THE ARMED FORCES AS STAKEHOLDER IN THE DEVELOPMENT OF SPORTS SCIENCE: PRACTICAL EXPERIENCES IN KNOWLEDGE MANAGEMENT

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Military traditions have historically included scientific and technological development in any country or culture. Today's Electronic Warfare and other advanced technologies are increasing this trend upward in very broad and converging perspectives. But key military values as discipline, group cohesion, rigorous training and so forth, remain without changes in different historical backgrounds.

This apparent contradiction between long-lasting military attitudes and today's technological advancements can be considered from many sources the strength and even the identity of today's military culture (Nuciari, 2007).

Sport in this interplay of past and present procedures and beliefs plays a peculiar role as it fits not only skill-based military activities and technological but also scientific needs to update military capability in any nation. In other words, sport – a modern expression usually related to physical training for competition and to recreational participation otherwise – remains in military grounds as a practice device to improve personnel's physical capacity and quality of life as it has emerged in recent decades as a scientific tool.

The start-up of CISM Academy

Not surprisingly, CISM's development experienced by itself the aggregation of scientific notions and principles to empirical sport practices from traditional military drills. Indeed, the creation of CISM Academy (ACISM) in the 1960s would be acknowledged today as a innovative project consolidated in the 1970s and 1980s, in view of its original aim to provide scientific content to sport competition promotions. Surely, CISM has its start in the 1950s as a post-war organization, a period also recognized in sport fields as a booming stage in terms of scientific-based physical training methods (DaCosta, 1968).

Such inaugural purpose of ACISM probably had been a consequence of CISM mission in promoting friendship sport competitions among World War II Allied Armed Forces in Europe, instead of only emphasising sport as a military drill. Therefore, most ACISM pioneer participants and leaders were acting in civilian sport in equal basis of military sport manifestations. The example of Major Raoul Mollet (Belgium), long standing General Secretary of CISM from 1960s to 1980s, has become emblematic for being a prestigious specialist in physical training methodology for civilian purposes besides his military style management responsibilities. Therefore, ACISM's growth in the 1960s and 1970s had Mollet as a close support key-person acting both as a CISM leader and an ACISM expert.

The author of this essay himself witnessed the two-sides of the functional promotion developed by Mollet, including the recruitment of ACISM members. He had visited Brazil mostly as a leading name of physical training methods presenting his "Power Training" to civilian audiences in addition to his role of military leadership and manager. And until today, his books in Portuguese are available in non-military editorial design and language (Mollet, 1962).

As a consequence of Mollet´s doctrine, I was recruited to ACISM and participated in its activities yet in 1960s nationally and internationally, keeping my civilian academic status and my military position in the Navy as a researcher. Later, during the 1970s, I became an international coach for military competitions and a sport researcher with international scientific impact, an outcome recently historized by Santoro & Soares (2009).

Moreover, Brazilian leading military specialists in physical training methods with casual or regular connections with ACISM in the 1960-1970s had similar careers as mine as a young coach and scientist. According to data reported by Correa (2005), those ACISM military-civilian distinguished participants were Captain Jose A. Pires Goncalves (Army), Lieutenant Manoel Tubino (Navy) and Captain Claudio Coutinho (Army), whose interventions in Brazilian sport physical training – military and civilian – became historical accomplishments with repercussions up to today. In the case of Captain Coutinho, it is important to mention his long-term association with Major Kenneth Cooper (US Air Force), one of ACISM's scientists and leader at that time (Tubino & DaCosta, 2005).

