Elite coaches' use and engagement with performance analysis within Olympic and Paralympic sport

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Abstract

The use and implementation of performance analysis and feedback by 18 elite Olympic/Paralympic coaches (coaching experience 16.1 ± 7.4; experience using performance analysis 8.3 ± 4.8 years) was explored via an online questionnaire (mean time to complete = 29 minutes). Likert scales were used to facilitate cross-sport comparison. Comment boxes were included to enable additional information to be provided if deemed necessary. Training goals, athlete discussion and coaching philosophy were the most prominent features influencing analysis direction. Time available had the greatest impact upon feedback provision. The main analysis techniques used were video, performance reports, and trend analysis. Coaches with greater experience delivered significantly more feedback sessions within 1-hour of performance. Feedback sessions were < 20-minutes in duration and delivered in a balanced (experienced) or mostly positive (inexperienced) approach. Feedback was delivered consistently according to a preferred schedule, face-to-face, and within an individual format. Sessions were usually coach led, however considerable value in a combined or analyst led approach was demonstrated. The findings have begun to illustrate practice within elite sport from the perspective of a key user of performance analysis, i.e. the coach, and have clear implications for practitioners by identifying the key areas coaches' value from performance analysis.

1. Introduction

The preparation of athletes towards elite performance is a vital aspect of a coaches'
role within day-to-day practice. This is often achieved through structured and targeted
training regimes that aim to develop various aspects of an athlete's performance e.g.
tactical, technical (Mooney et al., 2016). As such, the use of various Sports Science
support mechanisms e.g. performance analysis, physiology, is commonplace within
the elite sports environment. Performance analysis has seen considerable growth
within the past 20 years in both, academic interest and applied support. In addition,
the implementation of performance analysis has become increasingly more accessible
to coaches and athletes by virtue of technological advances. Subsequently, a multitude
of software programs such as Dartfish, SportsCode and Quintic and specific hardware
devices have been developed, enabling a coach to easily collate, process, and interpret
vast streams of information deemed important within future improvement.
Consequently, coaches have arguably been making use of analysis techniques for
years within their practice whilst recording, reviewing and providing video feedback.
What remains unclear is the extent to which coaches utilise these various tools and
techniques, but also the precise nature of a coaches' interaction with performance
analysis throughout their appraisal of elite performance (Martin, Swanton, Bradley &
McGrath, 2018). Moreover, performance analysis is widely accepted as beneficial to
the coaching process, yet little is known about how it is used to modify practice in
elite sport. This limited knowledge is likely due to the secretive nature and perceived
competitive edge their respective process offers. Coaches/teams are therefore

reluctant to share information, as to do so, may risk compromising their 'competitive edge'.

The coach is often considered the link between practitioner and athlete; therefore it is important to further develop and understand their views regarding performance analysis practice within elite sport (Mooney et al., 2016). Furthermore, real world research regarding the perceptions, practices, and engagement of coaches with performance analysis is fundamental to the discipline's development (Groom & Nelson, 2013). However, despite their critical role in the feedback process, the views of these coaches have been rarely reported within academic writing to date. Many of the studies investigating coach, analyst, or athlete perceptions have primarily focused on larger-team based sports such as rugby union (Francis & Jones, 2014; Kraak, Magwa & Terblanche, 2018; Middlemas, Croft & Watson, 2017; Painczyk, Hendricks & Kraak, 2017) and football (Groom & Cushion, 2004; Groom & Cushion, 2005; Reeves & Roberts, 2013; Wright, Atkins, Jones & Todd, 2013). However, some studies have also incorporated multi-sport (Bampouras, Cronin & Miller, 2012; Martin et al., 2018; Wright, Atkins & Jones, 2012) and individual-sport (Butterworth, Turner & Johnstone, 2012; Mooney et al., 2016) demographics, thus providing a wider insight into the perceptions and utilisation of performance analysis within applied practice.

