model and catalyst for curricular change at UHH. These courses are based on a Hawaiian worldview that is conducive to the acceptance and value of traditionally marginalized perspectives. Hawai'i has a particular and unique geography that continues to engender a unique character in its human residents. The traditional Hawai'i native's relationship with the geography of Hawai'i has engineered over many generations a non-exploitive system of environmental oneness that has defined not only a lifestyle, but also a balanced, living system founded on environmental knowledge. In the face of the rapid deterioration of Hawai'i's natural geography, a threat to all that is Hawai'i, environmental and human, is looming. UHH, as the main educational and research institution on this island, is trying to influence island-wide efforts to mitigate the deterioration of our environment. However, Uluākea is engaged in educating us faculty, not simply as an academic exercise but rather in a long-term commitment toward embracing a Hawaiian worldview and incorporating it as a part of our own. Through this perspective, we will develop curriculum, teach, advise, do research, and serve the community. It is important to note that this is not a rejection of Western theory, knowledge, and perspectives. Rather, it is about centering Hawaiian beliefs, ways of knowing, and worldviews and coming to know and understand theory, research, and other knowledge from Hawaiian perspectives and in promotion of the health of the Hawaiian environment.

This serves as just one example for an explanation for why my job at UHH is a very special and unique working experience, with so many personal and professional benefits in the short and long term for my career in academia.

Educación Física y Deporte Sport Science in South America – Insights from Argentina and Colombia

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Introduction

In most countries of South America, sports science is a well-established scientific discipline. The following article explains sport science training and working conditions within two South American countries, specifically Argentina and Colombia. This article aims to help inform junior scientists of research and academic life in these countries, and help determine whether a visit or period of study would be beneficial to their development.

Sports Science in Colombia (G. R. Suarez & A. Bund)

Facts about Colombia

Colombia is situated in the North-West of South America. Three foothills of the Andes Mountain range called *Cordilleras* cross the country. The climate is moderate to tropical and there are no real seasonal variations. The country has slightly more than 40 million inhabitants and the largest cities are the capital Bogota (containing approximately 6 million people) Medellín and Cali (who both reside 3-4 million people). In terms of politics, Colombia is a stable democracy. However, there have been several armed conflicts between guerrilla fighters, paramilitary units and the federal army over the last decades. The former are mainly financed by drug trafficking and hijacking. Most of the conflicts are restricted to certain areas of the country and the large cities are safe. In contrast, Colombians are well known in South America for their extraordinary kindness and hospitality.

Training of junior sport scientists

Colombia has both state-run and a private University sector. The private Universities demand relatively high tuition fees but are respected for their high level of training. Graduates have good prospects in finding a job. The diversity of Universities in Colombia is remarkable. For instance, one can find more than ten

Universities; with some only focusing on specific subject areas. The academic term generally starts in February and ends in December. Academic achievements are measured with the help of credit points called Unidades Labor Académica (ULA).

Only state Universities are in charge of training sport scientists in respective institutes of sport science or institutes of physical education (Institutio de la Educatión Físca). There are other officially recognized institutions in which degrees in sport science, mostly in a particular sub-discipline, can be achieved, although these are rare. Following five years of study at a University, students generally receive the title "Licenciado en Educacíon Físca". This title in sport science qualifies students to work as a teacher in physical education at public or private schools. Further, it enables them to work as a coach for sport clubs or within sports administration. Sport pedagogy usually exhibits an exceptional position. However, other disciplines of sport science are also taught. In many institutions sport sociology and sport philosophy are not represented, and kinesiology is often reduced to biomechanics. The practical training comprises half of the academic study required and focuses on swimming, track-and-field, and the popular team games. Altogether, there are approximately 12-20,000 students studying the undergraduate equivalent of sport science in Colombia.

Related to post-graduate study, the course often lasts for two years and involves study and qualification for a specific vocational field. For example, the Universidad de Antioquia currently offers three alternative fields, namely in physical activity and health, administration and coaching. Students receive either the title of "Especialista" or a magister degree ("Maestria") following a successful two year course. Since the majority of the students are usually already employed, classes regularly take place in late afternoon, evening or on the weekend. It is not possible to receive a PhD in sport science at the present time. The lecturers normally are Especialistas or Maestrías and only a few staff members have attained a PhD, often through a University in Spain.