Putting the main focus on scientists

This leverage support from ACISM to national groups seeking international development is yet a history to tell besides the groundbreaking example of Brazil. However, looking at the past from today's perspectives, it seems that ACISM had made synergetic interventions exchanging information from experienced specialists to newcomers from countries without the same scientific and technical infra-structure than CISM leading nations. Surely, ACISM common approach at its beginning consisted of mobilizing individual members with scientific prestige in sport to participate in courses, conferences or meetings, providing a collective development together with national-based experts. Summarizing, ACISM in its start focused more on scientists than on science itself as suggested by Gagliardi (2009):

> The 60s and 70s saw the rise of CISM Academy (ACISM) with a creation of the organizational structure and statutes, which defined it as a scientific and pedagogical agency dedicated to research in selected areas of physical activity and sports training. As a symbol of this pioneer stage the book "Medicine of the Sport" was launched in Italy in 1960 including a chapter under the title "Military Sports Medicine", written by Colonel G. Tartarelli from Italy, on account of findings promoted by CISM Academy. In all, ACISM experiences may be referred to outstanding military scientists, following the trend signalized by Col. Tartarelli.

Taking into account the latter source, the emphasis on outstanding personalities also seems to be a consequence of the magazine – with the title of "Sport International" – and the technical brochures published by CISM General Secretariat located in Brussels, also led by Major Raoul Mollet in his capacity of chief editor. Thus far, Mollet acted mobilizing news and texts from sources and authors usually opening space to sport training advancements and counselling on behalf of ACISM activities. Of course, prominent names from military sport and sport sciences were targets sought by editorial led references.

Again, the present author may stand as a witness of that editorial orientation as I am able to report the the reputation building process represented by those CISM media, a process of tracking opportunities to have research published in parallel to academic journals and books at least concerning marginal countries and languages in terms of scientific production. In my case, the spread of news about the results of my researches was made by "CISM-Sport International" throughout the 1960s as well as through the manual "Altitude Training", also published by CISM in early 1970s. In short, the impact made in the Portuguese language towards Brazil's sport scientific community had gained additional support in English and

French. Besides, it reached a much more important audience worldwide, both in military and civilian grounds.

However, the media papers which have been produced by CISM since the 1960s might not have had the same outcomes in today's military or civilian environments on account of sport scientific production. On the one hand, the publication of non-military academic books and articles has been changing in terms of the access of new authors and themes in recent decades, which has made the whole process more selective despite more participation in international approaches.

Generally speaking, the emergence of the Internet and computer-based media has created another parallel alternative to marginal scientific producers even in sport concerns. Thus, the value of the old ACISM model would be found mostly in the relationship of scientists of different levels of experience and nationalities. And so, to return to the example of the original ACISM, it should be claimed that personal relationships are still the fundamental way to reach a collaborative knowledge production. Of course, the meaning of this solution is referred to relationships among different countries with a diversity of sport development levels.

Updating on CISM Academy in the computer age

From CISM's perspective since 2004, this understanding is clearly shown in the role of its Sports Commission, that is, "To create possibilities for, and guidance to a positive development of sports, sports related matters and physical education within CISM and its member countries" (CISM, 2004). Moreover, the document "Sport Commission Internal Regulation" declares initially that "Sports are the main product of CISM with friendship as its aim", a definition supported by the following explanation:

> In organisations which grasp over a variety of activities and interests there is a need of general guidance. In the field of different sports there are numerous things and needs that can and should be co-ordinated. The limited resources for military sports both in the organisation of CISM and among our member countries have to be distributed with this taken into consideration.

Throughout the thesis of collaborative knowledge production, I will give definitions of new approaches to have CISM and even the Armed Forces as a stakeholder in the development of sports science, having in mind the renewal of the ACISM model in its best updated format. The search for this aim begins with the argument of networking, a new interpretation of the real accomplishment long sought by the original ACISM. Hence, Patricia M. Jones (2005) from NASA Ames Research Center, USA, is to be credited with the following clarification of networking for scientific purposes:

> Relationships among people can be modeled as social networks in which network nodes represent people and network arcs represent relationships (e.g., friendship, advice, supervisor-subordinate relations) that change over time. Social networks also form a resource for collaborative knowledge management: the creation, exchange, and transformation of knowledge. Information technology offers several possibilities for making social networks and collaborative knowledge management more visible, inspectable, and systematic, which may aid the process of organizational learning.

