

# **THE ROLE OF SPORT MANAGERS IN THE TRANSFER OF SPORT SCIENCE TO HIGH PERFORMANCE COACHING IN CANADA**

**Ian Reade**, University of Alberta, Canada

## **Context**

This research project was conducted from a sport management perspective, with an interest in how the transfer of sport science knowledge to high performance coaches might best be facilitated. Coaching is a competitive job, and coaches of high performance athletes are always looking for a 'competitive edge.' It is unlikely, therefore, that coaches will share their information with rivals. How, then, do coaches get new information or new ideas? Sport science has the potential to provide information to coaches that will give them the edge they seek. However, empirical studies have not been done to investigate knowledge transfer from sport science to coaching practice (Gilbert, 2001).

Health care settings were the first source of concern over knowledge transfer. Evidence-based practice has been discussed in health care, and a measure of frustration is evident in the literature, based on a failure to get research results into practice. A similar problem is said to exist in business management practice. Therefore, I decided to take a parallel look at the high performance sport environment from a management perspective.

## **Methods**

A population of 600 high performance coaches involved in Canadian Interuniversity Sport (in 11 different sports) was identified. This project was the first phase of a larger study that will involve that larger population. A short web-based questionnaire was distributed to a purposive sample of 35 of those coaches at one major Canadian university. The questionnaire was followed up by a short personal interview with each coach who responded.

## **Results**

The results showed that nearly 90% of these coaches believed that sport research is contributing new ideas to their sport. The coaches prioritized the area of Tactics/Strategy ahead of areas such as Strength Training, Fitness and Mental Preparation, but indicated that research into tactics and strategies was not as likely to be conducted as in the other areas.

Coaches indicated they were most likely to get new ideas from other coaches. The second most likely forum was through clinics or seminars. None of the coaches indicated they would get information from academic research journals.

Of particular interest was the finding that Sport Canada, SportDiscus ("the world's leading database in sport, health, fitness and sports medicine") and the Sport Leadership Conference, which are primary sources of sport research information, were ranked lowest of all potential sources of sport research information.

Finally, 77% of the respondents agreed "research is not presented in formats that can be used easily by coaches", and 83% agreed that "the research being done is not easily accessible to coaches."

## **Discussion/implications**

These findings suggest that high performance coaches are looking to sport science for new ideas. Although there was clearly some incongruence between what the coaches are looking for and what they believe is being done, there appears to be a belief that sport science can be an important contributor to high performance coaching.

Coaches are getting ideas from other coaches, a finding which may be inconsistent with my assumption that coaches will not share ideas. However, while the result may be explained by coaches