Groom and Cushion (2004) utilised semi-structured interviews to investigate: usefulness, learning, reflection, timing, and mental aspects of video-based performance analysis. The conclusions drawn included that performance analysis; 1) aided in performance recollection and provided a view often reserved for coaches, 2) developed game understanding and encouraged player self-critique, 3) provided the chance to reflect without emotions, 4) sessions were initially too long but became

more efficient over time and 5) improved player confidence (Francis & Jones, 2014 made similar inferences). Wright et al. (2012) extended upon this work, incorporating a greater number of coaches within a wider variety of sports (rugby, hockey, football and basketball), with the overriding aim of understanding the use of performance analysis tools by coaches within various high performance environments. Wright et al. (2012) used a closed online questionnaire via an online survey site and identified that 68% of coaches had access to video after every game, whilst 39% received written reports. Furthermore, nearly 50% of coaches stated their 'gut instinct' impacted upon variable selection. Overall, the results provided insight into how and when coaches provide feedback via performance analysis whilst demonstrating the impact upon their weekly coaching practice. The use of qualitative methods enabled a richer understanding of an individual's experiences regarding their use of performance analysis to be achieved. Such methodologies have been reflected upon positively and have been suggested as an important tool within the further exploration of practice within the applied environment (Nelson, Potrac & Groom, 2011; Wright, Carling, Lawlor & Collins, 2016).

Coaches within previous research have stated their coaching philosophy significantly impacts upon analysis direction (Kraak, et al., 2018; Mooney et al., 2016; Wright et al., 2012). Furthermore, Butterworth et al. (2012) suggested that coaching philosophy was a potential reason for the elder participants not embracing performance analysis as a tool within their coaching practice (badminton). To substantiate this, Butterworth et al. (2012) suggested that their coaching journey and therefore philosophy pre-dated the prevalent use of performance analysis within badminton prior to the introduction of a system by Downey (1973). Various studies (e.g. Kraak et al., 2018; Martin et al., 2018; Mooney et al., 2016; Wright et al., 2012)

highlighted time (availability and time to complete analysis) as a significant constraint upon feedback provision. Video was deemed the most important element within practice by coaches (Kraak et al., 2018; Martin et al., 2018; Wright et al., 2012). This observation may also suggest that video plays a systematic role with their coaching. Moreover, video is very accessible and easy to use, which was subsequently identified by Mooney et al. (2016) as the most important user requirement of tools incorporated within coaching. Wright et al. (2012) stated that coaches delivered feedback either the same or following day within sessions generally lasting less than 20 minutes; however, the analysts working within the environment and not the coaches themselves provided this.

Overall, there is a lack of research concerning the views of elite coaches towards performance analysis from an Olympic and Paralympic sports perspective, more specifically, what coaches' value from the performance analysis and feedback service. Therefore, a clear gap exists between research knowledge and applied practice. Furthermore, developing an understanding of how these services could be implemented more effectively to further benefit the coaching process is a considerable opportunity for applied practitioners. Therefore, the aims of this study are to survey elite coaches within Olympic and Paralympic sport to 1) identify what coaches' value within performance analysis, 2) understand how coaches utilise performance analysis and feedback within applied practice and 3) investigate the difference, if any, between experienced and inexperienced performance analysis users.

2. Methods

2.1. Participants

Eighteen coaches (coaching experience 16.1 ± 7.4; experience using performance analysis 8.3 ± 4.8 years) working within Great Britain (GBR) Olympic/Paralympic sport had been actively using performance analysis within their coaching for 8.3 ± 4.8 years. The participants were evenly split into two groups based upon their experience using performance analysis (see Table 1 for distribution). Great Britain (GBR) can be regarded as one of the top Olympic/Paralympic nations and consistently ranks towards the top of the medal table (top 5). Ethical approval for the study was gained from Middlesex University's ethics committee.

Table 1: Distribution of coaches within the two groups of experience using performance analysis

Sport Type	Experienced (8+ years)	Inexperienced (< 8 years)
Olympic	13 ± 3.1 (6)	4.5 ± 2.2 (7)
Paralympic	10.7 ± 0.9 (3)	3.5 ± 0.5 (2)
Total	12.2 ± 2.8 (9)	4.3 ± 2.0 (9)

Key: Mean ± SD. Parentheses illustrate absolute number of coaches.

2.2. Questionnaire design

Questions were themed around the current research regarding, 1) coaches' engagement with performance analysis (Wright, et al., 2012) and 2) the main themes identified within an earlier study on the analyst's use and implementation of performance analysis and feedback (under review). The lead researcher formulated an extensive list of questions, which was condensed/reworded to avoid similar questions being forwarded to review. Two-experienced practitioners and academics reviewed

and provided critical reflection upon question wording, clarity, and response categories (Gratton & Jones, 2010). Following review, modifications to the wording of certain questions took place to enhance clarity. The final questionnaire incorporated 16 questions including three main sections, 1) demographics, 2) feedback structure, and 3) analysis provision and the influencing factors. Likert scales (All the time = 5, Often = 4, Sometimes = 3, Rarely = 2, and Never = 1) were used to facilitate cross-sport comparison.

