

**Bridging the Gap between Science and Practice
in Sport and Exercise Nutrition**

A CONTEXT STATEMENT SUBMITTED TO MIDDLESEX UNIVERSITY IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PROFESSIONAL STUDIES

By Public Works

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Disclaimer

The views expressed in this research project are those of the author and do not necessarily reflect the views of the supervisory team, Middlesex University, or the examiners of this work.

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This work is dedicated to my dearly departed mother, Francoise Bannock, my greatest inspiration of all!

Abstract

Bridging the gap that exists between science and every day practice in sport and exercise nutrition (SEN) is the core theme of this context statement. This work contributes to the evidence-based practice (EBP) movement which began in the medical field in the early 1990s, which is now becoming a popular concept in SEN. However, a significant obstacle currently facing practitioners is the increasing gap between scientific knowledge and the efficacious translation and utilisation of relevant knowledge in everyday practice. The causes of this gap are many and complex, including a broad landscape of often disconnected and heterogeneous practices: the absence of contextual consideration, attitudinal disparities between scientists and practitioners, practitioners' resistance to change, and the many pitfalls of information overload experienced by consumers without the means to differentiate knowledge from marketing practices. These are among the issues which motivated the creation of my public works, namely a variety of publications and Mode 2 EBP knowledge products, and my on-going commitment to closing the gap through EBP thereby enhancing the quality and reliability of recommendations that practitioners deliver to clients. In this context statement, informed by autoethnographic discourses on the value of the practitioner/researcher perspective and conceptualising complex practice as bricolage I set out my rationale for why we need to build bridges between science and practice in SEN; and related sport science disciplines. I discuss a number of significant themes, such as what constitutes as pertinent knowledge and evidence for practice, that have preoccupied me and that have led to the creation of the public works that form parts of a comprehensive bridge, the purpose of which, in support of the main theme, which is to bridge the gap between academic research and real-world practice. This synthesis describes each of the public works in terms of content and rationale, and I provide evidence to support my claim that the works are novel and contribute both to the body of knowledge in my field and to practice. I also explain why context is vital to knowledge production and decision making in expert practice, and finally I offer a vehicle with which to navigate the bridge in the form of a model for a knowledge transfer cycle for evidenced-based practice. Therefore, drawing upon my critical engagement with a selection of my own outputs, my public works, utilising real-world exemplars from my own personal and professional development, over time I have sought to bridge the gap between science and practice in sport and exercise nutrition, harnessing technological advances and social media, to continue to make a difference.

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Acronyms

ACSM	American College of Sports Medicine
BDA	British Dietetic Association
CISSN	Certified by the International Society for Sports Nutrition
CoP	Community of practice
CPD	Continuing professional development
EBP	Evidence-based practice
FIFA	Fédération Internationale de Football Association
EIS	English Institute of Sport
ISSN	International Society for Sports Nutrition
KT	Knowledge transfer
MMA	Mixed martial arts
NSCA	National Strength and Conditioning Association
OBE	Order of the British Empire
PPI	Personal and professional integrity
PW1	Public Work 1
PW2	Public Work 2
PW3	Public Work 3
PW4	Public Work 4
PW5	Public Work 5
UFC	Ultimate Fighting Championship
SES	Sport and exercise science
SEN	Sport and exercise nutrition
SENr	Sport and Exercise Nutrition Register

Navigating the Context Statement

'I may not have gone where I intended to go, but I think I have ended up where I needed to be' – Douglas Adams

I have divided this context statement into five parts (Figure 1) to best demonstrate what the public works are (Figure 2), how the works came into being, their impact, and why they represent novel and significant contributions to *Bridging the Gap Between Science and Practice in Applied Sport and Exercise Nutrition*.

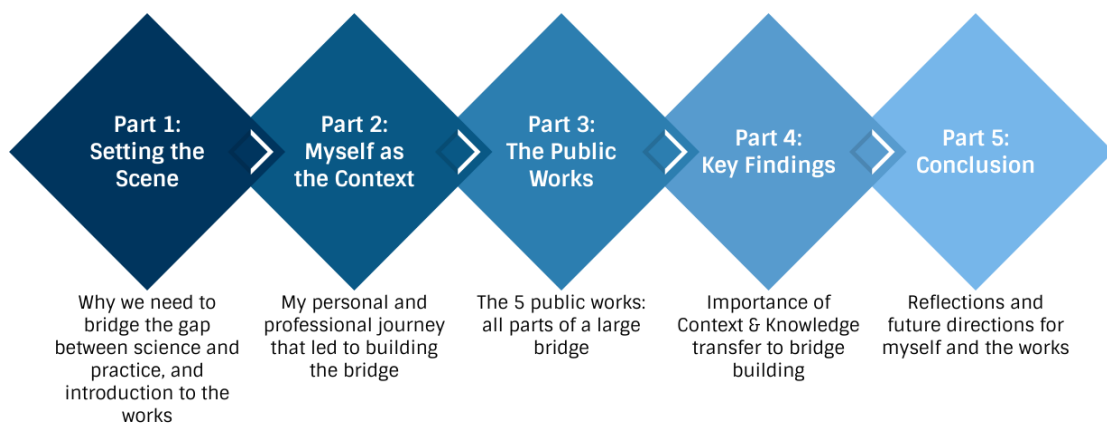


Figure 1: The five parts to this context statement.



Figure 2: The five public works.

Part I sets the scene by exploring the gap between science and practice that exists in applied sport and exercise nutrition (SEN) and related disciplines, as well as why this gap needs bridging. The public works are introduced as the parts of an evidence-based bridge, and

finally it presents a section on why we need a bi-directional bridge between science and practice.

Part II describes my personal and professional journey to being a ‘bridge builder’, how it has been shaped, and how it in turn has both shaped my practice and led to the creation of the public works.

Part III describes each of the public works in more detail in terms of how the works have been approached individually, their content and rationale, and possible evidence as to their impact, presenting these discussions in the organic order in which they came into being (Figure 3).

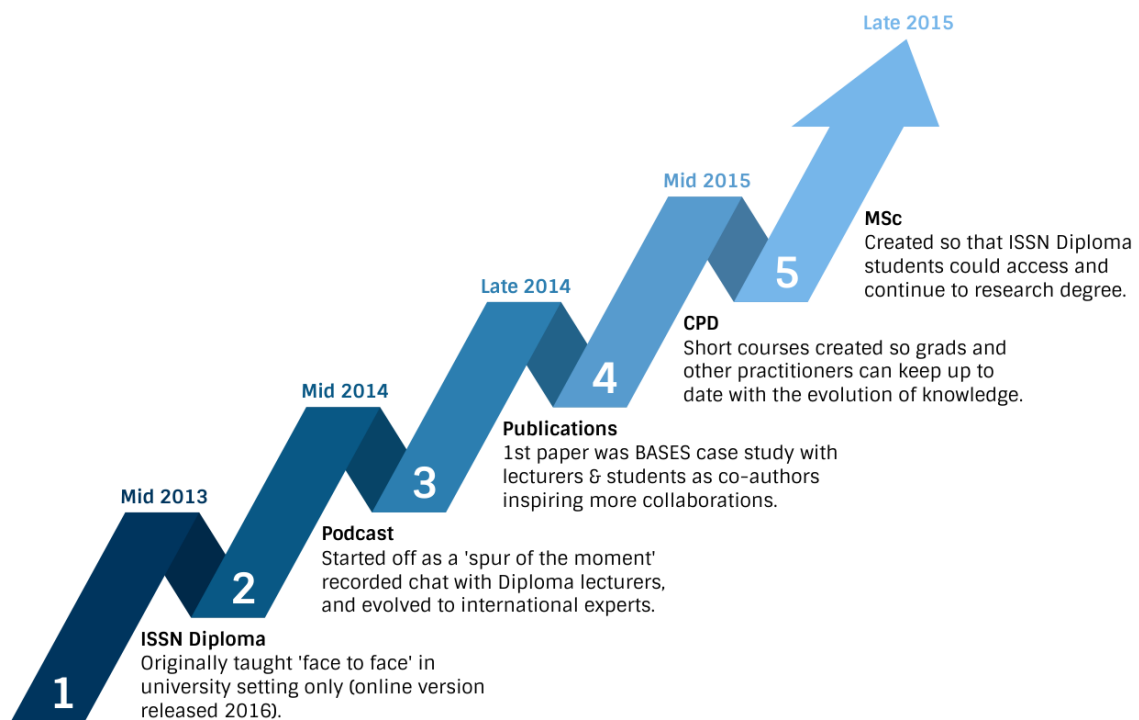


Figure 3: The organic order in which the public works came into being.

Part IV discusses the role and importance of context, a significant theme within all the works, as critical to being able to bridge research and practice successfully. This section also discusses the evidence-based knowledge-transfer process, as used by the works, as an effective tool for *Bridging the Gap Between Science and Practice in Applied Sport and Exercise Nutrition*.

Part V concludes the context statement and explores potential future directions for both me and the works.

A Critical Approach to Engaging with My Public Works

'Justification of our choice and particular use of methodology and methods is something that reaches into assumptions about reality that we bring to our work. To ask about these assumptions is to ask about our theoretical perspective.' (Crotty 1998: 2)

Since this is a doctorate by public works, and therefore a retrospective process, I was not able to determine *ab initio* a specific method of enquiry by way of a submission of a traditional research proposal before the authorisation of data collection, as would be the norm.

Critiquing one's own outputs to coherently link them and derive lessons requires a certain amount of courage, since if done correctly, this process surfaces one's own assumptions and challenges one to engage in new dialogue, unavailable before and during the creation of the works. Many public works are created as an act of pragmatism, with little considered reflection on methodology as the creator attempts to address a gap they have identified, usually quite quickly.

Methodology is not simply a technical issue, it is to do with what I consider counts as knowledge about my topic and whose knowledge is seen to count (Lee 2009: 71). Stanley and Wise (2008: 221) define 'methodology' as follows:

a shorthand term for a theoretical or practical idea to be explored together with a set of tools which specify how it is to be investigated – including what is appropriate and also sufficient evidence for doing so and how this should be produced, what counts as good arguments about this evidence, and what conclusions can justifiably be drawn from this.

I look at this engagement with my works as research not in the traditional form of research undertaken to find something original within a given body of knowledge using accepted methods but as a search for insights at the intersection of mode 1 and mode 2 knowledge in which the agency of the practitioner researcher is valuable and accountable. I therefore sought a critical approach that would consider my agency as creator and my ontology, which motivated the creation of the artefacts, and that would help to conceptualise the beliefs and practices behind the works and illuminate the knowledge with which I infused them both implicitly and explicitly. I therefore, carefully considered my methods of enquiry for this professional doctorate and was informed initially by an autothenographic approach (Ellis

2004) which helped me to see the value of including the practitioner's experience and how that could increase reliability of insights. 'Autoethnography is an approach that acknowledges and accommodates subjectivity, emotionality, and the researcher's influence on research' (Ellis 2004: 45). However, as I began to explore my works in detail, how they had come about and how they interconnected I turned to bricolage (Kincheloe & Berry 2004) which I have come to see as an appropriate approach to exploring in environments of rapid change. My goal was to focus on methods of creating 'meaningful, accessible, and evocative research grounded in personal experience' (Ellis et al. 2010), and thus in the 'context of application'. This commentary critically appraises the submitted portfolio of public works through a narrative account in conjunction with the relevant qualitative and quantitative data within the public works themselves. The 'auto' in 'autoethnographic' denotes my subjective engagement and reflection, and the 'ethno' refers to the cultures in which I work, for which my public works were created, and which the works were designed to change. I see myself then, in a sense, as an archaeologist re-discovering my own works and re-contextualising the insights I can extract from them for the present and for the future. Bricolage became a powerful conceptualisation of my practice which lends itself more easily to theorising practice in my area through a clearer vision of the relationship challenges between science and practice. The autoethnographic approach principally then 'challenges canonical ways of doing research and representing others and treats research as a political, socially just and socially conscious act' (Ellis 2010) and bricolage struggles 'to transcend the traditional observational constraint on social researchers ... bricoleurs move from convergent to divergent forms of meaning making, abandoning the short-sightedness of pre-specified, correct patterns of analysis in favour of more holistic, inclusive and eclectic models' (Kincheloe & Berry 2004: 20-21) leading to 'insights into new ways of thinking, seeing, being and researching' (p.21). An important insight I have gained from this research into my own works and the approaches I have taken to engaging with them is that different people within the same community of practice (CoP) possess different assumptions and beliefs about the world in which we live and practice. They have diverse ways of expressing their beliefs and values; and the established methods of undertaking and thinking about research are 'often narrow, limiting, and parochial' (Ellis 2010). An autoethnographic lens coupled with a broader bricolage lens through which to view the world of practice helped me to understand how a variety of people have influenced me and helped shape my development and that of my public works—consequently, also my understanding of what I study, how I study it, and therefore what I write in this context statement.

Part I – The Professional Culture in Which My Work is Situated

Chapter 1: Introduction: We Need Bridges

‘Vieles ist bekannt, aber leider in verschiedenen Kopfen.’

(‘Much is known, but unfortunately in different heads’) - W. Kollath

Numerous factors contribute to successful outcomes in physical training and sporting performance, and diet has been shown to be a key element. Sport and exercise nutrition science is now, therefore, considered an important sub-discipline within sport and exercise science (SES) because the ‘performance of, and recovery from, sporting activities are enhanced by well-chosen nutrition strategies’ (Thomas, et al. 2016). ‘Well-chosen’ strategies, however, require that the nutrition ‘recommendations should be individualized for each athlete and their sport and provided by an appropriately qualified professional to ensure optimal performance’ (Beck, et al. 2015).

Applied SEN, to be distinguished from SEN science or theory, ‘is in many ways a new profession’ (Williams, 2015) which has yet to be formally defined, a transdisciplinary profession that crosses and integrates a variety of disciplinary boundaries to create a holistic approach to SEN practice (see Figure 4) that is concerned with the application of SEN science in practice.

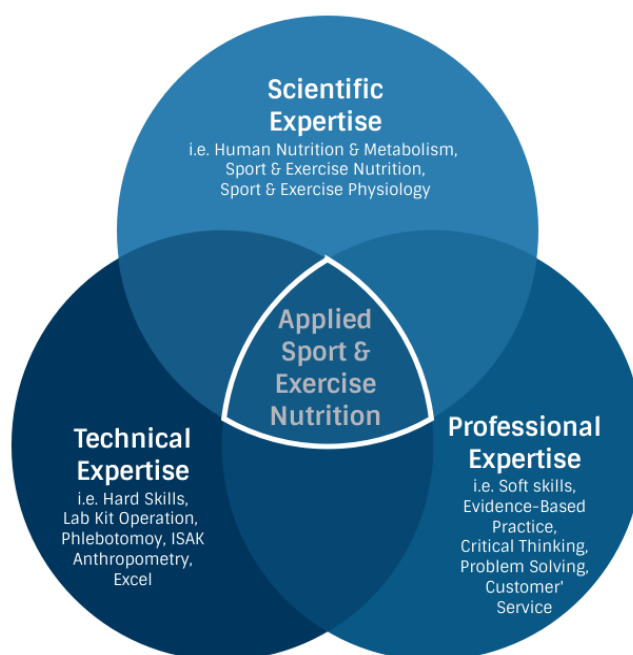


Figure 4: Applied sport and exercise nutrition is a transdisciplinary profession that crosses and integrates multiple disciplinary boundaries.

Evidence-based practice is essential in SES, just as it is in medicine and the related health professions (Coutts 2017). An evidence-based approach to SES and the many sub-disciplines that comprise SES, such as SEN, must be based on the most appropriate and least biased information available (Potteiger 2018: 51), information that is used to inform a question, address a problem, or create a program (Armstrong and Kraemer 2016), so this approach ultimately seeks answers to questions that are important to the individual practitioner (Arnold and Schilling 2016: 5).

Whether this approach is a reality in practice must be addressed because ‘the problem faced by practitioners today is determining which information is useful and should be incorporated into programming and which should be eliminated as counterproductive or dangerous’ (Amonette et al. 2017: ix), because as evidence-based practice (EBP) professionals, we endeavour to apply relevant and current research findings in order to progress or improve practice (Jones 2017: 1).

Evidence-based practice is not just about *evidence* (Aveyard and Sharp 2011). The first-step to mastering EBP is to understand what constitutes evidence, since it evolves rapidly in SES (Coutts 2017) and comes in many qualitative forms. Subsequently, it should be approached with varying levels of confidence, so ‘judgment is an important part of the process’ (Arnold and Schilling 2017).

The EBP movement began in the medical field in the early 1990s (Howick 2011) and is now becoming a recognised and important concept in SES (Potteiger 2018). An EBP model for applied SEN has yet to be formally proposed, so I have adapted Sacket et al.’s (2000) seminal EBP model to introduce a proposed model for the discipline in this commentary, which the public works support (see Figure 6).



Figure 6: An evidence-based practice model for applied sport and exercise nutrition (adapted from Sacket, et al. 2011).

In the EBP approach to SEN practice, different types and levels of research (see Figure 7) and additional individualised evidence, such as case studies and laboratory or field tests, need to be carefully evaluated (Potteiger 2018: 52) to answer different types of questions, especially if the client is an 'outlier' such as an elite athlete (Sands, et al. 2005: 22).

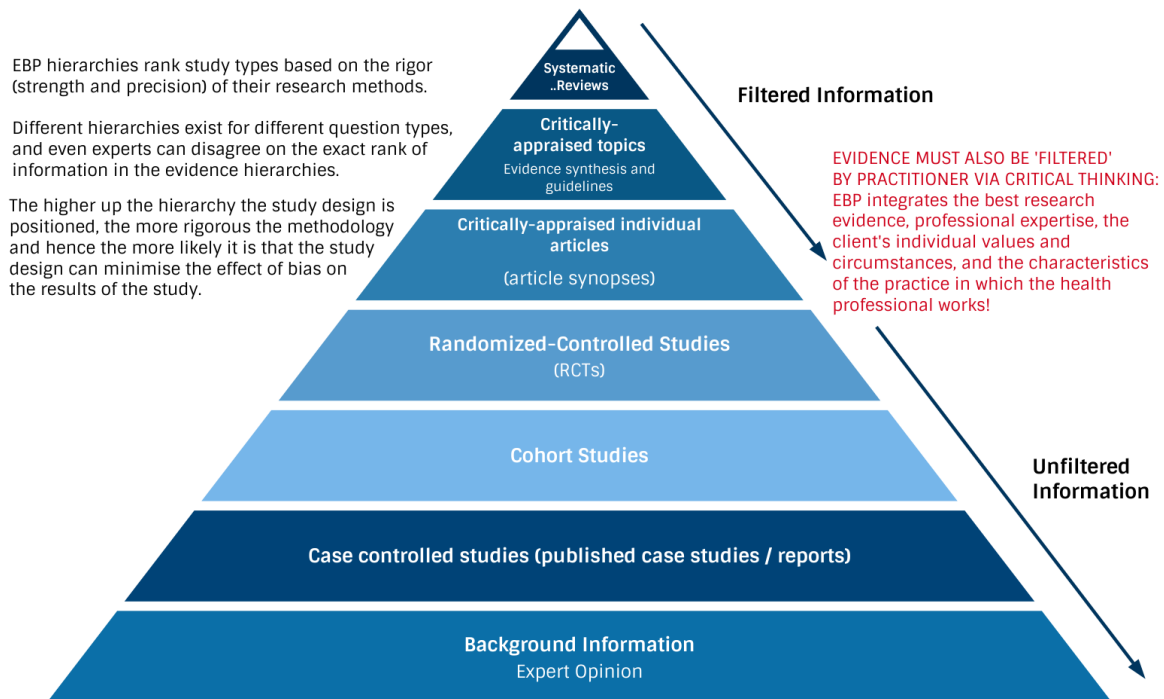


Figure 7: The hierarchy of evidence is a core principal of evidence-based practice (adapted from National Health and Medical Research Council, 2009).

Although a plethora of SES research is available, in applied SES there is a growing level of concern over the quality and relevance of the available evidence to practice because ‘most of our studies cannot help coaches or practitioners, and in fact some of our investigations are so illogical that they directly discredit our profession’ (Buchheit 2017).

Scientific studies are important sources of evidence for EBP (Armstrong and Kraemer 2016), although they are usually highly complex and can be contradictory from one day to the next. It is not usually the studies that contradict each other, however; rather, the incorrect interpretation of the results (Jeukendrup 2017b) is the problem. It is important for evidence-based practitioners to be aware that ‘as a critical consumer of research, you must understand that the level of evidence refers to the strength of the evidence and not to the quality of the research’ (Arnold and Schilling 2016: 6). Therefore, the evidence-based SEN practitioner requires the relevant knowledge and skills to competently ‘appraise, interpret, and apply’ the research and associated evidence in the context of the ‘choppy waters’ (Jonas, et al. 2017: 20) and ‘everyday problems’ (Schon 1991: 25) of daily practice to be able to deliver ‘well-chosen nutrition strategies’ (Thomas, et al. 2016).

As Burgess (2017) points out, ‘challenges exist for the practitioner in implementing peer-reviewed research in the applied setting’ where practitioners, working in SEN, quickly realise, as I did in my early career, that theory is rarely articulated in daily practice because ‘research provides evidence based upon the mean response of a group of athletes to a given intervention; an individualised approach for a population of $N = 1$ is required to optimise outcome. Each case will be different and require a solution that fits the assessment’ (Lane, et al. 2014: 6). This science-to-practice gap widens yet further in the high-performance environment where, for example, $p < 0.5$ would represent first to last place in many elite level sporting events, such as in the women’s triathlon finish times at the London 2012 Olympic games; this is because the ‘study of elite athletes, because of their rarity, renders statistical power difficult to achieve, control groups difficult or impossible to find, and generalizability difficult to demonstrate’ (Sands, et al. 2005: 22). Coutts (2017) explains a further aggravating factor, namely that ‘there are few incentives for high-performance athletes or organizations to participate in such studies, as the experimental-control requirements are likely to interfere with typical preparations’. In the context of supporting elite athletes, Joyner and Coyle (2008) warn us that

It should also be cautioned that complex motivational and sociological factors also play important roles in who does or does not become a champion, and these factors go far beyond simple physiological explanations. Therefore, the performance of elite athletes is likely to defy the types of easy explanations sought by scientific reductionism and remain an important puzzle for those interested in physiological integration well into the future.

A significant obstacle currently facing evidence-based SEN practitioners, therefore, is the increasing gap between scientific knowledge, and the efficacious translation and utilisation of accessible and relevant knowledge in daily practice, because ‘practice rests on something that cannot be reduced to words’ (Jonas, et al. 2017: 20).

As previously described, applied SEN is transdisciplinary, and often practised within transdisciplinary and interdisciplinary settings, for example in professional rugby and football environments. In these settings, the SEN practitioner usually interacts not only with clients and players, but also with other members of the support staff such as the sport scientists, a medical team, and chefs, where ‘challenges include match scheduling, player adherence, manager/coach buy-in, sport traditions, and staff availability’ (Burgess 2017). Therefore, ‘a knowledge of the culture of sport and a trusted relationship with coaches are also essential for

a successful career as a SEN practitioner' (Williams 2015). In my own practice this has been key to my success, where I initially spend the first week or so simply observing the team and staff interacting and going about their daily habits and behaviours, where I often identify the key limiting factors that I need to focus on and the individual influencers I need to start to establish relationships with, and therefore gain a sense of my potential for optimal impact within the community before I start to offer advice and recommendations and generally go about my professional work. For example, on the one hand, the players require simplified user-friendly advice, and on the other hand, the sports scientists require that the practitioner engages in a highly technical and often fractious discourse to justify their recommendations or even their role, and in so doing inform the practitioners' practice. This setting also provides an opportunity for practitioners to see problems as they appear, since they are able to observe environmental limitations that can 'limit the application or translation of findings or methods from traditional research studies' (Coutts 2016; Coutts 2017).

The fast and fluid growth of the body of knowledge within the many SES and medical disciplines found in interdisciplinary sports settings (Coutts 2017; Buchheit 2017) means that the 'various vectors of knowledge influencing client, patient, or athlete health, fitness, and performance are broad and deep with respect to information' (Amonette, et al. 2017: 15) (see Figure 8). These challenges to SEN practitioners motivate a central purpose of the public works submitted for this professional doctorate, to support the development of high-quality SEN professionals so they can interact with, and understand, the roles and requirements found within their CoP. After all, 'it is not enough to be an expert in your own field; you must be knowledgeable about all aspects of sport science and medicine support and hope best to utilise that expertise of others to optimise performance' (Lane, et al. 2014: 6).

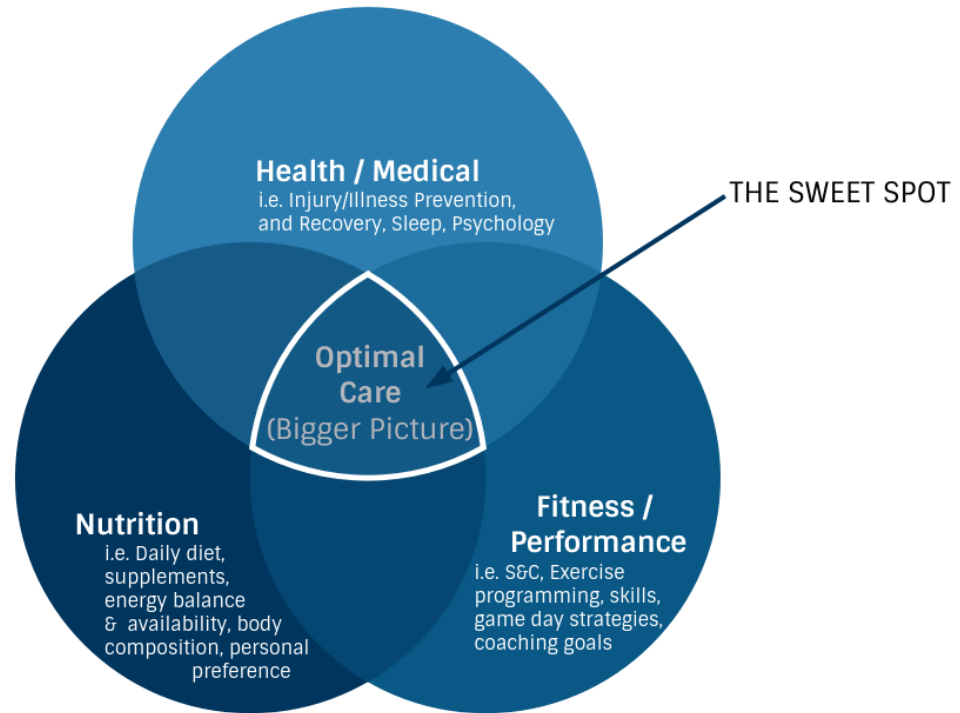


Figure 8: Various vectors of knowledge and skills are integrated within an interdisciplinary setting to provide clients, athletes, and patients optimal care.

