMMENTARY

# EVIDENCE-BASED PRACTICE IN HEALTH AND PHYSICAL EDUCATION

DOUNE MACDONALD

*School of Human Movement Studies  
The University of Queensland*

Have you considered why you teach the things you teach? Why do you select particular content? Why do you select particular teaching strategies? It seems to me that as health and physical educators are being asked to do more and more, responsible for everything from the nation's body weight, to its mental health, to its international sporting achievements, that the profession needs to be clear about *what* it does and *why*. More specifically, it seems to be a crucial time for the profession to ask, "Is our practice best practice? What evidence do we have to justify our practices?"

A number of issues within the field of health and physical education (HPE) in the Australian state of Queensland have recently coincided in a way as to raise questions of "best practice". For example, Education Queensland's trial of "rich tasks" (a curriculum comprising transdisciplinary, student-oriented problems) incorporated tasks relating to HPE that drew upon, in part, somewhat inaccurate and inappropriate knowledge according to research evidence (Macdonald & Hunter, in press). At the same time, we have had a growing public consciousness of obesity and with it a number of entrepreneurs attempting to sell to schools "quick fixes" in the form of fitness and body weight testing which are, once again, not based upon sound health promotion research. Meanwhile, an Australian Research Council funded project into physical activity and young people in which I am involved suggests HPE practices fail to meet the needs and interests of many students, often those from low socio-economic and minority backgrounds who have fewer opportunities to engage in physical activity outside the school context.

Working in a multidisciplinary School of Human Movement Studies offers a privileged position that affords the opportunity to synthesize contemporary research that can inform our thinking about some of the abovementioned issues. It is exciting that the field does have a body of knowledge upon which it can draw that potentially provides teachers, education system advisors, and syllabus and policy writers directions for how to support quality HPE programs. What is frustrating is that this knowledge is frequently not used to inform policy and practice. As a consequence, there is ample evidence that HPE continues to alienate some students based upon their ability, ethnicity, body shape and the like as discussed by other authors in this volume.

It is in this hiatus that I'd like to advocate the approach of "evidence-based practice" for HPE professionals wherever they may be working.

Evidence-based practice is a response to concerns that professional practice is not always based on the "best evidence" or is minimally informed by research knowledge.... As such, it can assist practitioners to identify, call upon and utilize the "best" research in their daily

practice. It de-emphasises guess-work, intuition, unsystematic thinking, uncritical and unreflective practice and therefore heightens the likelihood of critically-aware, informed, independent and systematic practitioners who are continually up-dating and expanding their knowledge bases. (Osmond & Darlington, 2001, p. 1)

Evidence-based practice is said to place the client's (or students) benefits first, necessitating practitioners adopting a process of lifelong learning (Gibbs, 2003).

The positioning of teaching as an evidence-based profession, was widely discussed in the UK in the 1990s (see Hammersley, 2000). Hargreaves (1996) argued that teaching would be more effective if it were a research-based profession but that this orientation was hampered by research that was non-cumulative and not always sufficiently relevant to practitioners. I would, perhaps optimistically, suggest that in HPE we do have a research base upon which to draw (though acknowledging gaps and contradictions) and that our field is familiar with concepts such as systematic curriculum planning, socially critical and student-centred learning experiences, and reflective practice as a cornerstone for professional development. As such, HPE is ready for the approach of evidence-based practice that provides a cohesive, systematic, data driven framework.

In some professions, the "evidence" in evidence-based practice is considered to be randomized, controlled trials. From their perspective, this "gold standard" evidence (Level 1) comprises evidence obtained from a systematic review of all relevant randomized, controlled trials. Topical HPE-related evidence that would fit this criterion are meta-analyses of school-based physical activity interventions that promote sustained changes in physical activity engagement or the validity and reliability of fitness testing in students. The next "best" evidence (Levels 2 - 3) is considered to be that derived from well designed cohort or case studies, such as might occur in studies that monitor the impact of particular pedagogical approaches like Teaching Games for Understanding across a series of cohorts. Within this rubric, less rigorous but nonetheless acceptable evidence (Level 4) includes the opinions of respected authorities perhaps based on clinical/field experience or descriptive studies such as occurs with issues surrounding inclusion strategies in HPE.