2.3. Procedure and data analysis

The questionnaire was completed within January/February 2017 at a time suitable to the coach via the online site, Survey Monkey (www.surveymonkey.com) in a similar manner to Wright et al. (2012). Participants took 28.7 ± 22.4 minutes to complete the questionnaire. All responses were imported into Excel and collated as frequency counts and percentages in relation to the response category and Likert scale. Median Likert score values were presented where appropriate. Statistical analysis was carried out using SPSS (V21). All questionnaire sub-sections demonstrated *good* to *high* reliabilities (Cronbach's α between .85 and .94). The relationship between the different levels of experience using performance analysis and response was assessed using Chi-squared and Cramer's V. A significance level of .05 was used for analyses.

3. Results and Discussion

3.1 Factors affecting performance analysis provision

All aspects with the exception of academic literature played a considerable role at some level within how the coaches directed the provision of performance analysis (Figure 1). The main factor that influenced analysis direction was training goals

(83%), followed by coaching philosophy/experience (72%) and athlete interaction (72%). The experienced participants felt other coaches and the athletes they were coaching had a greater impact within directing analysis provision than their less experienced counterparts.
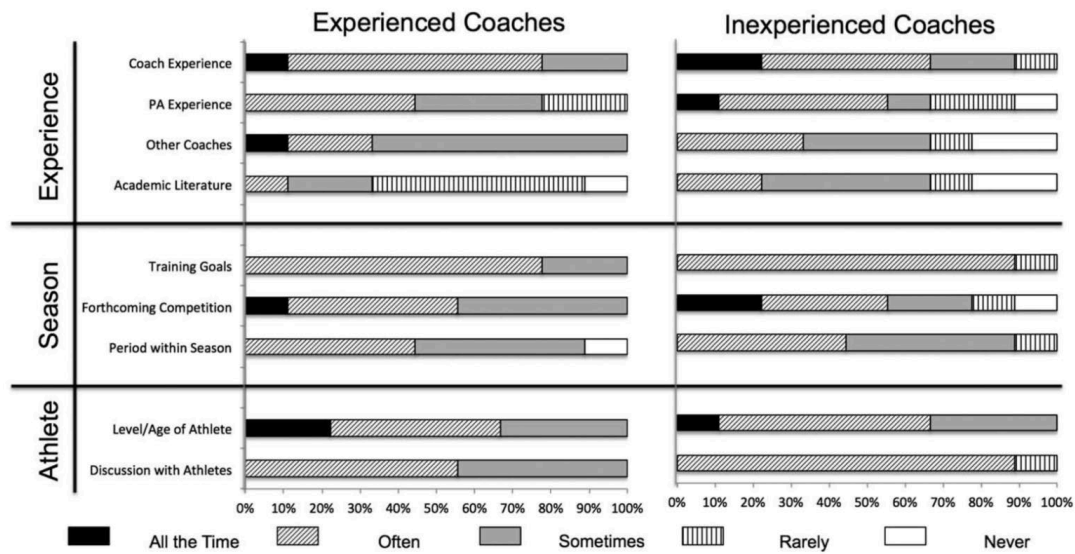

Figure 1. Factors influencing analysis direction.

These results were, in part, similar to Wright et al. (91%; 2012), Kraak et al. (64%; 2018) and Mooney et al. (~ 60%; 2016) with coaching philosophy being identified as the main influence. However, the other main factors highlighted by the coaches played little influence within Wright et al. (2012) whereby 'training emphasis that week' (training goals) and 'player discussion/feedback' (athlete interaction) influenced direction 5% of the time. The greater influence of training goals and athlete interaction potentially infers the utilisation of a more athlete centred approach within Olympic sport. However in contrast, despite being considered an Olympic sport, the swimming coaches within Mooney et al. (2016) inferred a coach-centred

approach by virtue of the importance of discussions with other coaches (~ 45%) as the next significant factor.