Working conditions for sport scientists

As in Germany, sport scientists at a University have duties in the areas of teaching, research and administration. The amount of teaching varies between four to six 2-hour classes per week. Research projects are exclusively conducted in research groups. These often consist of several local lecturers and students working together at an institute. An elected committee decides how financial grants to support the projects are distributed. Also, the national science organization (COLCIENCIAS) finances research projects. Depending on an evaluation and categorization of the research projects, this organization provides financial support ranging from complete funding to partial absorption of special costs (e.g., for literature or symposia).

The salary of a lecturer, for example working at the Universidad de Antioquia, is based on a point system according to qualification, years of service and the amount of publications. The average salary is € 700-800 per month. Other Universities may pay slightly more. However, a lecturer with a PhD and having more than 10 international publications can earn more than € 2,000 per month. In Colombia the cost of living is far lower than Germany. Many lecturers still work in other educational institutions (e.g., private Universities, or regional branches of their own University) to improve their salary.

Working conditions for German sport scientists

In the 1970s, many German sport scientists were involved in establishing sport science in Colombia. Many of the institutes were founded during this time. This explains why German sport scientists are still highly credited in Colombia. On this basis, German scientists are widely appreciated and welcomed to stay. However, few are financially supported by the Colombian administration. In Colombia, there is no organization like the DAAD that supports international research or teaching activity at the University. Academic visits can be organized between the different institutes and research groups. These may also determine the level of financial support provided. For example, the Colombian institute can cover the costs for living and accommodation for a particular period of time. Nonetheless, it is generally recommended that financial support from the DAAD should be targeted (e.g., short-term or long-term grants; see Bund in this issue). To add, the DAAD does cooperate with a scientific organization in Colombia, which makes a bilateral exchange of scientists possible. To assist with organizing such an exchange, proficiency in Spanish is the basic requirement, as the majority of students and Faculty staff does not speak English.

Sports Science in Argentina (S. Crescente & A. Bund)

Facts about Argentina

Argentina spans almost 3500 kilometres in a North-South direction on the South-American continent. In the West, the Andes Mountains create a natural border with Chile. In the North-East the climate is almost tropical, whereas in the other parts of the country the climate is mild (except for the Andes Mountains). Almost 40 million people live in Argentina, which is considered the most European country in South America. Buenos Aires, with approximately 14 million inhabitants, is the political, cultural and economic capital of the country. Other important University cities in Argentina are Cordoba and Mendoza. Following several military dictatorships, Argentina has developed into a stable democracy. In recent years, the country has recovered from financial crises which occurred in 2001-02.

Training of junior sport scientists

At a general estimate there are 40 'state-run' and 50 private Universities in Argentina. The academic terms generally occur from March to December. This time is divided into two semesters, which run from March to July, and August to December. The systems within a University are typically regimented. Students generally study only one specific subject area.

The tradition of sport science in Argentina is remarkable. As early as the beginning 20th century, the "Instituto Nacional de Educación Física" (INEF) was founded as the first of its kind. In 1938, the scientific essentials for the training of physical education teachers were established by developing the "Sistema Argentino de Educación Física". Today, there are three national institutes (all in Buenos Aires) beside the Universities. Also, there are approximately 100 mostly private "Instituciones terciarias". These institutes train physical education teachers ("Professor de Educación Física"). Graduates from here can generally teach physical education both in elementary (Nivel inicial) and secondary schools (Nivel primario and secundario). The period of academic study required often takes three to four years to complete full-time. Afterwards, students may gain access to postgraduate programs, although within specific fields of research.