The term ‘community of practice’ (CoP) was coined in 1991 by cognitive anthropologists Lave and Wenger who wrote about the notion of legitimate peripheral participation (Lave, 1991: 63-82), which was further extended by Wenger (1998) to apply to other domains, such as organisations. A CoP has also been described by Fischer (2001) as either a ‘homogenous community’ that consists of members from a single discipline such as SEN, sport and exercise physiology, and sport and exercise psychology, or as a ‘heterogeneous’ community that mirrors a multi-disciplinary interest group such as SES.

However, the ‘notion of a single community of practice misses the complexity of most bodies of knowledge’ (Wenger, 2015: 15), and the complex terrain in which practitioners operate. Because I and most practitioners of SEN do not operate in a single CoP (see Figure 9), the broad body of knowledge of a profession is ‘best understood as a landscape of practice’ (Ibid: 13). Within the landscape of professional practice there are boundaries, such as knowledge and competence gaps, that exist between the inhabiting communities of practice with stakeholders that include not just practitioners, but also students, teachers and researchers. Travelling across this living landscape of practice, therefore, frequently requires bridging the gaps between the communities of practice and their domain-specific bodies of knowledge.

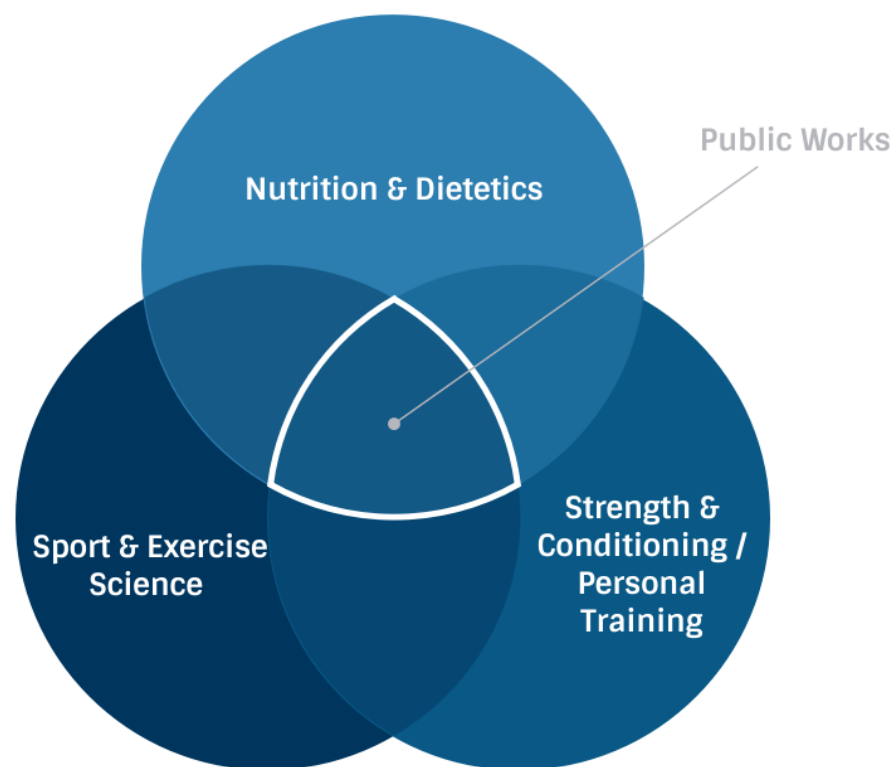


Figure 9: The public works integrate key bodies of knowledge within a landscape of practice, resulting in the bridging of knowledge-gaps that exist between multiple communities of practice.

In this section I have illustrated the need to bridge the gap between science and evidence-based practice in applied SEN and related professions. In the next section I introduce the public works as ways to bridge this knowledge gap; whereby as Arias (2004) states, ‘bridge building in biomedical research has parallels with a structural bridge, which serves as a useful metaphor. Both require many kinds of parts, each of which is essential for proper function. Bridge traffic is bidirectional. Once it has been erected, life on either side of the bridge is no

longer as it was. The challenges inherent in both bridge building and maintaining its integrity transcend the merely structural. Meeting those challenges requires imagination, dedication, creativity, and a willingness to take risks' (Arias 2004).

Chapter 2: Introduction to the Artefacts Created to Contribute to the Efficacy of Practice in my Professional Culture

*‘Education is the kindling of a flame, not the filling of a vessel.’ —
Socrates (470-399 BC)*

This context statement critically engages with my role as a senior SEN practitioner and educator, and it discusses the contributions that I have made to the various CoPs I inhabit.

I chose a selection of my public works, which lend themselves to best exploring the main theme of my work, bridging the gap. Bridging takes a long time in terms of process, requiring an in-depth knowledge of the context and a deep exploration of the gap and what has created it before one even considers what the most appropriate and robust bridge might be to suit the terrain and climate. It may not be a whole bridge at first, but something that is created and adjusted over time. I have learned much from the experience of having produced the works, disseminated them, and refreshed them.

Each of the public works shown in Figure 10 below are associated with the series of professional and academic education programs and outputs I have developed over the past five years; and for which I am recognised.

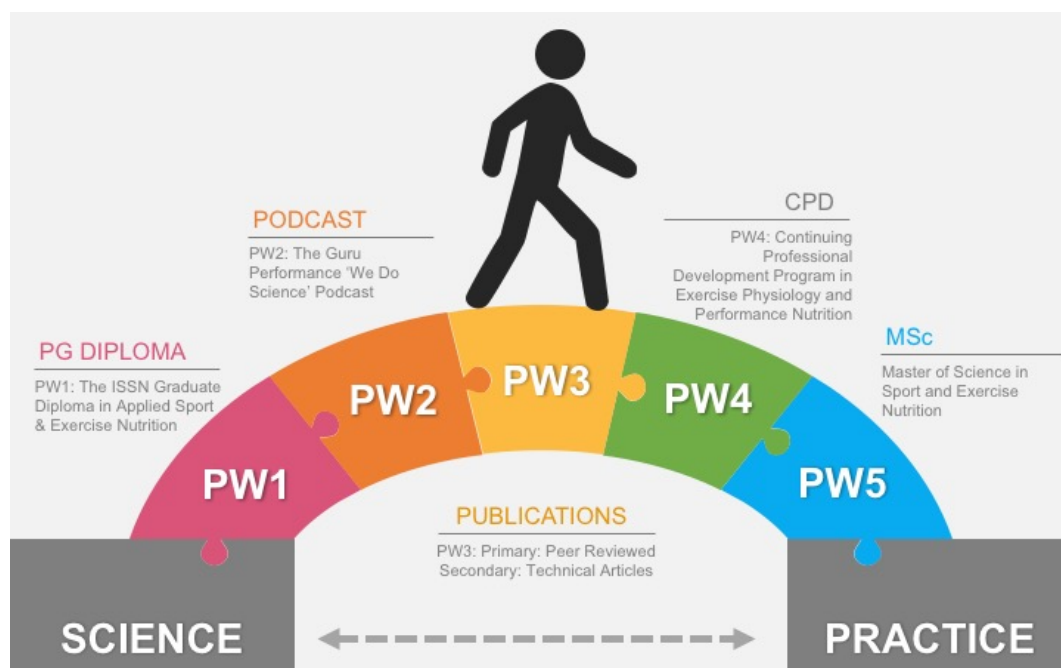


Figure 10: The five public works as individual parts strategically integrated to bridge science and practice.

Table 1 below, presents a brief overview of the public works. Each of which is explored in further detail later in Part III.

Table 1: Brief overview of the public works.

Public Works (PW)	Brief Overview
<p>PW1 – ISSN Graduate Diploma in Applied Sport and Exercise Nutrition</p>	<p>Post-graduate-level professional diploma program which I instigated and for which I am the program director.</p> <p>The ISSN Graduate Diploma has become an internationally recognised qualification in the field of sport and exercise nutrition (SENr, BDA, BASES, ACSM, NSCA, ISSN). This program is delivered via 100% online or blended learning alternative formats with lectures and coursework delivered by me and my team along with a substantial complement of leading guest expert practitioners and academics. It is specifically designed to bridge the gap between university education and applied practice. Many graduates of the ISSN Diploma now work for top-level national and international teams or national and international institutes and organisations, or they run successful private practices.</p>
<p>PW2 – The Guru Performance We Do Science Podcast</p>	<p>An award-winning (Professor Clyde Williams OBE Award for Contributions to Sport and Exercise Nutrition Research/Education, SENr, 2016) and popular podcast series (iTunes top 10 global ranking in health/fitness category) that features a wide variety of leading experts, practitioners and researchers in SES—with a special focus on exercise physiology and performance nutrition.</p> <p>The primary purpose of the podcast is to discuss important topics and developments in the field, often tackling the latest research with the scientists conducting and publishing the research and challenging them to unpack the evidence into an applied (real-world) context. This podcast demonstrates how trust in a product is tested by requiring valid claims from experts and reliable findings on which claims are made.</p>
<p>PW3 – Publications</p>	<p>A collection of primary (peer-reviewed) and secondary (self-published) literature that I have co-authored to include published case studies and technical articles that contribute to the field with a primary focus on the concept of bridging the ‘science-to-practice’ gap.</p>
<p>PW4 –CPD Program</p>	<p>Series of internationally accredited (ACSM, NSCA, ISSN, BDA, SENr, BASES) CPD courses.</p> <p>Two key benefits of the CPD program are as follows: (1) It makes expert content delivered by leading experts accessible to all, enabling individuals to</p>

	<p>upskill their knowledge and understanding of specific areas that are of most interest and relevance to their area of applied practice.</p> <p>(2) They are also a means by which graduates (who have already acquired substantial prior knowledge in the field) to keep up-to-date with the latest advances in the field and to ensure their knowledge is state-of-the-art.</p>
<p>PW5 – MSc Sport and Exercise Nutrition</p>	<p>Post-graduate degree program which I instigated and for which I was the program leader at Middlesex University.</p> <p>It was designed as both a full MSc degree and as a ‘Top Up’ MSc degree beyond the ISSN Graduate Diploma program to enable graduates to obtain a full research degree. The program was designed specifically to create nutrition practitioners who are competent in practice but also capable of research.</p>

As I will demonstrate in the following sections, these works contribute individually and collectively to professional and academic knowledge in my field and embody not only my research and knowledge at any one time but also say something about my continually developing leadership skills.

Chapter 3: Science to Practice: A Bi-directional Journey

'Knowledge isn't power until it is applied'

— Dale Carnegie

At the time of this writing, my career has thus far spanned a little more than a quarter century. I have had experiences of successes and failures. Having completed and considered these public works, I now have a greater understanding of how much these experiences have shaped who I am now and how I practice. They have directly influenced what I consider to be my most significant achievements to date and have been strong drivers in overcoming obstacles and finding creative solutions to what mattered to me, which was and remains the gap between science and practice. I care about people being misled about products in my field. Peoples' health depends on good science and ethical professional practice. My works are about not only educating people in their disciplines but about how to exist in the world as a professional practitioner.

I am the founder and director of the Guru Performance Institute,¹ an internationally recognised UK-based SEN consultancy and professional education institute. Additionally, I serve in a variety of leadership roles in my related professional and academic contexts, both domestically within the UK and on an international level (See CV in appendix A).

It has been a long, but by no means uneventful, series of paths which have led me to this position. Much like learning to ride a bike, the accumulation of my practical and professional knowledge and skills has occurred through implicit processes. It was not until I undertook reflective practice prior to this point at the start of this doctoral programme that I could articulate (see Figure 11) and comprehend my journey and the influences that defined my choices, thus learning from the experience and ultimately making explicit the process not only for myself, but also to share with my peers the benefits of reflexive research.

¹ <http://www.GuruPerformance.com>

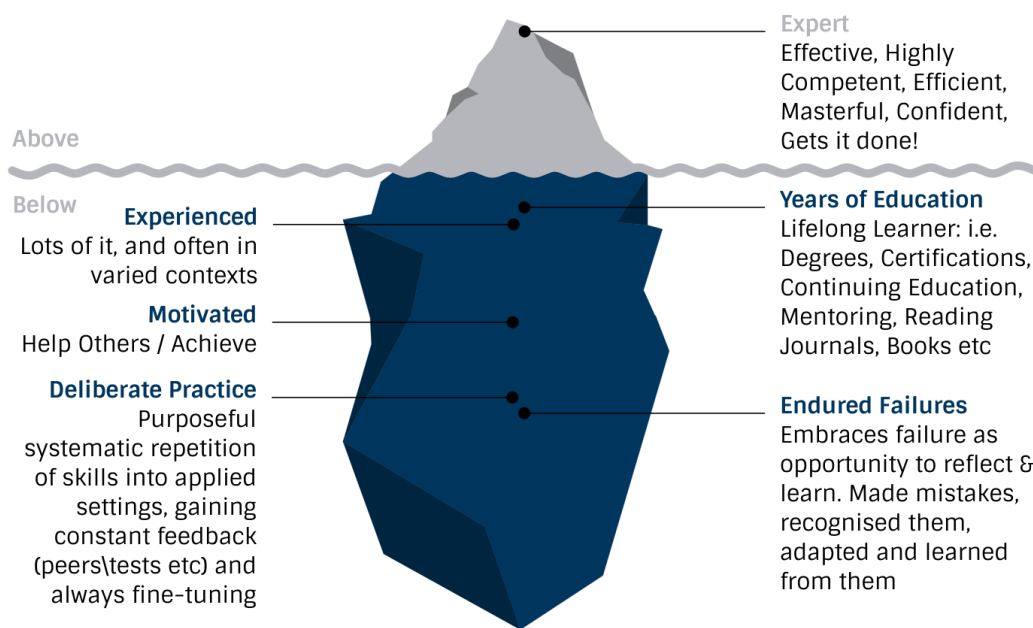


Figure 11: Myself as an expert evidence-based practitioner: Above and below the surface

3.1 Science to Practice: Mind the Gap

In 1980, Burke wrote the commentary ‘Bridging the Gap in Sport Science’ (Burke 1980) which concluded that ‘better communication is needed between sport scientists and coaches and athletes in order for the scientists’ work to have any real value.’ Fast forward to 2017, when elite applied sport scientist Martin Buchheit (2017) reminds us of the ever-growing gap between sport science research and practice by concluding that ‘if we as sport scientists want to have anything to say about the game that matters, we need to work toward keeping our feet on the earth and produce *better* research—research tailored toward practitioner needs rather than aimed at being published per se. For such research to find its audience, we probably need to rethink the overall publishing process’ (Buchheit 2017), which is why a core focus of this section that supports my main theme, namely the gap between practice and research, is an examination of what constitutes knowledge and justified belief in SEN; in which I’ve used my own context to explore this more deeply. In undertaking this critique and exploring the themes, certain questions about what knowledge is and how it can be acquired in our field arose, along with questions about the extent to which knowledge is pertinent to the real-world expert practice of SEN and related professions within my CoP, such as dietetics, physical therapy, strength and conditioning, and personal training.

Most forms of professional education tend to overlook what learning from practice itself can contribute to our knowledge base, both in interaction with and distinct from classroom education. I believe that to support and promote the development of expertise and expert performance in practice, we must learn to bridge the gap between science and practice by espousing knowledge that is created and produced in the context of application: so-called Mode 2 knowledge. The concept of knowledge derived from practice is easy to conceive, but such practical knowledge is more challenging to achieve. It requires a process of extraction, mainly through critical reflection and conceptualisation of practices in context (Schon 1991, Nicolini 2013, Kramer 2018, etc.) and through attention to impact and usefulness based on substantial evidence. Such an approach leads to the development of competent practise of evidence-based professionals who have skills, knowledge, and integrity. The public works presented in this context statement were principally developed based upon this notion of ‘science to practice.’ They represent the integration of Mode 2 knowledge in a Mode 1 tradition, focussing on usefulness and reliability for as wide a group of stakeholders as possible.

3.2 Science to Practice: Mode 2 Knowledge

I first came across the concept of Mode 2 knowledge-production when researching the concept of epistemology for this commentary, as an EBP practitioner. In the last two decades, research into science systems has appeared to be in transformation, especially as this research relates to the creation of science for strategic goals (Irvine and Martin 1984) and in the production of relevant knowledge (Böhme, et al. 1983; Gibbons, et al. 1994). Perhaps the best-known account of this transformation is the concept of ‘Mode 2 Knowledge’, coined in *The New Production of Knowledge* (Nowotny, et al. 1994). In this book, the authors’ primary proposal is an emerging new system of ‘knowledge production that is socially distributed’ (ibid). Traditionally, knowledge production has been located primarily at scientific institutions such as universities, government institutes, and industrial research facilities. Knowledge production has also traditionally been structured homogenously by disciplines such as biology, chemistry, physics, and so on. This new mode of knowledge production is heterogeneous with regards to its locations, practices, and principles. To elucidate this distinction between Mode 1 knowledge production, which thus far has always been in existence, and Mode 2 knowledge production, an emerging and potentially more effective mode of knowledge production for practitioners, the authors introduce five key divergent attributes between them (see Table 2).

Table 2: Attributes of Mode 1 and Mode 2 knowledge-production.

MODE 1	MODE 2
Academic context	Context of application
Disciplinary	Transdisciplinary
Homogeneity	Heterogeneity
Autonomy	Reflexivity / social accountability
Traditional quality control (i.e. peer review)	Novel quality control

The first key attribute of Mode 2 knowledge-production is that it is produced in an applied context and hence the notion of ‘Science to Practice’ is at the very core of all the public works. Mode 1 knowledge may also be applied but is always detached from the original knowledge-production in space and time. The resulting gap requires a form of translation known as knowledge transfer (KT) (further discussed in Chapter 7) with respect to some of my own outputs as Public Works 1 through 5 (PW1–5). In Mode 2 there is no such distinction. An important argument for this attribute, as made by Erout (1994), is that ‘professional knowledge cannot be characterized in a manner that is independent of how it is learned and how it is used. It is in looking at the contexts of its acquisition and its use that its essential nature is revealed’ (Erout 1994: 19).

The second key attribute of Mode 2 is transdisciplinarity, which essentially involves the deployment of a variety of theoretical viewpoints and heuristic methodologies to solve problems. In Mode 2, the interaction of disciplines is highly dynamic, and therefore transdisciplinarity goes beyond interdisciplinarity. As soon as a theoretical consensus is reached, it is very difficult to reduce it back to its individual disciplinary parts (Hessels and van Lente 2008). It should also be noted that during knowledge production, parts of the research findings will likely result in being widely dispersed, such as by social media and audio broadcast via podcast (PW2), thanks to the many potential means of dissemination now available.

The third key attribute of Mode 2 is that it is the result of a particularly heterogeneous practice, in that it is produced by a wide variety of agents and agencies (PW1–5). The wide-ranging variety of possible sites of knowledge production include not just the traditional universities and research institutes, but also government funded agencies, such as UK Sport

and the English Institute of Sport (EIS); trans-organisation collaborative research projects, such as a university partnering with a professional football club; professional practices and institutes, such as the Guru Performance Institute; and individuals, such as an independent practitioner researcher, blogger, or podcaster.

Reflexivity is the fourth key attribute to Mode 2. It is a largely dialogical process, with the ability to incorporate numerous viewpoints. I recognise my own practice in these ideas of researchers becoming more aware of the ‘social accountability’ of their outputs. Awareness and sensitivity of the potential impact of the outputs, as demonstrated by all the public works, is integrated from the inception of the knowledge-production process.

The fifth key attribute of Mode 2 knowledge is novel forms of quality control. Traditional, Mode 1, methods of quality control involve human review, which includes peer review, editorial control, and curation by librarians (Arms 2017). Peer review is considered by many as the ‘gold standard’ of scholarly publishing of Mode 1 knowledge outputs such as biomedical literature (Jefferson 2006). In Mode 2, a novel form of quality control would be one that best suits the consumer’s context (such as the EBP model discussed in Chapter 1), as it relates to the public works presented in this context statement. In my podcasts, for example, this is demonstrated by discussions between an appropriately qualified and experienced host (Mode 2) and a guest expert whose expertise is based on peer reviewed research or validated expertise (Mode 1) (see PW2) or by self-published technical articles (PW3) which are written by experts. The quality control is achieved by the works (PW1–PW4) utilising an evidence-based KT action cycle (further discussed in Chapter 7). This approach consists of engaging highly qualified sport and exercise scientists and registered SEN practitioners, and publishing the work on the internet as lecture videos, podcasts, and open–access articles. These are then widely disseminated through social media, but based entirely on quality evidence-based sources, such as peer reviewed literature in collaboration with the experts who conducted the research and who authored the work.

In their follow-up book, *Re-thinking Science: Knowledge and the Public in an Age of Uncertainty*, Nowotny, et al. (2001) elaborate further on their original claims about Mode 2 and introduce the notion of ‘contextualized science’, which simply means that ‘society “speaks back” to science’ (p. 50). This book, in effect, refers to the demand for ‘innovation, regulation, and multiplication of user-producer devices’ (Hessels and van Lente 2008), such as the works presented in this context statement. This transformation of science systems effects changes on not only an organisational level – but also ‘in [science’s] epistemological

core’ (p. 94). Therefore, Hessels and van Lente (2008) argue, contextualised research (i.e. Mode 2 research) produces ‘socially robust knowledge’ which differs epistemologically from that of traditional Mode 1.

Theory and practice are both important, but so too is the relationship between them (Fulton 2013). Furthermore, there is a significant gap between research and practice (Trinder 2008: 3-4). It is therefore of specific relevance to this context statement that the participation of a wide variety of actors such as researchers, practitioners, coaches, athletes, and students in the production of the contextualised knowledge are found in the works. The works do not involve only scientists in the knowledge-production process, as is typically the case in Mode 1. This broader base of knowledge producers enhances the work’s credibility and role as a high-quality contribution to the applied field.

3.3 Science to Practice: Connecting Research with Practice

Inspired by the fast-thinking system proposed by Nobel Laureate Daniel Kahneman (2011), it has been suggested, as illustrated in Table 3 below, that effective ‘research engaged practice’ should combine fast-working practitioners with slow-working researchers (Coutts, et al. 2016).

Table 3: Working fast and slow: Connecting research with practice.

	‘Working Fast’	‘Working Slow’
+	<ul style="list-style-type: none"> • <i>Feet on the ground</i> • <i>Day-to-day monitoring</i> • <i>Rapid data collection and feedback</i> • <i>Quick decision-making</i> 	<ul style="list-style-type: none"> • <i>Collection and analysis of large data sets</i> • <i>Hypothesis testing</i> • <i>Graded recommendations of new technologies and procedures</i>

This scenario is unlikely to be always feasible, since fast-working practitioners are common across different levels of performance, and slow-working researchers are much less common in the field (Harper and McCunn 2017). This correspondence of work styles to fields is probably due to the economic burden of paying researchers and funding the research. There may also not be researchers available to the club or team, due to proximity constraints (ibid) such as distance from the nearest university with an appropriate sport science department.

The ideal scenario, therefore, is to combine slow-working researchers and fast-working practitioners to continually develop practice based on new technologies and work findings. Since it may not always be economically feasible to implement both slow and fast workers, however, alternative solutions have been proposed to optimise practice (Bishop 2008).

In reading this latest literature, I now have a lens through which to look at my works. I can see that I was aware of these issues and was addressing them as I executed my works.

However, critiquing these works has given me a stronger articulation of the how, what and why I designed the works and the developmental sequence, which addressed the tensions between fast-working practitioners and slow-working researchers (Table 4).

Table 4: How the works combine fast-working practitioners and slow-working researchers.

Public Works (PWs)	Fast	Slow
PW 1 - ISSN Graduate Diploma	Me (practitioner) as the program director and host of the lecture sessions + guest practitioner expert lecturers	Researchers and academics or professors as the guest expert lecturers. Use of primary (Mode 1) literature on the course
PW 2 – Podcast	Me (practitioner) as the host + guest practitioner experts whom I interview	Researchers and academics or professors as the guest experts whom I interview
PW 3 – Publications	Me (practitioner researcher) + co-authors who are also practitioners	Co-authors who are researchers and academics
PW 4 - CPD	Me (practitioner) as the program director and host of the lecture sessions + guest practitioner expert lecturers	Researchers, Academics / Professors as the guest expert lecturers
PW 5 - MSc	Me (practitioner) as the program director, lecturer in applied performance nutrition modules	Staff academics who contribute to the program such as guest lectures by faculty professors, etc., core modules such as research methods, writing of the thesis with support from the dissertation supervisor

Having addressed these issues also validates these works as being intricately linked to practice. The works help to bridge the gap between science and practice by bringing together the key elements of Mode 2 knowledge (Figure 12) in the context of SEN. They have produced significant and wide-reaching contributions to knowledge and practice in this field in this innovative way.

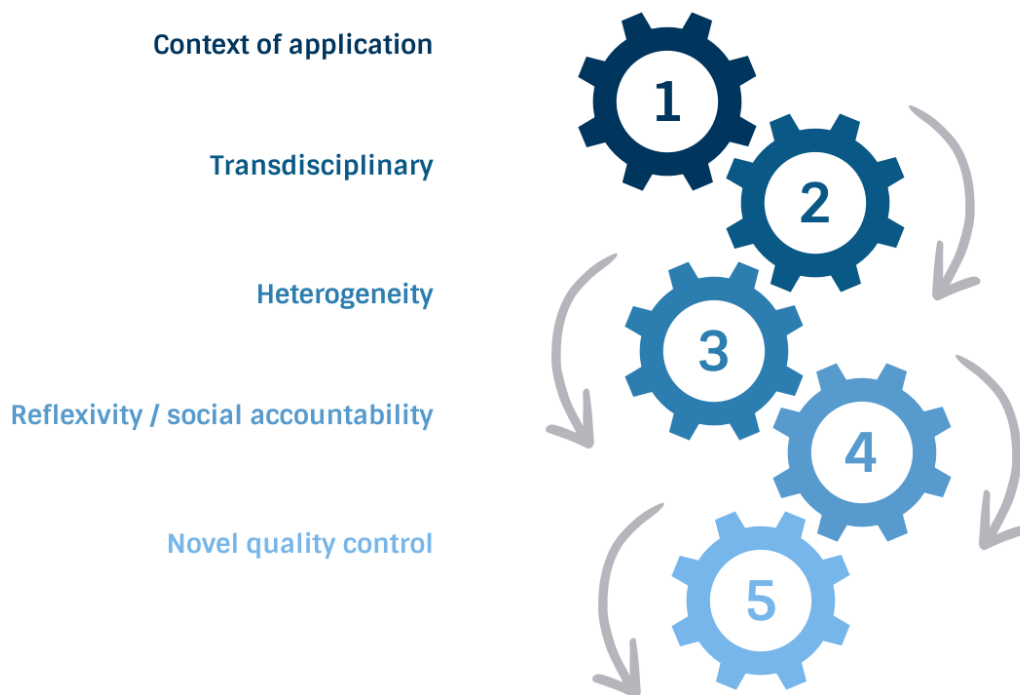


Figure 12: The key elements of Mode 2 knowledge integrated into each of the public works.