The majority of sports investigated were individual in nature, potentially allowing athlete centred approaches to be employed far more easily. These approaches have the overriding aim of more effectively meeting specific requirements, whilst enabling the athlete to 'learn through their own mistakes and take ownership of the process' (Groom et al., 2012). For example, What it Takes to Win (WITTW) within a woman's canoe single (C1W) class is arguably different to a man's kayak single (K1M) despite being under the same sporting umbrella (i.e. Canoe Slalom) and may therefore require tailored or athlete centred analysis. Furthermore, evidence from athlete development research has illustrated a more athlete centred approach to be effective within the fostering of elite athletes and decision-makers (Kidman, 2010; Potrac, Brewer & Jones, 2000).

A similar pattern was observed between the two main sports invited to participate (i.e. combat and racing) across the majority of response categories; however, a number of pronounced differences were identified. Forthcoming competition was far less of an influence within the racing sub-group (racing: 63%; combat: 85% for the majority of the time and above response categories), which may be a result of the sports competitive structure. More specifically, racing sport athletes are often only required to produce the fastest time to achieve victory. Whereas in contrast, athletes within combat sports are required to compete directly against their opponent in order to score points; therefore, forthcoming competition (who the opponent is) is likely to have a far greater impact upon tactical strategies.

3.2 Factors affecting feedback provision

The main constraints highlighted as impacting feedback provision were time (time available – 61% and time to complete analysis – 55%), and the quantity of feedback to deliver. The impact of time was highlighted within previous research (Kraak et al., 2018; Martin et al., 2018; Mooney et al., 2016; Wright et al., 2012) as the main constraint upon the participant's ability to feedback. The coaches' receptiveness to performance analysis and feedback was identified as the least impactful factor, which potentially highlights the buy-in to performance analysis within the various sports. A further explanation may be that the coaches are educated within the use and process of performance analysis, and subsequently understand the benefits the discipline can bring to their coaching through enhancing recall and observation whilst providing objective evidence to support performance appraisal (Franks & Miller, 1986, Laird & Waters, 2008, Nicholls & Worsfold, 2016). Coaches with greater performance analysis experience highlighted a significantly greater impact of Other Support Staff Sessions upon feedback provision ($X^2 = 10.0$, df = 3, $p < .05$, Cramer's V = 0.75; Figure 2).
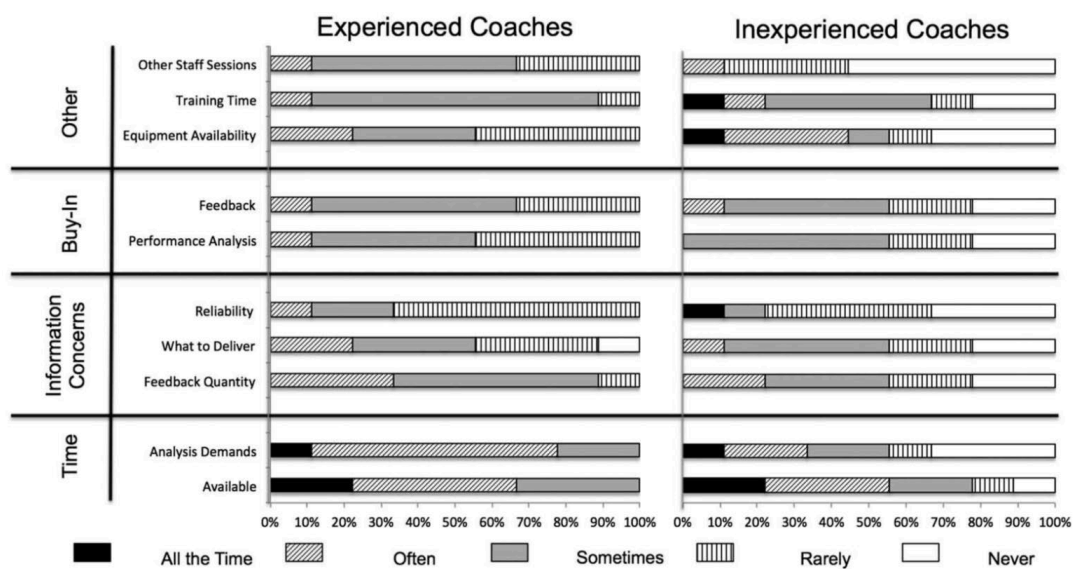

Figure 2. Factors affecting feedback provision.

A similar pattern was also observed between the combat and racing sub-group across the majority of response categories, however a greater concern over information reliability was identified within the racing group. The success within racing sports can often be decided by tenths, even thousandths of a second, therefore placing a greater 'perceived' emphasis upon reliable information when analysing and reviewing performance.