## Appendix

**Table 1: Economic importance of sport in terms of GDP and consumers' expenditure in European countries**

Country/date	Authors	GDP (%)	household expenditure (%)
Belgium /Flanders, 1982	Kesenne et al. (1987)/Jones (1989)	1.4	1.9/1.5
Flanders 1990	Couder & Kesenne (1990)	1.35	---
Belgium 1990	Andreff et al. (1995)	0.78	1.16
Flanders 1996	Taks & Kesenne (2000)	3.7	6.8
Croatia 1990	Bartoluci (1997)	0.71	---
Denmark 1989	Riiskjaer (1989)/Jones (1989)	---	1.6/1.3
Denmark 1990	Andreff et al. (1995)	0.56	0.31
Finland 1985	Rissanen et al. (1989)/Jones (1989)	0.9	1.6
Finland 1990	Andreff et al. (1995)	1.13	0.75
France 1977	Malenfant-Dauriac (1977)	0.5	0.8
France 1985	Jones (1989)	1	---
France 1990	Andreff et al. (1995)/Halba (1997)	1.1	0.63/2.2
France 1992	Léger (1994)	---	0.84
France 1999	Andreff & Nys (2002)	1.9	---
France 2001	MJS (2001)	1.7	---
Limousin 1993	Gouguet (1998)	1-2	---
Germany 1990	Andreff et al. (1995)/Halba (1997)	1.28	0.88/2.7
Germany 1994	Weber et al. (1995)	1.4	1.8
Germany 1998	Meyer & Ahlert, Ahlert (2000)	1.4	1.9
Greece 1994	Kolimpalis (1999)	1.3	1.1
Hungary 1990	Andreff et al. (1995)	0.6	0.28
Iceland 1987	Jones (1989)	---	1.2-1.7
Italy 1989)	Nomisma (1991)	2.25	3.5-3.6
Italy 1990	Andreff et al. (1995)/ Halba (1997)	1.04	0.76/1.9
Italy 1996	Nomisma (1999)	2.4	3.4
Italy 2001	Nomisma (2002)	2.5	---
Netherlands 1985	Van Puffelen et al. (1988)/Jones (1989)	1.9	2.2-2.3
Netherlands 1992-3	Oldenboom et al. (1996)	1.89 (of final expenditure)	---
Portugal 1987	Jones (1989)	---	1.1
Portugal 1990	Andreff et al. (1995)/Halba (1997)	1.77	1.04/1.9
Spain 1990	Andreff et al. (1995)/Halba (1997)	1.68	1.45/2.9
Spain 1990	Alonso et al. (1991)	1.2	1.5-1.8
Andalucía 1998	Otero et al. (2000)	2.6	---
Andalucía 1999	Villalba (2002)	---	2.8
Castilla y León 1998	Pedrosa (2000)	1.4	2.5
Navarra 2003	Rapún (2003)	1.5	2.9
Sweden 1990	Andreff et al. (1995)	0.80	0.48
Switzerland 1990	Andreff et al. (1995)	3.47	3.17
UK 1985	Henley Centre (1986)/Jones (1989) <sup>(1)</sup>	1.4/1.6	1.1/2
UK 1990	Andreff et al. (1995) <sup>(2)</sup> / Halba (1997)	1.49	1.17/2.6
Northern Ireland 1989	Henley Centre (1992a)	1.2	---
UK 1990	Henley Centre (1992b)	1.7	2
UK 1985	LIRC (1997)	1.34	2.01
England 2000	Cambridge Econometrics (2003)	1.5 (for regions, from 1.3 to 2.20)	2.8 (for regions from 2.5 to 3.2)
England 1995	Gratton and Kokolakis (1997)	1.61	2.33
England 1998	TSIF (1999)	1.69	2.5
UK 2003	SIRC (2004)	2	2.6
Scotland 1990	Pieda (1991)	2.56	---
Scotland 1992	Pieda (1994)	1.5	---
Scotland 1995	Gratton & Kokolakis (1997)	1.82	2.75
Scotland 1998	Sport England (2001)	1.76	2.55
Wales 1988	Henley Centre (1990)	1.7	1.6
Wales 1993	CASSS (1995)	1.65	1.68
Wales 1995	Gratton & Kokolakis (1997)	1.82	1.97
Wales 1998	LIRC (2000)	1.95	2.52
Cornwall & Isles of Scilly 2004	SIRC (2004)	2.0	---
Sheffield 1997	Davies (2000, 2002)	4.11	---

<sup>(1)</sup> This report presents % of private consumption into total consumption.

<sup>(2)</sup> This report presents % of final family consumption into GDP.

sharing with coaches whom they do not consider as competitors, further investigation is required to better understand this important aspect of knowledge transfer.

From the sport scientists' perspective, the academic evaluation system in Canada may not motivate sport scientists to communicate directly with high performance coaches. Their measures are likely to be the amount of research funding they receive and the number of publications they have accepted by academic journals. Consultation with coaches, and presentations at coaching conferences are almost certainly lower priorities in the list of dissemination strategies that sport scientists in Canada will use. While academics are rewarded for publishing in academic research journals, not even one coach from our study indicated they would get their information from those journals. While this is not surprising, this study provides the first empirical evidence of this failure in the knowledge transfer process.

Furthermore, while SportDiscus and the Sport Leadership Conference are undoubtedly excellent potential sources of sport information, it is very clear from this group of coaches that these resources are not fulfilling their sport research needs.