In conclusion, the works offer a parallelism of ‘fast’ and ‘slow’ resources that ultimately enhance many aspects of applied practice. When slow-working researchers cannot be recruited into the performance environment, alternative methods such as the works can be used to advance knowledge, stimulate new ideas, encourage conversation, and thus contribute to an evolving body of evidence-based knowledge to the field.

Part II – Learning to Build Bridges: Myself as Part of the Context

‘The only source of knowledge is experience’ – Albert Einstein

Chapter 4: A Reflection on What Has Shaped My Perspectives

‘Life is a series of experiences, each one of which makes us bigger, even though sometimes it is hard to realize this. For the world was built to develop character, and we must learn that the setbacks and grieves which we endure help us in our marching onward’ – Henry Ford

I decided to start this reflective process by creating a detailed timeline (Appendix B), which I have since simplified (Figure 13) for this commentary as part of a mind-mapping exercise to help me articulate my personal and professional development and the key events and accomplishments that have led to the emergence of the public works.

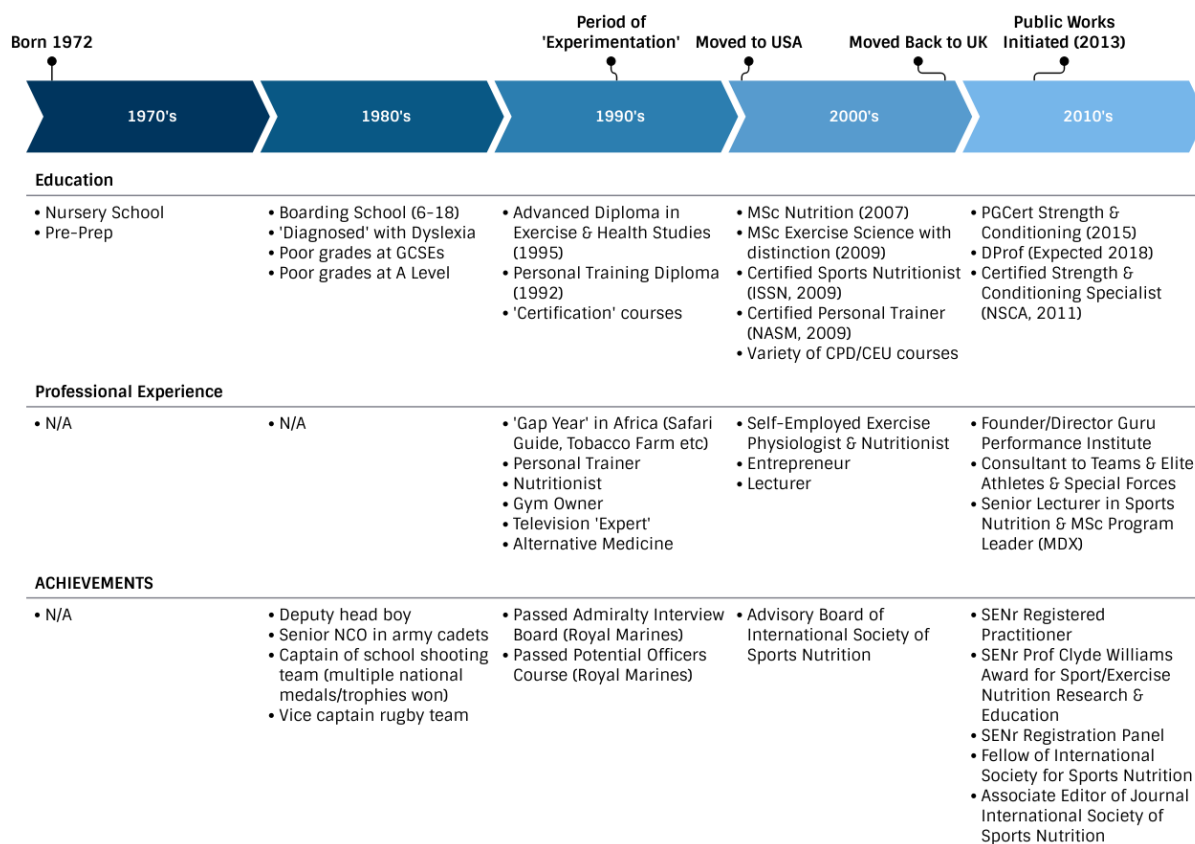


Figure 13: Timeline of key professional events and achievements.

The initiation of the works is positioned on the timeline along with the key personal, academic and professional achievements and events that are directly and indirectly related to the development of the public works.

Section 4.1 describes my own personal and professional journey to where I am now, where I am in a position to share my experiences and lessons learned that enable me to become a reflective evidence-based practitioner (Figure 14) and contributor of novel and significant works that are of benefit to my CoP.

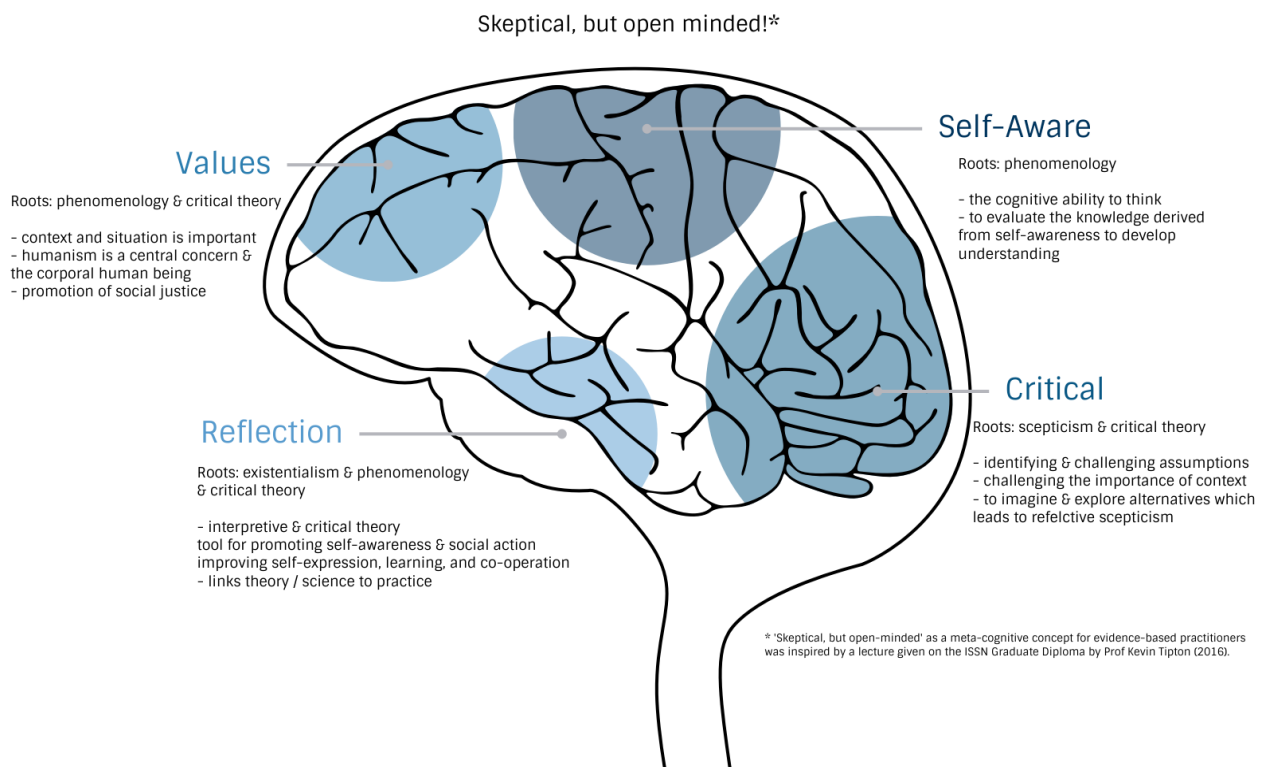


Figure 14: The reflective evidence-based practitioner. Skills underpinning the concept of reflective practice in EBP, including values (adapted from Finlay 2008).

4.1 Factors That Have Shaped My Thinking, My values, and Insights into My Own Agency

At this stage I return to critical reflection, reflexivity, and autoethnography, in the qualitative family of research approaches, to comment on reliability and transparency—that is, demonstrated critical self-awareness as an indicator of reliability. Qualitative approaches do not use the same criteria of reliability as a positivist paradigm, which is bound by rules of objectivity and tried-and-tested methods, such as the replication of tests to validate a theory. A research approach is directly influenced by the ontology of the researcher and their engagement with notions of truth about the world and themselves in relation to the world. As Maguire (2018) points out when writing about personal and professional integrity (PPI) in research approaches,

If we look at any research undertaking as moving from description to a knowledge narrative, that is, at the end of the research something is produced that embodies the knowledge and the knowing of the researcher which has emerged from the constant interaction of the researcher with the people and things which have come to populate the research activity, then the strongest thread of coherence is the personal and professional integrity of the researcher. Without this honesty, trustworthiness and wholeness the work is neither valid nor reliable. The responsibility of any actions taken based on this work is the responsibility of the person who produced it. There are ethical codes in books, in guidelines, in regulations and in professional body requirements. These in a sense are *in vitro* codes. Ethics in action cannot be separated from the being of the person in that enactment. Personal and professional integrity is ethics *in vivo*.

I have great respect for science and its attempts at reliability. I am also a professional practitioner who translates scientific research into practice and researches practice to improve the reliability of science. I am deeply motivated by the notion of PPI, which I can now articulate has been at the core of my works, and as Maguire (*ibid*) states, is or can be the most important thread of coherence and reliability in practitioner research. The how, what, and why of my outputs are intricately linked to my ontology—that is, how I have come to see the world and reality which directly influences my epistemology, which is to say, how I have come to interact with it and research it.

I have set out the professional culture (the ethnography) which I inhabit and the artefacts which I have produced to bridge the different but co-habiting professional tribes in the field for the benefit of their members, in what is now, through technology, a global cultural ecology with increasingly diverse practices. The following discussion moves the focus towards the ‘auto’ dimension of the autoethnographic approach, presenting a close examination of myself as part of the context which I influence and which influences me. It has surfaced for me assumptions I made in my compulsion to try and ‘fix’ things and has embedded that value of critical reflection not only as an indicator of reliability, but as that of PPI in recognition of the weight of my responsibility and accountability when others may be influenced in ways great and small by what I say and do.

I was born in London in 1972, and was raised in a variety of places, often simultaneously, because my parents lived between Dorset, the family home; London, where my father’s business was based; and France, our second home. My father was British, of distant Scottish heritage, and raised in Somerset, and my Mother was French and a very proud Parisian. From the start of my life, my understanding of the world started with the normality of a multi-cultural, multi-language, home environment where I felt I could move around without fear of the borders associated with a more typically English up-bringing. Perhaps this environment encouraged an open mind from the start.

My father, although now retired, remains an eminent economist² with a series of highly regarded publications to his name. I started life very much in his shadow, as I felt, initially at least, that I was nothing like him in terms of intelligence. I struggled with any form of learning at school.

My mother, now deceased, was in her own words *‘simplement une femme au foyer’* (‘just a housewife’), with a significant passion for gardening and cooking; the latter no doubt influenced my interest in nutrition. My mother was a deeply passionate and proud French woman complete with a strong accent and rich in Gallic mannerisms, with an intensely glamorous air about her. She was often to be seen dressed impeccably despite being knee-deep into her garden borders. Perhaps this influenced me early on to have an awareness and

² My father, Professor Graham Bannock, wrote key academic reference books on economics (*The Palgrave Encyclopaedia of World Economic History*, *The Penguin Dictionary of Economics*, etc.), and was also the MD of the Economist’s Intelligence Unit, whose main publication is the world-famous *Economist* magazine.

appreciation for uniqueness and quality, and not just functionality; this awareness imparted to me by my mother helped me in private practice in later years, without doubt.

I started English boarding school at the age of six because my parents, particularly my father, believed that it was the best education they could provide for me. I quickly learned to be self-sufficient and somewhat of a ‘survivor’, having already grown up thus far with no brothers or sisters. It was here that I started to develop a strong sense of independence. I was initially bullied for being different, being half French and dyslexic, with a funny sounding Christian name. These idiosyncrasies provided the perfect weapons for bullies. Being at boarding school, you did not get to escape at the end of the day and go home.

Although life was certainly tough to begin with, I learned to develop charm, initiative, skills, and physical capabilities to adapt to the challenges. At the age of about 12, I started to work out in the school gym and developed an enthusiasm for exercise. I began to excel at sports such as rugby, cross-country running, orienteering, and ‘practical’ subject areas such as woodwork and automotive-engineering, and I discovered a significant passion for the army cadets, where I learned leadership skills. I eventually became deputy-head boy at my senior school. I also was introduced to full-bore rifle shooting, and I captained the school’s Full-Bore rifle team competing regularly at national level. What I did not excel at was academics. I was identified early on at school as being dyslexic and, although never formally diagnosed as a child, I had what my teachers thought was a learning disorder. I later discovered that I have a high-functioning sensory processing disorder that we now call Asperger’s Syndrome, which amongst other ‘symptoms’, include an intense pre-occupation with a narrow subject; this potential for single-mindedness has, ironically, become an advantage to me in my professional and academic career.

I recall once going through my old-school reports many years later, where I found a teacher’s report that stated quite boldly, ‘Laurent lacks the intellectual intelligence and abilities to succeed in life’. On reflection, this was not the first time this had come up and likely played a role in my lack of academic self-confidence at a young age, which led me to seek alternative paths of education that shaped my early career goals and expectations.

4.2 Learning to Grow up in Africa

Initially, I did not plan on going to university because I barely got through my A Levels. I had no clear direction for what I wanted to do and was under the impression I would not get into a good university with the grades I had. Like many young men that came through the British private boarding-school system, and thanks to my passion for the Army cadets at school, I decided to apply to the military to join the Royal Marines as an officer, after being strongly encouraged by the Royal Marine's liaison officer to my school. I was successful. I attended and passed both the Potential Officer's Course and the Admiralty Interview Board, both of which are designed to determine whether a cadet has what it takes, mentally and physically, to succeed as a Royal Marines Commando Officer. The selection process included a range of gruelling physical and mental competency-based assessments over several days to test the cadet's ability to withstand extreme physical and mental stress and evaluate the cadet's team-work and leadership qualities. Despite passing, I was advised by my family to take a gap year before reporting for the 16 months of initial commando officer training. I agreed. This was not only one of the most enjoyable periods of my life but a period of accelerated learning. I spent a year in Africa where, among other things, I worked as a white-water rafting guide in Zimbabwe, an assistant safari guide in Namibia, and even as a supervisor on a tobacco farm in Zambia. I managed to undertake this incredible opportunity through various school contacts whose parents were farmers in Zambia and government ambassadors to Zimbabwe and other states in the region. This experience was an early demonstration to me of the power of networking, as well as of my own resourcefulness and openness to difference, nurtured during my formative years.

This period was a rite of passage for me, between adolescence and manhood. It was a kind of walkabout, where my strengths and challenges came to the fore and helped me understand what I could be good at and how I could contribute to the world. I spent many an hour in the wilderness of Africa contemplating my past, present, and future life, and as I neared the end of my 'gap year', I knew that I did not want to make a long-term career out of the military and so set my sights on a career in what was already an emerging area of great personal interest, which was health and fitness.

4.3 An Education: Health and Fitness

To make a career out of health and fitness, I needed qualifications. I did not have the grades to apply for a Bachelor's degree at a good university, so in the early 1990s, I undertook a Higher National Diploma in the Science and Management of Health & Fitness at Farnborough College of Technology followed by an Advanced Diploma in 'Exercise and Health Studies' at City University in London. I felt these were the best options available to me at that time. I had learned at school that content, skills, and theory did not always reflect practice (e.g. a rugby manual does not capture the practice of playing rugby). I started work as a personal fitness trainer on both a freelance basis and in a variety of health and fitness clubs. I discovered that the theory one learns in university does not necessarily prepare one for the real-world reality of complex overlaps like business and sport, relationships, vested interests, the variety of needs and desires, and the entangled motivations of individuals to take up fitness regimes. In my quest to further my knowledge and attain the skills needed to excel in my work, I began to seek out additional 'certification' courses in the UK, the US, and Europe in a blind attempt to bridge the then perceived gap between science and practice.

4.4 The 'Wild West' Years—Lost and Found: Years of Positive Disruption and Transformation

On reflection, this was either the best or the worst phase of my professional life, depending on how I look at it. On the one-hand, I made many mistakes and was badly led by the 'wrong crowd', on which subject I shall elaborate later in this section, and I generally made some serious errors in judgment in my professional career. On the other-hand, these are the experiences that shaped my thinking and responses and contributed to my drive to get things right for myself and for others.

For about eight years, I worked as a self-employed personal trainer and for a while owned my own gym. Like many personal trainers, I struggled to make the sort of money I was hoping to make, especially being the product of a privileged background and seeing myself as a natural entrepreneur. I diversified into a variety of business activities and professions that were, in some way, all interconnected. It was then that I allowed myself to be influenced in unhealthy ways by the people whom I choose as my peers.

In my desire to learn more and develop my business activities, and as training my clients (in a gym, at home, in the park, etc.) was providing neither reliable business nor profitable

business, I sought every available certification to broaden my range of services. The choice of these courses was not only profit driven, but practice driven. Professionally, I was questioning the needs and sources of these needs in my clients, which was increasing my drive to find out and do something about it. Most of my clients had issues with their weight, which could be managed, to an extent, with exercise and diet. They also had other issues such as fatigue, digestive problems, and depression, however, which were not being resolved by their general practitioner or for which they chose not to seek conventional medical help. At the same time my mother started to become unwell and was not obtaining a great deal of help and support from the traditional medical community. Therefore, for both personal and professional reasons, I developed a deep interest in natural therapies (known also as alternative medicine).

For between two and three years, I found myself involved with a group of alternative medicine practitioners (functional medicine, homeopathy, naturopathy, herbal medicine, etc.) for whom, at the time, I had a great deal of respect. They were impressive to me. I considered them mentors. They were older and, I thought, wiser than I was. Alternative medicine had some appeal, as I had grown to distrust traditional medicine. The ‘science’ seemed plausible at the time. They were ‘successful’ at what they did, and I wanted to be doing what they were doing. They seemed to be getting great results, as was I, and this seeming success excited me. Anecdotal evidence and case studies were impressive to hear. Because of their guidance and my openness to learning, I attended all sorts of workshops and certification courses in the UK, Europe, and the US, and added many ‘strings to my bow’; for a while I even stopped being a personal trainer and focussed more on being a natural health practitioner; it became my passion. It seemed far more respectable than being a personal trainer, or so I thought. Many years ago now, out of guilt and anger, I destroyed these alternative-medicine certificates and diplomas, and they do not appear on my CV—because quite honestly, I prefer not to tell people I once ‘practised’ what I now feel, but did not know at the time, was pseudoscience.

The peak in this phase of my life occurred when I started working with another personal trainer in London in the 1990s in one of the first ever personal-training studios. It was a very successful operation with clients who included TV and film stars, pop stars, and of course London’s social and business elite. We soon ended up being featured in the press, on the radio, and on the television. I was given the opportunity to create the concepts for and feature as the expert host on several TV shows that focussed on weight loss (via exercise and diet).

They were a now-familiar format: a group of ‘real people’ being directed by a team of ‘experts’ who included a nutritionist (me), a celebrity fitness trainer, a celebrity chef, and the host, who was a well-known presenter. By my mid-20s, some 20 years ago now, I had achieved a level of fame as a minor TV celebrity nutrition ‘expert’. With this new-found fame, however, I also started to attract some unwelcome attention and criticism as to my role as an expert in the public eye, relative to my age and my lack of appropriate qualifications. I then started to realise I was out of my depth in terms of actual knowledge and credentials. I started to doubt my credibility. In the same way alcoholics experience moments of clarity, perhaps, I started to see that I was not an expert and realised that much of my education and qualifications were inadequate or inappropriate for what I was doing and where I felt I wanted to go with my career and life in general.

Despite my apparent success, I felt my career needed to change direction because I wanted to be a respected expert and contribute to the field, much like my father had done in his field. I was nearing 30 and was unhappy and feeling unfulfilled with where I was professionally and personally. I felt I needed a change of scene, and this was my ticket.

I was in a serious, live-in relationship with an American citizen who had an exciting opportunity to go back home to the US. Feeling that this was also a golden opportunity for me to escape to where I felt that more opportunities could be had. Being very open to new environments and experiences, I barely hesitated and moved to Santa Fe in New Mexico in 2000, where my partner had a job offer and friends. I quickly put my house up for rent, and with only £1,500 in my pocket, I departed the UK for the US to start a new adventure and embrace the American Dream.

It did not take long to establish myself. Santa Fe is a small city, more of a town, really, but full of open-minded people, many of whom were migrants and immigrants, like me, from somewhere else. There were 40-something urbanites who had escaped big American city life and careers, and there was a substantial community of baby boomers who had relocated to this beautiful part of the world and were especially interested in health, wellness, and fitness. It was a great place to which to relocate. Many celebrities had vacation homes in the area, and nearby Albuquerque was and remains the third-largest movie-making location for production studios in the United States, after Hollywood and New York. This industry added further to the appeal to this specific location, since I knew I could offer something new and different and uniquely positioned in this market, as compared to the London market. I was interviewed for the local newspaper and, within weeks, I had managed to build a three-month

waiting list of new clients, including a few Hollywood A-listers. Life seemed good to begin with, but six months after the move and not long after I was granted my permanent residency and a green card, my relationship started to fall apart; within months, we had broken up, putting me initially into a personal and professional predicament. I then decided to stay and continue to pursue my goal of ‘making it’.

Looking back, I had underestimated, in my push for success, the power of self-sabotage, of sublimating what is painful, such as symptoms of unresolved emotional disruption. I put on weight and started to self-medicate through drinking. I lost my confidence, and I lost my identity. I had the realisation, in retrospect, that before the break up I had already started to have doubts about my work. I had stopped seeing myself as a personal trainer and as a natural health practitioner, even though I was very successful in terms of client numbers, income, and months-long waiting lists. The problem was, I was not quite sure what it was that made me successful. I concluded that my own personality and character were key components of my success, along with the novelty of being a foreigner with a great accent and with a high level of perceived knowledge, along with a strong sense of care for my clients. I was person-centred in my approach in the Rogerian way (1967), meeting people without prejudice with a non-judgmental attitude and with positive regard. The one aspect of Roger’s core conditions I could not meet was deep congruence with myself. The disruption in my personal life precipitated a strong realisation that I was not congruent with myself or others and that I did not believe in what I was doing professionally. I bought a Harley Davidson Fat Boy, went to New Mexico, and started to ride for hours every day just to think—another kind of walkabout, but a walkabout that had more gravity than the daydreaming I did in Africa.

I began paying attention to my nutrition and exercise. I began reading again and enrolled in a Master’s Degree in Nutrition, which I successfully completed in 2007. This began my relationship with the reality of me rather than the projected image. I took increasing steps to build up professional self-worth and credibility, guided by my attention to what resonated with me and what was instead dissonant, and I questioned both. This path led me to adapt my practice to what I now consider as a more evidence-based approach to my work with clients with a focussed scope of practice being purely fitness and nutrition coaching. I then moved into the exercise science and sport nutrition arena, as this specialisation combined my love of sports and my growing skills and knowledge in sport nutrition with my deep curiosity, linking nutrition and exercise to performance. I wanted to understand why sports performers needed to eat certain foods and when. I thus enrolled in another Master’s degree, this time in

Exercise Science and Health Promotion at California University, Pennsylvania, achieving distinction (Magna Cum Laude) in 2009. By this time, my practice had completely transformed into working with recreational athletes such as serious gym-based fitness enthusiasts and triathletes. I invested in a mobile metabolic testing cart and was now combining physiological testing with nutrition coaching, which has become my unique approach to practice ever since. Using testing to inform my practice was a defining point in my awareness of the power of testing to motivate clients, and as to the importance of personalised data in guiding the recommendations given. Once I was on a path that I felt was congruent, built up from my own decisions and my own engagement with everything I wanted to know, and not from practitioners and clients whose responses to me I could not position in knowledge, I pursued more qualifications; however, pursued them with new vigour, not as someone who is eating and not digesting, as before, but as someone eating and digesting so that the input could become part of me.

I started to attend academic and professional conferences (ISSN³, ACSM⁴, and NSCA⁵) related mainly to sports nutrition. I also attended a three-day performance nutrition workshop with Athletes Performance (now Exos) run by elite-level sport dietitians and physiologists; these workshops represented the first time I felt I learned how to apply science to practice. These events had such an impact on my learning, to be with experts whose expertise was founded on both Mode 1 and Mode 2 knowledge, that it motivated me later to create live lecture weekends on the ISSN Diploma that were more like top-level conferences and workshops with real practitioners and less like college lectures. It also had the effect of contributing to my professional identity formation, as I felt part of a community of like-minded professionals, for the first time, and not a fraud or an impressionable apprentice. I remain connected to ISSN, as well as to many in that group of people, a group which has underscored the value of having a professional body where practitioners can have a sense of belonging, a place to exchange ideas and experiences and to learn from each other in a climate of respect. Such a venue also provides a benchmarking forum for one's own practice.