3.3 Elements of performance analysis provided

The most popular areas the coaches would like to be provided were video post-performance (Competition – 4; Training – 4) and video during-performance (Competition – 4; Training – 3). Video was deemed considerably more important to receive on a regular basis in comparison to data, with post-video and during-performance video highlighted as the standout responses (Figure 3). Similar findings were observed within Wright et al. (9/10; 2012) and Martin et al. (7/9; 2018) where the majority of top responses included a variation of video (e.g. video of full game, video of opposition). The clear favour of video is not surprising given its simplicity, versatility, and ease of access, whereby the coach only requires a handheld camera to effectively implement such a technique within their practice. Participant 11 summarised the benefits and impact simple video review can have within practice stating '[Video] allows the athletes to see how they have performed and how they may perform the skill next time'. Consequently, video presents a visual reminder of what happened, allows multiple replays, provides a model to help replicate best practice or avoid poor technique within future performance, and facilitates understanding towards 'why' and 'how' performance occurred (O'Donoghue, 2015).

The benefits of video modelling upon future performance have been highlighted within a vast number of studies date, for example, Guadagnoli, Holcomb and Davis (2002), Baudry, Leroy, Thouvarecq and Chollet (2006), and Boyer, Miltenberger, Batsche and Fogel (2009) within golf and gymnastics respectively.

The specific elements desired regularly by the coaches were 1) full video of competitive performance (77%) or edited video of training performance (50%), 2) performance reports (55%), and 3) trend analysis (44%). The inexperienced coaches demonstrated limited value in full video, performance reports, and live coding within training, whereas this was observed for opposition strengths/weakness information within the experienced coaches responses (Figure 3). Over three-quarters of all coaches made use of video regularly, demonstrating an ingrained use and considerable engagement towards video. Furthermore, inline with Wright et al. (2012) and Martin et al. (2018) this might also suggest that the use of video plays a systematic role within their coaching. Moreover, it is clear that data in the form of reports or performance trend analysis plays a vital role within a large proportion of the coaches surveyed. Consequently, the aspiring analyst would be prudent to develop a good knowledge and practical understanding of the techniques required to successfully investigate trends and significantly explore data beyond the descriptives within their potential working environment. Whilst some sports favour video feedback over data and vice-versa, it is apparent that focusing too heavily on either analysis process would likely limit their effectiveness as a practitioner within current and future working environments.
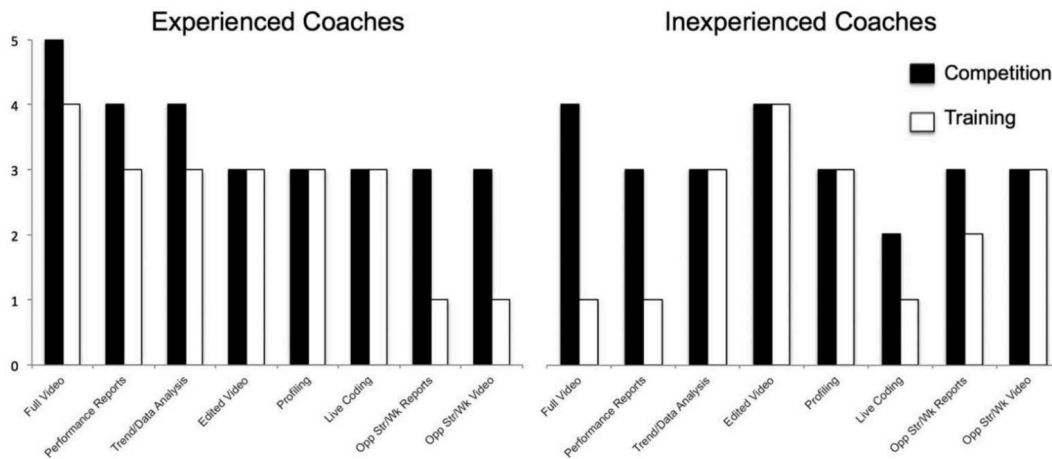
Figure 3. Type of performance analysis provided.

