

Managing the ecosystem: a forgotten factor in effective S&C delivery

By Ian Jeffreys, PhD, FNSCA, ASCC, CSCS*D, RSCC*D

OVERVIEW

Why do some great programmes fail, yet other that are far less sophisticated succeed? If we take a typical reductionist view of strength and conditioning (S&C), there is no rational explanation for these occurrences. However, S&C does not occur in a vacuum, and multiple factors will ultimately affect the success of a programme. This article presents a novel approach to viewing S&C application: ie, that of the training ecosystem, where the relationship between multiple and multivariate factors ultimately determines the overall success of any training programme.

Introduction

It has often been said that knowledge is power and the importance of knowledge continues to drive much of our strength and conditioning (S&C) education and professional development. However, does this still true hold for S&C in the 21st century, and is knowledge the key differential between levels of performance of S&C coaches? Today, there is more knowledge and information available than ever before, and this can easily be accessed via multiple sources such as the internet, magazines, journals and so on. In short, knowledge is available to a much wider audience and at an ever increasing rate. However, in today's world, it could be argued that rather than knowledge per se, the real value lies in execution. Many strength coaches will attest to the fact that the real challenge of S&C does not

lie in accessing knowledge, but instead in synthesising and inputting this knowledge into practice in an ever changing training environment – the essence of execution.

The 'execution gap'

Development of the modern strength and conditioning coach will need to ensure that it bridges the 'execution gap' – ie, coaches must apply this ever increasing amount of knowledge to effective practice. In any applied field, great execution is critical and a necessary condition for success,¹ and S&C coaching is no different. It could be argued that even the best programme is irrelevant without effective execution. However, effective execution of a S&C programme is not a simple task, and must encompass factors that at first would appear to have little to do with the field. Our

AUTHOR'S BIO



IAN JEFFREYS,

PHD, FNSCA, ASCC, CSCS*D, RSCC*D

Ian is a Reader in strength and conditioning at the University of South Wales, and the proprietor and performance director of All-Pro Performance. He directs the strength and conditioning programmes for Cardiff City FC Academy. He is a former board member of the UKSCA and is an assessor and tutor with the Association. He was the NSCA High School Professional of the Year in 2006.

‘The development of a more global view of training, through the concept of a “training ecosystem”, would allow us to more effectively identify and subsequently manage the entire training process’

initial notion of execution focuses on what we consider elements of effective coaching: developing an effective programme and then implementing individual sessions, analysing how the session is conducted and the quality of application of training. However, effective execution relies on addressing elements on a much wider scale than this, often involving a huge – and often eclectic – range of factors, many of which are seldom considered as playing a role in S&C.

Conversations with many S&C coaches highlight the fact that many of the major challenges they have faced in setting up effective programmes have been with laying the foundations necessary to allow the programme to function, without which their programme would never have been successful. This has been critical to their work and relied on a wide range of elements such as building effective working relationships with athletes, coaches and support staff; building effective performance environments; effective self-management etc. Although many of these would not traditionally be thought of as influencing the S&C programme, the reality is that unless these are effectively managed, the programme will never optimally flourish, regardless of the quality of delivery.

We need to start thinking of programmes with a more global view, considering the impact of multiple layers of interaction on the ability to execute the programme to maximum effectiveness. A failure to do this may hold us back from ever optimising our success – regardless of our knowledge and coaching capabilities. This article will attempt to introduce a new concept to the thinking of the S&C coach, allowing this ‘global’ view to be developed. Given the wide range of factors capable of influencing the success of a programme, and the variation of these factors within each individual environment, the article is not meant to be all-encompassing. Instead, it aims to be more conceptual in nature, presenting a broad view, in an attempt to widen our understanding of why some programmes are successful and others less so. In doing so, it attempts to propose questions rather than to provide solutions, with a few examples made just to illustrate points rather than being a comprehensive analysis of potential impacts.

A different way of thinking

Academic study of strength and conditioning encourages us to isolate variables, to

identify cause-and-effect relationships and judge the effectiveness of training programmes against these constraints. However, in reality the success or failure of a programme will rest upon a range of diverse factors, many of which may not appear directly related to its quality. Ron Adner, in his book, *The Wide Lens: what successful innovators see that others miss*, outlines how the success of many businesses has depended upon developing this more global view and the need to use a wide lens to identify all factors impacting upon the business. In many instances, potentially great products were unsuccessful, not because of any fault in the product or even the company, but instead due to a failure to account for factors that were not always clearly visible, such as a lack of a supply infrastructure or the failure of a partner to deliver on a related element to the product.