From networking to Knowledge Management

In sum, Knowledge Management (KM) is the central focus of my argument since networking has been proving as the means for improving collective knowledge, that is, organizational learning. Coincidentally, Knowledge Management's tools are becoming the convergence focus of recent military strategies in some Armed Forces worldwide. In this sense, it is significant to mention recent studies on KM for military power development, as ascertained in the joint study made by Lt. Col. Ismail Manuri and Prof. Dr. Raja Abdullah Raja Yaacob for the Malaysian Armed Forces (2006), or in the position paper from Dr. Petr Vsetecka (2006) for the Slovak Armed Forces.

In a nutshell, KM is oriented to management of continuous innovation, which implies in transfering knowledge from people to people much more than from machines to people. In other words, KM represents 70 % people, 20 % processes and 10 % technology, as assumed by Vsetecka. Furthermore, KM deals equally with explicit (documented information that can facilitate action) and tacit knowledge (comprehension gained through study, experience, practice, and human interaction).

Another point-specific definition has been issued by the Field Manual "Knowledge Management Section" from US Army (2008). From this military source it is acknowledged that knowledge creation is "the process of developing new knowledge or combining, restructuring, or repurposing existing knowledge in response to identified knowledge gaps". So forth, knowledge management presupposes the movement of knowledge —including knowledge based on expertise or skilled judgment—from one person to another. Summarising, KM is

> the art of creating, organizing, applying, and transferring knowledge to facilitate situational understanding and decision-making. Knowledge management supports improving organizational learning, innovation, and performance. Knowledge management processes ensure that knowledge products and services are relevant, accurate, timely, and useable to commanders and decision-makers.

Theoretically speaking, this recent military approach to updated developments provided by KM might include Sport Sciences as far as they may be considered a fundamental tool of modern management in both civilian and military environments, as already here concluded when analysing traditional military values. Conversely, the CISM Sport Commission Internal Regulation (2004) seems to be open to KM innovative approaches as observed through its "Mission success factors" as follows by the list below:

- Managing by means of the Sport Commission Management Process.
- An effective Sport and Physical Education (PE) Policy.
- The equilibrium between top level Sports, Sports for all and Physical Education programs.
- Adequate resources for the execution of plans and projects.
- Dynamic relations with macro-sport and PE organisations worldwide.
- Maximum utilisation of technological infrastructure and human resources.

Certainly, the last two items may be seem as pledges – specially the "maximum utilisation of technological infrastructure and human resources" – which give organizational normative legitimacy to KM utilization by CISM. Actually, both items are claims embodying longitudinal data collection from many international sources and the intensive usage of

electronic hardware and peopleware, idiosyncratic matters related to KM. Other factors are surely operational directions for inward references not applicable to outbound strategic needs of updating.

Having said that, the aim of examining the stakeholder role of the Armed Forces – including CISM's participatory interventions – may be achieved by approaching to practical experiences in Knowledge Management for sport sciences developments. This suggests that the contributions to the re-birth of CISM Academy envisage possibilities of KM for military sports concerns by means of practical experiences conducted by the Author – in association with other researchers - of this essay. Thus far, five experiences of KM projects related to sport in general are reported in the next sections, covering countries and collaborators with large differentiation according to their geographic location and educational or professional backgrounds, from 1999 to date. These attempts seek insights and tools in order to provide CISM with alternatives to employ KM as a means to establish a stakeholder relationship with member countries in view of future military sport development and the respective re-new of ACISM.

KM experience in cross-national approaches

This practical undertaking was promoted by Trim and Fitness International Sport for All Association – TAFISA during the period of 1999-2002, with an international book as an outcome planned to be published in English under the patronage of UNESCO and the International Olympic Committee-IOC. At the end of the project there was a 792-page volume printed and distributed by Meyer & Meyer Sport publisher from Germany, having as editors Lamartine DaCosta and Ana Miragaya, from the University Gama Filho, Rio de Janeiro, Brazil.