³ International Society of Sports Nutrition

⁴ American College of Sports Medicine

⁵ National Strength and Conditioning Association

4.5 Moving Back to the UK: The Birth of Guru Performance and the Public Works

In 2008, I spent a year travelling back and forth on monthly trips between the US and UK. I had started to wind down my operation and life in the US and was starting to make connections and explore options back in the UK. It was a strange time, as after eight years away, I had lost contact with most of my previous connections other than family and close personal friends. However, it gave me an opportunity to start again, professionally, since most of my previous professional connections were irrelevant to my new career path and identity.

In the US, I had learned the importance of networking and the power of personal connections to find and create my own opportunities. Nobody had given me jobs in the past; I had always created my own opportunities and then benefitted from referrals from existing clients. To do that, professionals have to be good at what they do, which is why I believe in continuing professional development (CPD). It is important for a robust career and life trajectory which being charming, personable, and caring cannot alone sustain.

I eventually created a new private practice in London and operated initially out of multiple locations, namely a high-end personal training studio and a sports medicine clinic where I could combine my physiological testing services with my nutrition consulting, both in central London. I started to work with clients from all walks of life, from bankers obsessed with cycling or triathlon to actors needing to get in shape for their next action movie role. However, what I wanted to do was work with athletes. I was earning a good living again, after all these were mostly wealthy clients, and they paid well, but it did not present the knowledge challenges that would come from sports performers for whom exercise and competition were a fulltime occupation.

I was soon referred to a high-level professional boxer by a nutritionist, and I started working with JJ (anonymised) to support him through a national title fight. JJ had particular dietary requirements due to his beliefs, which accelerated my own learning not least in a respect for another person's beliefs and the creativity which can arise from that respect when designing a successful nutritional regime for the athlete. A variety of press and magazine article interviews led to a variety of further contacts. It was not long before I had a range of professional boxers, mixed martial arts (MMA), and Ultimate Fighting Championship (UFC) fighters as clients. This was the kind of success I had craved, one which was based on

knowledge and good practice, not on superficiality, but most importantly one which constantly challenged my own knowledge base. We learned together; it was a collaboration, interdisciplinary. It was not me telling people what was good for them.

I was doing well on my own, but I knew the value of a community of practitioners and was accepted into the UK Sport and Exercise Nutrition Register (SENr) as a graduate registrant in 2011. This acceptance addressed an issue in my past and gave me a sense of satisfaction. Not anyone can become a registered practitioner, despite the numbers of people calling themselves nutritionists (as I once did) or using similar titles. It is essential to have proper accreditation of qualifications and a monitoring of the standards of those qualifications.

In 2011, I managed to combine my love of rugby with my profession by working part time as a sports nutritionist to the professional rugby club London Scottish, my first partnership with a professional sports team. I secured this role by contacting the various sports scientists, physiotherapists, and head coach at the club and by utilising my growing list of contacts to arrange face-to-face meetings. I managed to convince them I could be of help to the squad. Typically, they had no budget for this, so I offered to support them for one season at no charge, with the understanding that they would provide me with the experience and references that I needed so I could leverage them as an asset in my growing profile as a professional sports nutritionist. This was an invaluable opportunity and ultimately became the key to other doors of opportunity. I also managed to get a similar role with London Broncos professional rugby league team off the back of my role with London Scottish. The experience I was gaining was invaluable, not only as a sports nutritionist working in elite sport but also in the networks I was creating. My big break came with a premier league rugby team London Irish through an introduction from the head of strength and conditioning at London Scottish. Finding the jobs I wanted to take was hard work. Professionals do not recommend a service-providers work if it is mediocre, which might tarnish the reputation of the recommender. One has a responsibility to oneself and to others to be constantly developing and learning. It may look and sound glamorous, but that belittles the work and dedication behind professional input at that level. One must think strategically, be willing to sacrifice earnings to learn, and only when one has demonstrated the required skills can one expect to command a higher fee. Personal and professional life are in a dance, however, and significantly impact each other. Professionally, things were going well, but my mother became seriously ill again, which meant travelling every week to Dorset to help care for her, as she had been diagnosed with a very rare form of cancer; this diagnosis made it difficult for me to continue as I had been

doing in my professional life. I had no siblings, and my father, nearing 80, found himself unable to deal with the demands of her care. Each month, her health further declined. With frequent visits, I started to become distracted and unreliable to my clients; they understood, but they also had their needs. For me, my mother was the priority. Although I ensured my work with the rugby club was on point, and started to spend more time caring for my mother in the remaining months of her life. I remain grateful for the opportunity for this time, because tête-à-têtes with her and my father began to make sense to me. It was a gap I did not know needed addressing until it started to be addressed. I also shared with my parents my vision for my professional life: to start up a private educational institute that brought together a team of experts to teach personal trainers and practitioners like me what they really needed to know and how to actually practice sports nutrition. I had years of experience learning from experts and practitioners beyond my university education. I knew the limits of what can be taught at a university, in contrast to the value of attending lectures by passionate experts at conferences—the value of applied knowledge from the successful practitioners who had mentored me, and of course my own experiences to date in establishing and running successful practices from scratch in other countries. I envisioned this concept as a hybrid between a conference, a mentorship, and a course where I would bring the experts and students together at each meeting and where I would act as the middle man: a bridge between the students and the experts. I did not see myself as the expert, but rather as a kind of translator. My father, being an economist with expertise in small business and entrepreneurship, encouraged me that my business concept was a good idea— in his case, this was an also expert opinion.

My mother died in mid-2012. Her death was the catalyst in pushing me towards making my vision a reality and, within a year, I began to form my company, which would lay the foundations for Guru Performance, by incorporating my practice and my workshops related to nutrition and body composition, primarily attended by personal trainers (some of whom now work for me). The workshops were attended by 10–15 students but were not achieving what I had in mind in terms of depth, breadth, and scale. I went back to the drawing board and devised the concept of a new one-year course based on what I would like to attend myself, the ISSN Diploma. This would blend distance learning to teach the underpinning science and to prepare students to sit for the Certified by the International Society for Sports Nutrition (CISSN) exam with a series of five lecture weekends to teach application-focussed topics featuring invited expert guest speakers from various leading universities known for

sport science, such as Liverpool John Moores, Loughborough, Birmingham, Nottingham Trent, Bath, and Stirling, as well as practitioners from the EIS and from private practice.

In February 2013, the first cohort of the ISSN Diploma launched with a full complement of 30 students and a team to support it. Although successful, I kept my private practice because I believed, and still do, that it was of great importance to me to continue to practice what we were teaching and to create a flexible link between teaching and practice. This combination and set of activities improved my own practice with measurable impacts. I also began working with premier league team Bath Rugby as a consultant, and to encourage in house development of their staff, I encouraged their sponsorship of a staff member to do the ISSN Diploma so that they could have someone in-house and retain me as a consultant. This proposal worked well.

By 2014, I secured premises in the form of a clinic and laboratory space in central London, invested in more hi-tech equipment, formally launched the Guru Performance Clinic, and became the embodiment of my beliefs about science and practice: 'Test don't guess'. I believe very strongly in using testing to provide individual data to inform my decision making alongside my evolving knowledge. Testing also gave my clients stronger stakeholderhood in the interventions recommended. They were not relying on faith but on evidence, which was individualised and not generic.

Soon after the clinic opened, we had another lecture weekend, where I had the spontaneous idea of recording a conversation between myself and some of the lecturers for a podcast, which became the inaugural Guru Performance Podcast episode and was published in June 2014. The concept was simple: Discuss the science with the original researchers who published the studies, who initially happened to be lecturing on our program, and then unpack the evidence into the context of applied practice. It was an instant success and provided me with the motivation to record more episodes.

A busy year was 2014, when we published our first Guru Performance case study. The case study involved an international female football player at Everton Football club as the subject and became a collaboration between Guru Performance and a sport scientist at the club. We extended the collaboration to include two practitioner-researchers at Liverpool John Moores for the write-up phase of the paper to act as technical experts, an early example of our now-common approach to Mode 2 knowledge outputs. The purpose was to document an applied intervention with an elite athlete. It became the first ever publication in the first edition of the

British Association for Sport and Exercise Sciences' *Journal of Applied Case Studies*. By this time, many new students were signing up to the program, thanks to the great reputation we were gaining and to the novel concept upon which the program was founded, so much so that we created four cohorts per year, which started quarterly. In 2014, over 100 students went through the program. I had to increase staff to support the program. The extra staff gave me a little more time to spend on my own CPD, so I started on a post-graduate certificate in Strength and Conditioning at Middlesex University and applied to this professional doctorate program with the intent to start in 2015.

Through the course, I met the lead physical performance consultant, who suggested I support the world-class program that included the Great Britain fencing squad in preparation for the Rio Olympics. I jumped at the chance because I saw it as a great challenge and a wonderful opportunity to get more applied-level experience, and of course as the great honour of working with Olympians. At the same time, we also started to discuss the ISSN Diploma and the fact that I wished there could be an opportunity for our growing number of students to go on to higher degrees.

I was then offered an opportunity to establish a brand-new MSc in Sport and Exercise Nutrition course at Middlesex University, planned to launch for the 2015–2016 academic year. I accepted the offer and became a part-time member of staff as a senior lecturer and program leader for the MSc. This, as they say, seemed like a good idea at the time, but I had no idea as to what I was signing up for. The amount of work and time it took to create and lead the course was far greater than I ever could have imagined. It was, by comparison to my private practice and work with Guru Performance, poorly paid, but it represented a once-in-a-lifetime opportunity to extend the opportunities for our ISSN Diploma students to be able to complete a research degree and to complete the cycle, from science to practice.

Part III – The Public Works

Chapter 5: The Public Works: The Five Parts of the Bridge

Overview

In this section, I detail each work beyond the cursory introduction to the works given in Chapter 1; I elucidate their content, rationale, and impact to further substantiate my claim for the award of Doctor of Professional Studies. My claim is based upon three important criteria:

1. The works make a distinctive and explicit contribution to knowledge and to professional practice in both my own discipline and related disciplines.
2. The works promote high-level practice through innovation and demonstrate competence in dealing with the complex and challenging situations typical of the practitioner's real-world environment.
3. The works draw together and advance my existing experience and expertise to create professional development not only for myself but also for my CoP.

An important theme common to all the works is that they are of a transdisciplinary nature; that is, they interconnect coherently and achieve something greater than their individual parts, yet they remain discrete, if changed by the interconnection. This approach promotes and supports high levels of competency within the 'the choppy waters' (Jonas, et al. 2017: 20) and 'everyday problems' (Schon 1991: 25) of daily practice.

The works are presented in the organic order in which they came into being (Figure 15). Each form a part of one large, constantly evolving work, with interconnected features that help bridge research and practice. I have discussed the gap throughout this context statement, as I have used this metaphor to conceptualise the overall theme and indeed to motivate the works' efforts to bridge the gap between science and practice in applied sport and exercise nutrition.



Figure 15: The organic order in which the works came into being.

General Reflective Comment on the Works and Some Thoughts on Impact

In terms of impact, the works collectively demonstrate four important areas of quality evidence (Figure 16) that show their impact and relevance to EBP. Each of these are discussed further for each of the works.

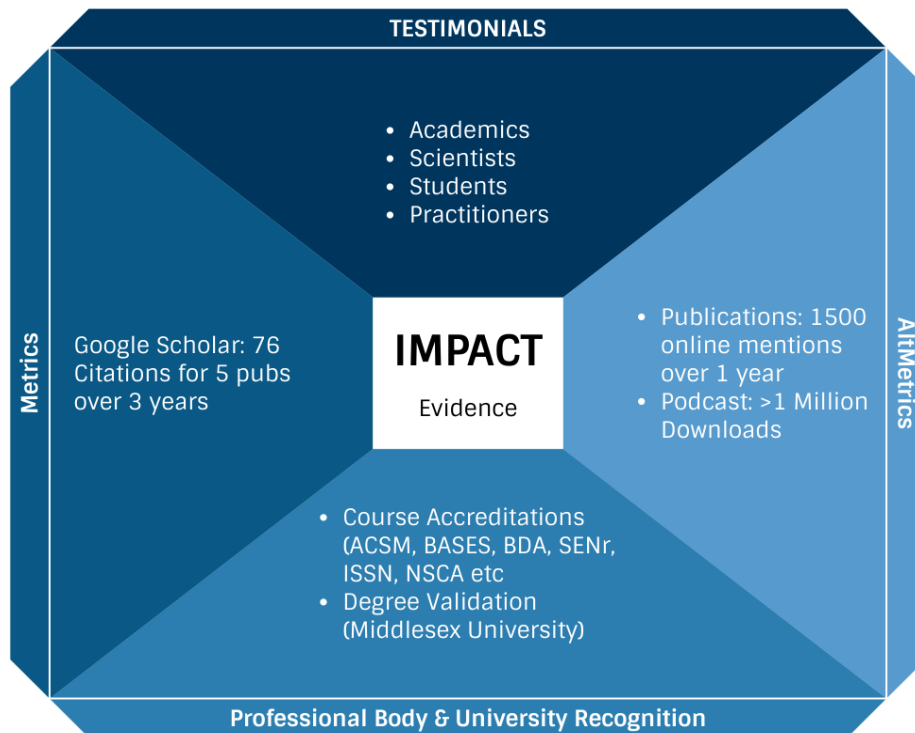


Figure 16: The four key sources of evidence of impact for the public works.

Developing technologies and their use in the form of social media have given me the chance to disseminate information more widely than if I had published academic papers and books. People who choose performance careers are often so deeply committed to these careers that the discipline and skills required to remain competitive does not allow much time for written text. Yet, these are the very people who need expert guidance in looking after their health and wellbeing. They need reliable advice, but how, in an age of information overload and ‘the big sell’, do they tell the difference between marketing spin and reliable facts? The internet has contributed to the democratisation of information in terms of its accessibility; knowledge and credible, independent and reliable information are no longer restricted to the elite. However, the information age has also brought so much information to the customer that consumers suffer choice fatigue.

It is in such an environment that I operate. I use the latest media to disseminate information, but what I disseminate is evidence-based practice that can be relied on, because in my works the voice of the expert is challenged to account for the advice and information; the experts I invite to participate are rooted in both practice and science. Through social media, everyone can listen or watch, not only university students or top-tier athletes. Testimonials from my peers validate that I am keeping up to date. Tweets act as guides for my network of students, for staff and colleagues, and for the public who are interested. Central to my thoughts on professionalism are accountability and responsibility, values that I try to live, as people will follow what experts put out and base their decisions on that information which has consequences. I have come to see professionalism as a matter of being ethical and having the skills of translation, translation which is entirely in the service of the truth. Not embodying this kind of professionalism and providing access to reliable information quickly can cause people to make mistakes and follow trends that may be dangerous. Thus, I have become very engaged with closing the gap between research and practice. In the subsequent sections are its components which contain me, my skills, my knowledge and experiences, and the lessons I have taken from my failures and successes.

5.1 Public Work 1: The International Society for Sports

Nutrition Diploma in Applied Sport and Exercise Nutrition

The International Society for Sports Nutrition (ISSN) Diploma in Applied Sport and Exercise Nutrition (Guru Performance Institute 2018a) is for me the seminal public work, not just in terms of being the first public work that came into being but also the one which inspired the creation of the other public works presented in this context statement. It is, in effect, the back-bone, since all the other works have come off the back of this work.

As found in the ISSN Diploma course overview and prospectus (Guru Performance Institute 2018), a variety of key components of the program support my claim to contribute to knowledge in my field and to advance practice (see Figure 17).

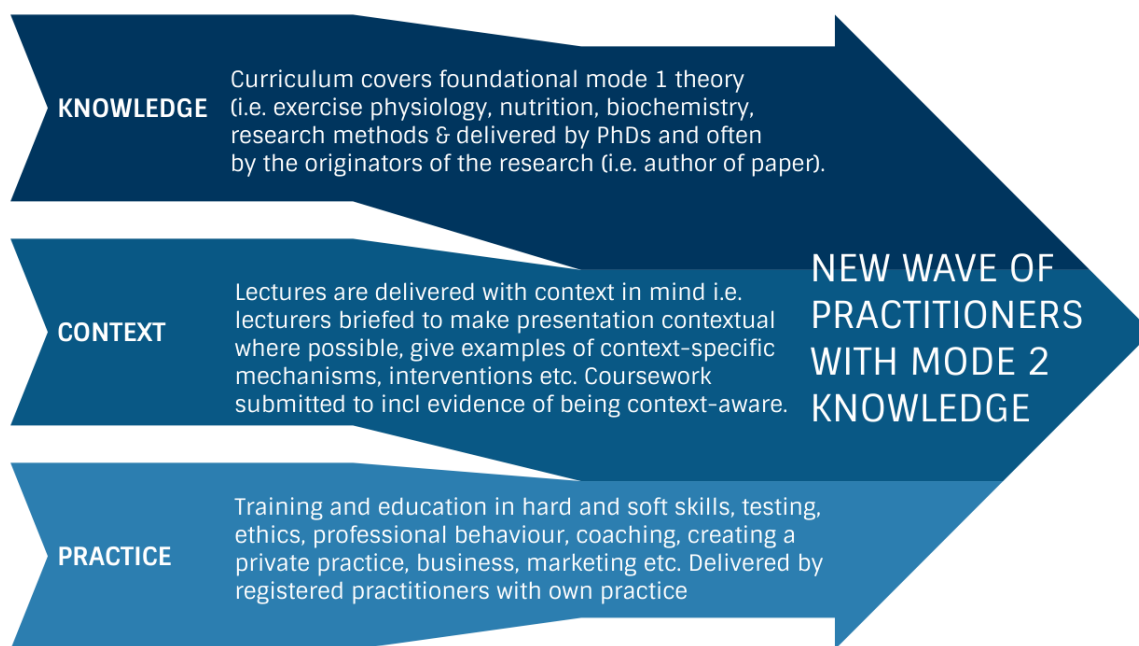


Figure 17: Key attributes of the ISSN diploma.

In 2013, I innovated the concept, curriculum (Guru Performance Institute 2018b), marketing (via social media and my networks primarily), and initial development of the ISSN Diploma on my own. I even built the first version of the website for the program. However, since then the business has grown, and I have taken on staff and delegated much of the administration and development of the program to my team of employees, all of whom are graduates of the ISSN Diploma themselves. They are now integral to the smooth and successful running of the program. This support gave me the time to focus on my leadership of the team and the ongoing development of the program, as well as to push the boundaries of my own learning through this professional doctorate. I wanted to be more aware of what really underlies the success of the works. In my sector, the focus is about impact: impact on the body, on health, on performance, on the public, on success, on behaviour, on attitude, on career, and on knowledge and practice. One can make an impact on the human body, but it can be detrimental or fade away over time. As with the human body, I wanted to make an impact in my field that was positive and would endure. The missing link for me and my works was about going through the experience of being a researcher in my sector, but also to study myself to enable me to expand my education in constant dialogue with other experts, with young people, with science, with other research, and with new ideas.

Advanced training diversifies and spreads impact. In my works, not all of the impact originates with me, but rather with how I have learned and from whom I have learned. I have put these lessons into works that spread learning and open up debate. I am employing people and training them in new areas such as our new mentorship program in business and private practice, which requires a very different set of skills than those of pure academics.

In critiquing my own works, I have come to understand better two important elements of the nature of my work: firstly, that ‘application’ is a deep and complex notion. The adjective ‘applied’ in the context of Sport and Exercise Nutrition simply refers to the application of scientific knowledge (i.e. exercise physiology and sports nutrition) in a real-world context (i.e. practice, with people, not ‘subjects’). What and how we apply has serious implications on those to whom it is applied; secondly, the adjective ‘applied’ denotes that the relationship between ‘agency’ (both individual and distributed) and ‘context’ is dialectical, and understanding this dialogue becomes central to the successful art and mastery of its practice.

Impact of the *ISSN Diploma*

In terms of measures of impact, I feel this is where this program comes into its own. As can be seen below, Figure 18 summarises four key areas that demonstrate impact on a global scale. The size and variety of our student body and alumni make for a powerful community, which has in many cases served to support its members to include friendships made and business and work opportunities offered from within the community, as well as from outside of our community. It has always been important to me to achieve external accreditation and validation, which is an ongoing effort by my team and myself to achieve further recognition across the world to increase our global recognition as a serious professional program. We are particularly proud that in a short space of time, our graduates have come to rank among the best in the world for first-time passes and overall scores in professional CISSN certification exams.

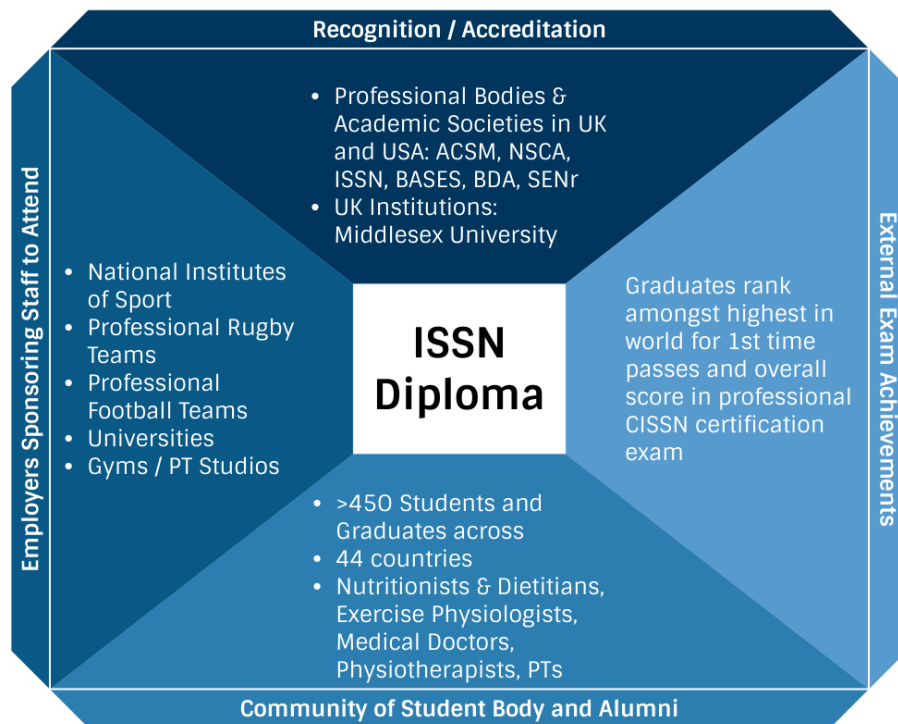


Figure 18: Four key areas of measurable impact for the ISSN diploma.

A particularly significant achievement domestically (in the UK) is the recognition of the program by the UK SENr, who recognise the ISSN Diploma as part of a portfolio application whereby graduates who also have a relevant undergraduate or post graduate degree, in sport science or in strength and conditioning, for example, will be eligible for graduate registration as a Registered Sport and Exercise Nutritionist. At the time of writing this, 30 of our graduates are already on the SENr graduate register (SEnr 2018): 15% of the entire body of SENr graduate registrants. This registration rate places the Guru Performance Institute as one of the largest educators of registered SEN graduates in the UK, relative to most other traditional programs run by UK Universities. Based on the current intake of eligible ISSN Diploma students, this number is set to double in 2018.

Testimonials from Leading Academics, Practitioners, and Graduates

In addition to the key areas of measurable impact provided above, I have included relevant quotes excerpted from testimonials in Table 5 below; these testimonials were solicited from my peers, comprising mostly leading academics and expert practitioners from my CoP. Additional testimonials, including those from graduates, can be found in Appendix C. I am encouraged by these statements, as they present sound indication that I am becoming

recognised as someone who is making innovative and significant contributions to both knowledge and practice in my field.

Table 5: Selected quotations relating to the public works and their impact on evidence-based KT from a selection of testimonial data collected for this project from leading scientists and practitioners from my CoP

Name & Credentials	Key Quotes Excerpted from Testimonials
<p>Professor Stuart Phillips, PhD, FACN, FACSM</p> <p>Professor and Canada Research Chair (Tier 1), McMaster University, Department of Kinesiology; Director, Physical Activity Centre of Excellence; Director, McMaster Centre for Nutrition, Exercise, and Health Research</p>	<ul style="list-style-type: none"> • ‘The ISSN Diploma lectures boast an impressive international cast of top-level people (Dr. Kevin Tipton, Dr. Graeme Close, Dr. Craig Sale, Dr. James Morton to name a few) and I feel privileged to be amongst this cast.’
<p>Professor Graeme Close, PhD, ASCC, SENr</p> <p>Professor of Human Physiology, Liverpool John Moores University. Expert Nutrition Consultant England Rugby. Lead performance nutritionist, Everton FC. SENr board member and Deputy chair.</p>	<ul style="list-style-type: none"> • ‘I believe that the ISSN diploma is the best nutrition qualification outside of a University in the UK, if not the world. This is extremely important as it is giving personal trainers a route to obtain a recognised qualification and is turning a group of individuals who would not normally be, into evidence-based practitioners.’ • ‘It is testament to Laurent that this course had attracted the biggest names in sport nutrition. No other course in the world has this calibre of academics delivering sport nutrition education.’
<p>Professor Craig Twist, PhD</p> <p>Professor of Applied Sports Physiology (University of Chester).</p>	<ul style="list-style-type: none"> • ‘The ISSN Diploma again brings a range of quality speakers, in terms of both academic prowess and real-world experience, to an audience of varied experiences. From my own involvement of delivering on the course, I was impressed by the candidates’ experiences in performance sport, health and business. Coupled with the content of the course, this variety facilitates a healthy and diverse learning environment that I am confident improves learning and the real-world practices of the candidates.’
	<ul style="list-style-type: none"> • ‘I feel the ISSN Diploma has provided a good, effective education process especially as a distance learning course.’