Sport science and the training of physical education teachers is not a growing discipline, or an aspect of core business at

the Universities. Only seven Universities started to offer courses in sport science over the last few decades. Those which have been initiated are integrated into the institutes of the human sciences. Independent institutes or Faculties dedicated toward sport science do not exist. Following four years of study, students can obtain the title of "Professor Universitario de Educación Física" and, after one more optional year at University, the title "Licenciado en Educación Físca". This latter degree is mandatory, if you are to work at Universities or other institutions involved in higher education provision. At some Universities, the degree is associated with special research areas. For instance, competitive sports (Universidad de San Martín); administration (Universidad Abierta Interamericana) or outdoor sports (Universidad de Comuhue). Additionally, one can achieve coaching licenses for track-and-field and volleyball (e.g., Universidad de la Matanza). Similar to Colombia, it is possible to gain the title "Especialista" after completing postgraduate studies. The period of post-graduate study often comprises 360 hours, examining a special field of research such as physiology (Universidad Nacional de la Plata) or rehabilitation (Universidad Católica de la Plata). Only the Universidad Nacional de la Plata offers a magister degree in sports science ("Maestría en Deporte"). To attain this degree, a study period of 540 hours is required. It is also possible to obtain a PhD in sport science at the institutes of social and educational sciences. However, these are rare and an uncommon pathway for students.

Working conditions for sport scientists

Sport scientists are generally in charge of both their teaching and research. Research is however only possible at the larger Universities within the capital (i.e., Universidad de Buenos Aires; Universidad Nacional de la Plata; Universidad Nacional de La Matanza). The most common areas of research relate to anthropometry, motor learning and the social study of sport. Financial support for research is very problematic and rarely exists. Moreover, it is often difficult to obtain scientific literature, particularly specific journals, due to the limited resources available within the Universities.

To add, sport scientists are poorly paid. Their state salary is even below the average salaries of physical education teachers in schools. Instead, considerably more money can be earned through working as a sport scientist for a popular sport association in Argentina such as in soccer, tennis, or field hockey.

Working conditions for German sport scientists

In Argentina there is no national organization such as the DAAD. Therefore the financial support of research and teaching activity locally or internationally does not occur. Agreements related to the possible exchange of researchers and students only exist with other Latin-American countries (e.g., Chile, Mexico, and Cuba) and the exception of Spain. For German sport scientists, the relevance of DAAD grants again comes into question (see Bund in this issue). A period of research or study for German sport scientists is possible if bilateral exchange programs are established. The DAAD does cooperate with a scientific organization in Argentina which bears the expenses of a period of stay for a period not exceeding three months. Further in 2004, the DAAD established a German-Argentine centre alongside the Universidad de Buenos Aires. If student exchange does occur with a state University partner in Argentina, then students will have to pay a fee of $ 150-500 (US) per semester. At a private University this fee may be considerably higher. The prerequisite for an academic period of stay is proficiency of the Spanish language, since all lectures and seminars are held in Spanish.

Sport Science around the World: Comparing Perspectives from Three Different Continents

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Ze-phir: Can you please give us an overview of the University in which you work. Is there an institute of sport science, what about sport related research activities? What is the average number of undergraduate and PhD students?

D.M.: Unfortunately there is no institute of sport science. Institutes in Australia are typically government run and funded, and are separate to the University system. Universities may engage with the Institutes to perform research, but they are typically not involved with direct servicing of elite sports. We do however have a number of different centres in the University which work in sport related areas. We have a School of Health and Exercise Science located in the Faculty of Medicine which works extensively in Physiology and Exercise Science. There are approximately 250 undergraduate students enrolled in this school, who complete a four year degree. This qualifies students to work as Exercise Physiologists and allow them to claim benefits from the government for seeing clients. This school has about 5 PhD students. Otherwise, there is a Biomechanics lab which works in injury prevention with 2 PhD students at present. This lab particularly works with Rugby and Gymnastics. There is also an Injury Research Centre which looks at the epidemiology of injury in a wide variety of sports contexts. The centre also contains 4 PhD students at present. I presently work within the School of Optometry and Vision Science, examining vision in sport. The main sport science related reasons for visiting our University related are for exercise prescription, healthy lifestyle and well-being reasons, or due to injury risk management. Unfortunately there isn't a specific over-riding centre to manage all of the work in sport.