3.4 Feedback timescale, session length and session balance

Feedback was preferred to be given either < 1 hour after the event or the next day and beyond for both competition and training, which mirrored Wright et al. (2012). McArdle, Martin, Lennon and Moore (2010) also argued that it was not uncommon for coaches to utilise more immediate feedback because they felt this was the point at which the athlete's recall was at its clearest. Furthermore, a slightly greater desire to provide feedback within an hour following a training session was identified. 77.8% coaches with greater experience provided feedback more consistently (i.e. All the time or Often) within 1-hour of competition than their less experienced counterparts (22.2%; X^2 = 10.0, df = 4, p < .05, Cramer's V = 0.75). Furthermore, 44.4% of the inexperienced group 'Never' provided feedback within 1-hour (Experienced = 0%). These coaches provided a few examples to support why they felt providing feedback within 1-hour was important, for example,

> Participant 15: Clarity of message can be lost when too long is taken and also quite often can create too many things for an athlete to think about.

> Participant 17: Needs to be fresh in mind. However this can vary with emotional state of paddlers – especially mindful in competition, where this

becomes the most important variable (i.e. acceptance of data) rather than the availability of data/video)

The coaches highlight a number of key points, namely maintaining the balance between the time elapsed following performance and amount of feedback required to achieve an accurate, impactful but 'fresh in mind' message. Keeping the performance 'fresh in [the] mind' enables the athlete to more easily visualise their performance through mental imagery, which was highlighted by Cumming and Hall (2002) as a highly relevant and effective tool within improving performance. Furthermore, Cumming and Hall (2002) highlighted athletes of a higher standard reported using more imagery surrounding their performance, whilst Hall (2001) suggested that imagery for the rehearsal of skills should be given similar importance to physical practice (for a review, see Cumming & Ramsey, 2009). Therefore, facilitating the development of effective imagery techniques through deliberate practice could be considered a key coaching tool within performance preparation, execution and review. Notably however, participant 17 made reference to athlete emotional state post-performance suggesting the athlete may not wish to engage within or accept feedback they are provided following a poor performance. Therefore, within such situations, feedback should potentially be delayed in an attempt to remove the emotion surrounding the performance and ultimately, promote a greater degree of objectivity and effective self-reflection (McArdle et al., 2010). Furthermore, Carson (2008) stated that information generated by performance analysis should be utilised as a tool to facilitate more effective self-reflection. The various factors raised highlight that a standard approach regarding the point at which feedback is provided may not be effective in all situations (Wright et al., 2016).

A considerable proportion of participants (65%) favoured feedback sessions lasting less than 20 minutes, which mirrored the professional environment analysts of Wright et al (2013). Unfortunately, coaches within Wright et al.'s study (2012) were not questioned upon the duration of the feedback sessions they provided to their athletes. Furthermore, sessions were delivered with a balanced (66%) or mostly positive approach (61%) all the time or often. Coaches with less experience delivered significantly more mostly positive feedback sessions ($X^2 = 8.4$, df = 3, p < .05, Cramer's V = 0.38). Over 88% of the less experienced group felt this should be the primary approach, whereas the experienced group demonstrated a more varied response. Negative approaches (mostly negative and always negative) were rarely used. Groom and Cushion (2005) suggested a balanced approach of 1:1 with a greater focus upon positive instances if the recipient was struggling for form or confidence. Viciana, Cervello and Ramirez-Lechuga (2007) echoed Groom and Cushion (2005) further suggesting players receiving positive and negative feedback demonstrated lower levels of boredom and higher scores of enjoyment. Furthermore, Hoigaard, Safvenbom and Tonnessen (2006) stated that if positive instances were always shown then the player(s) might begin to believe they did not need to improve and thus, start to idle in training and matches negatively affecting performance.

Over half of the coaches stated they made use of 60-80% of the information they were provided by their analyst, with 21% stating they utilised < 50%. Clearly a vast amount of information is not incorporated into feedback sessions by the coaches. In addition, Middlemas et al. (2017) identified only limited information (< 20%) generated by the performance analysis process was incorporated into the player's formal feedback sessions. This may appear concerning to the applied practitioner due to the large amount of work undertaken yet ultimately absent within feedback.

Arguably however, the performance analyst has access to a vast amount of information via various sources that incorporating 100% of the information within a feedback session would likely cause, 1) information overload, 2) the session to last significantly longer and 3) athlete confusion/lack of clarity within the 'take-home messages'.