<p>Dr Kevin Currell, PhD, SENr</p> <p>Head of Performance Nutrition, EIS. SENr Board Member.</p>	
<p>Dr Jose Antonio, PhD, FNSCA, FACSM, FISSN</p> <p>Associate Professor of Exercise and Sports Science (Nova Southeastern University, Davie Florida USA). CEO and co-founder of the ISSN.</p>	<ul style="list-style-type: none"> • ‘Perhaps the most influential accomplishment of Laurent is the genesis and tremendous growth of the ISSN Diploma. The ISSN Diploma is now considered the pre-eminent diploma course in the world.’ • ‘Moreover, his students typically score in the upper echelon and are among the <i>best</i> in the world. This clearly shows the quality of work that Laurent produces.’ • ‘Furthermore, the enormity of the work needed to start and maintain the superlative quality of instructors in the ISSN Diploma program can only be applauded. It is an undertaking that very few (if any) in our category could successfully pull off.’
<p>Richard Chessor, MSc, SENr</p> <p>Performance Nutritionist, British Swimming and Scottish Rugby.</p>	<ul style="list-style-type: none"> • ‘The ISSN Diploma has exploded into the “place-to-be” for nutrition education in the UK. Its versatility in attracting and catering for a wide diversity of students is not unique, however to do so but retain prestige with the qualification very much is.’ • ‘Laurent and his team have driven this and created a programme that is the envy of many education institutions.’ • ‘All of the lecturers who have delivered on the course have mentioned how engaging they found the audience – this is testament to the learning environment that Laurent and his team have created.’
<p>Daniel Kings MSc, SENr</p> <p>Head of Sports Nutrition Services, Aspetar Sports Medicine Hospital and Aspire Elite Academy, Doha, Qatar</p>	<ul style="list-style-type: none"> • ‘The ISSN Diploma is now a key part of post-graduate learning within their career development pathway. This alone is very significant as it now means we will now help build capacity of Arabic speaking practitioners in the Gulf and Middle East.’

Reflective Comments on the Impact on Me and My Practice

I do not merely run the program and contribute to the curriculum. I am a perpetual student. I have sat through and participated in all the 500 live hours or so of lectures and workshops by leading experts since the program started. Like the constantly evolving body of knowledge in our field, the content on this program is constantly moving forwards and evolving. It is so up to date that we are often privileged to have lectures by top scientists on their area of research before their content has even been published. I mediate the Q&A session after each lecture and ask questions to ensure the context is clear not only for the students' benefit but also for my own understanding of the topic as a practitioner in my daily private practice. I see our students developing alongside me and the staff, and I enjoy our work and development together as a community of learners. I have come to know a number of experts quite well. Together, we bridge disciplinary and sectoral divides through exchange of ideas, friendships, and mutual respect. My own growth and development in terms of knowledge and understanding has improved exponentially over the years, which contributes back into the program, my team, and the students; having the opportunity to engage in this doctoral programme lays the groundwork for more research reliant approach and skills development in this and future programmes.

5.2 Public Work 2: The Guru Performance *We Do Science*

Podcast

Overview

In June 2014, I established the Guru Performance *We Do Science* podcast (Bannock 2014), which has received international praise for its unique and evidenced-based approach by leading educators, professors, and practitioners (Appendix C). I cannot claim that I sat for weeks in the attic planning it. It came about as a spontaneous idea when I had to record (via the built-in microphone and standard recording software in my laptop) a technical conversation I was having with Professor Graeme Close and Dr James Morton from Liverpool John Moores University, while they were visiting to deliver some lectures on the ISSN Graduate Diploma (i.e. Public Work 1 [PW1]). I was barely aware of podcasts at that time, but after having recently appeared as guest on a podcast myself, I thought I could try to develop one. This serendipitous experiment ignited my concept of an evidenced-based

podcast to become what I consider to be my most significant work in terms of success, recognition, and reach.

Each ‘episode’ features an expert, sometimes several experts, typically from the communities of practice within which I operate, with a primary focus on Sport and Exercise Nutrition or topics broadly relevant to performance nutritionists, such as exercise physiology, to further develop their understanding of athletes and their needs. In each episode, normally lasting 50 to 60 minutes in length, I discuss a topic with the guest expert on which they have usually published peer reviewed research or are recognized for their expertise, and then I ‘unpack’ the evidence and discuss the science in the context of applied practice. Context is always a significant theme in the podcast. Essentially, in each episode we translate Mode 1 knowledge into Mode 2 knowledge.

Although not a formal route for publication, podcasts have been acknowledged as an outlet for obtaining and disseminating knowledge to support evidence-based practice in exercise science (Amonette, et al. 2017: 277) and clinical practice (Boulos, et al. 2006; Kraft 2007; Wilson, et al. 2009). Podcasts also ‘enable educational content to be presented in an alternative format that may sometimes “work” better than traditional text-based information’ (Edirisingha and Salmon, 2008: 7).

Podcasts have become ubiquitous in recent years and can be easily published by anyone in the public domain, as evidenced in the fitness and nutrition category on iTunes, the largest repository and outlet in the world for podcasts. Podcasts comprise a broad range of recorded conversations, which disseminate bias and opinion rather than the best available evidence, between two or more people, or they are monologues from hosts who are invariably not experts or do not adhere to the processes of evidence-based practice, as defined earlier in Chapter 1. Furthermore, many of these podcasts endorse or even sell products such as exercise devices, training programs, and nutritional supplements (Amonette, et al. 2017: 277).

It is an important and evidently novel characteristic of *We Do Science* that it adheres to an evidence-based process. Its five phases of production represent a substantial investment of effort, as illustrated in Figure 19. This artefact alone represents approximately 1000 hours of work, with over four hundred hours alone dedicated to the reading of primary research papers, and over one hundred hours of recorded conversation with the actual experts who have conducted and published the research for the benefit of the listeners.



Figure 19: The five steps of production and work invested for each podcast episode, from initial preparation to dissemination.

In each episode, we critically evaluate the findings of the research, explore the implications of the findings to the field generally, consider the limitations of the knowledge, delve into the new ideas or concepts that arose from the research, and discuss how this topic matter can contribute to the current evidence-base for practice. A substantive advantage to the podcast, as reported by our students, numerous listeners, and the guest experts, is that it allows for a bi-directional conversation between practitioner and scientist, which is ‘ideal for the sharing of research and new ideas’ (Amonette, 2017: 277). The key goal for each episode is to guide the implicit content or explicit conversation towards being a contribution to an evidence-based approach to practice.

Each episode is in the form of a dialogue: a conversation not only challenging the grounds for the expertise of the guest but also expressing and challenging my views because ‘all human beings, not only professional practitioners, need to become competent in taking action and simultaneously reflecting on this action to learn from it’ (Schon & Argyris, 1974).

To use Schon’s (1986: 8) description, there is ‘a crisis of confidence in professional knowledge’. Out of all my published podcasts, there is no better illustration of this than the discussion on this very issue in Episode 59 of the podcast on ‘Oversciencing and Marginal

Gains in Elite Sport’ with Dr Marco Cardinale (Bannock 2015b). Dr Cardinale was the head of Sports Science and Medicine for the British Olympic Committee for the Beijing 2008, Vancouver 2010, and London 2012 Olympic games. In this episode, it was made clear that too much emphasis is given in UK universities to education in mechanistic science at the expense of applied science. In effect, we are good at creating scientists, but what we also need to be good at is developing competent practitioners. The podcast supports this goal.

Impact of the *We Do Science* podcast

In terms of quantifiable measures of impact, so far, I have published 103 episodes since its inception in June 2014—with a quantified impact (Libsyn 2018), in terms of visibility and reach, of well over 1.1 million documented downloads worldwide (Figure 20).

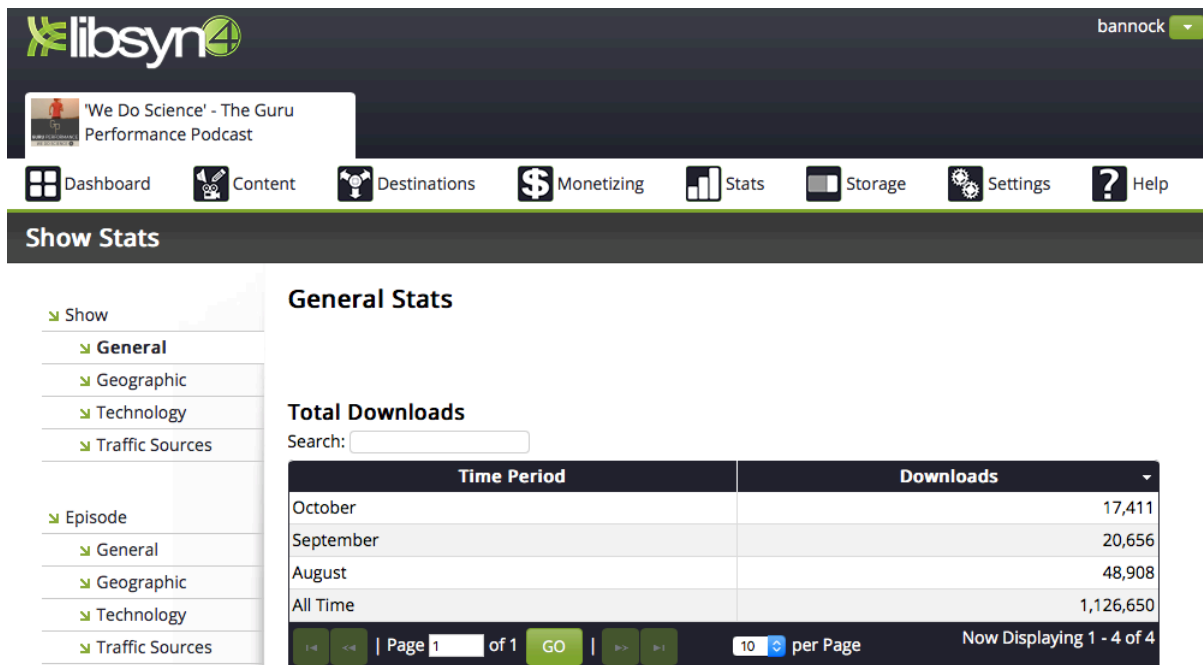


Figure 20: The podcast has achieved over 1.1 million documented downloads.

As can also be seen in Figure 21, the geographic spread of audience is wide: staggering 182 countries with ~375,000 downloads of the total being based in the United Kingdom alone.

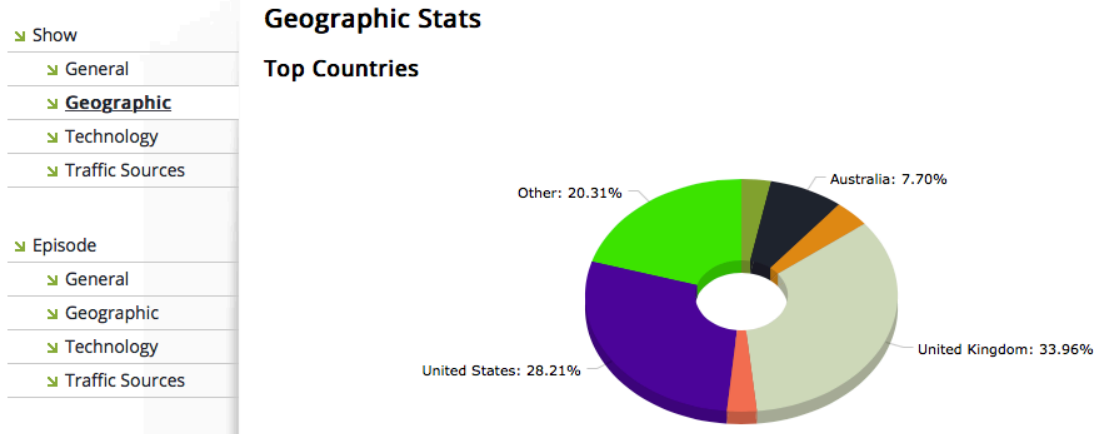


Figure 21: Geographical stats of the top countries for the *We Do Science* podcast audience.

The Guru Performance *We Do Science* podcast, since its inception, has regularly enjoyed being ranked in the top 10 podcasts worldwide under the ‘Fitness and Nutrition’ category on iTunes (Figure 22), which I feel is a major achievement, considering the vast number of non-evidence-based podcasts that are available. A huge number of podcasts exist, thousands, with new ones being created almost daily, which makes this a highly competitive market.

Rank	Podcast Title	Host/Creator
1	NHS Couch to 5K	NHS Choices
2	We Do Science! The Guru...	Guru Performance LTD
3	The Fat-Burning Man Show by Abel...	Abel James, FatBurn...
4	Ben Coomber Radio	Ben Coomber
5	Ben Greenfield Fitness: Fitness, Fat...	Ben Greenfield: Fat L...
6	Underground Wellness Radio	Sean Croxton
7	PODRUNNER: Workout Music	Steve Boyett
8	Health Check	BBC World Service
9	PODRUNNER: INTERVALS	DJ Steve Boyett
10	20 min. Yoga Sessions from...	info@yogadownload.c...
11	Motion Traxx: Upbeat Workout...	Deekron 'The Fitness ...
12	Get-Fit Guy's Quick and Dirty Tips...	QuickAndDirtyTips.com
13	Inside Out Weight Loss	Renee Stephens, PhD
14	The Nutrition Diva's Quick and DL...	QuickAndDirtyTips.com
15	The Jillian Michaels Show	Jillian Michaels
16	WorkoutMusic.com ...	Power Music Workout
17	Robb Wolf - The Paleo Solution...	Robb Wolf
18	The FitCast: Fitness and Nutritio...	Kevin Larrabee

Figure 22: The *We Do Science* podcast ranked in the top 10 podcasts worldwide under the ‘Fitness and Nutrition’ category on iTunes

Unsolicited Praise for the Podcast on Social Media by Experts and Professional Bodies

The podcast has also achieved significant unsolicited praise via social media such as Twitter, by experts, peers, students, and members of the public (see Appendix D).

Recognition of Contribution to the Emerging ‘Field’ and Professionalization of My sector: The Professor Clyde Williams, OBE Award (2015–16) for the Advancement of Science or Education in Sport and Exercise Nutrition

Without doubt, the greatest single achievement in my professional career, to date, has been receiving the ‘Professor Clyde Williams OBE Award for Sport and Exercise Nutrition and Research 2016’ from the UK SENr at the British Dietetic Association’s (BDA’s) ‘BDA Live’ annual conference at the QE2 Centre in Westminster, London.

I was asked to give the Inaugural Lecture (Figure 23) to several hundred of my peers, which was entitled ‘Towards an Epistemology of Practice in Performance Nutrition’. I gave an overview of my professional doctorate research to date and my overall ‘epistemology’, which led to the creation of the Guru Performance *We Do Science* podcast for which the award was given in recognition of my ‘Outstanding Contributions’ to professional education in sport and exercise nutrition.

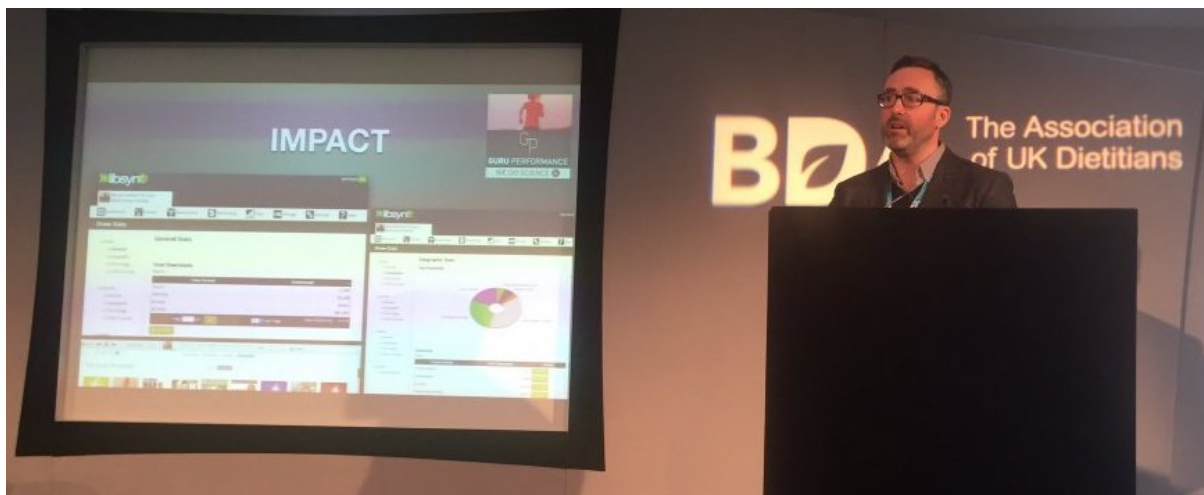


Figure 23: Photo of me delivering the inaugural lecture at the British Dietetic Association’s ‘BDA Live’ annual 2016 conference.

On being advised that I had won the award, as the first ever recipient, I received the following e-mail communication from Professor Clyde Williams:⁶

Congratulations again on your well-deserved award. I am sure that you will have experienced a great sense of pride having been chosen by your peer group as being a worthy recipient of the Award. I wanted to let you know that we are all very grateful to you for your tireless efforts in helping develop sport and exercise nutrition into a highly respected and valued profession. I am sure when in the distant future, when you have time to reflect on your career, you will be able to see more clearly the impact you have had on the profession. Your legacy will be the many students who have gone on to become leaders in the field, who in turn will inspire their students to make significant contributions to the profession. As teachers, we are truly privileged to have the opportunity to teach, inspire and encourage our students to realise their potential and achieve their aspirations. As researchers, we contribute to new knowledge and so doing raise a platform from which even newer research can be launched. However, when all our research papers have been surpassed and then forgotten, our work lives on in our students and in their students. So, may I take this opportunity to encourage you to continue to develop your teaching and communication skills recognising that your influence surpasses your reach.

It is important for me to say that this award from my professional body, and voted for by my peers, and specifically this communication that I received from Professor Williams, who is widely regarded as the innovator of applied SEN in the UK, has had a significant impact on me. It enabled me to see that what I was doing was not only of value to my peers but was also recognised at the highest level as advancing practice and contributing new knowledge to the field. This recognition gave me the confidence and motivation to pursue to the end this

⁶ Professor Clyde Williams is Emeritus Professor of Sports Science at Loughborough University. He was the founding chairman of the British Association of Sports Sciences (now British Association of Sport and Exercise Sciences) and is an Honorary Fellow of BASES and Founding Fellow of the European College of Sports Science. He recently completed three years as vice-chairman of the board of directors of the National Institute of Sports Medicine (UK). Professor Williams serves on the editorial boards of several international journals and acts as a consultant on sport and exercise nutrition to UK and European government agencies. Professor Williams is chair of the board for the Sport and Exercise Nutrition Register. He was also appointed OBE in the 2009 Queen's Birthday Honours list for services to sports science.

professional doctorate and enabled me for the first time to feel that I was doing something of value. This has meant so much to me that I framed the award certificate and communication, which sits next to my desk where it keeps me company every day whilst I reflect, write, and rewrite the parts of this context statement. It reminds me each day, some of which have been very hard days, that I can do this, and that my work is worthy of this award.

Testimonials from Senior Members of My Community of Practice

In addition to the LibSyn and iTunes metrics, I have also provided a series of key quotations (Table 6) excerpted from testimonials (Appendix C) sought from my peers, comprising mostly senior members of my CoP, which includes many world-leading scientists and leading practitioners in SEN and related disciplines. These quotes relate specifically to the podcast (i.e. Public Work 2 [PW2]) and clearly represent powerful evidence to support my claim for novel and significant contributions to knowledge and practice in my field.

Table 6: Selected quotations relating to the public works and their impact on knowledge and practice in sport and exercise nutrition from a selection of testimonial data collected for this project by leading scientists and practitioners from my CoP.

Name & Credentials	Key Quotes Excerpted from Testimonials
<p>Professor Stuart Phillips, PhD, FACN, FACSM</p> <p>Professor and Canada Research Chair (Tier 1), McMaster University, Department of Kinesiology; Director, Physical Activity Centre of Excellence; Director, McMaster Centre for Nutrition, Exercise, and Health Research</p>	<ul style="list-style-type: none"> • ‘The <i>We Do Science</i> podcast stands out as one of the most authoritative and factual podcasts for fitness professionals.’ • ‘Laurent is a terrific host who always asks stimulating questions, provides contextual narratives, and always keeps it light and enjoyable.’
<p>Professor Graeme Close, PhD, ASCC, SENr</p> <p>Professor of Human Physiology, Liverpool John Moores University. Expert Nutrition Consultant England Rugby. Lead performance nutritionist, Everton FC. SENr board member and Deputy chair.</p>	<ul style="list-style-type: none"> • ‘The <i>We do Science</i> podcast is in my opinion the best podcast in sport nutrition. It has single handedly given access to world leading sports nutritionists to the general public and in doing so I believe has played a major role in providing high quality science driven education to people who would normally not have access to it.’
<p>Professor Eric Rawson, PhD</p>	<ul style="list-style-type: none"> • ‘From my own personal perspective, the proof of impact is in part measured by the fact that I, even though I have some expertise, download each Guru performance podcast. The

<p>Professor & Chair of Health, Nutrition, and Exercise Science, Messiah College, PA, USA</p>	<p>podcasts are part of my own continuing education, they allow me to keep up with the latest and best quality research, and have it delivered straight from the experts.’</p> <ul style="list-style-type: none"> • ‘I advise my students to listen to the podcasts and point them towards Laurent’s videos and infographics to use as a supplement to their own formal training and to help them educate their clients, patients, and athletes. I can give no higher endorsement or statement of impact. This spring, I will be utilizing Laurent’s new position stands in my own performance nutrition classes.’
<p>Professor Andy Lane, PhD</p> <p>Professor of Sport and Learning (University of Wolverhampton); Sport Psychology Consultant, Centre for Health and Human Performance, 76 Harley Street, London</p>	<ul style="list-style-type: none"> • ‘... I believe the show has real credibility.’ • ‘With impact in mind, “guru performance” [podcast] is a highly useful tool in being able to translate science to practice.’ • ‘What Laurent has done is plug a vital gap in translating science to impact and this deserves recognition. The range of topics is truly impressive. The quality of guests, including world leading academics such as Prof Greg Whyte is equally impressive.’
<p>Professor Neil Walsh, PhD</p> <p>Professor of Exercise Physiology (Bangor University); Director Extremes Research Group</p>	<ul style="list-style-type: none"> • ‘Laurent’s idea to instigate the Guru performance <i>We Do Science</i> podcast and educational programs and tools shows great innovation and leadership.’ • ‘These podcasts provide a fantastic resource for students and practitioners.’ • ‘The podcasts Laurent has created offer an innovative educational format that leads the way in delivery of academic content (e.g. for distance learning) and discussion of cutting edge research in an informative and accessible way.’ • ‘In my sports nutrition module, for each lecture I now suggest a Guru performance podcast alongside suggested reading from sports nutrition textbooks. The students by far prefer to listen to the podcasts.’ • ‘These podcasts are an important point of reference for my students in sports nutrition and researchers in my team keen to get the inside track on research beyond the scientific papers.’ • ‘In terms of impact i.e. “does any of this really matter” the podcasts get right at the heart of the matter of a topic with an in-depth interview with a subject matter expert in a way that a scientific paper does not.’
<p>Professor Craig Twist, PhD</p>	<ul style="list-style-type: none"> • ‘The Guru Performance podcasts provide an innovative and accessible resource for knowledge acquisition. The topics covered

<p>Professor of Applied Sports Physiology (University of Chester).</p>	<p>are varied and therefore appealing to a range of listeners. The guests are typically high-profile individuals with both a sound theoretical understanding of the area and, most importantly, knowledge of the application of this material in a real-world setting. Laurent is able to ask questions that enable the interviewee to explore theoretical and applied applications, enabling the listener to grasp both the underpinning science and its context with respect to application. Before my own experience as an interviewee, I had very little familiarity with podcasts. I am now a keen advocate of this approach, either for personal learning or the teaching of my own students at undergraduate and postgraduate level.’</p>
<p>Dr Kevin Currell, PhD, SENr Head of Performance Nutrition, EIS. SENr Board Member.</p>	<ul style="list-style-type: none"> • ‘The <i>We Do Science</i> podcast has been a useful tool for many in the profession to stay on top of the latest evidence base. It is time efficient and informative, and unlike many other podcasts evidence based.’
<p>Wendy Martinson, MSc, SENr, OBE Lead Performance Nutritionist, English Institute of Sport & Lead Nutritionist Great Britain Rowing Team.</p>	<ul style="list-style-type: none"> • ‘The guru performance <i>We Do Science</i> podcast series developed by Laurent Bannock is an excellent, accessible platform to deliver a synopsis of the science, evidence and practice recommendations in key areas of performance nutrition.’ • ‘Laurent selects well-established and respected experts to deliver their knowledge and experience in an interview style format.’ • ‘There is a vast range of topics covered and all in about 1 hour and so easy to absorb on a daily commute or during a walk in the park.’ • ‘Very cleverly available through iTunes with which all generations are familiar, this series is an exceptionally well executed educational tool that deserves recognition.’
<p>Richard Chessor, MSc, SENr Performance Nutritionist, British Swimming and Scottish Rugby.</p>	<ul style="list-style-type: none"> • ‘With the <i>We Do Science</i> podcast I don’t know if Laurent appreciates the challenge that he has set the formal higher education systems in the UK. With the quality of material, standard of presenters and practical translation, Laurent has raised the bar for the teaching of sports nutrition in higher education.’ • ‘At no previous time have students been able to access such a large amount of high quality free-to-access information which will challenge the way they interact with their lecturers.’
<p>Daniel Kings MSc, SENr Head of Sports Nutrition Services,</p>	<ul style="list-style-type: none"> • ‘In establishing a podcast series <i>We Do Science</i>, Laurent has brought a variety of different areas previously only accessible

Aspetar Sports Medicine Hospital and Aspire Elite Academy, Doha, Qatar	with conference or targeted professional visits direct to my department meeting room.’
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Reflective Comments on the ‘*We Do Science*’ Podcast

Researching the self through critical engagement with one’s own outputs allows one to begin arranging disparate elements of the work to form a comprehensive, though ever-shifting, picture that reflects the changes happening rapidly in the field of knowledge. This picture, in turn, acts as a guide to understanding how positive impact can be achieved, not only for the practitioner but for a range of audiences, including our clients, our peer practitioners, and those starting out in this field. These podcasts are about both the power of questions and the answers. They encourage the confidence to question, to find the right questions to ask, and to understand the reliability of the answers. They teach discernment. I learn from every encounter, which I value as an educator. Some might think I am successful, so what more could I learn? It is the value and joy of learning that I hope these podcasts also achieve.