The 2002 Sport for All interesting case in terms of KM is mostly concerned with the search of balancing explicit with tacit knowledge in view of the large differentiation between academic researchers and Sport for All managers or leaders from a variety of countries. Often, the demarcation of scientific works is made by giving full priority to explicit knowledge. However, Sport for All programs worldwide were mostly conducted by non-academic managers, a fact that partly explained the dearth of books with review of this area of knowledge, a common publication found in many other sports areas.

The insufficiency of Sport for All explicit knowledge was clearly detected as referred to international congresses proceedings which did not have scientific value since simple event-oriented reports predominated instead of desirable fact-finding analysis and conclusions. Failure to note it is also the absence of scientific investigations based on Sport for All thematic possibilities. In all, upon tacit knowledge relied the cognitive process of Sport for All before 1999, when DaCosta & Miragaya had proposed to change the contradictory nature of managing a very complex social demand emphasizing practices and not theoretical explanations. Then, it is noteworthy to briefly forward the overall view made by these scholars in the introduction of the "Worldwide Experiences and Trends in Sport for All" (DaCosta & Miragaya, 2002):

> The clear, coherent and direct claim of Sport for All has been facing sharp contrasts with the variety and complexity of the interventions needed to reach the expected results through the practice of physical activities since its outcome (…), since the 1960s Sport for All leaders all over the world have been advocating the need of sport for everyone while sport theorists from many disciplines of knowledge have tried to explain why and how. Nevertheless, both sides have never had a much-needed mutual understanding (p. 16).

Furthermore, the identified problem of Sport for All in terms of knowledge was firstly managed by means of elaborating the following aim for the international review book on Sport for All practices and theories (DaCosta & Miragaya, 2002):

> On account of these contrasting circumstances, the chief editor of the present book had proposed the elaboration of an internationally joint effort do describe and analysed Sport for All experiences and trends from all continents in order to give more scientific content and legitimacy to national and local interventions (…) the international congresses …have been accepting and accumulating contributions from a variety of countries and areas of knowledge without further consequences….As a result, Sport for All remains a confusing aggregation of explanatory attempts and of theoretical interpretations often based in individualistic criteria (p. 17)

Once the Board of TAFISA agreed with DaCosta & Miragaya's proposal in late 1997, the project of the review book had its start-up in 1999 with a call-for-authors manual to the almost 100 country-members of TAFISA. This document in printable format aimed to serve as a guidebook for contributions to be made by each country that showed adherence to the Sport for All review collective work (DaCosta, Gastaldoni & Miragaya, 1998). At that early stage, the standard approach to all authors and countries was a "comparative study that could primarily yield relationships and their foundations for building theoretical explanations" (p. 17) as later described by DaCosta & Miragaya (2002).

With that purpose, the call-for-authors' guidelines sent to prospective authors included a thematic framework to be strictly followed by all contributors, including those who did not have a graduate degree. The reason behind this disciplined text production was the need to level all authors up to a similar groundwork; otherwise, some free interpretation of Sport for All without a standard format would keep the aggregation of explanatory variables not only confusing, as it has been already mentioned, but also prone to follow individualistic criteria. Thus, after a pilot investigation made by the editors in 1998, the following categories were chosen to compose the standard framework for the chapters' writing tasks (pp. 18-19): History, Institutions, Marketing, Culture, Sponsorship and Finance, Target Groups and Activities, Settings and Activities, Strategies and Activities and Social Changes (DaCosta & Miragaya, 2002).

This model for authors' contributions had a successful reaction from prospective countries contacted by TAFISA. At the final stage of the book's production, there were 87 authors from 36 nations of the five continents, having the following profile: 46 authors held a PhD degree (52,8%), 16 had an MSc (18,3%) and 25 were leaders and managers, representing 28,7 % of the total. As such, the model here described was not rejected by academic authors, previously seen as more personal in their work. But, in contrast, the use of a framework for writing the texts increased the consulting relationships between authors and editors extending the project's duration for almost four years.

