

19th NACACTFCA Congress Report

October 9-10, 2009 - Old San Juan, Puerto Rico



Congress Presenters (l-r): Wolfgang Ritzdorf, Tadeusz Kepka, Gary Winckler, Vern Gambetta, Don Babbitt, Klaus Bartonietz, Elio Locatelli

The North America, Central America, and Caribbean Track & Field Coaches Association celebrated the Twentieth Anniversary of its founding by Victor Lopez, Vern Gambetta, Gary Winckler and many others by holding the 19th NACACTFCA Congress in Old San Juan, Puerto Rico on October 8-10, 2009. Gary Winckler (USA) and Vern Gambetta (USA) were on hand as honorees, and joined as lecturers by Elio Locatelli (ITA), Don Babbitt (USA), Wolfgang Ritzdorf (GER), Tadeusz Kepka (MEX/POL), and Klaus Bartonietz (GER). Over one hundred participants attended the congress, representing Canada, USA, Mexico, Central American and Caribbean nations, and a large number from host Puerto Rico. Once again, NACAC president Teddy McCook provided scholarships for coaches from the region to attend, and 20 federations took advantage of sending a coach. A tremendously successful congress was capped by an evening banquet of Puerto Rican food, music, and dancing! The congress overwhelmingly approved the constitutional amendment creating membership through national coaching federations. The new board of directors includes: Victor Lopez, President; Irma Coral and Wendell Prince, Vice-Presidents; Richie Mercado, Secretary; and Glenn Albertina, Les Gramantik, and Jamil Justiniano, At-Large Representatives.

Elio Locatelli (ITA) – *Two Decades of Revolutions in Coaching* – the IAAF Director of Development Member Services delivered the keynote address on the path of international athletics over the past twenty years, noting that the explosion of international competitions has led to many of the positive changes and also many of the potential problems. The addition of the IAAF World Championships in 1983 (changed from every four to two years in 1995), Indoor World Championships, the IAAF Golden League, World Junior and World Youth Championships, as well as the numerous area championships every two years and the upcoming Youth Olympic Games have all forced changes in annual and long term development training programs. Outgrowths of this include the IAAF Coaching Education & Certification System (CECS, 1991), the IAAF Academy



for coaches and administrators, IAAF Kids' Athletics (7-12 years) and Youth Athletics (13-15 years), and the Athletics World Plan (AWP, 2007), designed to coordinate the various IAAF CECS and development programs, particularly with the interest of proper youth development and the tie between stages of athletic development and coaching education. In 2003, the IAAF launched a program to "Make Athletics the world wide number one participatory sport in schools in 2012," by pushing the cooperation of schools and member federations and sponsoring the annual World Athletics Day in Schools. Locatelli noted 17 member federations which have adopted the Kids Athletics program and are implementing the two new level CECS categories of Youth coach and Club Coach, and pushing youth athlete development plans and competitions in schools. The continued support of Locatelli and IAAF Development greatly contributed to the success of the NACACTFCA Congresses in recent years.

Gary Winckler (USA) – *Reflections and New Directions in Sprinting and Hurdling* – Winckler began by stating that the over the past two decades, the truly successful sprint and hurdling programs have been directed by coaches who understand the need to have balance in the overall system of training, technical, and competitive loads. Success has also been achieved by those who go beyond what they already know to constantly evaluate their own system and results to make necessary modifications based on what is most effective. Winckler challenged coaches to have 25 real years of experience instead of one year of experience 25 times! Other important developments over the past twenty years include improvements in sports medicine – including rehab and pre-hab; a better understanding of training principles and the limits of theoretical periodization models; and better technical models, studies, and information out there for coaches to utilize. Winckler sees great technical improvement in sprinters and fine models in today's champions. In hurdling, the major objectives are to use that refined sprinting skill, improve hurdling skill, maintain rhythm between hurdles, develop a solid start to aggressively accelerate through the first hurdle, and continue to accelerate through the other hurdles. Takeoff efficiency and step management (length and rate) are vital and a challenge even for high level hurdlers. The key is to minimize deceleration into takeoff, develop an appropriate hurdle penultimate step, minimize muscle slack, and maintain proper posture. Good ground forces are the result of proper stiffness and reactive forces from the ankle up. Winckler used videos examples of the ankle stiffness hops and penultimate exercises used in his sprint and hurdle program. Much emphasis is placed on the run between the hurdles, with reduced distance and increased frequencies a priority through a variety of drills that are carefully timed, recorded, and analyzed during the long term training process. Rhythmic Units (the time from touchdown on one hurdle to touchdown over the next hurdle) are the basis of training and are used to prescribe and evaluate training, with distance reduced, unit time preserved, and takeoff and touchdown distances held constant. The concept of 11 accelerations is ingrained through the training, specific hurdling endurance includes 12 hurdle rhythm runs, and high end velocity is encouraged by 3 and 5 step variations.