Clearly, this hierarchical view of research privileges particular ways of knowing that are not necessarily helpful or relevant to HPE. Consequently, there has been a strong argument mounted in evidence-based practice literature that what counts as evidence be viewed somewhat broadly, ways that include systematic practitioner research (e.g., Trinder, 2000). Using the question of fitness testing, this would introduce to the evidence base not only meta-analyses of fitness testing validity but also school-based surveys in which students indicate what sense they make of fitness tests.

## **THE PROCESS OF EVIDENCE-BASED PRACTICE IN HPE**

There is a pathway that HPE teachers might follow to arrive at "best practice" (Osmond & Darlington, 2001). It is predicated on the assumption that teachers will be sufficiently motivated or supported to continually question if their programmes and practices are providing optimal HPE experiences for their students (Gibbs, 2003). As Gibbs (2003, p. 8) suggests, "Your motivation towards EBP will probably first come from your heart, from your dedication to do no

harm, from your determination to make better judgments and decisions, wherever possible, in collaboration with your clients". What follows are five typical steps or processes that may be undertaken to inform, shape and reflect upon practice with some questions and examples to help clarify the nature of the steps.

**(1) Converting information needs into answerable questions**

The first step is identifying and posing evidence-seeking questions. Do the fitness tests listed in this HPE textbook provide valid tests of fitness variables for children? Should we introduce single sex HPE classes? Do our assessment programmes reward a particular type of student? Should I block the practice of drills in tennis? What physical activities are likely to be life-long for my current cohort of students? In HPE there are important questions to be asked addressing content, pedagogy and assessment and, most often, helpful signposts for where to create changes if appropriate.

**(2) Locating and retrieving "best evidence"**

The second step involves locating evidence. This requires teachers' (a) access to and skills in finding evidence such as databases and on-line journals in their staff rooms or school libraries and (b) confidence in using school-based research methods such as action research, surveys, interviews or focus groups to gather descriptive data upon which decisions can be made. It may be that to answer any of the abovementioned questions, teachers should collect evidence from both within and beyond the school drawing upon a breadth of data (e.g., Seers, 1999).

**(3) Critically appraising the evidence**

The next step involves critically appraising the research in terms of its merit or relevance. Is it trustworthy and/or useful? Whether the research is a randomized, controlled trial or a student focus group, the quality of the data and its analysis should be reviewed with a critical eye. These appraisal skills are best learned in undergraduate education and it behooves teacher educators to ask if their graduates are skilled in the critical consumption of research. What about practicing teachers retaining the adoption of the same – is this also an issue or consideration? Given the exponential increase in knowledge and new retrieval technologies, this step also raises questions about teacher professional development in accessing and critiquing literature.

**(4) Applying the results of this appraisal in practice**

What does the evidence available, judged to be useful, mean to HPE practice? Does the evidence impact upon the HPE programme conceptually (e.g., random practice is more effective than blocked practice; "new kids" in "new times" are making different recreational physical activity choices) and instrumentally (e.g., How will I change the sequencing of the tennis unit to include more random practice? How can we include a martial arts unit into the Year 9 program?). More specifically, in Lisa Hunter's and my analyses of Queensland "rich tasks" (Macdonald and Hunter, in press), we understand that there is no evidence that supports the concept of primary school students measuring changes to their

physical fitness “results” over a four week period yet this was a dimension of the curriculum innovation.

### **(5) Evaluating performance and generating new ideas**

As is widely advocated in professional development literature, both during pre-service and in-service contexts, the professional should constantly evaluate the impact of their practices (e.g., Schon, 1987). The dilemmas around “which students have become physically educated?” is one reflective question that challenges us to consider what and how we have taught and to what end. Within the evidence-based practice cycle, this would require teachers to monitor and reflect upon their goals and initiatives and be ready to ask further questions.

