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Coaches Clinic, Day 1: "It's up to us to write new stories"

Russell McKinnon, FINA Media Committee Member

The Swimming Coaches' Golden Clinic was officially opened by FINA President, Julio C Maglione at the Hotel Intercontinental with a record 340 participants in the room for the opening day.

“Having this clinic just a couple of days before the start of the main FINA competition of the year – the FINA World Swimming Championships (25m) — it will provide precious tools to understand, explain and analyse the great performances of our athletes. “In this unmissable clinic, delegates from the five continents will learn from some of the most successful coaches in the world the secrets leading to these outstanding results, and which are the tips and techniques to achieve excellence.

“Together with our athletes, our devoted professional coaches drive them to the peak of the shape. On ‘that’ day, on ‘that’ minute, on that specific race. “The close relation between swimmer and coach is made of sacrifice, effort, mutual understanding, joy, dedication and deep conviction. It’s a complex interaction, comprising many challenging moments but, of course, many others of happiness and emotion,” Dr Maglione said.

“The championships here in Hangzhou will show once more this winning dynamic and successful strategy.

“The attractiveness of our competitions for the fans and the youth, and their privileged place among international sport events, are mainly due to this partnership, athlete-coach, with the support of our national federations. “Thank you to all coaches for your devotion to our Sport and thank you for sharing with FINA and its members your keys for success,” Dr Maglione said.



The morning session provided two diverse training methodologies — the United States approach to sprint, periodisation training as opposed to the Chinese approach to long-distance athletes.

One expounded the benefits of strength training while the other did not rely on it.

Peter Andrew — Quality vs Quantity, Periodisation Of Training Volume

Peter is the coach of son Michael Andrew, world 100m IM champion.

Peter debunked the myth of quantity training in getting athletes — in this case his son — to reach the peak (mountain-top)

— *“Getting to that ultimate event where you are your very best.”*

“It’s about getting to the mountain top and staying at the mountain top.

“We are at a change in the sport and if you don’t move with it...”

He spoke of the late Dr Forbes Carlisle who coined the phrase “taper” many years ago and then changed his mind in recent years.

“I now believe that the concept of over-training, breaking the swimmers down and tapering is stupid and that there is no scientific justification for training like this. It is not the right way to go,” Dr Carlisle was quoted as saying in 2015.

As the man who led the revolution of 1946 that started modern training, he was quoted as believing that the swimming world was ready for the next great revolution.”

Peter said: “*We are training a different way and we starting to get better results.*” USRPT— ultra-short repetitive

periodisation training — is the only coaching model that is worthy of adopting: A statement of conviction. — Forbes Carlisle, 2015.

Formerly from South Africa, Peter shifted his family to the United States of America and discovered how good his son was at swimming after several weeks in a programme.

Michael broke all the USA records at 15 years at all strokes and he went on to explain how de developed a programme that brought him success in Budapest in 2017.

He spoke of the “why” and the “how” of training — the four components of USRPT-based training — psychology, technique, nutrition/recovery and conditioning. He said that the “brain controls everything” and that fatigue was just a state of mind, not something from the body. He said that if you have stress before a race, then you’ve defeated yourself already.

“The brain is like a giant computer and every movement you make is coded into the brain.

“Our brain works very specifically and what we have learned is filed away and never lost,” relating it much like an alcoholic who can return to drink like it was yesterday.”

Ultra short-based training in one word — “specificity”.

“Mixed training produces mixed results so we don’t do anything mixed. We never train at anything we don’t do in swimming.

“We don’t do one-armed training because we need to use the full stroke (in competition). He explained how he trains a set and tricking the body to train at race pace, segmented into length distances — training anaerobically the whole way through.

“Athletes do not respond to negativity.”

He explained the ultra-short format based on a study of cyclists.

“Train, rest, over compensate and this means he can go faster each time.

“Michael is a more oxygenated athlete, which allowed him to break three world records in one night at the FINA Junior World Swimming Championships. Poor successive training sessions do not bring results.

He used the analogy of Usain Bolt, the eight-time Olympic track sprint champion. “I don’t think he trains marathons for the sprints.”