Ron Adner proposes the idea of the business ‘ecosystem’, where all elements that can potentially impact upon a business are identified and managed effectively. Given the complexity of interactions impacting upon the effectiveness of the training programme, a similar thought process could help us understand and manage our own programmes. The development of a more global view of training, through the concept of a ‘training ecosystem’, would allow us to more effectively identify and subsequently manage the entire training process, laying the foundations for the effective application of the training programme itself. However, this requires a radical change in thinking to our standard academic view of training. Most of the time we attribute what happens in a programme to events close in time and space, but in reality the results are often dependent upon the dynamics of a larger system in which the programme is embedded.⁴

So, although great execution of the programme itself is essential, and is a necessary condition for success, it is not enough. The success of the programme will ultimately depend, not only upon our own execution, but on the ability of others to execute at a similar high level and towards the same goals. This realisation requires a drastically different way of thinking to the typical reductionist view of strength and conditioning. It requires an outlook that considers the potential effects of every possible interaction within the programme, and an effective management of these interactions. In short, it requires the use of a much wider lens in evaluating a training programme and the management of the



entire training ecosystem. It would be too easy to say that these elements are not in the realm of strength and conditioning, and so should not unduly concern the S&C coach, but unless these are managed, the programme will never be as effective as it could be.

The training ecosystem

If we take great programmes and great coaching as the starting point, we need to focus on all the potential factors that will influence whether this will ultimately translate into successful training. A training programme can never be totally evaluated in isolation: it must be seen as part of the global process of delivering effective S&C. This thought process requires the development of a different view of the training environment, one in which all potential influences on the programme are identified and managed appropriately. Here, the concept of a training ecosystem is very useful.

Biologically, an ecosystem is a community of living organisms, interacting as a system and with every interaction having an effect on the functioning of the system as a whole. In a training scenario, the ecosystem refers to the training environment and all elements that influence its functioning. Quite clearly, this reflects a wide range of variables, from the chief executive deciding how much to invest, the sports coach deciding how many S&C inputs will be allocated, the caretaker opening the doors of the facility at the right time – all the way through to the athletes believing in and engaging with the programme etc. All of these factors can have

a large impact upon the programme if not effectively managed and may often be the difference between successful execution and average execution.

In essence, every interaction we make within this ecosystem has the potential to enhance or negate the effectiveness of the training programme. In the world of the ecosystem, success will depend upon the alignment of all parties who must work together in order to develop a winning programme. Unfortunately, within S&C these elements are often overlooked, with almost total emphasis placed upon the design of the training programme. But unless these elements are addressed properly, the S&C coach will never achieve his or her ultimate potential.

Just as ecosystems are unique, then each and every training environment will have its own unique factors that impact directly and indirectly on its functioning. However, one common strand running through all ecosystems will be the performance training environment. This lies at the heart of the ecosystem, as it will be the point of delivery of training. This therefore, provides an appropriate point to start an analysis of the training ecosystem.

The 'performance environment' – the heart of the training ecosystem

Lying at the heart of the training ecosystem is the concept of the 'performance environment'. Without the correct environment – 'one in which the individual is encouraged and supported and has opportunity to learn and

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practise' – optimum performance will never be obtained.⁹ Importantly, the performance environment is so much more than simply the facility, it is the way in which the whole system integrates and functions to enable the delivery of S&C.

An evaluation of what makes a performance environment must start with an examination of the basic needs required to enable a person to optimise their performance. Anthropologists and scientists believe that humans thrive when the following are present in their environment: security, community, clarity, authority and respect. These five factors can be thought of as the bedrock of the performance environment, allowing athletes and coaches to thrive and ultimately optimise performance. The aim is to develop an environment where this bedrock is provided, together with a culture of constant improvement. This clearly relies on the development of much more than just an excellent training programme and an excellent facility: it requires an alignment and clarification of standards, values, ideals and beliefs, as well as establishing the programme's way of doing things.¹⁰