In short, the framework envisaged to discipline authors in specific focuses also created a platform of comparative analysis, in the perspective of extracting underlying understandings of Sport for All despite countries' differentiation. In this context, the comparative method was not taken in its complete formulation just because the editors explicitly avoided the search of artificial results from juxtapositions involving different elements. The option in this case was to select only similarities and differences from cross-national data and descriptions, so contrasts would help to illuminate assumptions, values, attributions and expectations, according to the editors' choices after a very detailed literature review (pp. 17-25).

The objective of this task was to construct tables to include the total of occurrences of variables of all participating countries. The reference to each category was made under the denomination of "frequency". Those tables represented the conclusions and had interpretative comments added to them. In a nutshell, one can read the survey book in two different ways: (i) focusing on each one of the national cases of Sport for All or (ii) scrutinizing the cross-national experiences and trends (pp. 751-785).

When comparing the Sport for All book methodological procedures designed in the late 1990 decade with today's KM tools, it can be argued that the final analysis embodied by frequency of variables was a simplified meta-analysis that is defined broadly in present times as a statistical technique which combines the results of several studies that ask the same or similar research questions. As the previous remark suggests, the international Sport for All survey published in 2002 used a very simple algorithm for convergence of information detection in a similar conception related to Google-like search tools.

Less creative, but just as important to stress the possible replication of the KM experience developed by the Sport for All book, is the claim that other cases reported in the next sections tested different approaches to KM mostly concerned to review books' collective production. Unsurprisingly, the financial and managerial support to these experiences came from leading international institutions connected to sports sciences, besides prominent universities with interests in sport activities and research. Again, KM main principles and methods will also be reviewed in order to identify new possibilities for the development of Sport Sciences with emphasis on tacit knowledge and meta-analysis, which are here presupposed as tools to search synergy between practice and theory as well as among distinct disciplines of knowledge.

KM experience in multiple thematic approaches

This case only merged specialists from two countries – Spain and Brazil – with dedication to Olympic Studies, a branch of knowledge which selects focuses and themes related to the Olympic Games and the so-called philosophy of Olympism. As in the case of Sport for All, the KM option was to develop knowledge by means of a review and updated book made by a collective association of authors and editors.

The final product of that Spain-Brazil cooperation network was a volume in printing format but transferred to PDF file to be hosted available for download on the Internet, named "University and Olympic Studies", written in Spanish, Portuguese and English (summaries). In fact it was a composition of languages and media planned to fit knowledge exchange between two countries with similar levels of development in Olympic Studies during 2006-2007 stage, as seen in Moragas and DaCosta – Orgs (2007), also available on the Internet.

Miquel de Moragas, from the University Autonoma de Barcelona (Spain) and Lamartine DaCosta, from University Gama Filho – Rio de Janeiro (Brazil), both Ph.D. professors, acted as Organizers of the project of the book and of the two binational seminars. The events that took place in Rio de Janeiro and Barcelona set the state-of-the-art of Olympic Studies in both countries into place in overall and common perspectives. The editors were equally chosen among specialists in Olympic Studies with PhD degrees acting in both universities, namely, Ana Miragaya (Brazil), Otavio Tavares (Brazil), Chris Kenett (Spain) and Berta Cerezuela (Spain). As opposed to the Sport for All project, examined in the last section, the planned Spain-Brazil book and seminars were not commercial – despite the sponsorships involvements led by TAFISA. It was a typical government initiative of scientific support through financial aid from both Spain and Brazil.

Summarizing, the case of multiple thematic approaches to one single discipline of knowledge with binational scientific interests joined 103 Brazilian and Spanish authors from 18 universities coordinated by five top level specialists. This KM style project finally found common points of collaboration among researchers and students from both countries for future initiatives of Olympic Studies development. For that purpose the contributions included in the book represented short reports focusing on a diversity of thematic approaches in order to select

and to have a starting point to new researches. In other words, this case study may be referred to as a state of knowledge review to identify priorities and opportunities for research works and the respective financial support from governmental scientific institutions.

