

Importance of the scientific divulgation for soccer

Some years ago Professor Brent S. Rushall wrote an article entitled “Belief-based Versus Evidence-based Coaching Development”. In his article the belief-based coaching was defined as a form of coaching based on “a mix of personal experiences, some limited education about sport sciences, selected incomplete knowledge of current coaching practices, and self-belief in that how coaching is conducted is right”. On the other hand, the evidence-based coaching was defined as “a restricted and relatively rare form of coaching whose guides for practices are principles derived from replicated reputable studies reported by authoritative sources in a public manner”. To facilitate the development of evidence-based coaching, researchers should provide more information that can be applied on the field and they should concentrate more on relevant research questions. Indeed, the ultimate goal of a sport scientist is to help in understanding how to improve performance without negatively affect the health of the athlete. Furthermore, given the multifactorial nature of soccer, there is also the need to develop research platforms to coordinate and collect findings coming from different scientific fields (physiology, psychology, nutrition, mathematics, etc.). In the editorial of the first issue of this journal⁴, the answer of Professor Björn Ekblom to the question “what is known about soccer” was “less than we think”. From a research perspective, every “intellectually honest” researcher should agree with this response. However, if I try to answer to this question from a coaching perspective, my answer is “more than we think”. One way to contrast the persistence of the belief-based coaching is to increase the initiatives for divulgating the scientific knowledge to practitioners. Although several aspects of soccer performance are not yet understood, the few available guides for practice are almost unknown. For example although there is strong evidence that high-intensity aerobic training is effective for improving aerobic fitness of the players, there still are coaches using extensive low-intensity running.

The contribution of the scientific world to coaching goes or should go beyond the notions. Scientific divulgation also means that we should try to explain the basics of the scientific method so that the practitioner can develop a skeptic and scientific mindset. This is very important to limit the widespreading of another form of coaching, in my opinion more dangerous than that based on beliefs: the pseudoscience-based coaching⁸. The pseudoscience is a belief or idea masqueraded as science in an attempt to gain legitimacy. On the other hand, the knowledge of scientific methods allows to avoid incurring in mistakes such as developing or using field test lacking of validity, adopting new miraculous technologies or instruments, or using training strategies based on tradition or emulation and not on evidence. Furthermore, a scientific mentality can help in correctly interpreting the findings of the studies or in judging the interpretation made by others. Taking a couple of examples from my personal experience, I have seen during coach meetings using one of our training studies⁵ as the proof that small-sided games are better than running-based training. However, in that study we showed that there were no differences in training outcomes between the specific versus generic interval training groups. A similar inappropriate use of our studies has been done for the repeated-sprint test we

have tried to validate^{6,7}. Again, these studies have been used to support its validity for the routine monitoring of soccer players. However, we have also shown that the reliability of the test showed that the RSA test is not very sensitive to small but worthwhile changes at individual level. Since in field setting coaches are commonly interested more on the individual than the group, this is a limitation of the test that needs to be underlined.

To increase the impact on routine practice so that new findings can be implemented in the coaching lore, sport scientists should improve the quality of the researches¹ focusing more and better on the effects on performance and trying to address research questions really relevant for practitioners². However, practitioners should play a more active role in the research process supporting and guiding the researcher towards relevant research questions for soccer and in developing ecologically valid studies. The scientific divulgation can help coaches in introducing in routine practice the training strategies for which some evidence of efficacy have been reported. However, practitioners should also be aware that “science will never explain everything and that is why it is so useful”³.

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