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Blaming Bill Gates AGAIN! Misuse, overuse and misunderstanding of performance data in sport

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Abstract

Recently in *Sport, Education and Society*, Williams and Manley (2014) argued against the heavy reliance on technology in professional Rugby Union and elite sport in general. In summary, technology is presented as an elitist, 'gold standard' villain that management and coaches use to exert control and by which players lose autonomy, identity, motivation, social interactions and expertise. In this article we suggest that the sociological interpretations and implications offered by Williams and Manley may be somewhat limited when viewed in isolation. In doing so, we identify some core methodological issues in Williams and Manley's study and critically consider important arguments *for* utilising technology; notably, to inform coach decision making and generate player empowerment. Secondly, we present a different, yet perhaps equally concerning, practice-oriented interpretation of the same results but from alternative coaching and expertise literature. Accordingly, we suggest that Williams and Manley have perhaps raised their alarm prematurely, inappropriately and on somewhat shaky foundations. We also hope to stimulate others to consider contrary positions, or at least to think about this topic in greater detail. More specifically, we encourage coaches and academics to think carefully about *what* technology is employed, *how* and *why*, and then the means by which these decisions are discussed with and, preferably, sold to players. Certainly, technology can significantly enhance coach decision making and practice, while also helping players to optimise their focus, empowerment and independence in knowing *how* to achieve their personal and collective goals.

Keywords: Elite Sports Culture; Empowerment; Professional Judgement and Decision Making; Rugby; Technology

Blaming Bill Gates AGAIN! Misuse, overuse and misunderstanding of performance data in sport

Recently in *Sport, Education and Society*, Williams and Manley (2014) presented an unfavourable argument for the heavy reliance on technology in professional Rugby Union and elite sport in general. Taking a sociological stance towards this 'occupational crisis' (p. 2), the authors based their work on a belief that coaching is at 'a precarious juncture, where the use of advanced technological instruments supersedes human interaction noted as instrumental to recent conceptualisations of the coach' (p. 2). More specifically, the potential for coaching to be conducted as a technocratic, authoritarian and sinister, rather than pastoral, activity is portrayed. Through interviews with four players from one Aviva Premiership Rugby Union club (the 'Ravens'), the authors consequently find apparent support for their assertions that 'gathering data has become a seemingly critical conduit between coaches and players in terms of establishing a climate of control' (p. 2) with players often treated as 'inert human resources' (p. 2) and 'by-products of the machine mentality' (p. 18). By creating such an imbalance of control, coaches are therefore able to use 'a vice like grip' (p. 12) and marshal players in a regimented, highly analytical and "no excuses" (p. 5) environment. In sum, technology is presented as an elitist, 'gold standard' villain that management, or 'sovereign technocrats,' use to exert control and by which players lose autonomy, identity, motivation, social interactions and expertise.

While sociological accounts of coaching practice are useful, we, as scientist–practitioners, suggest in this *Research Forum* article that the interpretation and implications offered by Williams and Manley (2014) are somewhat limited when viewed on their own. Indeed, we suggest that they might represent a somewhat partisan oversimplification or misapprehension of how elite environments have operated in the past as well as how they tend to work today. In doing so, we work against a pragmatic philosophy (Giacobbi Jr.,

Poczwardowski, & Hager, 2005)—which directs our focus towards the practical relevance, context and implications of research (Carson & Collins, 2011; Collins, 2014; Cruickshank, Collins, & Minten, 2014, 2015)—as well as our belief that coaching is, most fundamentally, an exercise in decision making (Abraham & Collins, 2011; Abraham, Collins, & Martindale, 2006; Nash, Martindale, Collins, & Martindale, 2012). More specifically, we consider important arguments *for* utilising technology which we hope will stimulate coaches and academics to consider the contrary position, or at least to think about this topic in greater detail. To tease apart and challenge Williams and Manley's fear that technology *is likely* to detrimentally influence, or even has detrimentally influenced, elite sport, our article is divided into two parts: Firstly, we identify some core methodological and conceptual issues that weaken the authors' account; second, we present a different, practice-oriented interpretation of the same results but from alternative literature. Our intention in this second part is not to detract from Williams and Manley's level of concern but rather to raise awareness towards perhaps equally worrying yet underrepresented issues. To be clear, we do not suggest that there is not currently a problem with *some* uses of technology in sport (at all levels of participation) or with *some* coaches, but rather that greater and broader considerations are required before acting on prophetic and definitive statements such as those offered by Williams and Manley.