Don Babbitt (USA) – *Revolutions in Training for the Throwing Events* – As others lecturers stressed, Babbitt emphasized the need for balanced training for the throws and the special needs of strength, speed, agility, and technical development in the throwing events. He noted that Olympic Shot Put champion Tomasz Majewski was able to save his really big throws due to his tremendous agility and coordination, which matched with his strength and speed and size would make his athleticism comparable to a professional basketball forward! Today’s throwers exhibit traits of world class



athletes in terms of short term speed, power, and agility. Babbitt listed the core lifts done in strength training with corresponding norms for elite throws and data for world class throwers in each of the major lifts. His emphasis for power is on olympic lifts and dead lift variations, noting that there are important differences in strength requirements for different throwing events and different needs for individual athletes. If there were to be time for only one exercise in the weight room, Babbitt said the snatch provides “the most bang for the buck!” Special and reactive strength training is done with ball throws and jumping exercises, as well as variable weight implements in more specific technical training. He also offered specific prediction testing for javelin throwers using weighted balls, a detailed discussion of vertical jump testing with progressive loading by weighted vest (on Koji

Murofushi), and the graphic comparison of the periodized use of light to heavy hammer weights and even a 6k hammer with a short cable in training and competitive throws of Martina Hrasnova. Babbitt noted that these tables can provide useful information for coaches and throwers when developing strength in the weight room and through use of throwing drills and exercises, but to take caution that these norms are for throwers with very well developed technique and that there are variations that do not necessarily guarantee or preclude success. For example, some testing may be higher or lower, but each is individual dependent and can be skill related (for example, an overhead forward throw with 4k). This type of strength and skill testing can aid in the process of planning training to maintain strengths and shore up weaknesses!

Wolfgang Ritzdorf (GER) – *Technical and Training Aspects of the High Jump* – Ritzdorf discussed the neuro-mechanics, technical aspects, and training aspects of the high jump. After discussing the goal of takeoff mechanics – to minimize amortization at touchdown and maximize vertical momentum and corresponding height of flight – he focused on the neuro-mechanics that will affect the takeoff. The key is reactive strength. This is the dominant quality for high jumpers to develop. Reactive strength, the result of the stretch-shortening cycle, is an independent quality of strength, meaning that it is not improved just by improving maximum strength or power, but must be developed separately. Unlike maximum strength and power, there are two specific mechanisms in reactive strength: storage of energy and reflex activities. If the muscle is not pre-activated (muscle slack instead of stiffness), then there is no storage of energy; if the muscle is too stiff, it will collapse during the eccentric phase. Ritzdorf detailed the involuntary aspects of the reflex mechanism in the muscle spindle and golgi tendon organ that are added to the contraction in the jumping mechanism. The two most important principles for the mechanics and the training are that the muscle must be pre-activated and the stretch and reflex must be fast – speed of the stretch and reflex are more important than the length of the stretch! The consequences for training are that adaptation is highly specific to both exercises and surfaces, ground times must be kept short (a limit to box height and

weighted vests!), heel contact should be avoided, and athletes must learn over time to “stiffen” their muscular system. Most of Ritzdorf’s technical comments focused on the penultimate stride, noting that this determines the quality of the jump. Using high speed video he noted that all successful high jumpers exhibit certain qualities on the penultimate step: full foot contact, shin angle perpendicular to the ground at the moment of full contact, and knees together at the moment of full contact. Many of the problems of body angles going into takeoff and the inability to control takeoff forces and angles are traced to problems in the penultimate stride. He also noted some particular problems at takeoff that are caused by improper foot placement that lead to rolling and injury to the takeoff foot. Proper muscular stiffness allows the jumper to maintain posture through the takeoff motion and ensure complete extension of the entire body at toe off. He also proposed that a rotational bar clearance can be more consistently effective than an “arching” clearance due to the need for precise and difficult timing issues with arching and un-arching over the bar. The rotational method allows the body to follow the parabolic path of the center of mass and rotate around the bar due to forces created during the penultimate and takeoff. In terms of training, strength and power and volume are meaningless unless they address the specific neuromuscular demands of the takeoff and always focus on *quality*. Sprinting mechanics, bouncing and reactive training, and high quality exercise and training are vital throughout the entire macrocycle. Repetition is meaningless unless the requisite neuromuscular activation is achieved through all of training, not just in parts of the training year.