## **CONCLUSION**

While evidence-based practice has gained some support within the helping professions, it has its critics (e.g., Trinder, 2000). Firstly, it could be argued that it is based upon an unproblematic acceptance that “scientific” evidence will provide “the way”. It rests upon knowledge providing certainty and direction when indeed the knowledge itself may be contradictory. We have experienced this in our field, for example, in shifts pertaining to what we “know” about exercise prescription and health promoting exercise. Nevertheless, it could be argued that the shifts in knowledge only serve to heighten the need for HPE teachers to be constantly seeking to renew their evidence.

Secondly, evidence-based practice relies on access to, or the creation of, evidence. Time and technology are pivotal here. At what points in the rhythm of a teacher’s working week or year can they find the time to collect and evaluate evidence? Do the teachers have internet access through a readily available computer? These challenges remind us that teachers are knowledge workers and that their work orientations and resources should support this.

Thirdly, the work in curriculum change in HPE reminds us that bringing about change in schools is a difficult, time-consuming or even perhaps futile process (Macdonald, 2003). Curriculum change relies upon flexible school structures (e.g., resources, staffing, time tabling, space allocations) and a willingness of the school community to embrace change, while also accepting that it may involve some chaos and errors (Fullan, 2003). In other words, a rational evidence-based argument is not always a precursor to change (Fullan, 2003; Sparkes, 1990).

Despite the criticism of evidence-based practice, we have a political and educational climate in which the HPE profession must be vigilant. Familiarity with, or generation of, evidence and its potential impact upon practice is mediated by many factors such as ease of access to the information, working conditions that motivate and facilitate access, the mis/match between the research and the school context, school contexts that are resistant to change, and the costs of change both human and material. Yet, the profession needs the ability to justify its practices whether that be to a parent who is asking why their child has to play Rugby in HPE or to a school principal who wants to replace one HPE lesson each week with a contract fitness testing service. Strong justifications rest upon decision-making that is well-informed, flexible, and context-specific. Tradition, routine and unfounded assumptions will not suffice.

## REFERENCES

- Fullan, M. (2003). *Change forces: With a vengeance*. London: Falmer.
- Gibbs, L. (2003). *Evidence-based practice for the helping professions*. Pacific Grove, CA: Brooks/Cole-Thomson.
- Hammersley, M. (2000). Evidence-based practice in education and the contribution of educational research. In L. Trinder & S. Reynolds (Eds.), *Evidence-based practice: A critical appraisal* (pp. 163-183). Oxford: Blackwell Science.
- Hargreaves, D. (1996). *Teaching as a research-based profession: Possibilities and prospects*. Teacher Training Agency Annual Lecture, UK.
- Macdonald, D. (2003). Curriculum change and the postmodern world: Is the school reform project an anachronism? *Journal of Curriculum Studies*, 35(2), 139-149.
- Macdonald, D., & Hunter, L. (in press). A critical analysis of Rich Tasks in the recontextualization field. *Australian Journal of Education*.
- Osmond, J., & Darlington, Y. (2001). *Introducing evidence-based practice*. Brisbane: The University of Queensland.
- Schon, D. (1987). *Educating the reflective practitioner*. San Francisco: Jossey Bass.
- Seers, K. (1999). Qualitative research. In M. Dawes, P. Davies, A. Gray, J. Mant, K. Seers & R. Snowball (Eds.), *Evidence-based practice: A primer for health care professionals* (pp. 111-126). London: Harcourt.
- Sparkes, A. (1990). *Curriculum change and physical education: Towards a micropolitical understanding*. Geelong: Deakin University Press.
- Trinder, L. (2000). Introduction: The context of evidence-based practice. In L. Trinder & S. Reynolds, (Eds.), *Evidence-based practice: A critical appraisal* (pp. 1-16). Oxford: Blackwell Science.



Copyright of *Waikato Journal of Education* is the property of *Waikato Journal of Education* and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.