KM experience in multidisciplinary approaches

The case of the non-commercial book "Environment, Sport, Leisure and Tourism – Studies and Researches in Brazil" (Almeida & DaCosta, 2007) is a KM approach for multidisciplinary concerns having sport-related activities as the core for updating reviews. As a KM typical initiative, this project brought together 86 authors in 103 chapters (three volumes) in order to identify the state-of-the-art of sport & environment investigations in Brazil backed by a special chapter on meta-analysis focusing on regional and scientific approaches - mostly in the interest of leisure and tourism) - from a timeline perspective.

Similar to the latter study case, this KM accomplishment had an educational institution behind it: the Federal University of Para, located in Northern Brazil, Amazonas State, having its Research Nucleus for Environmental Research as the promoter of the book's project as reported in the Internet site < www.ufpa.br/numa/ > (free access to PDF copy).

The collective and review book was finally elaborated in Portuguese with the special chapter mentioned above in English, written by Miragaya, A., describing the meta-analysis construction proposed by the project's leaders, Ana Cristina Almeida, PhD and the author of this essay. It should be understood now that this KM option experienced a new step forward when compared to former and latter cases here already reported.

In fact, KM advancements imply not only having knowledge organization backed by peopleware using computers, but also the use of meta-analysis or equivalent procedures in view of the need of systematic updating of information and data. In computer based terms, this overall scrutiny for extracting knowledge from large databases is now made by Data Mining softwares, KM tools acknowledged by Webb (2009) when he describes the aims of the new journal "Data Mining and Knowledge Discovery":

> The premier technical publication in the field, Data Mining and Knowledge Discovery is a resource collecting relevant common methods and techniques and a forum for unifying the diverse constituent research communities. The journal publishes original technical papers in both the research and practice of data mining and knowledge discovery, surveys and tutorials of important areas and techniques, and detailed descriptions of significant applications.

Conclusively, the case of the Brazilian-made KM approach to Environment & Sport themes may represent a test of the viability of a step-by-step methodology for collective construction of knowledge, starting with simple algorithms and reaching appropriate softwares for Data Mining needs and innovations.

KM experience in international transfer of knowledge

The case of the book "Legacies of Sports Mega-events" (DaCosta *et al.* – Eds, 2009) is perhaps a more significant source of comparison with CISM plans to act as a stakeholder in sport development when dealing with a variety of needs from member countries.

Now it should be considered for the aims of this essay that this specific book is an international non-commercial volume issued by the Ministry of Sport in Brazil – 75 authors (6 from UK, Germany and Spain) from 35 universities organized as an epistemic community, that is, groups of authors with previous chosen topics related to the central theme of the book, supervised by editors, with selected international specialists as references for some subjects.

A seminar joining authors was then organized to discuss convergences of this area of knowledge. The objective of the project was to assimilate and associate international knowledge on mega-events and legacies to Brazilian national researches on these topics. Authors with different levels of experience with the central theme were accepted in both seminar and book, which in this conception represent a know-how transfer besides creating an initial base for the improvement of local experts.

To close on a more meaningful note, this transference of knowledge was inspired in ACISM actions in Brazil in the early 1970s, now using the label of "epistemic community". Moreover, the format of the authors' contributions was similar to the Spain-Brazil project as reported in the previous section. Therefore, the book was published in Portuguese with English summaries. The PDF version is available with free access on the following Internet website :< www.confef.org.br/arquivos/legados/ Livro.Legados.de.Megaeventos.pdf >

KM experience in multicultural approaches

This case is also symptomatic for observations that can be discussed towards CISM new role of stakeholder for the sport development of country members. The book subjected to a KM treatment is the "Olympic Studies Reader", an ongoing project for the period 2008 – 2010. Now, the central focus of this project is multiculturalism in sports, mainly grounded on Olympic development needs, as described below:

- Project of Sport University of Beijing and University Gama Filho – Rio de Janeiro, having a book as outcome (non-commercial) with support of the International Olympic Committee-IOC, with 86 authors from five continents in three volumes dated 2008, 2009 and 2010. Chinese Editors: Hai Ren & Niu Jing; Brazilian Editors: DaCosta, L. & Miragaya, A.; website for free access to first volume in PDF: http://www.bsu.edu.cn/new/web/files/ OLYMPIC STUDIES READER.pdf