Part 1: Core Limitations

Methodological Issues

As the legitimacy and meaning of research outcomes are governed by the way they were generated, one of our core concerns lies with the approach used by Williams and Manley (2014). More specifically, this relates to the study's *methodological coherence*; or the level of compatibility across the authors' epistemological position, research questions, participant selection, data collection and data analysis (Mayan, 2009). Indeed, although the

authors adopt an interpretivist epistemology—quite appropriately given their focus on how players perceived and attached meaning to the use of technology (Grix, 2010)—it is difficult to see the full permeation of this perspective throughout the rest of the data collection and analysis. While different research strategies can be used under different epistemological positions, it is difficult to match Williams and Manley's interpretive lens to these procedures.

Firstly, under their interpretivist epistemology the authors report use of methods outlined by Corbin and Strauss (2008), whose approach is based within a pragmatic research philosophy, and Charmaz (2002, 2014), whose approach is based within a constructivist epistemology; all of which make different assumptions about the nature of reality and knowledge. We also note that the works by Corbin and Strauss (2008) and Charmaz (2002, 2014) relate to grounded theory; although this is not explicitly identified by Williams and Manley (2014) as their approach. Tellingly, however, the authors reported that Corbin and Strauss' and Charmaz's methods 'facilitated the construction of a theoretical framework' which 'gave rise to an evolving process of discovering theoretical possibilities that was far removed from the mechanical imposition of existing theories' (p. 6). Notably, these two features are (broadly speaking) cornerstones of grounded theory research (Charmaz, 2014; Corbin & Strauss, 2008). Problematically, however, *if* the authors' intention was to generate a grounded theory then they have overlooked numerous critical conditions for such work. Indeed, grounded theory is a *full* methodology with clear requirements that do not appear (at least as presented) in Williams and Manley's approach. For example, grounded theory methodology uses a recursive approach where data analysis drives on-going sampling and data collection and develops a model (usually presented pictorially) of the focal process (Charmaz, 2014; Corbin & Strauss, 2008). Grounded theorists also search for variation, explore multiple and diverse perceptions to generate as detailed a picture as possible on the phenomenon under inquiry and strive for theoretical saturation (i.e., when newly acquired

data fail to offer new insights or meaning on the already developed results; op cit). In this way, Williams and Manley's focus on just four purposively sampled players, limited focus on the positive features of monitoring and measurement as perceived by these players (see p. 10) and omission of other actors without explanation are problematic oversights. Indeed, the authors note in their concluding comments that 'the conduct of the coaches [in applying technology] is assumed to be well intentioned' (p. 18); which would seem a critical variable to confirm empirically given their study's focus (we will comment more on coach intentions later). As an aside, it would also have been useful for Williams and Manley to account for these factors (i.e., small sample size and absent coverage of coach intentions) and the extent to which these data are unique to their sample.

Irrespective of whether the authors aimed to develop a grounded theory or conduct a more simple form of inductive analysis, we return to the point that their approach was 'far removed from the mechanical imposition of existing theories' (p. 6); something which clearly fits with an interpretivist epistemology. However, there is a further degree of uncertainty with regards to the input of existing theories and subsequent inconsistencies in their results. Taking the former first, and juxtaposing their aim *not* to impose current theory on their data, the authors report in their introduction that 'to conceptualise our understanding of the disciplinary mechanisms, surveillance measures and distribution of power . . . we focus predominantly upon the works of Gilles Deleuze and Michel Foucault' (p. 2). Furthermore, the authors describe their aim to 'draw from the Foucauldian concepts of discipline and power,' 'emphasise the modern age of surveillance and a technological mode of embodiment that accentuate the materiality of the individual' and 'represent an institution that furthers our understanding of power/knowledge relations' (p. 3). Of course, the use of pre-identified theory to interpret data is often a suitable and insightful approach for research (including, to some extent, grounded theory; Charmaz, 2014; Corbin & Strauss, 2008) but only if this is

clearly defined and described. As such, confusion prevails. Williams and Manley (2014) report adherence to an open, 'bottom-up' generation of themes within their methodology section yet a range of markers (including their own statements) suggest that this analysis was far more *deductive* than their inductive phrasing (e.g., 'patterns and features emerged,' p.6), processes (e.g., open coding) and citations (e.g., Charmaz, 2014; Corbin & Strauss, 2008) would imply.