Peter dealt with technique and broke it down to streamlining, breathing, body roll, initial action, power phase, end of stroke, recovery and kicking.

He broke down Michael’s training week and the emphasis on 25m sprinting.

Michael spoke and said that since the nationals this year, he had not gone further than 2000m in a single training session.

Learn more from www.racepacerevolution.com [1].

Zhu Zhigen (CHN) — Path To Becoming A Champion

The coach of so many great Chinese swimmers, such as Sun Yang, had plenty of insights of his coaching career.

Mr Zhu started coaching Sun Yang since 2003 and his success was “due to his hard work”.

“As a coach, to have such a hard-working and talented athlete, is my luck.”

How to coach in a scientific way, he said, “just requires the constant learning of the coaches”. He spoke of Sun Yang’s training from 2003 until today.

“We need to help the athletes be perseverant and mentally strong and the coach needs to be flexible and thinking smart.

“Balance has been critical for freestyle performance. It’s hard to improve your swimming performance without balance. As long as you get the balance right, you will get better performance.

“Intensity of training, volume of training are keys to what is needed.

“For a young athlete it would not be wise to focus on their lactate concentration. You need to know your own body and control your lactate.

“We focus on the techniques of four different strokes and the coach needs to focus on the technique and the balancing capability of the swimmer; you will then see the fluidity of the swimmer.

“It took a long time for Sun Yang to correct that — technique. He spoke of reducing drag with better technique with rotation while enhancing athletes’ stroke efficiency. He also spoke of the hip strength of the swimmer in water and on land. Altitude training helps improve cardiovascular capability.

“Altitude training can improve aerobic capacity by taking advantage of the double load of the plateau hypoxia environment and the muscle hypoxia, which is beneficial to temper one’s will.”

“Some athletes pretend to be tired. Now they cannot lie any more as we look at their lactate levels. As a coach we need to monitor the levels.

“We also arrange plateau training for athletes before major events. If they over-train, they get sick in a hypoxia environment.”

He dealt with a three-four-week altitude training programme, firstly adapting to the environment and increasing levels until athletes were ready for major competition.

“Training does not make perfect. Perfect training makes perfect.”

He stressed that that you should not “work them out”.

Massage is a way to allow athletes to recover faster, he said.

“We need to focus on how they start, how they turn, how they touch, we focus on the final 25, how they touch. I don’t think coaches put enough emphasis on these things.” “Several points I would like to make, you should not breathe immediately after turning. This actually increases drag.

“Some athletes are used to this motion. That is not good for their final performance. In the past few years, Sun Yang, Wang Shun and Shao Yiwen trained approximately 100-110km per week. Their blood lactate acid (levels) were tested 34 times a week. During 65-70 per cent of the training time the swam at the speed of the game or close to the speed of the game.”

Now, he said, they do not do such long sets.

“We need to find another science-based methodology to coach our athletes, putting ourselves in the shoes of the swimmers.”

He has a team of scientists following what is happening and has discussions how training should be adapted to suit individual athletes.

“We need to give them better nutrition to help improve their performances.” For strength swimmers, volume was not so necessary, he said.

“We need to think and train smart.”

Blindly training without apply a “smart plan” will have little effect on performance, he said.

“We need to extend the careers of our swimmers, protect and let them move forward with a solid manner... we want consistent performance... you want one step to be as solid as the next.”

Lactate levels were discussed with coaches needing to monitor closely. He spoke of the importance of strength training for abdominals and waist, building up core strength, playing a critical role in body balance.

The benefits improve joint stability to prevent injury and avoid pressure on the shoulder joints. He also pointed to breaststroke swimmers not lifting their hands out of the water, as it decreased efficiency. In summary, Mr Zhu said coaches needed to monitor closely the athletes and every aspect of the event from arrival at the pool to the race.

“Enthusiasm can overcome adversity; enthusiasm is the source of success.”

He said that coaches needed to control the fire of the athletes. His analogy of cooking rice was applicable to training athletes.

“With real passion, anything is possible.”

The afternoon session contained three speakers.