- Multiculturalism is not only a thematic choice for this book production but rather a means to give space and opportunity to publish authors and studies from countries and cultures still far from international sport institutions management possibilities. Thus, this project did not aim to transfer or to review knowledge otherwise. And in this concern, the IOC started up the production of the three-volume book through a "Call for Papers" (IOC, 2007) suggested by this essay's author according to the experience of the 2002 Sport for All initiative. From the KM perspective, the synergy provided by the Olympic Studies Reader has contributed to the identification and promotion of authors, who have gotten more connected and articulated in search of multicultural values and procedures.

- From the IOC side, the publication aimed at students and researchers interested in Olympism has two main objectives: to provide knowledge on the main research themes related to the Olympic Games, Olympism and the Olympic Movement; and to offer guidelines and suggestions to develop future Olympic research projects. The innovation in this case lies on the use of Chinese as an additional language to English for international concerns, which allows the

inclusion of more readers and researchers. This opens perspectives for the use of other languages for the same role.

- Olympic values-led texts selected or recommended to candidates to join the project have focused either on multiculturalism or on multidisciplinary approaches, respectively in relation to innovative trends or to scientific traditions for Olympic Studies concerns. The meaning of this option is to keep the traditional knowledge all together with new approaches to Olympic sport and sport in general through the eyes of diverse cultures.

- From the editors' viewpoint, the Olympic Studies Reader should be able to identify new foundations to Internationalism (nations) as an overlapping concept in relation to Multiculturalism (cultures) and Multilateralism (politics) from which Pluralism (values) may stand as an area of commonality (i. e. sharing of common attributes, solidarity) providing long-term) intercultural exchange between different levels of practical values-led interactions.

- Also as a new KM proposal from the Chinese-Brazilian editors, Plurality in this case is mostly referred to as multicultural interaction by means of the construction of common knowledge, as seen in the elaboration of texts by groups of authors with multiple national roots; hence, the supportive thesis to this conception is that values diversity in Olympic initiatives demands plural approaches not selection.

Conclusion – Towards a common construction of knowledge

In a nutshell, the discussion of the five study cases must take into account that the KM solutions briefly presented here were mostly concerned with the development and updating of knowledge in large international and national organizations dedicated both to sport and to scientific research promotion. As suggested by the cases presented above, KM has multiple usages and approaches depending on the nature and objectives of the correspondent organizational basis or on the kind of intervention to be provided. Anyway, the step-by-step improvement considered in the previous sections may have new applications elsewhere. This is particular true to create new insights for today's CISM and future ACISM's intentions and planning.

However, the possible role of the Armed Forces – extensively to CISM and the renewed ACISM - as a stakeholder in the development of Sport Sciences is an effective and updated possibility having Knowledge Management as an operational and basic tool, taking into account the noticeable differentiation among military practical functions and their growing needs of scientific support whether in rich or poor countries.

Other suggestion that often comes out from the five projects reported is that a shared-values and plural construction of knowledge may act as a social construction with participants from different cultural and educational backgrounds**.** This thesis applied to KM background refers to a place to initially provide and then later promote shared-values and plural construction of knowledge, therefore creating decentralizing and favorable environments to make cultural interchange with multiple local contributions.

The presupposition of an appropriate place for collective construction of knowledge is a preferred approach of KM prominent researchers as, for instance, Kazuo Ichijo and Ikujiro Nonaka (2007), to whom innovative knowledge emerges from decentralized and favorable environments to make cultural interchange with multiple local contributions (tacit knowledge) in

combination with traditional, empirical and academic knowledge (explicit knowledge). This social construction is heavily dependent on people's participation and access to sources.

If these points reflect the essentials of stakeholder functions, then the future KM solutions applied to CISM traditions and rules should have decentralized projects of shared-values and plural construction of knowledge as bases, keeping the spirit of military belonging and scientific commitments usually promoted by past ACISM's accomplishments.

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