Vern Gambetta (USA) – *Training in the New Millennium* – Gambetta discussed historical and future perspectives on athletics. He began by congratulating the coaches and organizers of NACACTFCA for their part in elevating coaching and athletic performance in the region and leveling the field internationally. Many of the Sacred Cows of coaching and athletics were questioned, and he challenged the new generation of coaches to go farther and deeper to coach the athletes of the future. If we want 24 hour a day athletes, a coach must put in 24 hours as well. The focus of coaches today

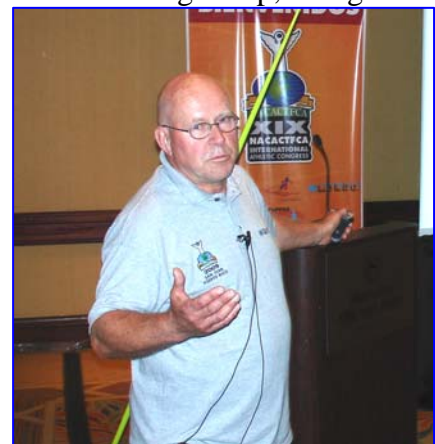


cannot just be to identify talent, but also to identify, encourage, and mentor young *coaching* talent! A coach needs a complete, holistic view of teaching and learning, must be a student as well as a teacher, and encounter and filter large amounts of information and ideas from other events in athletics, other sports, and even art, science, business, and life outside of athletics. The biggest task is reducing all that is learned to a simplified, usable plan. If a coach cannot write down his coaching philosophy in one paragraph, then he is not a simplifier, but a complexifier. A coach must be a generalist and link

seemingly unrelated information and ideas and put them together in a working system where the linkages make the whole more powerful – blending the art and the science. Improved scientific understanding and information on the web has led many coaches to rely heavily on science and lose touch with the art of coaching and looking beyond the direct discipline. “Systems cannot be

understood simply by understanding the parts,” Gambetta warned, “the interactions among the parts and the consequences of these interactions are equally significant.” He also cautioned coaches to avoid the “tyranny of dead ideas” and to look for new solutions rather than blindly trust the canon of accepted ideas. As for talent identification and development, Gambetta asked who are you coaching now and who will you be coaching 5 and 10 years from now? Today’s youth will be competing in the 2016 Olympics in Brazil! What are YOUR plans for long term development? As other lecturers said, can we as coaches agree that Periodization is a concept and not a model! Periodization is about timing, and coaches need to shore up the gap between training and competitive performance at major events. Coaching must better manage three things: training, injuries, and competition. Better movement analysis must translate into better technical training without being technique bound. Development is long term, and “at the end of the journey all physical limitations are eradicated and the athlete is fully ready tactically, physically, and psychologically to compete to win.” Over this journey, the coach must take care of the 98% and avoid chasing the 2% magic bullet, the trick that will get the athlete there without the total work and development. Athletics is the mother of all sports, and we should continue to lead in innovation, development, research, coaching organization, and performance.

Klaus Bartonietz (GER) – *Technique and Training of the Throwing Events: Problems and Prospects* – Bartonietz began with the most important competitive principle: the best performance must be done in the final. Maria Abakumova threw a qualifying mark in Berlin that would have won the final, but had to settle for silver in the javelin final with a lesser throw! The primacy in training of throwers is force and speed. The basic rule in analyzing movement is Newton’s Third Law, and all forces start from ground up and must result in high velocity. Release velocity is the only factor that can be maximized by the athlete –height of release and release angle can be *optimized*, but not continually maximized. In the shot put, the more the displacement of the right hip, the greater reaction forces and farther throws. Left leg load in all throws can be three times greater than the load on the right, so consideration must be given to training the left leg with single leg hops and hurdles. Throwing heavier implements and using sticks and small balls for discus is excellent for specific power; throwing lighter implements aids speed and reactive strength. Two cm. longer radius results in one meter longer throw in the discus; the opposite results in a shorter throw, so technical training must require full radius. Additional weight worn or thrown brings some effect in the power outcome. The faster one throws, the less time there is, the more important becomes this energy transfer in pure power terms. Bartonietz discussed other technical issues, including talks with Anatoli Bondarchuk, 1972 gold medalist in hammer and current coach in Canada, who says the reason throwers results are lower than in years past is due to low technical levels today. In the former Soviet Union, hammer throwing was drill based. Contrary to common assumption, the less time spent on double support than single support, the greater acceleration of the hammer and longer throw. Sedykh threw farther when the total time of the throwing foot contacts was shorter, as do the best today. Great gains are being made by women today in the hammer because they are not just big and strong, but much more athletic,. For technical development, how the brain works is vital – no brain, no gain! Processing is fascinating and the more feedback and active experience, the more the brain and body learn. As Confucius said centuries ago – *I do* and *I*