Perhaps highlighting this most effectively, the authors' results provide a clear account of issues identified in the introduction. In this way, the work appears to present a structured (rather than serendipitous) confirmation of the principles outlined 'up front.' Indeed, this is perhaps unsurprising given a purposive approach to sampling that 'enabled access to a group of individuals *perceived as most likely to provide an in-depth account* [emphasis added] of the surveillant practices and disciplinary logic present within the institution under study' (p. 5). In short, it looks like Williams and Manley (2014) found and reported what they set out to find and report. This, of course, is not unusual in scientific studies or even inevitably a 'bad' thing. However, it does raise doubts over the completeness and pervasiveness of the apparent issues that players have with technology. Indeed, we were startled to see such a volume of commentary from other academics' writing on power, control and surveillance around each of the quotes from a Raven's player rather than a detailed 'unpacking' of these participants' interpretations. This is perhaps most emphatically evidenced when two players (half of the sample) reported positive aspects of technology. Rather than exploring this view in full (as we expected given that the authors' epistemological stance required them to present *participant* interpretations), the possibility that these players were "docile adherents" (p. 10) to institutional norms was instead suggested. Even more concerning, perhaps, Williams and Manley then followed with support for *their own* negative interpretation (i.e., that the players were being detrimentally controlled and dehumanised) rather than *the players'* actual

interpretation which might have stressed a more active and independent role in their development!

In sum, and regardless of whether Williams and Manley (2014) employed a more inductive or deductive analysis, the various parts of the stated methodology do not seem to match; either with each other or the results. Also, the extent to which the authors were leaders more than 'partners' (p. 6) in the research process and final presentation is also an apparent issue. While Williams and Manley present strong claims on the pitfalls of technology, the foundations on which these are made therefore seem rather shaky and the reader is left unable to sufficiently evaluate the quality of the data collection, analysis and ultimate results (see Sparkes & Smith, 2009). Given their potential to paint a significantly different picture, we now consider two of the key conceptual oversights noted in this section in more detail.

Conceptual Oversights

Coach judgments and decision making. As acknowledged by Williams and Manley (2014), the use of technology to monitor, evaluate and inform practice may often be well intentioned and herein lies, as we have implied above, another critical oversight in the authors' work. To be clear, we do not consider 'well' in the previous sentence to refer to 'pastoral' intentions alone but, more broadly, those which are necessary for supporting sustained optimal performance in a high level and high pressure environment (indeed, some of these may be far from 'pastoral'; Cruickshank & Collins, 2014). Either way, the process of sports coaching has been defined as one that is largely dependent on decision making (Abraham et al., 2006). As such, coaches must continually strive to get better at making effective decisions across short-, medium- and long-term timescales against the goals that have been set. For an elite environment, these goals are likely and understandably focused on performance, with pastoral welfare an important but certainly not necessarily primary

concern (see Collins & Kamin, 2012, for a critical consideration of such epistemological and systematic differences).

In this context, implementing technology in the way described, as opposed to interpreted, can positively supplement such endeavours. For instance, employing an intervention (e.g., a new training structure) based on a model of professional judgement and decision making (cf. Martindale & Collins, 2005, 2007) relies on referencing collected evidence, including that through technological means, against mechanistic underpinnings (i.e., decisions, plans and techniques focused on *how* performance can be improved). As these mechanisms become understood in greater *levels* of detail (cf. Newell, Liu, & Mayer-Kress, 2001), which is the growing case in coaching science (e.g., Carson, Collins, & Richards, 2014), technology offers a realistic opportunity to meaningfully track athletes' progress in a way that would otherwise be impossible (e.g., heart rate during performance); that is, using key performance indicators (KPIs). Accordingly, the failure of Williams and Manley (2014) to explore (or at least consider in more detail) *why* management and coaches did what they did, leaves a large hole in their presentation against the performance goals which can reasonably be inferred as primary in this context (cf. Abraham & Collins, 2011; Collins, Burke, Martindale, & Cruickshank, 2015; Winter & Collins, 2015).