Nigel Redman — Build An Environment Where Athletes Can Thrive

Nigel is the head of performance team development at British Swimming and a former English and British & Irish Lions rugby international. He told of his conversion from playing professionally to working with coach development at English Rugby and how coaches were short-lived, including himself. He moved to UK Sport and from there a natural progression to British Swimming.

He said that everything he saw in swimming was not, as he was told, individual.

All he could see was a team and that “the margins of success and failure were minimal”. He stated that seven times at Rio

2016, British swimmers came fourth, totalling 0.76s — 1.4m — and nearly half the fourth placings gained by British athletes across all sports. This came down to millimetres of improvement needed each year to lift to a podium finish. He reiterated Peter Andrew's statement earlier about the

“Why”. Being “curious and inquisitive” is what people have to do and personalise it within your environment, he said.

“It would take courage to stand up and say you want to try something new.

” Clarity of purpose, roles, responsibilities and expectations.

British Swimming was focused on gold medals because that would attract funding. He said 75 per cent of British athletes swam fastest times somewhere else in 2012 other than London while in Rio four years later, 70 per cent performed their best at the Olympics.

To develop people who collaborate, for success is what was required. Nigel said his role was to be close, yet not too close, using a rubber wetsuit as an analogy.

“We have to be able to challenge each other respectfully,” was his reply to a group-meeting email that stated “it was great to be in a room of like-minded people”.

Being in the same room with like-minded people was not what he wanted. The need to challenge, to think differently, was vital for the future of sport.

“It's up to us to write new stories.”

He wrote to many bodies across his country to ask what “British” really meant.

The replies helped him produce a booklet called “Welcome to Day 1” — and it was waterproof. Topics included:

- What will success look like TODAY?
- Who do I need to connect WITH?
- Is everyone clear on what success looks like TODAY?
- How can I support you TODAY?
- Who do I choose to be TODAY? Developing relationships over a four-year period was what was needed to create better athletes, Nigel said. Other topics he expounded on, were:

- Feedback without consequences
- Love (warmth) and accountability
- We could understand, tolerate and celebrate our differences
- We had the agility to adapt the plan when the environment changes. Managing moods and energy He humoured the crowd with how he looked because of his size and “scarred face”. He was told to be less aggressive-looking and tried to look smaller.

He took “feedback with consequence”. This brought him to a story about a physio and a coach and how teams are built on trust. The Neuroscience of Trust says:

- Recognise excellence
- Induce challenge stress
- Give people discretion
- Self-organise into work groups
- Share information broadly
- Build relationships
- Whole-person growth
- Show vulnerability.

He spoke of the need for more hard work before Tokyo 2020 and finished the presentation with a video depicting the positive mood of British swimmers during the Rio Olympics — a huge transition from 2012.

Sebastian Weber — Digitisation Of Performance Analysis In The Pool —Obtain A 360-degree Physiologic Profile of

Your Athletes

Sebastian is the head of human performance at INSCYD and spoke of his background in cycling.

How many times you analyse your athletes is varied and Sebastian spoke of the measurements — speed, lactate testing, metabolic testing, etc.

The analysis he presented showed how one performance from day 1 could be different from day 2, even though there might be the same time over the same distance.

He delved deeper into glycolytic power and the metabolic profile gained by a series of training distances.

The technical talk offered useful information on the science of swimmers' performances and where changes can be made to training to improve the glycolytic performance of individual athletes.

Tristan Lehari — The Future Of Large Scale Data: How To Accelerate National Programme Development.

Co-founder and CEO of Tritonwear dealt with performance measurement, injury prevention and motion analysis. His presentation showed that 67 per cent of elite athletes get injured each year.

Simple training load measurement — internal and external are targeted.

Changing a working load too quickly is chronic for athletes and Tritonwear tracks the change to gauge overtraining and undertraining regimes. He produced a graph of the loads and the relevant parameters that should be followed. TritonWear tracks daily load but, more importantly, the change in load. Alerts will warn of overtraining and undertraining.

Stroke mechanics; video feedback to see where acceleration is being lost; interval statistics for change in speed, acceleration are all part of the package.

Tracking athletes over time and “making sense of data” is something TritonWear can do, saving coaches time.

He gave the room a sneak look at a “smart band” being produced by his company to be worn on the head and giving greater live-time information to the coach.