understand. The brain responds to specific external loading, too. Neuro-plasticity means that the brain will learn after only one exercise that there is a new stimulus and develop new areas in the brain. But we tend to use only certain areas of the body and develop the brain accordingly – the hands and tongue and ears. We must start teaching and learning from the ground up, so that feet, ankles, and hips are more wired into the brain. “Monkey see, monkey do,” or the mirror principle, is always at work. So the responsibility is on the coach – we must do it right and teach it right and demonstrate it right! Information flow is vital – we have little time, so telling them “do not bend the knee” makes them try to figure out what they should not do, instead of telling them “keep the leg straight,” allowing them to focus immediately on what they *should* do. There is limited space in the brain, but amputees painting with the toes shows the potential for neuromuscular development of the lower extremities. We need more ankle work and sprint and hurdle work, activating the legs and developing this area. The system of training exercises shapes the athlete’s form, not the loading of volume and intensity. Special strength is therefore vital and concurrent technical development is paramount.

Tadeusz Kepka (MEX / POL) – *The Evolution of Distance Racing and Training to the 21st Century* – Kepka came from his native Poland to Mexico in the 1960s to prepare the Mexican distance runners for the 1968 Olympics, revolutionizing distance training and running in Mexico and Latin America. He traced the major schools of training influence and the dominant characteristic from the early early 20th Century English system of great volume to the more recent interval training and modern scientific emphasis, and Finnish and Swedish emphasis on speed, natural training settings, and running games such as fartlek. Noting the great coaches and athletes in famous training systems, the impact of the spread of these influences and the sharing of information and ideas on the wealth of talented runners in developing nations, great improvements resulted throughout the developing world, including the breakthrough in women’s training and racing internationally. Athletics differs



from other sports in that physical development can only improve and enhance performance if the training system is improved and carefully monitored and controlled scientifically. From the 1940s through the 1960s, training was mainly enhanced by the addition of weight training, circuit training, and hill running to the systems. In the 1970s, the principle change in distance training methodology involved the systematic and dramatic increase in training volumes and requisite number of training sessions for middle and long distance runners from the 1960s to the early 1980s. Lasse Viren’s training from 1968-1976 rose gradually but was below the average volume of the era and employed much special endurance training, allowing

him to run five distance races and win two gold medals in 8 days in 1976. Branislav Malinowski ran less weekly and annual mileage, but added much quality in variable speed training and would eventually place 2nd in 1976 and win Moscow gold in 1980 in the steeplechase. This recent trend toward increasing intensity came at the expense of volume through more specialized training, especially anaerobic threshold work. Kepka based much of his own methodology on the principle of incomplete recovery – carrying out the effort in a state of accumulated fatigue - and the use of active recovery modalities in distance training, noting that it takes twice as long to clear 50% of lactate buildup with a passive rather than an active recovery. The interval training acts in two ways for cardiac modification: in the run phase, the elevated cardiac pressure induces a hypertrophy of the

cardiac muscle, whereas, during the recovery phase, the predominant work in the heart volume induces a dilation of the cardiac cavities. He used stride lengths and frequencies and last increment splits of recent world class performances to demonstrate the need for specific strength, speed, and special endurance in modern training, and detailed the Polish running games that have been used in Mexico for decades now. Similar to Fartlek, running games and *Zabawa Biegowa* involve a variation of speeds, movements from sprinting to jogging and hopping and bounding, and all terrains and grades. It is simple, done in nature, involves long durations of work with intensity regulated by the individual, trains special endurance, and should allow the athlete to do more of the same the following day!

Summary by Richie Mercado, Secretary NACACTFCA



Elio Locatelli receives a NACACTFCA Award for service from President Victor Lopez



Hector Amill Cano (coach of Javier Culson) receives NACACTFCA Coach of the Year Award from Victor Lopez



Victor Lopez with NACACTFCA Directors Wendell Prince, Irma Coral, Glen Albertina, and Jamil Justiniano

See you in Houston in 2010!

Tentative lecturers include Tom Tellez, Vitali Petrov, and Renato Canova