What role, then, could sport managers or administrators play in the knowledge transfer process between coaches and sport scientists? The first step may be the formal recognition in the sport management community of the problem that exists. Sport managers will have to accept some responsibility in the process, and develop mechanisms to facilitate the knowledge transfer process in their sport organizations. The results were very clear, that usable formats and easy accessibility were requested by the coaches. Both of these aspects are controllable variables from a management perspective, if the management desire exists.

Sport managers must be prepared to undertake the task of bringing together sport science information, and sport scientists, in a forum that is designed to deliver the research results in a format that can be readily utilized by high performance coaches.

Further research is currently being organized with a larger sample of high performance coaches to test these findings prior to recommending any major initiatives in Canada.

#### **Reference**

Gilbert, Wade D. & Trudel, P. (2004) Analysis of Coaching Science Research published from 1970-2001 *Research Quarterly for Exercise and Sport* 75, 4 388-400

Contact: [ian.reade@ualberta.ca](mailto:ian.reade@ualberta.ca)

## STEROIDS IN SPORT: ADDRESSING KEY ISSUES TO PROMOTE LIBERAL EDUCATION THROUGH SPORT

James P. Santomier, Sacred Heart University & Patricia I. Hogan, Northern Michigan University, USA

### Context

A recent report entitled *Greater Expectations: The Commitment to Quality as a Nation Goes to School* calls for radical reform in education in order to align itself with twenty-first century needs (AACU, 2002). According to the report, the direction this reform should take involves focusing on learning that empowers and informs students to become intentional, adaptable, responsible, and self-directed learners and practitioners, capable of integrating knowledge from a variety of sources to effectively and ethically identify and solve problems in order to thrive in a complex world. In short, the report calls for universities and professors to become effective at merging the goals of the disciplines with the goals of traditional liberal education so that students, irrespective of their discipline, are engaged in a practical liberal education.

Merging the objectives of a traditional liberal education with the development of professional intellect (discipline-based) in students redefines the teacher-student relationship, and can be considered practical liberal education. A *Harvard Business Review* article by Quinn, Anderson, and Finkelstein (1996) provides a cogent model of a conceptual framework for developing sport management professionals for the 21<sup>st</sup> century for sport educators. They identified four levels comprising “professional intellect” of ascending importance they view as necessary to be developed in enterprises (teams, agencies, organizations) for economic competitiveness in a global economy.

These levels of knowledge are:

- 1) *Cognitive knowledge* (know-what) - the basic mastery of a discipline that professionals achieve through extensive training and certification, which must be updated constantly. This knowledge is essential, but usually far from sufficient, for commercial success
- 2) *Advanced skills* (know-how) translate “book learning” into effective execution. The ability to apply the rules of a discipline to complex real-world problems is the most widespread value-creating professional skill level
- 3) *Systems understanding* (know-why) is deep knowledge of the web of cause-and-effect relationships underlying a discipline. It permits professionals to move beyond the execution of tasks to solve larger and more complex problems - and to create extraordinary value, and
- 4) *Self-motivated creativity* (care-why) consists of will, motivation, and adaptability for success. Hogan and Santomier (1997) recommended that faculty staff in business and sport management should attempt to promote these levels of knowledge in individuals (not just enterprises) and that because of their importance in sport and medicine, professional ethics be subsumed under the category of self-motivated creativity (care-why).

### Project/Partners

Using sport-based problems to promote a practical liberal education in students requires creating a dynamic teacher-student relationship. This involves a shift from the traditional instructional paradigm (universities exist to transmit information) to a learning paradigm (universities exist to produce learning). The learning paradigm (Quinn et al, 1996) focuses on a noetic (pertaining to the intellect) partnership between teachers and students, where the role of the teacher changes from primarily expert lecturer to designer of learning methods and environments, collaborator in and empowerer of learning, and where the role of the student changes from passive recipient of information to active participant in his/her learning (Barr & Tagg, 1995).

The idea of viewing sport management education in the light of practical liberal education will be discussed, and a means to facilitate such an end will be identified. Specifically, a problem-based learning or PBL method (McMaster University, 1985), involving the issue of using steroids and other performance-enhancing drugs in sport, will be used to demonstrate how educators can use complex