Overall, both groups of coaches demonstrated a similar pattern within their preferred feedback delivery structure (Figure 4). Specifically, coaches desired feedback to be delivered in a consistent manner (type, layout, content; 61%), face-to-face (88%), and within an individual format (55%) all the time or often. Sessions were generally coach led, however, participants demonstrated considerable value in a combined and/or analyst led approach at certain instances. The order of information delivery slightly favoured video followed by data, however, sometimes was the main Likert scale response provided (Figure 4).
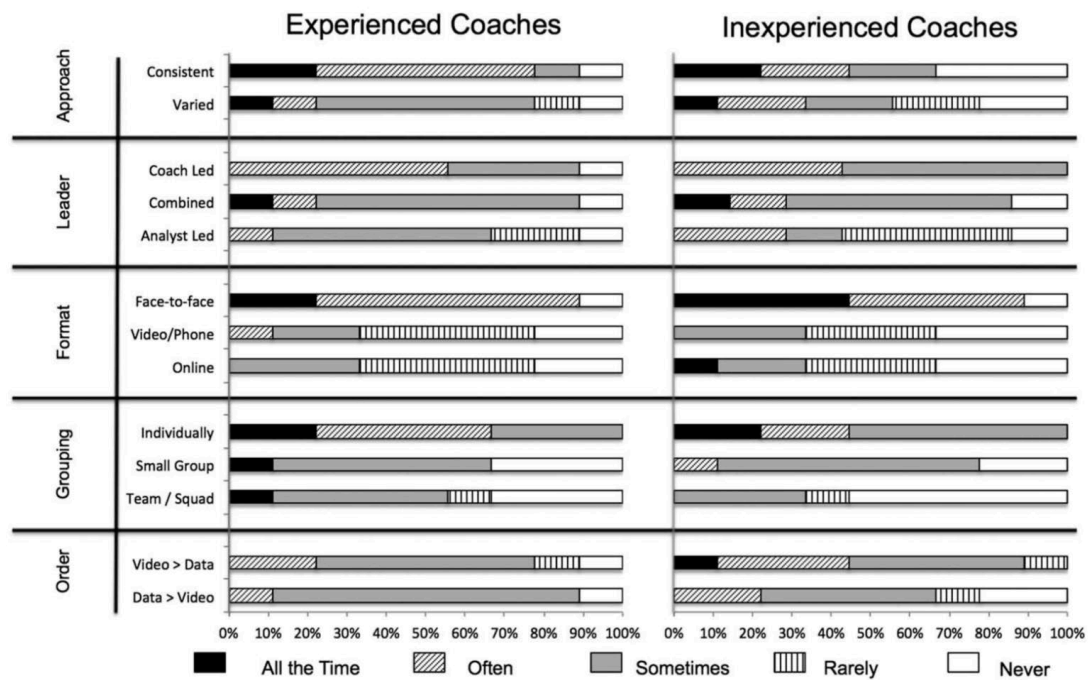

Figure 4. Feedback delivery structure.

4. Conclusion

The results demonstrate that a wide spectrum of performance analysis and feedback techniques are utilised by coaches working within Olympic/Paralympic sport; however, significant and consistent themes emerged throughout. The main factor that influenced analysis direction was training goals, followed by coaching philosophy/experience and athlete interaction. In addition, the experienced coaches consciously acknowledged that other coaches and the views of the athletes they were coaching had an impact upon direction. Consequently, the development of effective coach-analyst relationships appear key to translating philosophy and the ever-changing training goals into measurable variables, to ultimately maintain impactful support moving forward. The lack of time was outlined as the most significant constraint impacting upon feedback provision, with the experienced coaches outlining that time taken to complete the required analysis considerably impacted upon their ability to feedback. Unfortunately however, it is not known whether feedback would be more effective if this barrier was reduced in some way. Furthermore, coaches with greater experience (> 8 years) delivered a significantly greater number of feedback sessions within 1-hour post performance in comparison to their less-experienced counterparts (< 8 years). Experienced coaches favoured a balanced approach to feedback, whereas 88% of the less experienced group were in favour of mostly positive feedback sessions. Feedback sessions lasting < 20-minutes were generally employed, however, the athlete's emotional state was a key factor within the overall design.

The findings have implications for practitioners by identifying the key areas coaches' value from the performance analysis service. This should help practitioners and educators' target/design appropriate educational support to more effectively

prepare their practice for many of the demands highlighted within applied support. Future case study approaches appear useful to help further understand the individual delivery by specific coaches and/or sports within applied practice. Comparative studies between 1) coach and analyst, and 2) successful Olympic/Paralympic nations may also provide further useful information. In addition, quantifying the impact of different performance analysis or feedback methods, and/or investigating the evolution of performance over time, taking into account a number of confounding variables (e.g. opposition quality, home/away etc.) may offer further insight into the overall effectiveness of the performance analysis process.