5.3 Public Work 3: Publications

For this public work, I have submitted my peer-reviewed contributions, the first of which (Robinson, et al. 2015) came about as an experimental collaboration project between the Guru Performance team and several ISSN Diploma students, of whom one was also a lecturer at the University of Worcester. The experience was a resounding success that resulted in a publication and represented the start of my developing career as a scholar-practitioner. Not only did I learn a great deal about doing research, especially as part of a collaborative team, I also learned a great deal about the publication process, which was a rough journey to acceptance with multiple revisions required to our original manuscript. The experience taught me how to do applied research, the value of collaborative teams, and specifically the challenges that researchers face in getting their work not just into a journal but also out to a wider audience.

As discussed in Chapter 1, peer-reviewed journal publications represent the highest level of reliability in evidence because of their reduced levels of bias (Amonette, et al. 2016). However, since the intended audience of my publications is my CoP, which consists primarily of non-university-based practitioners in SEN and related disciplines, my

publication contributions and chosen vehicles for dissemination are primarily focussed on getting applied, relevant knowledge to the right people quickly, especially those who do not have access to subscription-based journals. For this reason, my co-authors and I chose to publish most of our work either through (i) relevant open-access journals to reach a wider audience, thereby allowing for it to be disseminated more widely through mass communication methods, such as social media, or (ii) through targeting it strategically to a specific audience, such as to our online ISSN Diploma students (PW1) or podcast (PW2) audience.

As I am a practitioner, conducting research and publishing in journals was not a typical task for me; therefore, early on I recognised the value of collaborating with research scientists who were experts at doing research, including the two PhDs on my staff and elite practitioners working with athletes whom I had usually met as an invited speaker on the ISSN Diploma (PW1) or whom I had interviewed on my podcast (PW2). A number are based at universities and research institutes who seemed to welcome the opportunity to collaborate with me and my team in applied research with our elite athletes.

Each publication involved a collaboration between multiple researchers and practitioners enabling an integration of expertise from Mode 1 and Mode 2 knowledge to produce novel contributions that furthered the body of knowledge and therefore the relevant evidence base for applied practice.

Table 7 presents a list of the six peer-reviewed publications I have co-authored since 2015, with a brief comment as to my role and contributions made.

Table 7: The six peer-reviewed publications that make up Public Work 3 (PW3).

Publication	Role and Additional Comments
Aragon, A., Schoenfeld, B., Wildman, R., Kleiner, S., VanDusseldorp, T., Taylor, L., Earnest, C., Arciero, P., Wilborn, C., Kalman, D., Stout, J., Willoughby, D., Campbell, B., Arent, S., Bannock, L. , Smith-Ryan, A. and Antonio, J. (2017). International society of sports nutrition position stand: diets and body	Co-author. In this position paper, I was part of a large collaborative team. My contributions largely related to the applied performance of this review paper. This paper has achieved significant impact in terms of downloads and AltMetrics.

<p>composition. <i>Journal of the International Society of Sports Nutrition</i>, 14 (1).</p>	
<p>Turner, A., Dimitriou, L., Marshall, G., Russell, M., Bannock, L. and Bishop, C. (2017). Physiological Demands of Sabre Competitions in Elite Fencers. <i>Australian Journal of Strength and Conditioning</i>,.</p>	<p>Co-author. In this research article, I was part of an interdisciplinary team where my contributions were related primarily to my applied work with the Team GB Olympic fencing team.</p>
<p>Ranchordas, M., Bannock, L. and Robinson, S. (2016). Case Study: Nutritional and Lifestyle Support to Reduce Infection Incidence in an International-Standard Premier League Soccer Player. <i>International Journal of Sport Nutrition and Exercise Metabolism</i>, 26 (2), 185-191.</p>	<p>Co-author. In this published case-study on elite athletes, I was part of a small collaborative team of practitioner-researchers between Guru Performance and Sheffield Hallam University.</p>
<p>Trexler, E., Smith-Ryan, A., Stout, J., Hoffman, J., Wilborn, C., Sale, C., Kreider, R., Jäger, R., Earnest, C., Bannock, L., Campbell, B., Kalman, D., Ziegenfuss, T. and Antonio, J. (2015). International society of sports nutrition position stand: Beta-Alanine. <i>Journal of the International Society of Sports Nutrition</i>, 12 (1).</p>	<p>Co-author. In this position-stand paper I was part of a large collaborative team. My contributions largely related to the applied performance components of this review paper. This paper has achieved massive impact in terms of downloads and AltMetrics.</p>
<p>Robinson, S., Lambeth-Mansell, A., Gillibrand, G., Smith-Ryan, A. and Bannock, L. (2015). A nutrition and conditioning intervention for natural bodybuilding contest preparation: case study. <i>Journal of the International Society of Sports Nutrition</i>, 12 (1).</p>	<p>Senior researcher and co-author. This paper involved a collaboration between Guru Performance and 2 ISSN Diploma graduate students, one of whom was also a lecturer based at the University of Worcester.</p>
<p>Robinson, S., Morton, J., Close, G., Flower, D. and Bannock, L. (2014). Nutrition intervention for an international-standard female football player. <i>Journal of Applied Case Studies in Sport and Exercise Science</i>, 1 (1), 1-3.</p>	<p>Senior researcher and co-author. This was our first published case study and was a collaboration between Guru Performance, Liverpool John Moores University, and Everton Football Club. Of note is that it was the very first</p>

	paper ever published in the BASES <i>Journal of Applied Case Studies</i> .
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Visibility and Influence of the Publications

In the following section, I summarise the traditional metrics and AltMetrics data available regarding the publications as evidence to support the claim that this public work contributes novel and significant knowledge to the field.

Traditional Metrics: Google Scholar

Google Scholar provides a convenient tool for authors that enables quick assessment of the visibility and influence of published work in peer-reviewed academic publications. Google Scholar metrics can be used to assist an author in determining where to publish their work (Google Scholar 2016).

Although my focus is to publish my work via non-traditional methods, such as podcast (PW2), for optimal exposure to target audience, most of my scholarly contributions (included in the public works presented for this context statement) can still be assessed for visibility and influence using traditional metrics, such as my Google Scholar report (Google Scholar 2018), as can be seen in Figure 24. This figure represents my five registered publications; collectively, these publications have achieved 90 citations in just over three years, which I believe is a significant achievement.

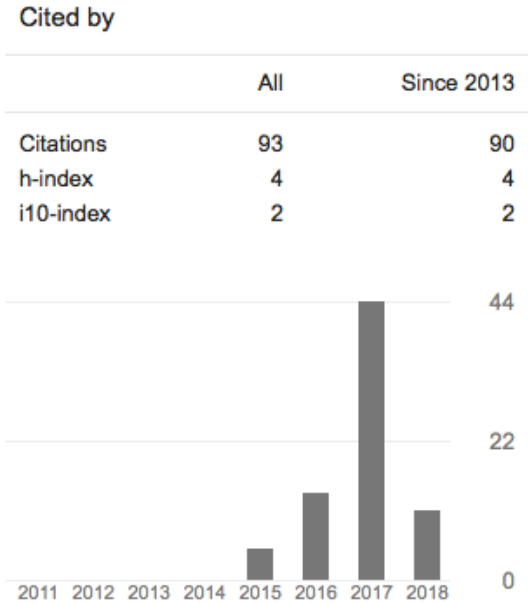


Figure 24: My Google Scholar metrics listing (as of 21st February 2018).

AltMetrics

In addition to traditional metrics, AltMetrics (Impactstory 2018) are available collectively for four of the five publications (Figure 25) (PW4).

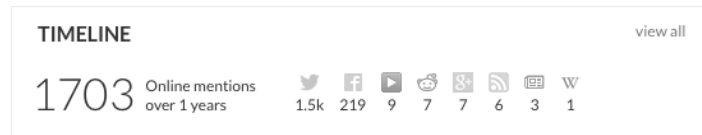


Figure 25: AltMetrics for four of the publications (Public Work 4).

The summary shown in Figure 26 supports my claims for reach and visibility and are taken from the scholar achievements report provided by ImpactStory (Impactstory 2018).

ImpactStory is an open-source website that assists researchers as they investigate and share the online impact of their published work and is a non-profit organisation supported by the US National Science Foundation.



Figure 26: Scholar achievements report provided by ImpactStory (Impactstory 2018).

Testimonials from Senior Members of My Community of Practice

In addition to the traditional and alternative metrics provided, I have also provided several key statements (see Table 8) taken from testimonials (Appendix C) sought from senior members of my CoP, a world-renowned academic from the US, and a leading British performance nutritionist, as further evidence to support my claim for novel and significant contributions to knowledge and practice.

Table 8: Excerpted quotes relating to the publications (i.e. PW3) and their impact from a selection of relevant testimonial data collected for this project by a leading academic and an elite level practitioner from my CoP.

Name & Credentials	Key Quotes Excerpted from Testimonial:
<p>Professor Eric Rawson, PhD Professor & Chair of Health, Nutrition, and Exercise Science, Messiah College, PA, USA</p>	<ul style="list-style-type: none"> • ‘Laurent is one of the few people who stands firmly in both the peer reviewed, medical journal, professional society community (high quality/small dissemination) and the global, online, applied community (potential for high quality/massive dissemination).’ • ‘An underlying theme of Laurent’s many educational endeavours is not just teaching others about science, but teaching others how to ‘do’ science. In other words, the podcasts, infographics, videos, educational opportunities, and position stands all strive to teach how one properly locates, analyses, interprets, and applies science.’ • ‘I advise my students to listen to the podcasts, and point them towards Laurent’s videos and infographics to use as a supplement to their own formal training and to help them educate their clients, patients, and athletes. I can give no higher endorsement or statement of impact. This spring, I will be utilizing Laurent’s new position stands in my own performance nutrition classes.’
<p>Richard Chessor, MSc, SENr Performance Nutritionist, British Swimming and Scottish Rugby.</p>	<ul style="list-style-type: none"> • ‘More recently, his publications have further enhanced the role of the applied sport and exercise nutritionist by detailing practical solutions to problems by applying sound scientific principles with pragmatism. This is an important part for young and developing practitioners to appreciate.’

Reflective Comments on the Publications

One of the primary requirements of evidence-based practice is that the practitioner must become familiar with the research process to such an extent that they can evaluate competently the quality and relevance of the research evidence or tools being considered for use in practice. This experience of being involved in the creation of original research, collaborating with other researchers and practitioners, and carrying writings through to peer-reviewed publication have enriched both my own competence in this area and my ability to translate and transfer knowledge. This improvement has been the motivation and signature of my other works crossing from science to practice and back.

5.4 Public Work 4: Continuing Professional Development Program

Our Continuing Professional Development (CPD) Program (Guru Performance Institute 2018c) was launched in mid-2015 for two reasons. First, ISSN Diploma (PW1) graduates from the previous two years were asking whether they could keep attending our lecture weekends, because they enjoyed them and wanted to keep their knowledge up to date; second, the program was launched so that registered practitioners and graduates in sports nutrition from other institutions could benefit from our highly regarded lecture sessions. Over and above the high-quality knowledge that our lecture weekends delivered, and which were also part of the ISSN Diploma program (PW1), attendees receive the accredited CPD credits (Figure 27) required by some professional bodies to maintain registration and or certification. In 2016, we launched our online CPD version of the same program, so that the program could be accessed by practitioners from all over the world.



Figure 27: Four of the key accreditations achieved for the Guru Performance CPD program.

The key problem with most education programs is that they deliver knowledge that was taught and learned at a single point in time (Figure 28). The time of instruction, however, is

usually long after the time of knowledge production, which in many applied fields means that the lessons may be inaccurate, since it is likely that much of the content will have been updated thanks to the constantly evolving nature of knowledge in our field. As established in Chapter 1, a key premise of EBP is finding the right information to answer specific questions that are important to the practitioner at the right time, which means that the knowledge needs to be current and relevant, where appropriate.

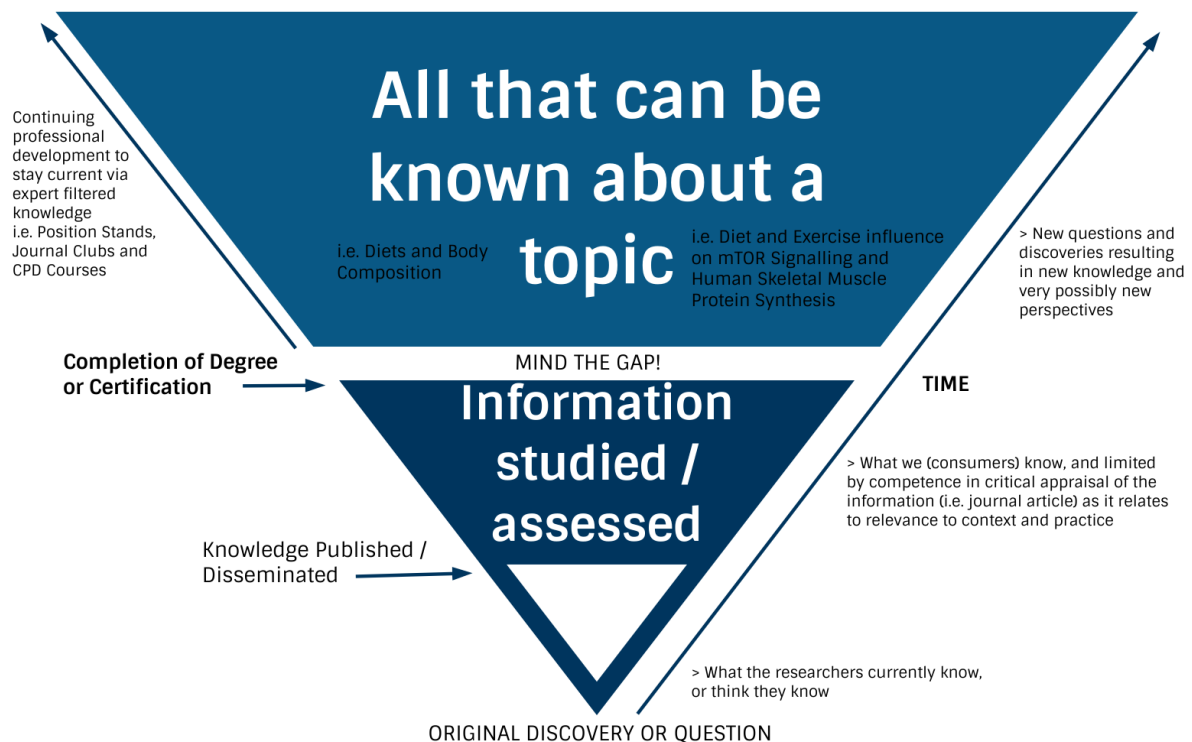


Figure 28: Theoretical model showing information learned or tested in a degree or certification program relative to a constantly evolving body of knowledge (adapted from Amonette, et al. 2016).

Reflective Comments

A key insight I derived from the professional development program concerned the pace of knowledge production and change; in some cases, what was once science is now considered pseudoscience. We must therefore undertake regular CPD. Each year, we typically invite many of our previous experts to return to deliver presentations on similar topics, those for which they are best known, and these return visits made clear that changes in thinking and approach that can occur even over one year. This insight is poignant because I have experienced one of my own publications take almost that long to go from drafts to the completion of the peer-review process. The risk is the lack of context and appreciation for the importance of not just the quality of the research, but also when it was created relative to the evolution of the body of knowledge. By the time a piece of research is published in a journal,

it may already be out of date. Books are usually even more outdated by the time of their publication, since they can take years, not months, to reach publication. This is one of the reasons I believe so much in Mode 2 knowledge-production methods, which provide a much faster way to share quality knowledge and to benefit practice.

One can claim practice is evidence-based only if the evidence is current. It also became apparent that two leading researchers on the same topic can have different points of view; despite both having published a great deal of work with somewhat opposing conclusions, one is neither right nor wrong compared to the other, until context is introduced to sway the conclusion for the practitioner. I also learned that some research, such as seminal studies, can be decades old and remain relevant, and thus I have come to appreciate that some knowledge is relevant only for a particular time and context, and other types of knowledge require that we wait to catch up with its wisdom and its seemingly timeless, universal qualities.

5.5 Public Work 5: MSc in Sport and Exercise Nutrition

In 2014, I was a student in the post-graduate program in Strength & Conditioning at Middlesex University, which I was undertaking as part of my own CPD (an important part of EBP). During the first semester, it dawned on me that I should approach the program leader, Dr Anthony Turner (who was also director of post graduate programs) about the possibility of establishing a post-graduate program in Sport and Exercise Nutrition, as such a program was unavailable at Middlesex University. By this time, I had hundreds of students and graduates of the ISSN Diploma program and felt that they needed an opportunity to continue their educational journey onto a research degree. The reason for this additional need for CPD was that, despite some having master's degrees and even PhDs in related fields, the bulk of the students wanted to keep studying with me or were interested in undertaking a formal research project to achieve a full post-graduate research degree. For some, this goal was important to becoming eligible for professional registration. Either way, I felt it important to extend the educational pathway so that they could have the opportunity to gain an MSc.

After many meetings held for the many people involved and to convince everyone up and down the chain of command that program would be a good idea, I was offered a part-time lecturing position at the university and given the go ahead to create a new MSc program. The creation of an MSc program from scratch certainly seemed like a desirable opportunity at the time, but it ultimately proved far more work than I had anticipated. This task provided me

with insight into how processes at universities work in degree design and awarding, subject to many checks and balances, which supported my own ideas about needing to ensure and maintain quality and credibility, including the vetting of collaborations.

The Master of Science degree in Sport and Exercise Nutrition (SEN) was written in consultation with industry-leading experts and employers, including Dr Kevin Currell at the EIS to maximise the value of the degree to potential employers in elite and professional sport. Interestingly, during my phone interview with Dr Currell, he told me that nobody had ever asked for curriculum recommendations before, which I thought was incredible because the EIS are the biggest employer of professional performance nutritionists in the UK. It appears that I was the only educator in the UK, in recent times at least, to have consulted with the EIS about what they would like to see included in a graduate program in sport and exercise nutrition as part of my pre-validation research.

The result was a curriculum where graduates of the program meet the eligibility criteria for graduate registration with the SENr and can apply for certification with the ISSN—the leading professional and academic bodies for performance nutritionists both in the UK and globally, now pre-requisites for many high-performance roles in sports nutrition. I consider this a huge achievement, since we are the only non-university institute to have achieved this recognition.

The program concentrates on professional practice and is built on evidence-based theoretical and applied foundations (MSc Sport and Exercise Nutrition Programme Handbook, 2015). Work placements and practical training are integrated into the course, equipping students with significant experience in a professional setting.

A key feature of the program is that students will learn from some of the UK's most experienced sports nutritionists and study in the university's impressive facilities at Allianz Park, the Saracens (premier league rugby union team) home stadium where we regularly support elite athletes and sports teams. As such, the course runs alongside the university's other post-graduate sport degrees, and students can work together to develop their skills as part of a multi-disciplinary team of specialists.

In terms of impact, there are several factors that I believe evidence and enhance this work's impact:

- This was the first ever MSc in Sport and Exercise Nutrition at Middlesex University. Students were highly satisfied, according to testimonials from a number of graduates (Appendix C).
- Full cohorts: 20 students each academic year since it started, as compared to master's degree programmes, which usually take 10–15 students. Of each cohort, >80% are ISSN Diploma graduates.
- All graduates are eligible to become registered with the UK SENr.
- Numerous graduates, to my knowledge, now work for professional football, rugby, and cycling teams.
- Several graduates have adapted their thesis for publication and are undergoing the peer-review process.
- One of my MSc graduates now works for me at Guru Performance as a key member of team.

Reflective Comments on the Continuing Professional Development Program

This public work has been a mixed experience for me. On the one hand, I am proud to have created a new MSc from scratch and to have seen so many students graduate over the past two years. It is an edifying experience to have shared this stretch of their professional and academic journeys as a supervisor and mentor and to have encouraged and guided them to the value of evidence-based practice. On the other hand, it was a draining process in terms of the significant administration problems experienced with the university, as well as differences of opinion with many fellow staff members as to the value of applied coursework and publishable case studies who clearly favoured Mode 1 approaches to research and education. In an ironic turn of events, given that I am doing my doctorate at the same university, but with a different school, and given the overall success of the program, the administrative problems and differences of opinion recently became untenable. I have therefore declined to be further involved with the program as of this academic year. I can now focus my energies on my work with the Guru Performance Institute and my private practice, where I believe I can be more creative and purposeful and not consumed by university systems, which can negatively influence the value of education for its own sake and inhibit creative and relevant responses to the needs of the future.

Part IV – Context and Knowledge Transfer

So far in this context statement, I have explored why we need to bridge the gap between science and practice in SEN and related fields. I have introduced a model for evidence-based practice in SEN, and I have explained the content and rationale for each of the works, along with evidence of their significant impact on individuals and on the field, in terms of novel and significant contributions to knowledge and practice in applied sport and exercise nutrition.

In Chapter 6, I explore in further detail ‘context’, a key theme in each work, and why it so important to bridging the gap between science and evidence-based practice. Both context and knowledge transfer (KT) represent the key underpinning structures behind the robustness of this bridging effort.

Chapter 6: Decisions, Decisions: It Is All about the Context

‘Knowledge exists in understanding the evidence that establishes the fact, not the belief that it is a fact.’ – Charles T Sprading

As discussed in Chapter 1, a core feature of evidence-based practice is the ‘integration of information from various sources’ (Amonette, et al. 2017: 10), which is a methodical way of reviewing the best available evidence, blending it with the practitioner’s expertise, and making informed choices that also consider the individual client’s own values and preferences (Raab and Craig, 2016: 1).

Also discussed in Chapter 1 is that EBP is a model originally defined by David Sackett for clinical decision making (Lavin, et al. 2005). It was later adapted by Satterfield, et al. (2009) to include three key components: best available evidence and resources; practitioner’s expertise; and ‘the client’s characteristics, needs, values, and preferences’ (Satterfield, et al. 2009), which must be factored into the practitioner’s decision-making process (Figure 29).

Expert decision making requires interpretation in the context of the environment or organisation in which the decisions are to be applied (Arnold and Schilling, 2016: 4–5; Amonette, et al. 2017: 11), because ‘even the best (statistical or clinical) prediction does not lead straightforwardly to a judgment about the best clinical action’ (Howick 2011: 177).



Figure 29: The evidence-based practice concept

(adapted from Satterfield, et al. 2009), which states that all sources of evidence must be interpreted in the context of the environment or organisation in which they are to be applied.

Optimal decision making in EBP requires critical-thinking skills. Critical thinking is vital to EBP (Sharples 2017) and is an essential part of the EBP for SEN model (Step 3) introduced in Chapter 1, because ‘the application of critical thinking skills to nutrition assessment is imperative to ensure appropriate acquisition and interpretation of data’ (Charney and Peterson 2013).

Astleitner (2002) defines CT as follows:

a higher-order thinking skill which mainly consists of evaluating arguments. It is a purposeful, self-regulatory judgment which results in interpretation, analysis evaluation, and inference, as well as explanations of the evidential, conceptual, methodological, or contextual considerations upon which the judgment is based.
(p. 53)

Practitioners need to integrate both knowledge and experience in order to achieve the necessary critical thinking skills that result in increased competencies and levels of practice (Charney, et al. 2013: 2). In an adaptation of the Dreyfus continuum of practice model for medical and nursing practice (Ross, et al. 2013), an important distinction is made between ‘knowing that’ and ‘knowing how’, which is largely dependent on context recognition and use in critical thinking (Dreyfus and Dreyfus 1986; Lyneham, et al. 2008; Charney, et al. 2013). Figure 30 describes the characteristics of each stage of the Dreyfus model, which mirrors my own professional journey and development toward expertise in my timeline, as presented in Chapter 4, where the transition between ‘knowing that’ and ‘knowing how’ appears as practitioners progress from competent to proficient in practice.

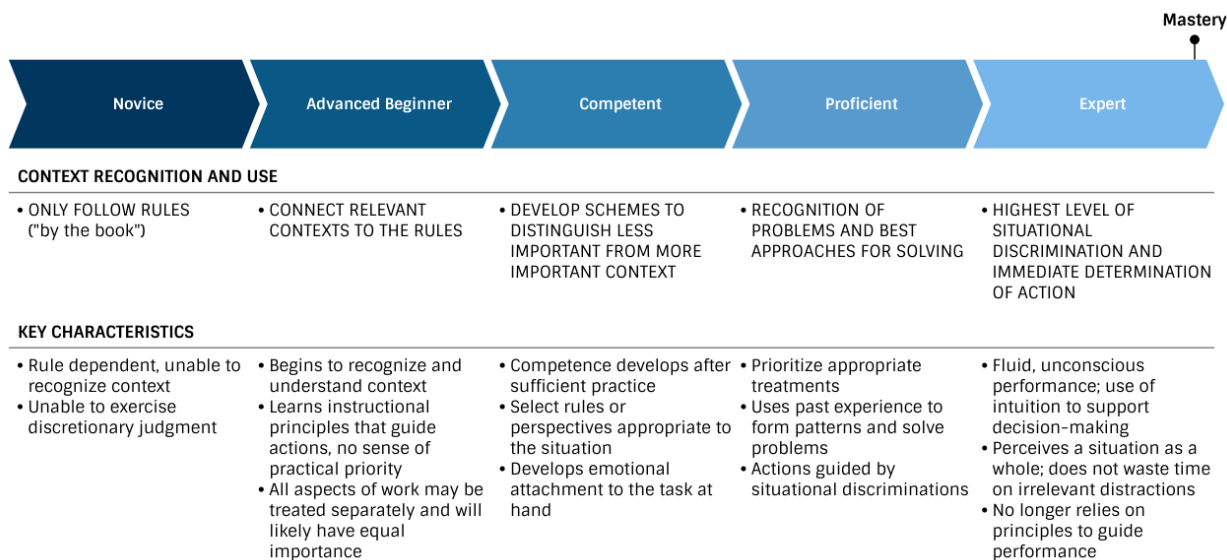


Figure 30: The Dreyfus continuum of practice model
(adapted from Charney, et al. 2013: 3).

Despite the intense debates that occur widely on social media, where ‘there is a motif within the nutrition industry to make broad sweeping generalizations about optimal diets’ (Dieter, 2015), there has yet to be research published that specifically addresses the role and importance of context in SEN practice. This gap in the literature is important because ‘sports nutrition research should tackle the important questions that athletes and coaches need to consider when making evidence-based decisions about if and how to use a specific product’ (Burke 2017). There is, therefore, a clear gap between science and practice, which diminishes appreciation of the complexities involved in the acquisition, translation, and application of knowledge, often resulting in the adoption of extreme positions or fads (McGuigan 2017: 841). I have seen this lack of appreciation as an opportunity to address this research gap.