Indeed, when armed with data *and* a mechanistic understanding, coaches are better able to make informed decisions about how (and how *not*) to act and respond; in short, coaches' intentions, including those relating to the use of technology, are often grounded in knowing 'why' something works/needs to be done (cf. Collins et al., 2015). Crucially, therefore, regular monitoring is essential when considering the nonlinearity that exists within coaching environments (Button, Lee, Mazumder, Tan, & Chow, 2012). Furthermore, decision making efficacy can be enhanced, and we suggest is a hallmark of expert practice, by triangulating between related evidence-bases (Anderson, Miles, Mahoney, & Robinson,

2002). In doing so, one must consider and involve the athlete as an active agent within the coaching process; their interpretations/meanings assigned to performances are influential for success. As such, self-reported feedback (sometimes via internet communication) can help ensure that coaching practice is most constructively aligned to identify problems and modify plans as considered necessary (Muir, Morgan, Abraham, & Morley, 2011).

Accordingly, technological tools are often sensibly employed within elite coaching environments because they are able to satisfy the need to plan, predict, monitor and revise coaching practice across different timescales. Of course, and crucially, the deployment of measures must be epistemologically coherent with the coaches' intended performance/learning outcomes; unfortunately something not directly explored by Williams and Manley (2014), despite explaining that the coach '"acts", "thinks" and "behaves" in certain ways that fulfil the brief of being effective' (p. 9). On this basis it is only possible to *speculate* about the relevance and impact of the KPIs reported. However, if the reported measures (mainly physiological) *are* established components of performance success in elite rugby, then their use seems reasonably justified. Indeed, we would suggest that measurement and employment of performance data, both outcome and process, has been a feature of high level environments since the supplication of the Corinthian ideal!

There are some other issues of concern which follow logically from the original report. Notably, and in consideration of several comments contained within the interview data, it appears that the (apparently 18) KPIs employed were perhaps less than optimal. As an example of this speculation, players reported the coach as saying "we want to measure everything we can, if we can measure it we can improve it," and "anything they [the coaches] can make a statistic out of they will" (p. 9). This finding, coupled with the revelation that games were won when KPIs targets were down and lost when exceeding targets, supports speculation that KPIs were poorly defined, insufficiently considered or treated (i.e., an overall

percentage score derived from all 18 KPIs) and not bought into by those concerned. However, this represents poor use of the technology (not as rare as one would think!) rather than a questionable and power-focused action by the coaches.

Accordingly, the use of technology is unlikely to be a fundamental problem within elite coaching environments when it supports a coach's decision making in optimising and pushing the limits of elite performance. Furthermore, technology cannot be accused or blamed for coaching outcomes since it is the user that is responsible for its use. Despite Williams and Manley (2014) claiming that their investigation provides 'a mandate for critical reflections gathered in context to develop practical guidelines appreciative of what coaches do in their natural settings' (p. 1), this too warrants debate because the coach's intentions were not established. While coaches *might* have been employing technology to create power at the Ravens, this cannot be upheld by player perceptions alone, nor that 'management practice[s were] overtly opposed to organic learning procedures' (p. 10).

Player empowerment. With Williams and Manley (2014) so focused on emphasising the negative control imposed by surveillance technology on the lives of professional rugby players, it is perhaps unsurprising that other positive features of its use have been underrepresented. Specifically, we refer to coaches using data to *empower* players who are taking action and/or continuing their pursuit of a goal. While Williams and Manley argue that technology was being used as a "weapon" (p. 4), whereby data were 'presented to steer a myriad of analytical truths' (p. 7) and to create and exert a 'climate of control' (p. 2), it is equally possible that the same act can serve the opposite effect; in short, 'one man's power is another's support.' Indeed, as is fleetingly mentioned within the interview data, half of the participants revealed that quantifying performances could be beneficial for individual development. It is a shame that further exploration of these benefits were not explored, since in this respect it would appear that the perception of intent was *not authoritarian*.

On the issue of providing numeric augmented feedback, coaches have long provided data to performers in sometimes questionable ways; for instance, gymnasts being weighed every day, undergoing monthly 'fat tests' (as also reported by one of the rugby players) and having these data publicly displayed on the gym wall (e.g., Kerr & Dacyshyn, 2000). As such, we do not view the publication of individual KPIs as being particularly new (or inherently problematic) within elite coaching environments. In contrast, Williams and Manley (2014) explain these practices as an 'unremitting form of micro-management' (p. 15) in order to "police" players and 'alleviate the threat of [collective] resistance' (p. 14); presumably their belief is that this 'villainous' activity was not (or less) apparent prior to the 'technology boom.' Given that these practices existed many decades ago, however, it certainly is not the responsibility of Microsoft as the article title and one participant rugby player suggest (cf. earlier comments on *how* tools are used versus what they objectively do).