The role of the coach is central to developing this environment and for this, the coach needs to be well versed in skills such as communication, management, leadership etc. However, none of these skills are traditionally addressed in S&C education or development, as they lie instead in domains such as management, leadership, communication, marketing, negotiation

and personal relationships. But essentially effective ecosystem management requires the building of effective relationships with all parties, and this must be built upon a relationship of trust and communication. Here, the ability to connect is essential, together with the ability to provide the leadership towards the goal, while allowing all involved the ability to influence the programme and feel that their contribution is valued. David Walsh outlines how the system developed by Dave Brailsford at British cycling was underpinned by this process, where he strove to create a supportive environment in which coaches and athletes felt they could have a say and influence decisions.¹⁰

The concept of the 'performance environment' may therefore seem straightforward, but actually, an analysis of what affects it shows it to be far more complex and also highly context-specific. Essentially, any person who has any input whatsoever into the system has the potential to affect the environment – positively, neutrally or negatively. Similarly, every person who has contact with anyone who inputs into the system can also affect the performance of the ecosystem. This throws up a huge range of potential influences, and makes the management of all of these a highly challenging task. The key is to build an awareness of all these potential effects, in order to manage them effectively as and when appropriate. Here, effective communication will lie at the heart of this management.



'British cycling was underpinned by the process of creating a supportive environment'

The ecosystem energy

A key consideration of any biological ecosystem is the flow of energy within it. This is similarly the case for any training ecosystem, as its ultimate success will be linked to the energy people bring into, or take out of, the performance environment. Human energy possesses quantity, quality, focus, and intensity and a key role will be the management of this energy throughout the ecosystem, ensuring that energy is managed in each of these domains.⁷ Importantly, every personal interaction within the performance environment has the capacity to affect the overall energy within the system. Energy invested by athletes and coaches, and similarly the energy invested by other key players, will affect the whole ecosystem energy, and so all inputs need to be evaluated and managed appropriately.

Forming the bedrock of the ecosystem energy are the athlete's interactions. Critical to an athlete's energy investment is the experience of the athlete within the ecosystem. This requires an examination of the nature of optimal performance. According to the flow model of optimal performance, the following needs to be present: a chance of completing, concentration, clear goals, feedback, deep but effortless involvement, control, and concern for self disappears.²

Although some of the activities of S&C may preclude all of these factors being present at all times, they can become a key focus for effective execution of the programme at different times, and thus the development of an environment of optimal performance. But many of these factors are often overlooked, with the focus instead being simply upon the means and methods utilised, eg, sets reps, etc. rather than also considering the process of application. Focus on delivering the programme in a way that develops an optimal experience can transform the results of the programme, and may require a re-evaluation of how some aspects are delivered. Again these processes are not often the focus of attention of a coach and nor are they the focus in a coach's education or professional development.

COMMUNICATING THE VALUE OF ENERGY INVESTMENT

Importantly, an athlete must be able to clearly see how the investment of their energy directly benefits them. Here we have to create the conditions whereby the athletes are full participants in the process.⁸ Athletes will often work off the question 'what's in it

for me?', and unless the direct benefits can be effectively communicated, the results may never be optimal. Therefore, it is crucial to clearly communicate the programme's aims and – more importantly – the benefits the athletes will gain from investing their energy in the programme. It will often take time and relentless persuasion for the idea to gain traction⁸ and thus communication needs to be a long-term process and not a one-off event. Importantly, the communication needs to speak directly to the athlete's key needs, not necessarily in S&C language. An athlete is normally far more concerned with a programme's effects on key factors they consider important to their sports performance – such as an increased number of goals, an increased number of clean breaks etc – than in a figure such as an increased 1RM squat. Simply learning to communicate with the athlete is thus a major step in ensuring a greater investment of energy in the programme.

Managing ecosystem energy is about far more than just managing athletes' energy; one has to consider the energy inputs of coaches and any other member of the support team who has input into the system. Thus, energy management involves managing every individual providing any input and ensuring that they are all able to function in a meaningful and optimal way towards the success of the programme. A critical factor in determining the energy a person brings to an environment is the value they perceive is placed on their work, and their perceived impact on performance. Here, simple acts such as demonstrating how their work affects performance, showing gratitude for their work etc. can have a huge effect on the overall energy levels of the environment.

Defining and managing your ecosystem

Quite clearly, optimising the functioning of the ecosystem can have a major effect on its performance. For this, two tasks are required: first, an identification of the potential inputs into the system, and secondly effective management of these inputs.