The environments, or *contexts*, within which practitioners operate are recognised in the research literature to be highly complex (Durning, et al. 2010; Coutts 2017; Buchheit 2017): ‘context has been found to be a potential mediator in the successful implementation and use of evidence in practice’ (Rycroft-Malone 2008: 406).

Beyond my own efforts to highlight the importance of context in SEN, through each of the works, there remains a significant gap with regards to de-contextualised and contextualised approaches to SEN knowledge creation and dissemination. To date, very few prominent SEN practitioners have written articles about the importance of context in sports nutrition (Collins 2017; Sampson 2017). In the peer-reviewed literature, there is also little reference to the importance of context. However, this lack of recognition is starting to change, as leading

researchers have started to acknowledge the complexities involved in applied SEN and SES practice. For example, Close et al. (2016) state that ‘perhaps most importantly when formulating recommendations, context is everything’ (p. 150). Therefore, ‘it is critical that we consider the context of the questions when it comes to sport science and how they directly relate to enhancing performance’ (McGuigan 2017: 841). Any solution—as I have championed in every episode of the podcast (PW2), in the context statements made in our technical articles (PW3), and in the ‘taught-weekend’ lecture sessions (PW1) for the past five years (PW2)—and as recently proposed by Buchheit (2017), must be ‘one that appreciates context over simple scientific conclusions’.

Context and Its Importance to Evidence-Based Practice?

‘The least initial deviation from the truth is multiplied later a thousandfold.’ (Aristotle OTH, 271b8)

According to the Merriam-Webster dictionary (2016) the word *context* originates from the Latin word *contextus*, which means ‘a joining together’, originally the past participle of *contextere*, which means ‘to weave together’. Synonyms listed include *environment*, *milieu*, *setting*, *atmosphere*, and *surroundings*. Merriam-Webster (2016) further states that ‘when we say that something is *contextualized*, we mean that it is placed in an appropriate setting, one in which it may be properly considered’.

The notion of context has been studied and found highly relevant in a variety of the applied sciences, from psychology to quantum mechanics (Bishop 2017):

- **Situated cognition** theorises that knowing is inextricably linked to doing and argues that all knowledge is situated in activity related to social, cultural, and physical contexts.
- **Situational awareness** is the perception of contextual parts and occurrences with respect to time or space, the understanding of their meaning, and the forecast of their status after a variable has changed, such as time or a predetermined event.
- **Chaos theory** is a branch of mathematics focussed on the behaviour of dynamical systems that are extremely sensitive to initial contexts.

Figure 31 illustrates a situated cognition approach to the client consultation. Situated cognition embraces the concept of multifaceted interactions amongst individual participants and the consultation contexts, which can all impact the outcome in the consultation encounter

model as shown in this Figure 31 (Durning, et al. 2010). The three aspects that make up the consultation are all significant and interact as depicted by the arrows. Example elements for each factor are listed below each factor in parentheses. The intervention outcome depends upon these three factors, on their interactions, and potentially on other inputs. Since the consultation evolves, or may change due to feedback amongst these elements, the consequence(s) can be non-linear and thus unpredictable. This is a behaviour known as deterministic chaos (Bishop 2017). Therefore, ignorance of context significantly increases the potential for deterministic chaos in practice settings—even small factors that seem equal, to the best of our knowledge, can have unobservable differences and therefore can lead to very different intervention outcomes (Rickles, et al. 2007).

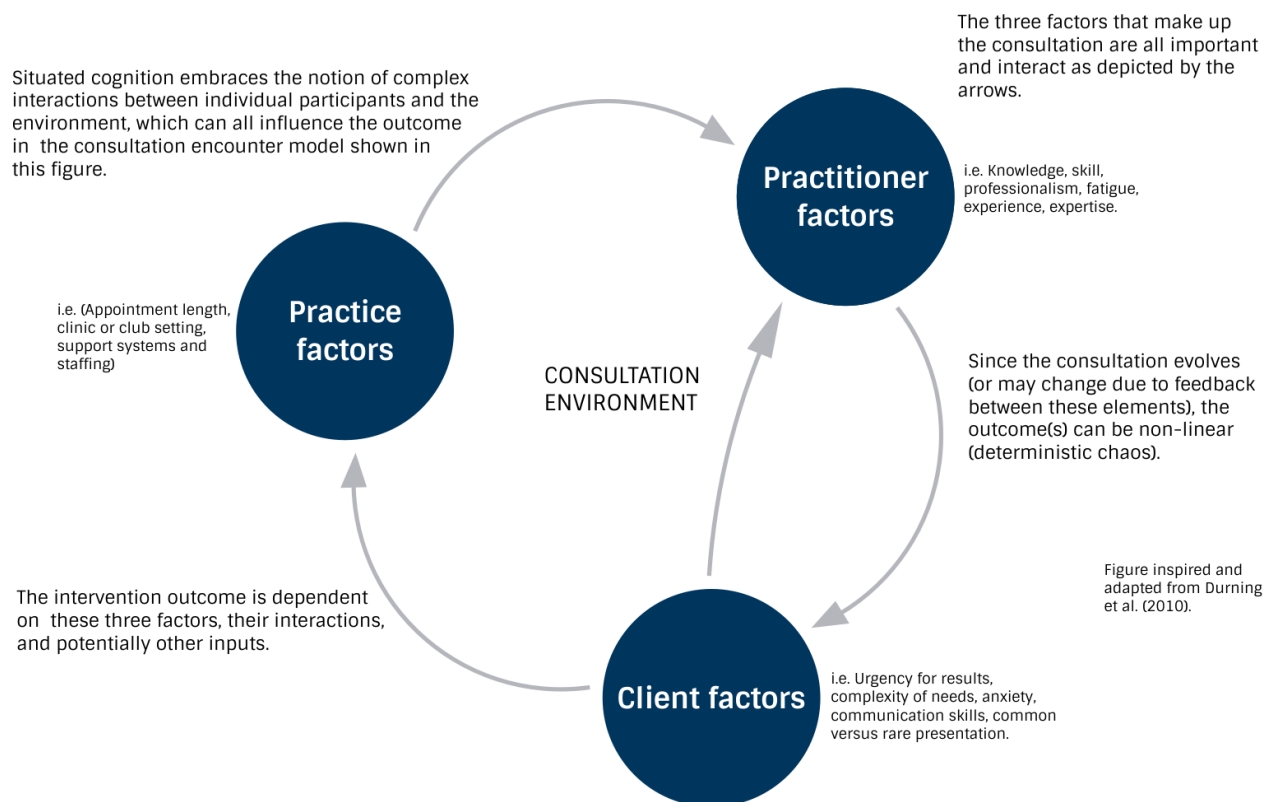


Figure 31: A situated cognition approach to the client consultation.

Adapted from Durning, et al. (2010).

As discussed in Chapter 1, SEN science, like many other disciplines in SES and medicine, is founded upon Cartesian reductionism, ‘where a problem is broken down into its smallest components, examined, and then the information gleaned used to draw conclusions about the nature of the larger reality’ (Tuffin 2016). Vital to this method, and therefore of concern to

the practitioner, is that the problem being assessed conforms to a linear system (Table 9), which in applied settings is highly unlikely.

Table 9: Features of linear and non-linear systems (adapted from Tuffin 2016).

LINEAR SYSTEM	NON-LINEAR SYSTEM
Output is proportional to input	Output disproportionate to input
Output is reproducible over time for a given input	Output for the same input value may not be constant over time, or be reproducible
Events occur sequentially	Events occur both sequentially and simultaneously
Each variable within a linear system acts independently of another	Each component of the system influences the other, i.e. shows interdependence
Example: Mode 1 Knowledge (de-contextualised)	Example: Mode 2 Knowledge (contextualised)
Example: Response of blood sugar to insulin	Example: Athlete performance outcome from taking a sports nutrition supplement

Since day-to-day SEN practice is, in most cases, undertaken in a non-linear environment, as shown in my proposed Holistic SEN Practice model below (Figure 32), it is not amenable to investigation by reductionist methods because (a) one must consider the ‘bigger picture’ of the client’s needs and circumstances, and (b) one must integrate knowledge, context, and practice for ‘real-world’ practitioner decision-making to take place.

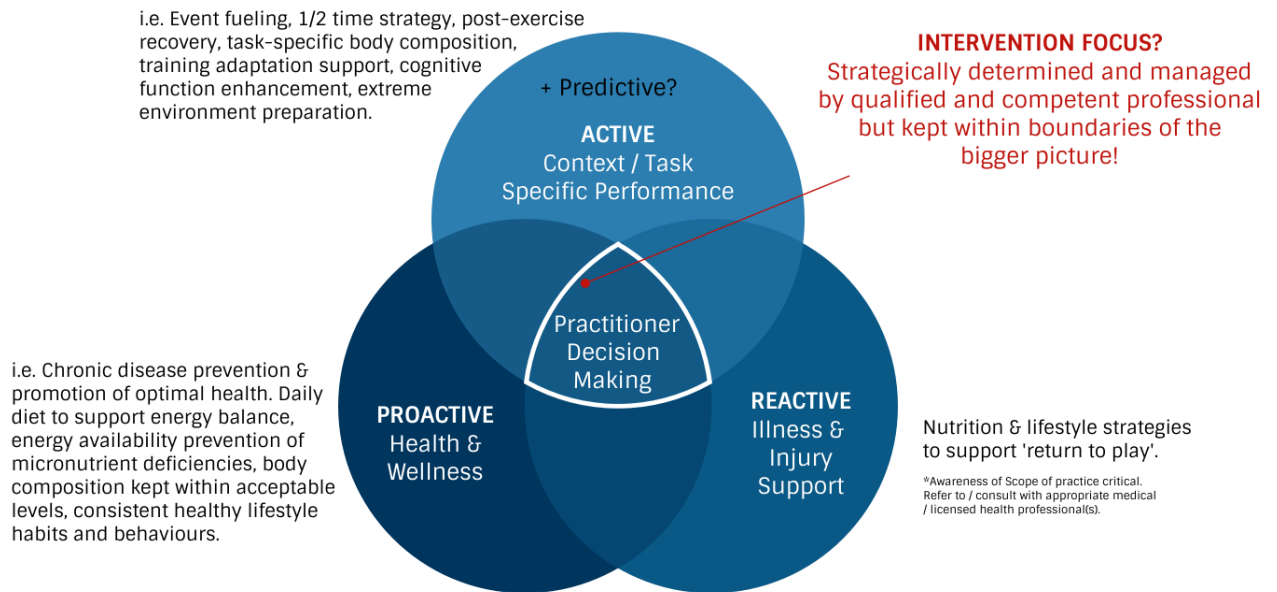


Figure 32: Holistic sport and exercise nutrition practice model for sport and exercise nutrition that triangulates knowledge, context, and practice.

Navigating the Knowledge and Context Across a Landscape of Practice

'No single item of information (unless coming from an elite and unimpeachable source) should ever be given serious consideration unless it can be triangulated.' (Lincoln and Guba 1985: 283)

Integrating knowledge, context, and practice requires one to navigate a sea of data.

Triangulation, a metaphor acquired from surveying and maritime navigation (Turner and Turner 2009), is an important aide to decision making in the practitioner's toolbox.

Data triangulation is a powerful technique, if performed competently, that enables validation of data via cross-verification of evidence from two or more sources, where the use of multiple data sources, methods, and sources of knowledge (Wilson 2016), as is done in EBP, assumes an obviation of bias (Turner and Turner 2009). However, this method raises the spectre of potential confirmation bias, so 'triangulation can only provide a fuller picture rather than any form of objective truth, and its results must be interpreted and presented in this light' (Fielding and Fielding 1986).

Triangulation is used widely in a variety of applied disciplines (Turner and Turner 2009) such as education (e.g. Altrichter, et al. 1996); human-computer interaction (e.g. Gray and

Salzman 1998); nursing (e.g. Thurmond, 2001); astrophysics (e.g. Gribbin 2008); and neuroscience (e.g. Robson 2009), but it has yet to be formally proposed for use in SEN practice.

Triangulation involves the mindful interlinking of quantitative and qualitative methods, or it requires different methods informed by different knowledges, contexts, and practices. Used well, it strengthens the research design and the reliability of the evidence it produces, which in turn informs practice, where the rationale is grounded on the fact that a single method cannot effectively solve the problem of competing causal factors (Denzin 1978; Boyd 2000; Turner and Turner, 2009; Wilson 2016).

The triangulation of data (Figure 33) is a skill that strengthens the practitioner's findings (Jones 1996) and thus the evidence they intend to apply in practice, because the data has increased credibility and validity (Wilson 2016).

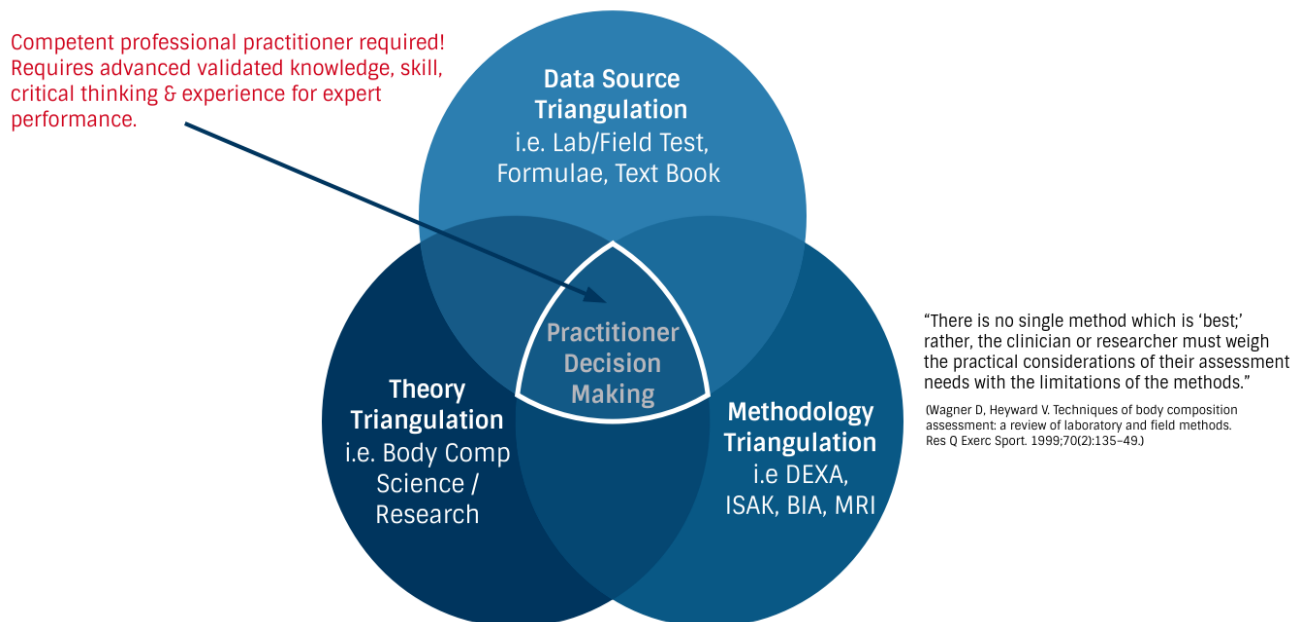


Figure 33: Data triangulation for evidence-based practice model. When performed competently, the triangulation of data strengthens the evidence used to inform practice.

The advantages of this technique include:

- Further sources of information usually provide the practitioner more insight into a topic, which for example I find is a common daily requirement in my own practice when assessing hydration status with my athletes (Figure 34).
- Shortcomings identified in one source of data is minimized when multiple sources confirm identical data.
- Numerous sources of data offer verification and validity whilst complementing similar findings.

- Further comprehensive data is acquired to better inform a practitioner's evidence-based decision making.
- Data and information is supported in numerous locations and types of research, making it simpler to evaluate data in order to determine conclusions and outcomes.
- Irregularities in sources of data are better recognised increasing the likelihood of a successful intervention.

(Turner and Turner 2009; Wilson 2016)

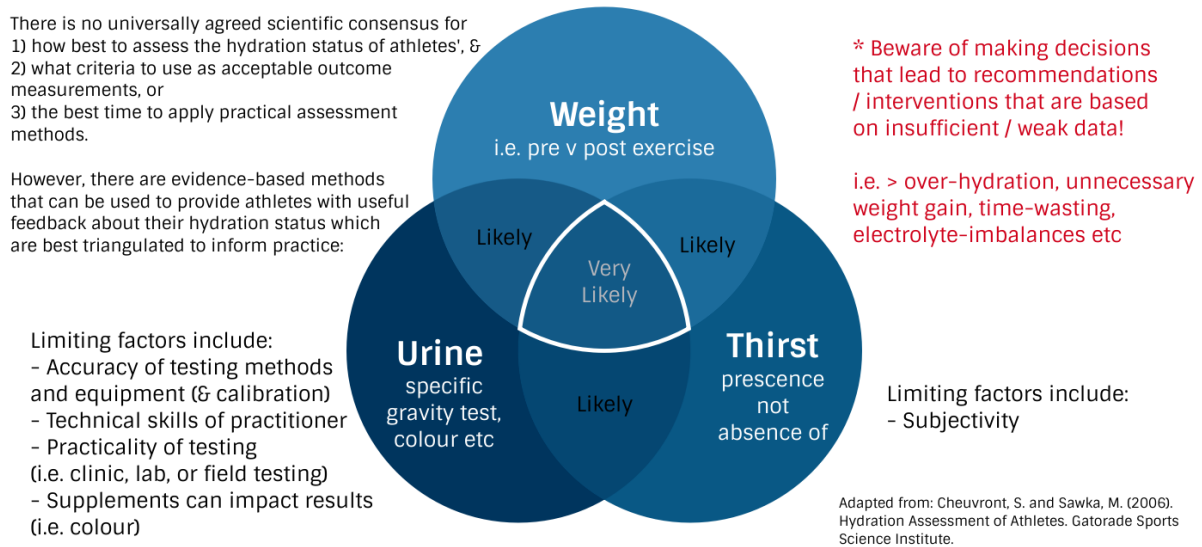


Figure 34: Daily practice decision making example when assessing athlete hydration status. When two or more simple markers of hydration are present, only then is it likely that the athlete is dehydrated. However, only when all three markers are present, can hydration be considered very likely.

There are, therefore, significant challenges and opportunities for research, practice, training, and education in applied SEN and its related disciplines, which I have recognised over the last five years and for which the works have been designed to address using Mode 2

Knowledge, making them contextualised contributions to knowledge and practice in my field. I feel at this stage like the engineer who has done an evaluation of the bridge structures for their internal and external integrity, and now I am presenting KT as a fit-for-purpose vehicle to competently cross the bridge.

Chapter 7: Crossing the Bridge: Knowledge Transfer

*‘Successful knowledge transfer involves neither computers nor documents
but rather interactions between people.’*

- Thomas H. Davenport

Bridging the gap between sport and exercise science and practice requires a transfer of knowledge from the laboratory to field settings (Reilly 2008) because to decrease the gap between what we know and what we do, research findings must be translated from knowledge to action (Afrashtehfar and Assery 2017).

The classically acknowledged definition of the term ‘knowledge transfer’ (KT) denotes ‘transferring good ideas, research results and skills from universities and other research organisations or individuals, to business and the wider community to enable innovative new products and services to be developed’ (Howlett 2011), which has since developed to commonly include ‘the exchange of information through networks’ and ‘takes place when existing information is recombined in a new way’ (Sheshinski, et al. 2007). Straus et al. (2013) further conceptualize KT as ‘an iterative, dynamic, and complex process, both concerning knowledge creation and the knowledge application’.

As discussed in Chapter 1, not all knowledge that can be transferred is of an appropriate quality, and ‘the problem faced by practitioner’s today is determining which information is useful and should be incorporated into programming and which should be eliminated as counterproductive or dangerous’ (Amonette, et al. 2017: ix). Practitioners therefore need to use an evidence-based KT process because they need to use a ‘tool which has been developed specifically to bridge the gap between knowledge derived from research on the one side and evidence-based usable information and tools for practice on the other’ (Verhagen, et al. 2014).

An evidence-based knowledge-to-action KT cycle, focussed on transferring and applying knowledge into practice (Strauss, et al. 2011), includes ‘identifying the problem; adapting knowledge to local context; assessing barriers and facilitators to knowledge use; selecting and implementing interventions; monitoring knowledge use; evaluating outcomes; and sustaining knowledge use’ (Graham 2006). The principles of KT are important because they have been acknowledged to ‘apply to the challenges of bridging the gap between science and practice in sports’ (Eisenmann 2017). The action cycle is influenced by knowledge creation,

and as with all KT models, multiple action phases can occur simultaneously (Gagnon, et al. 2011; Straus, et al. 2011; Afrashtehfar and Assery 2017). Although the EBP for a KT framework appears linear, the process occurs concurrently or in different arrangements, with the application of EBP being a ‘multifaceted process with many actors and systems’ (Titler 2008).

To decrease the gap between what practitioners know and what they do, research findings need to be translated from knowledge to action (Afrashtehfar and Assery 2017), ‘but in a judicious manner’ (Graham and Tetroe 2007), which requires adherence to an evidence-based KT framework. This is necessary because in EBP it is important to follow a recognised and research-validated implementation approach and apply it to KT interventions (Hroschikoski, et al. 2006). It has also been deemed important that ‘particular attention should be given to the knowledge that needs to be translated including the audience to which it is directed (Afrashtehfar and Assery 2017). Evidence-based KT for EBP should thus highlight the role of the end-user, such as SEN practitioners, and the role of the knowledge in the translation process, ensuring ‘that the knowledge is relevant and applicable for the specific context’ (Straus, et al. 2011).

While there are numerous KT models available and in use in clinical settings (Titler 2008; Straus, et al. 2011), none have yet been proposed for SEN. Although a review of the available KT models is beyond the scope of this context statement, all KT for healthcare models shares the same conceptual framework, including three basic characteristics which I refer to as a three-phase action cycle of KT for EBP (Figure 35): (1) knowledge creation and distillation, (2) diffusion and dissemination, and (3) consumer adoption, implementation, and institutionalisation (Graham 2006; Hroschikoski, et al. 2006; Graham and Tetroe 2007; Titler 2008; Afrashtehfar and Assery 2017; Eisenmann 2017).

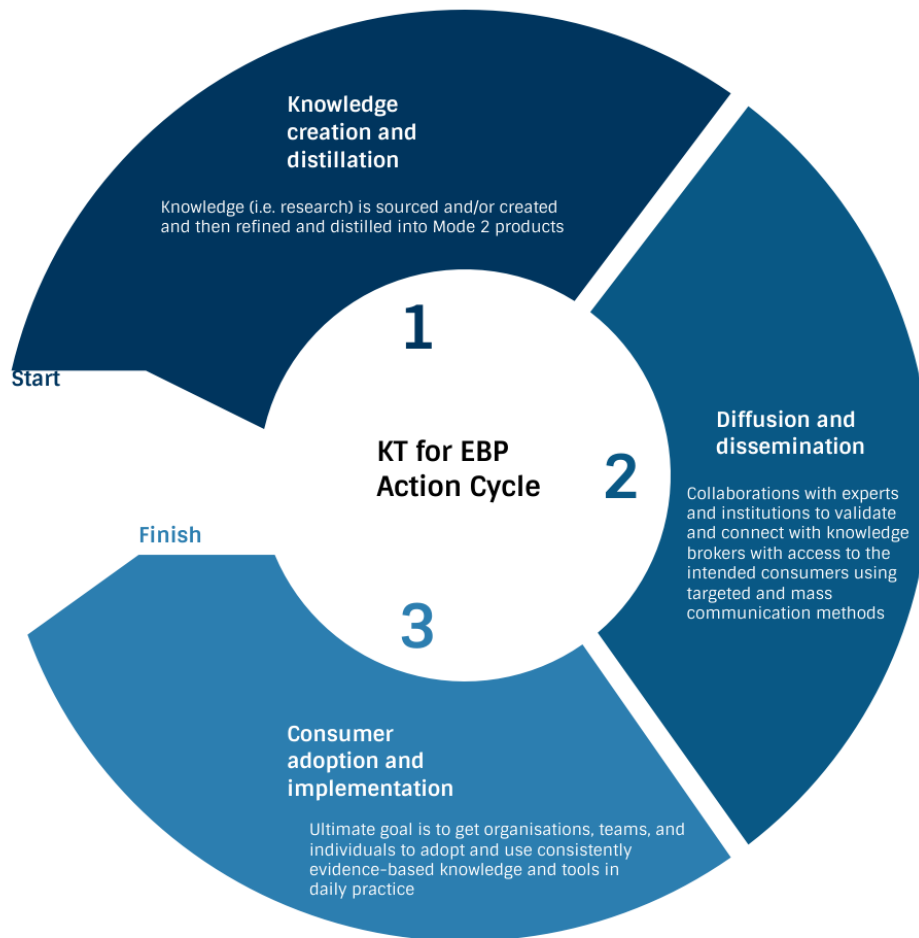


Figure 35: A knowledge transfer (KT) action cycle for evidence-based practice.

Users of the KT for EBP framework can be observed from the standpoint of those conducting the research or generating the knowledge, those who utilise the evidence to inform their practice, and those who function as bridge builders to link the knowledge creators to the knowledge consumers (Titler 2008).

The KT for EBP action cycle comprises three key phases that are necessary in bridging the knowledge-to-action gap:

1 – Knowledge creation and distillation are the start of the KT process and are where knowledge, such as produced in research, is sourced and created, with the relevant research findings being unpacked and then refined and distilled (Graham, et al. 2006) into application-friendly Mode 2 knowledge products, such as public works that can be put into action.

Examples include specific intervention recommendations delivered in the ISSN Diploma and CPD program lectures (PW1, PW4), in each episode of my podcast (PW2), and as is found in

the published technical articles, position papers, and case studies that I have co-authored (PW3). These avenues of information dissemination together increase the likelihood that the ‘research evidence will find its way into practice’ (Nieva, et al. 2005; Crawford, et al. 2016). The knowledge-distillation process must involve and be influenced by the intended consumers, such as my CoP, for research findings to impact SEN intervention recommendations. The distillation of knowledge should be guided by the perspectives of the target consumers for factors such as accessibility to real-world practice environments, practicality of implementation, and the amount of evidence required by practitioners, as well as traditional Mode 1 knowledge-production considerations for credibility, such as strength of evidence and generalisability (Titler 2008).