In support of the notion that data can empower athletes to take action, one player in Williams and Manley's (2014) study reported that statistics were displayed to let you "know whether you are working as hard as you can" (p. 14). To put the severity of negative claims made by Williams and Manley into further context, working hard and peer evaluation, even performance related pay, is a common requirement of many professions. Take for example doctors and nurses being on night call following a shift, or dare we say academics working late into the evening to complete grant proposals on top of their teaching and writing duties against performance markers such as the REF! While we appreciate that the development of many (if not all) athletes is rooted in principles of amateurism (e.g., fun and health benefits), the reality is that elite sport is highly competitive and expensive to operationalise, whereby the expectations placed on players are somewhat more 'geared' towards objective success. In return, professionals are paid to achieve both personal and collective success. Accordingly, it

does not seem ‘anti-pastoral’ to suggest that adherence to such high performing behaviours, and taking responsibility for achieving them, must be recognised as part of the job.

As further contrast to Williams and Manley’s (2014) interpretation that power was uniformly exercised over players, consider recent case study data from another premiership rugby club provided by Cruickshank, Collins, and Minten (2013). In this environment, the director of rugby and the head coach used extensive monitoring and evaluation tools to facilitate performance-optimising behaviours within their squad. Consider the following quotes from one interviewed player which paint a somewhat different picture to that offered by Williams and Manley:

> While some players detested training with heart rate monitors in every pre-season session, this condition was recognised as a “small way of getting the best out of people because they won’t slack off [as] they can tell how hard you are working.”
>
> They will show us the [statistics from the] last game: “Look boys you hit eighty-five [per cent tackle success rate] there, this week you hit eighty-eight and you just lost; next week if we hit ninety we’ll be there” . . . . And then you can break that down individually . . . . If you can give positive information in that sort of way it’s easier for boys to digest and jump on board with the message that we are going in the right direction. (Cruickshank et al., 2013, p. 283)

As shown, the recording and subsequent use of multiple forms of data against explicitly understood beliefs provided meaningful value to this player and promoted accountability, empowerment and cohesiveness within the group. Underpinned by the leaders’ prioritisation of player clarity, the views in Williams and Manley might have therefore arrived via a limited presentation of rationale; that is, poor understanding of what data *practically* mean and what is needed to change them. With efficiency in the rugby club being ‘numerically mapped out *for* [emphasis added] the players’ (p. 7), it might be that the levels of self-driven engagement

were insufficient. In short, elite culture does not have to be, and may not have uniformly been at the Ravens, as Williams and Manley suggest.

Part 2: An Alternative Coaching Perspective

Although we do not necessarily disagree with some of the concerns raised by Williams and Manley (2014), the interpretation of data from a sociological perspective affords the opportunity to discuss several other pertinent issues which emerged from players' quotes. Of course, and as we have stressed throughout, there is every possibility that the use of technology *might* represent coaches' attempts to exercise 'institutional power' (p. 11) over players, but this only *might* be the case. Accordingly, in the following section we highlight issues presented from another, perhaps equally as concerning, perspective grounded within coaching and other literature.

Problematic Natural Heuristics

With the use of technology rapidly expanding in Western societies, it only seems natural to seek out its potential advantages in performance domains. As such, being drawn to employ technology is not necessarily bad in itself (as explained by our earlier point); rather, the negative issue arises when measures cannot support the required training or when these measures solely *dictate* the training. In other words, coaches suffer from the impression that 'if you *cannot* measure it then it is *not important*' or 'if you *can* measure it then it *is important*.' Indeed, this might be referred to as a *machines that go 'ping'* effect, whereby the coach places greater value on, and therefore insists on more frequent employment of, such means to generate (apparently) objective data. Consequently, there runs a realistic danger in these situations that training regimes become misbalanced, leading to unproductive outcomes when considering the actual performer's needs. For example, consider the following account from recently retired Irish rugby player Brian O'Driscoll:

> Their [younger players] [weightlifting] technique is phenomenal but it is as if they are winning if they have great scores in the gym. It's not, they're rugby players . . . . [Weightlifting] is only one aspect. You have got to be aerobically very fit and you have to have very good skills. I don't just know if that balance is there at the moment . . . . I can see that at the academies in Ireland, where there is a huge focus on scores in the weights room, as opposed to whether they can throw a 10-metre pass on the run. They should be rugby players becoming athletes, not athletes becoming rugby players . . . . I don't think the gym-monkey thing applies to them [New Zealand players] as much as it does over here. There is way more of a focus in New Zealand from an early age on skills. They do everything with a ball. They do all their fitness work with a ball and that's why they have better skill levels. That's where New Zealand have the balance, they have that physicality but they are able to mix their game up. (Schofield, 2014)

Unfortunately, this effect is probably more common than one would like to imagine, since human beings possess a natural heuristic for 'objectivity' regardless of the predictive accuracy, especially when information is easily available (Kahneman, 2011). Indeed, even when decision makers are aware that the evidence is insufficiently valid they continue to employ such bias (termed 'illusion of validity'; Tversky & Kahneman, 1974, p. 1126). This argument compliments that of Williams and Manley (2014) when highlighting the questionable 'side effects' of coaches who become 'overly seduced by objectifying performance' (p. 4), however not only for sociological reasons. In this case, it may be that the coach is overusing a heuristic which simply does not resonate positively with several of the players. What we mean by this is that players might not be portraying the severity of problem accurately (i.e., they might have an unjustified grudge towards the coaching staff) and/or that the extent of technology employed was justified but that the measures were just

not good enough. In other words, using machines that go 'ping' for the right reasons and at the right times might have had a more positive impact with the players. Of course, we are very much aware of the difficulties involved in providing performance analysis and the challenges faced in this emerging field (cf. Wright, Carling, & Collins, 2014). However, surely this should act to drive research to more positively address players' needs rather than dismiss it outright?

Too Many Cooks?

From a more general perspective, there exists a dangerous reality that practitioners are also required, or at least feel compelled to, justify and demonstrate their contribution to the 'performance pie' in their multi or interdisciplinary team (Reid, Stewart, & Thorne, 2004). According to the interview data in Williams and Manley (2014), one player mentioned that at least five coaches and analysts fed data back to the head coach and that during play "you have 4 coaches sitting there with the manuals, maul unfolds and they think right, what wasn't perfect about that, . . . the whole shebang" (p. 9). Furthermore, data were spread across 'mobile surveillance sites' (p. 15) and thus emphasises the portable and varied nature of information collection at the Ravens. Indeed, this problem is almost inevitable when clubs employ too many 'ologists,' or work with too many sport institutes; each competing to have their contribution recognised and voice heard (cf. Collins, 2008). Therefore, as diverse technology becomes increasingly applied to sport performance, coaches will need to understand and focus more on the crucial mechanisms that are accurate *and* most informative towards the task at hand. Once again, this will not be an easy challenge since it is difficult for individuals to depart from a strongly held view, even when it is to be replaced by one with a strong evidence base (Yarritu, Matute, & Luque, 2015).

Summary

In summary, this article has responded to a concerning issue raised by Williams and Manley (2014); namely, that of technology being overused within the elite coaching environment. While we do not disagree that a level of concern is warranted when technology *is* being mis/overused, we have highlighted several limitations of Williams and Manley's study to suggest that such alarm has perhaps been raised prematurely, inappropriately and on somewhat shaky foundations; particularly given that these inferences are taken from a handful of players in a single rugby club. Indeed, the interpretation of data from such a small sample, in combination with a questionable methodology and fundamental conceptual oversights, suggests some amount of distortion between what was reported by the players and what the authors think. Having presented several arguments in support of using technology in elite sports coaching, it would be good to see greater coverage of the issues' impact within the club structure. On the basis of our counter arguments to reducing/limiting the use of technology within the coaching environment, our simple message to coaches is to think carefully about *what* technology is employed, *how* and *why,* and then to ensure that these decisions are discussed with and, preferably, sold to players. Certainly, technology carries great potential to enhance coach decision making and practice, while also helping players to become more focussed, empowered and independent in knowing *how* to achieve their personal and collective goals.

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