Defining your ecosystem

You cannot manage that of which you are not aware. Therefore, an essential first step is to define the ecosystem and to identify factors which have the potential to enhance or undermine the ecosystem. The identification of these potential factors must begin with an examination of the unique 'performance

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environment’ the coach is working in and a consideration of all potential inputs that can affect it both directly and indirectly. Just by thinking of the training environment as an ecosystem allows a far wider lens to be used when viewing the potential inputs, and can help identify factors that are affecting the success of the programme directly or indirectly.

In a simple model, where the programme is seen as the only variable, then only a small number of factors have the capacity of affecting the results. However, with an ecosystem view, every potential interaction can have the potential to affect the results of training and so need to be managed effectively. Once this is undertaken, a web of potential interactions starts to be developed, and here potential problems can be identified and managed.

Multiple factors have the potential to impact upon this. Some impacts will be direct, such as the time allocated to the programme, the investment in the facility etc.; but others will be indirect and often subtle. For example, comments made by individuals which question the value of S&C could directly affect the energy that an athlete devotes to their S&C work and a failure to manage this will result in less than optimal physical adaptation, which in turn could reinforce the questions on the value of the programme.

What is important is that an open means of communication is developed where everyone feels able to communicate, in either a positive or negative way on the programme’s functioning. Being aware of issues is fundamental to dealing with them. Being unaware of an issue doesn’t make it go away, it just leaves it to fester for longer, potentially undermining the programme. Communication needs to be conducted on a regular basis as the ecosystem will evolve over time as new athletes, staff and coaches become involved.

Managing your ecosystem

The ecosystem may at first appear to be a highly complex act, but it essentially relies on two key skills: building effective relationships and self-management.

BUILDING EFFECTIVE RELATIONSHIPS

Interpersonal behaviour is often thought of as being the difference maker between being great and being nearly great.³ The England rugby coach Stuart Lancaster, in an interview with the *Daily Telegraph*,

stated that building effective relationships is the glue that binds together English Rugby’s performance environment. The S&C coach should make an effort to make these relationships both genuine and built upon caring for both the person and the programme. It is unrealistic to expect that any coach will get on with everyone, or that everyone will get on within the ecosystem, but a working relationship can be built upon a base of understanding and communication. Here again, managing relationships must start with an awareness of key relationships, and although some are obvious such as the coach/athlete relationship, others are more subtle, yet still have the capacity to directly affect the functioning of the ecosystem.

MANAGING UP, DOWN AND ACROSS

Many of the decisions that directly affect the programme will be made by people not directly involved in the its delivery. Many of these people will have positions of authority within the organisation, and may initially be viewed as having little direct input into the programmes. In reality, decisions made at the executive level will often be critical in the development of the programme. Decisions as to funding levels for equipment, facilities, staff, etc are made at this executive level, and unless the people making these decisions are aware of the value of your programme, and the way it operates, it is unlikely that the programme will ever achieve the levels of funding and development you would hope for. Similarly, many of the daily operational decisions on scheduling, time allocation etc. will be made by the senior coaching team, Here again, unless they are aware of the full value of the programme you run, and how it contributes to their own goals, there will always be a compromise which will negatively affect the productivity of the programme.

It is not uncommon to hear a S&C coach outline how difficult it is to work with a certain coach and how they don’t understand ‘what we do’. However, it is often worthwhile stepping back and considering where the problem lies. In thinking that the problem is with someone else, the S&C coach can justify their own actions, but then the problems never get resolved. Consideration must be made of how effective the working relationship with the coaching team is, how effectively the value of the programme is being communicated, and whether or not the needs of the coach have been effectively taken into consideration. Although not all conflicts can be resolved, usually the ultimate aims are the same – developing a better player and a winning team – and so

developing effective relationships along these lines will ultimately lead to a far more productive programme.

Effective management also needs to consider relationships across the organisation. It is here that the ecosystem approach can be invaluable in identifying relationships that may appear totally unrelated to the programme, yet play an important role in the ecosystem function. Many PE teachers will attest to the fact that one of the most important relationships they have is with the school caretaker, who will often have to open up before any early activities or lock up after any late ones. It is important to note that all individuals who interact with the ecosystem have the capacity to enhance or reduce energy: sometimes one of these relationships can make a big difference to the ecosystem function. If a performance environment requires that every individual that has any input into the programme feels empowered and capable of making a difference, then building effective relationships across the entire organisation is critical, and again depends upon key skills that are not traditionally considered as a key part of the S&C coach's repertoire.