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Appendix 1 – Questionnaire

Demographics

1. What is your name, age, role, and sport?
    a. Name
        ……………………………………………………
    b. Age
        ……………………………………………………
    c. Role
        ……………………………………………………
    d. Sport
        ……………………………………………………

2. How long have you been coaching within your sport?
    ……………………………………………………

3. Do you use performance analysis within your coaching?
    ……………………………………………………

4. How long have you been using performance analysis within your coaching?
    ……………………………………………………

Feedback Structure
Note: Please fill in all of the spaces within the table with the most appropriate response (i.e. All the time, Majority of the time, Sometimes, Rarely, Never)

5. How often do you feel feedback on performance should be provided? (All the time, Majority of the time, Sometimes, Rarely, Never)

Pre-Competition	
Pre-Training	
Post-Competition	
Post-Training	
Live-Competition	
Live-Training	

Why do you feel this would be most effective?

………………………………………………………………………………………

………………………………………………………………………………………

6. How long following performance do you feel feedback should be provided?

< 10 minutes	
10-60 minutes	
1-3 hours	
3-6 hours	
6-9 hours	
Next day	
> 2 days	

Why do you feel this would be most effective?

………………………………………………………………………………………

………………………………………………………………………………………

7. How long do you feel feedback sessions should last?

< 5 minutes	
5-10 minutes	
10-15 minutes	
15-20 minutes	
20-25 minutes	
25+ minutes	

Why do you feel this would be most effective?

………………………………………………………………………………………

………………………………………………………………………………………

8. What type of feedback do you feel should be delivered?

Always positive	
Mostly positive	
Balanced	
Mostly negative	
Always negative	

Why do you feel this would be most effective?

………………………………………………………………………………………

…...………………………………………………………………………………

9. How do you feel feedback should be delivered?

Consistent approach	
Varied approach	
In a team/squad	
In a small group	
Individually	
Online formats	
Video chat/phone	
Face-to-face	
Coach led sessions	

Analyst led sessions	
Combined approach	
Video followed by data	
Data followed by video	

Additional comments? If your desired response is not within the above list please state and rate here.

………………………………………………………………………………………

…..……………………………………………………………………………………

10. How much of the analysis that you are provided do you make use of?

…………………………………………………………………………………

11. What aspects of the analysis that you are provided do you consistently use /do not use?

Do USE…………………………………………………………………………

Do USE…………………………………………………………………………

Do NOT USE……………………………………………………………………..

Do NOT USE……………………………………………………………………..

Analysis Provision and Influencing Factors

Note: Please fill in all of the spaces within the table with the most appropriate response (i.e. All the time, Majority of the time, Sometimes, Rarely, Never)

12. What type of analysis would you like to be provided by your performance analyst?

Live-Competition	
Live-Training	
Pre-Competition	
Pre-Training	
Post-Competition	
Post-Training	

Why do you feel this would be most effective?

………………………………………………………………………………………

…..……………………………………………………………………………………

13. What elements of performance analysis would you like to be provided?

Full video of performance	
Edited video of key actions	
Performance reports	
Profiling	
Live coding/analysis	
Opposition strengths/weakness reports	
Opposition strengths/weakness video	
Trend and data analysis	

Additional comments? If your desired response is not within the above list please state and rate here.

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…...………………………………………………………………………………………

14. What factors do you feel affect the ability to feedback?

Time taken to complete analysis	
Time available (due to your role etc.)	
Conflict between training time and feedback	
Equipment availability	
Receptiveness to performance analysis	
Receptiveness to feedback	
Information reliability	
Other support staff sessions	
Concerns over what should be delivered	
Concerns of feeding back too much information	

Additional comments? If your desired response is not within the above list please state and rate here.

…………………………………………………………………………………………

…...………………………………………………………………………………………

15. What factors influence the aspects of performance that are analysed?

Coach experience / philosophy	
Performance analyst experience	
Training goals	
Forthcoming competition	
Level of athlete	
Age of athlete	
Other coaches / analysts	
Discussions with athletes	
Academic literature	
Period within season	

Additional comments? If your desired response is not within the above list please state and rate here.

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…...………………………………………………………………………………………

16. Are there any other issues you'd like to raise or discuss that you have not been able to?

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