A central relationship to the success of any programme is building the relationship with the athlete. In the medical field, research has shown that the strongest predictor to patients following instruction is whether they feel the doctor actually cares.⁴ This has important implications for the coaching profession, as athletes will similarly need to know that you care for their development. They need to be given a clear indication of how your work will help them achieve their goals. In addition, it is important that the athlete

is treated as a person and not simply as a commodity; relationships with the athlete need to work within and outside the training environment. Again, it is all about attaining the feeling of being valued which lies at the heart of the performance environment.

BUILDING THE PERFORMANCE TEAM

In many instances the S&C coach will be a lone wolf. However, in larger organisations, and as a coach moves through the ranks they will increasingly be part of a larger team. Building an effective team is fundamental to effective strength and conditioning and this requires the development of skills associated with team building and team management. It is often said that if you give a great idea to a mediocre team they will mess it up but give a mediocre idea to a great team and they will find a way to make it a success.

Building an effective team requires a vision of the bigger picture and often requires the coach to let go of their ego. The best coaches will try to choose individuals who challenge them and complement their own strengths, rather than find less effective replicas of themselves. Debate will often stimulate ideas and the development of the team along these lines can greatly enhance the productiveness of any programme. Often, the best teams will employ people from diverse backgrounds who can help bridge the gaps between different disciplines, allowing a contextual blending which can enhance the overall effectiveness of the programme. This conceptual blending can also drive innovation which is important to the continued development of the programme. However, what is important is that after such debates all team members speak from the same hymn sheet and with



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the same drive to ensure that the clarity and intensity required of the performance environment is provided. This helps provide the consistency of message which is critical to an effective performance environment.

Self management

A critical, but often overlooked step in the management of the ecosystem is the management of the self. Essentially, a programme will often reflect the character of the leader, and if the aim is to develop a performance environment, then the impact of the coach upon this environment will be critical. A coach's actions have the capacity to enhance or undermine the ecosystem and so self-management is critical, requiring an honest and open appraisal of what you bring directly to the environment and an acknowledgement of your inherent strength and weaknesses.

Here, it is not just the knowledge of the coach that is important, but also of their actions and the impact of their actions on other key people. A good leader creates belief in the philosophy of the organisation and the mission, and drives everyone forward towards the attainment of this goal. A poor leader, on the other hand, can have a crippling effect on the energy of the entire ecosystem. It is always important to reflect upon your direct impact upon the ecosystem. The personality we project to the world plays a substantial role in our success⁵ and has the ability to directly influence the ecosystem's energy and functioning. Here, self-analysis is critical to effective ecosystem management. You need to ask yourself questions such as: are you the type of individual who brings energy to the environment or one who leaks energy? Do you create the climate of security, community, clarity, authority and respect that underpin the ecosystem or do you undermine these through your actions? All these need to be examined in terms of the direct effect on the ecosystem. Unfortunately, all too often we are unaware of our own impact and thus not in a position to facilitate change. Again, an open communication channel where you are able to receive feedback from others can be helpful in developing the required self-awareness to be able to function optimally. Indeed, the gap between how we see ourselves and the way the world sees us is a good indication of our self-awareness.⁴ All this can help bring emotional control to our actions, which as John Wooden says is a primary component of consistency which in itself is a primary component of success.¹¹

Conclusion

Much of the success of an S&C coach will be attributable to multiple factors, many of which are unrelated to our knowledge or the quality of the programmes we write. Ultimately, execution is critical, but effective execution requires the management of factors that are not often associated with strength and conditioning, which require multiple skill capacities.⁶ Becoming aware of these factors and effectively managing them is critical to our ultimate success. The concept of a training ecosystem allows us to take a more global view of the training process, with multiple factors and inputs which can affect the success or failure of the programme. Given the unique scenarios each coach faces, their ecosystem will ultimately be different and they will need to manage different variables.

This article does not attempt to provide an all-encompassing view, and in reality just brushes the surface of some potential issues. However, the concept of the training ecosystem does provide a coach with a more holistic model by which they can evaluate and manage factors that could affect the success of their programme.

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