2 – Diffusion and dissemination includes collaboration with leading academics, high-level professional practitioners, respected opinion leaders, academic institutions, professional bodies, and professional sports teams to ‘disseminate the knowledge that can form the basis of action’ (Titler 2008) to potential consumers, which is a key feature of all my public works. Dissemination collaboration connects scientists with intermediaries, such as me, who are then able to act as knowledge brokers with access to the target consumers and their associated CoP. An important benefit to this model is that strategic dissemination partnerships with leading experts and professional institutions and bodies provide powerful validation of the new knowledge and help to identify and appeal to influential groups and communities of consumers; this model increases the likelihood that the evidence will be applied in practice. Targeted and mass dissemination efforts should utilise the vehicles and channels that are most effective, with the aim of maximising reach and access to the target audience (Titler 2008; Crawford, et al. 2016), including SEN practitioners, sport scientists, and personal trainers. Targeted dissemination methods, such as lectures and conference presentations to graduate students and professional practitioners (PW1, PW4 & PW5), and mass communication methods, such as podcasts (PW2) and open-access publications promoted through social media (PW3), are utilised to reach a wide range of audiences, with the expectation that the initial consumers will influence the end users of the new evidence-based knowledge.

3 – Consumer adoption, implementation, and institutionalisation is the final phase of the EBP KT process (Nieva, et al. 2005; Titler 2008). The purpose of this phase is to get organisations, teams, and individuals to adopt and use consistently evidence-based knowledge and tools in daily practice. The implementation and maintenance of EBPs in sport

and exercise science environments involves complex connections and environmental influences (see Chapter 1), which is why it is important to contextualise the Mode 1 knowledge for Mode 2 (see Chapter 1) in the EBP KT process. It takes a great deal of effort to change practice at both the individual and organisational level, in order to apply evidence-based knowledge and products in a specific context (Titler 2008; Rycroft-Malone 2008). When the evidence-based knowledge and tools are demonstrated by influential researchers and elite practitioners in lectures (PW1, 4 & 5), discussed in a podcast (PW2), described in published case-studies with elite athletes (PW3), and professional body position-stands (PW3).

The result (Figure 36) is that a wide variety of actors and stakeholders, such as researchers, practitioners and clients, can ‘participate in the conversation’ as ongoing multi-directional traffic across the landscape of practice, informing and consuming the knowledge which contributes to an evolving body of evidence-based knowledge in the discipline: ‘the exercise community as whole will benefit from transparent and continuous sharing of ideas as we collectively build the evidence base for our discipline’ (Amonette, et al. 2017: 278).

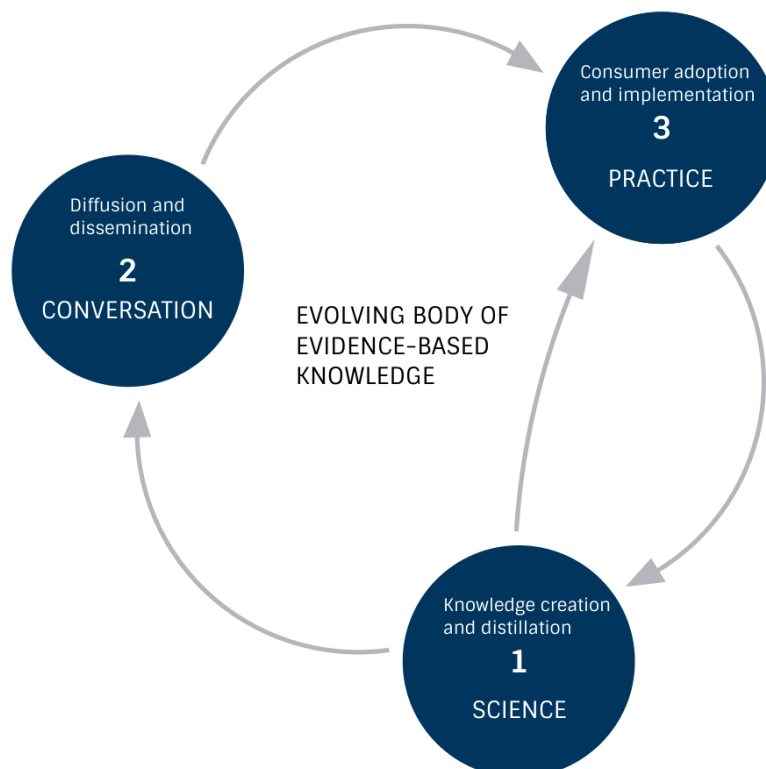


Figure 36: When a bridge is created between science and practice, the body of evidence-based knowledge of a discipline evolves.

As highlighted earlier in this context statement, early on in this doctoral process I sought feedback (see Appendix C) from leading scientists and practitioners from my CoP as to their opinion of the impact of the public works on the SEN discipline as an auditing tool in my own evidence-based practice process. In Table 10 I have listed the key relevant quotes that relate to the public works and their impact on KT. Their comments are an important part of the conversation that occurs between significant members of my CoP at the intersection of science and practice, and they are provided as evidence to support my claim for originality and for having made a significant contribution to my discipline, by the appraisal of my peers.

Table 10: Selected quotations relating to the public works and their impact on evidence-based KT from a selection of testimonial data collected for this project by leading scientists and practitioners from my CoP

Name & Credentials	Key Quotations
<p>Professor Stuart Phillips, PhD, FACN, FACSM</p> <p>Professor and Canada Research Chair (Tier 1), McMaster University, Department of Kinesiology; Director, Physical Activity Centre of Excellence; Director, McMaster Centre for Nutrition, Exercise, and Health Research</p>	<ul style="list-style-type: none"> • ‘I view Laurent’s efforts in this area as exemplary and a great example of how to get knowledge from the top people in the science down to those in the “trenches” who crave messages that are true signals and not noise.’ • ‘Laurent is a terrific host who always asks stimulating questions, provides contextual narratives, and always keeps it light and enjoyable.’ • ‘In a vast and noisy fitness and nutrition information-scape Laurent Bannock’s communication and science translations skills are allowing the mere mortals and listen to, ask questions of, and interact with some of the top scientists in the field. Making this seem easy (I realize it’s not) is what Laurent does best. He’s facilitating the transfer of knowledge and doing it in highly polished and professional manner.’
<p>Professor Graeme Close, PhD, ASCC, SENr</p> <p>Professor of Human Physiology, Liverpool John Moores University. Expert Nutrition Consultant England Rugby. Lead performance nutritionist, Everton FC. SENr board member and Deputy chair.</p>	<ul style="list-style-type: none"> • ‘...and in particular the podcast that has translated nutritional science to the mass market.’ • ‘Over the past 2–3 years, there has been a dramatic change in the culture of sports nutrition in the UK for the better with many non-scientists now looking for and indeed expecting solid science to support claims – I genuinely believe that the <i>We Do Science</i> podcast has been a huge influence on this change and for that Laurent should be congratulated.’
<p>Professor Eric Rawson, PhD</p> <p>Professor & Chair of Health, Nutrition, and Exercise Science, Messiah College, PA, USA</p>	<ul style="list-style-type: none"> • ‘An underlying theme of Laurent’s many educational endeavours is not just teaching others about science, but teaching others how to “do” science. In other words, the podcasts, infographics, videos, educational opportunities, and position stands all strive to teach how one properly locates, analyses, interprets, and applies science.’ • ‘Laurent has positioned himself as a bridge between science and practice and has attained enormous reach, both on a foundation of high quality science education.’ • ‘The fact that Laurent is well known and respected for his education programs by both scientists and practitioners is a

	testimony to how successfully his methods have allowed him to bridge the gap between science and practice.’
<p>Professor Andy Lane, PhD</p> <p>Professor of Sport and Learning (University of Wolverhampton); Sport Psychology Consultant, Centre for Health and Human Performance, 76 Harley Street, London</p>	<ul style="list-style-type: none"> • ‘With impact in mind, “guru performance” is a highly useful tool in being able to translate science to practice.’ • ‘What Laurent has done is plug a vital gap in translating science to impact and this deserves recognition. The range of topics is truly impressive.’
<p>Professor Neil Walsh, PhD</p> <p>Professor of Exercise Physiology (Bangor University); Director Extremes Research Group</p>	<ul style="list-style-type: none"> • ‘The podcasts Laurent has created offer an innovative educational format that leads the way in delivery of academic content (e.g. for distance learning) and discussion of cutting edge research in an informative and accessible way.’ • ‘In my sports nutrition module, for each lecture I now suggest a Guru performance podcast alongside suggested reading from sports nutrition textbooks. The students by far prefer to listen to the podcasts.’ • ‘These podcasts are an important point of reference for my students in sports nutrition and researchers in my team keen to get the inside track on research beyond the scientific papers.’ • ‘In terms of impact i.e. “does any of this really matter” the podcasts get right at the heart of the matter of a topic with an in depth interview with a subject matter expert in a way that a scientific paper does not.’
<p>Professor Craig Twist, PhD</p> <p>Professor of Applied Sports Physiology (University of Chester).</p>	<ul style="list-style-type: none"> • ‘My view is that both of these vehicles [Podcast & Diploma] provide a valuable resource for students, practitioners and academics to ascertain knowledge and understanding of a range of topics. The translational approach that underpins these tools is fundamental in ensuring impact, both in terms of the individuals’ learning and their ability to take this and improve their own delivery and working practice.’
<p>Dr Anthony Turner, PhD, CSCS, ASCC</p> <p>Director of Postgraduate Programmes (London Sport Institute, Middlesex University) and sport science consultant.</p>	<ul style="list-style-type: none"> • ‘His understanding of how to best disseminate information, using context and manageable chunks of information is outstanding.’ • ‘I would certainly describe Laurent’s work and approach to teaching and learning as having significant impact. This has evidently increased the knowledge of students and athletes, and this is very much so represented by performance.’
<p>Dr Jose Antonio, PhD, FNCSA, FACSM, FISSN</p> <p>Associate Professor of Exercise and Sports Science (Nova Southeastern University, Davie Florida USA). CEO and co-founder of the International Society of Sports Nutrition.</p>	<ul style="list-style-type: none"> • ‘He is a true integrative scientist who can deliver information to both the academic and lay person in an equally effective manner.’
<p>David Joyce, MSc, CSCS, MCSP</p>	<ul style="list-style-type: none"> • ‘His grasp of the more philosophical issues of our profession allow mature debate to continue, critical to advancing standards of the industry and all who serve in it.’

<p>Head of Athletic Performance, Greater Western Sydney GIANTS Football Club</p>	
<p>Wendy Martinson, MSc, SENr, OBE Lead Performance Nutritionist, English Institute of Sport & Lead Nutritionist Great Britain Rowing Team.</p>	<ul style="list-style-type: none"> • ‘The guru performance <i>We Do Science</i> podcast series developed by Laurent Bannock is an excellent, accessible platform to deliver a synopsis of the science, evidence and practice recommendations in key areas of performance nutrition.’ • ‘Laurent selects well-established and respected experts to deliver their knowledge and experience in an interview style format.’

Part V – Final Thoughts and Reflections

‘Imagination is more important than knowledge. Knowledge is limited.

Imagination encircles the world.’

- Albert Einstein

Chapter 8: ***Reculer Pour Mieux Sauter*** (Stepping Back to Jump Further)

‘An expert in anything was once a beginner!’

– Helen Hayes

The completion of these works has been a challenging, energising, and at times depressing journey, one which has taken 25 years or so, and one littered with events and actions which were often immediate responses to circumstances that involved unexamined ideas; as Kincheloe (2001) describes so well, it has been a process of bricolage, using what is at hand. I started out with autoethnography as a way to find some legitimacy in using the agency of the researcher as a reliable component of the process of carrying out research which crosses disciplines. I found the discourses on autoethnography enlightening and was reassured that the way I was seeing the world of practice and its contribution to knowledge was ‘acceptable’ in the academic arena; in other words that the personal and professional lens was a reliable one. However, as I continued to explore the literature guided by what emerged in my exploration of my own works I came across the work of Kincheloe on bricolage and saw almost immediately that here was a conceptualisation of the interfacing of the many disciplines involved in my sector and what can be ‘absent’ when we look at the interface with the lens of a monodiscipline. I had really struggled to articulate the multiple gaps between science and practice in my sector and had responded not with words but with actions such as the creation of the podcasts which I could then write about. I wanted to get across the instability, the constantly changing environment driven by technology and the exponential increase in the development in theories and products all trying to convince people what is good for them. There is so much noise that it is difficult to differentiate what is reliable from what is a big sell. I had fallen into that trap myself more than once. Kincheloe takes the concept of bricolage, first coined by the eminent anthropologist Levi Strauss and translated as using ‘what is at hand’, and demonstrates its relevance when we are exploring and acting in a

complex environment where the traditional paradigms do not lend themselves to the situation and having to use what is in the environment to progress our understanding. For example, an encounter with an Amazonian tribe, when your recording equipment has fallen in the river and your translator has failed to turn up, impels you to use what you have, to draw on your own and other resources, to be creative in situ, and to learn from those actions. The examples I have given in the context statement are examples of responding to the field conditions. More recently I found myself working with the Egyptian national football team, to support the players up to and during the FIFA 2018 World Cup, without speaking their language and being unfamiliar to their religion and customs which includes the significant challenge of trying to provide performance nutrition support to the athletes during Ramadan which prohibits food or drink during daylight hours where they still have to train and compete in matches against non-Muslim teams and travel to various international locations in differing time-zones. This conceptualisation offered by Kincheloe (2001), Kincheloe & Berry (2004) and others resonates more with the practitioner who has to respond and adapt quickly but more than that bricolage offers insights which emerge as forms of knowledge that can influence both theory and practice. Bricolage also refers to the use of multiple methods, the rigour being in how these interconnect.

Bricolage does not simply tolerate difference, it cultivates it as a spark to researcher creativity. Here rests the central contribution of the deep interdisciplinarity of the bricolage. As researchers draw together divergent forms of research, they gain the unique insight of multiple perspectives. ...The deep interdisciplinarity of bricolage is sensitive to multivocality and the consciousness of difference it produces in a variety of concepts (Kincheloe 2001 p.687)).

I believe among the insights which have emerged from the open and interconnected approaches I have taken is that we are offering courses to young people which they believe will help them to become 'nutritionists or work as elite performance consultants with well-known football teams. They have a vision, a dream, a fantasy and we as practitioners in the field, in my opinion, have a moral duty first of all to be realistic about the outcomes of such trainings and to reframe our training to focus on what can be learned from practice. This requires more challenging placements and for longer and more focus on attitudes, the soft skills, which are currently overwhelmed by the science. Kincheloe's view of bricolage is like Paulo Freire's take on pedagogy is its capacity to be emancipatory not disillusioning. For myself have had the opportunity to step back and critically reflect on my responses to my

internal and external states and to arrive at a deeper understanding of my challenges and achievements and the lessons I have derived from them. I can now better articulate not only the *what* and *how* of what I do, but most importantly the *why*. For a long time, I was in this business for myself. In recent years, with the coming of some emotional and mental maturity and security, I have become focussed on how I can help new members of the field to think and question the *why*.

Like many young people today I can see that at times I was driven by anxiety and anger, by a need to prove something to myself and others, which caused me to criticise rather than critique types of research and their limitations, including being time-bound and often divorced from actual practice. I know that is because I was misled and got lost. However, while I was seeking answers, even in anger, my drive to seek those answers changed my questions and my attitude. I believe now it is possible to reframe our trainings to develop the whole person as a healthy individual and member of a team or group, through soft skills which will help them to adapt to the changing climates within the sector to which they aspire to belong. Even if they never get to be the nutritionist or a successful elite performance consultant they will be able to fall back on the transferability of soft skills to any sector. This may appear to be an obvious recommendation but in my sector at the moment it is obvious to some, but the field is driven by commercial imperatives rather than taking care of what we are selling as a future to young people and to do that we as practitioners need to go deeply into what is absent in our thinking when we use a monodiscipline lens.

Life on the disciplinary boundaries is never easy, but the rewards to be derived from the hard work demanded are profound p. 691

Future Directions

The field of sport and exercise nutrition is changing daily, so I recognise that I and my outputs-to-date must keep up by adapting to new knowledge, new technologies, and new contexts. I accept now that the lag between practice and theory is necessary, as I have needed time to reflect on and theorise my practice; it is a different process. I see my activity in this sector as increasing the dialogue between academics and practitioners, to reduce the lag in information dissemination. I believe I am now better informed to move forward in my field and to contribute to the development of my field to meet the future not as a seller of trends but as a professional practitioner-researcher for whom reliability of evidence matters. I have come to see the other part of this partnership. The academic researcher in this field has been

in search of informed and articulate practitioners, and informed practitioners have been in search of open-minded academic researchers. Toury (2006) speaks of this mutual longing more elegantly, as a ‘wish-to-understand’ attitude which is the foundational principle of translation between any set of cultural practices—in this case, between the cultural practice of the academic researcher and that of the practitioner. I see myself as facilitating such dialogue and plan to update my works to reflect what has been learned during this doctorate. My future plans for the works discussed in this context statement, and for the product that is the context statement itself, are as follows:

- adapting and refining some sections of the context statement to submit as publications in the relevant peer-reviewed literature on evidence-based practice and KT in SEN;
- creating and delivering CPD short-courses specifically on evidence-based practice in SEN;
- writing an evidence-based practice for SEN handbook for practitioners and students;
- speaking at conferences (3 speaking engagements already arranged for 2018);
- appearing on other people’s podcasts to promote EBP in SEN to as a wide an audience as possible; and
- innovating, creating and disseminating new Mode 2 knowledge products relating to SEN via targeted and mass communication methods.

Post script

In the process of undertaking this doctorate, I started to put together a concept of what an expert evidence-based practitioner in my field might look like and aspire to, in terms of academic and professional traits, in the form of an infographic (Figure 37). This infographic has been revised many times as I have come to learn more about myself and those that I aspire to be like—such has been my privilege this past five years in meeting and working alongside so many inspirational expert scientists and practitioners who have facilitated the dialogue between my inner and outer identities, as well as between practitioners and scientists. It is by no means a definitive or exhaustive list, nor should it be, and I am aware that I am imaging myself and my aspirations, but it can also be seen as an aspirational model for a professional practitioner based on the inspiration of others committed to lifelong learning and improvement of themselves and others.

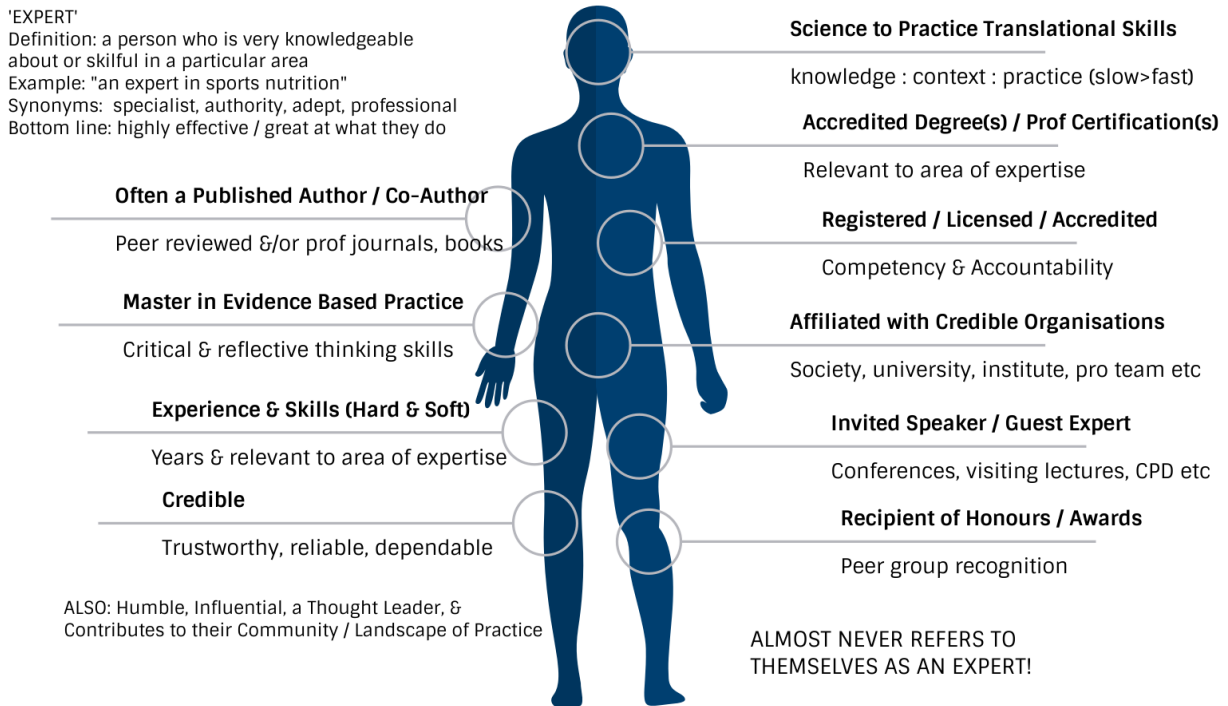


Figure 37: Anatomy of an evidence-based expert practitioner. Experts come in many forms, but these are the more common features identified in my research of the leading evidence-based practitioner experts in my CoP (i.e., SEN). This example does not refer to coaches, trainers or allied practitioners in other disciplines, who may well be deemed an expert by different criteria. This concept is highly nuanced and typically open to personal judgment.

Personal Post Script

In this context statement, I set out my rationale for why we need to build bridges between science and practice in applied SEN and related disciplines. I discussed the themes that have preoccupied me and that have led to the creation of the public works that form parts of a comprehensive bridge, the purpose of which, in support of the main theme, is to bridge the gap between academic research and real-world practice. I described each of the public works in terms of content and rationale, and I provided evidence to support my claim that the works are novel and contribute both to the body of knowledge in my field and to practice. I explained why context is vital to knowledge production and decision making in EBP, and I provided a vehicle with which to navigate the bridge in the form of a model for a KT cycle for evidenced-based practice. Finally, I believe I have made sense of myself and made sense of what I do not only to myself but to others, particularly in my CoP, including colleagues and practitioners in my field and clients. I have confidence in a way that is different from when I started out to engage deeply in my own outputs. I listened to everyone who claimed to be an expert, I felt reserved about writing counterarguments not because I did not have any

but because my dyslexia inhibited even small attempts at writing. Podcasts and demonstrations, graphics and quoting others were the ways I articulated my knowledge. However, the confidence I have now has emerged from the removal of the barriers I had to writing. I now know for certain I do podcasts not because I cannot challenge ‘experts’ due to my lack of confidence in my writing which is not the same as lack of confidence in my knowledge. Podcasts are about reaching people quickly with quality of knowledge which will help them make informed choices about what matters to their health and well-being. I have discovered that I love writing and I have enjoyed the discovery of new ideas that are outside of my own practice sector, but which have considerable relevance. I did not know what to expect when I started work on this statement, but it was less than what I have gained. I think every human being feels to a greater or lesser extent less than complete and perhaps, for me anyway, part of that incompleteness is about sometimes being the obstacle to your own knowledge.

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Terms as they are used in this work

Context – The circumstances that form the setting for an event, statement, or idea.

Epistemology – The philosophical study of the nature and scope of knowledge and justified belief. Epistemology questions the nature of knowledge and how it relates to similar notions such as truth, belief, and justification. Epistemology is also concerned with the means of production of knowledge, and scepticism over different knowledge claims along with issues related with the creation and dissemination of knowledge in specific areas of inquiry (such as expert performance, in the context of my profession). It guides how we explore how we know what we know, and that guidance is directly drawn from our ontology.

Information – That which informs, such as ‘facts’ given or learned about something or someone or such as an answer to a question of some sort. Information is related to data and knowledge. Data represents values attributed to parameters, and knowledge signifies understanding of real items or abstract ideas. Information is not necessarily linked to an observer.

Knowledge – A familiarity, awareness or understanding of somebody or something, such as information, facts, descriptions, and skills, which has been acquired through experience or education via perception, discovery, or being learned. It may be theoretical or practical (i.e., applied), and it may be acquired through experience or education by perceiving, discovering, or learning. Knowledge acquisition is a cognitively complex process, influenced by factors such as perception, communication, and reasoning. Knowledge requires a cognitive observer.

Real world – The existing state of things (such as the intricacies of daily practice), as opposed to the imaginary, the simulated, or the theoretical (such as in text books, research papers, the classroom, or the research laboratory).

Evidence – The available body of facts or information that indicates whether a belief or proposition has truth or validity.

Appendices

Appendix A: Curriculum Vitae (CV)

Laurent Bannock

Maple Tree House, Priory Lane, Shotesham St Mary, Norfolk, UK
Phone: +44 (0)7738949245 • E-Mail: bannock@mac.com

Education

- **Doctor of Professional Studies by Public Works** (candidate) 2014 –
“Bridging the gap between science and practice in sport and exercise nutrition” Expected: March
Institute for Work Based Learning, Middlesex University, London, UK 2018
- **Post Graduate Certificate in Strength & Conditioning** 2014 – 2015
Middlesex University, London, UK
- **Master of Science in Exercise Science & Health Promotion** 2008 – 2009
California University of Pennsylvania, California, PA, USA
- **Master of Science in Nutrition** 2006 – 2007
Huntington College of Health Sciences, Knoxville, TN, USA
- **Advanced Diploma in Exercise & Health Studies** 1994 – 1995
City University, London, UK
- **Higher National Diploma in Science & Management of Exercise & Health** 1992 – 1994
Farnborough College of Technology, Farnborough, UK

Professional Certifications / Registrations

- **Registered Sport & Exercise Nutritionist** (High Performance Registered) 2011
The Sports & Exercise Nutrition Register (SENr), UK
- **Accredited Anti-Doping Advisor** 2015
UK Anti-Doping (UKAD)
- **Certified DEXA Operator (IRMER) – Bone Mineral Densitometry & Body Composition** 2015
Guy's and St Thomas's NHS Trust, Medical Physics Department, UK
- **Certified Anthropometrist – (ISAK Level 1)** 2013
International Society for the Advancement of Kinanthropometry
- **Certified Strength & Conditioning Specialist (CSCS)**, 2011
The National Strength and Conditioning Association, USA
- **Certified Level One Precision Nutrition Coaching** 2010
Precision Nutrition, Canada
- **Certified Sports Nutritionist** (CISSN, certified with honors), 2009
The International Society for Sports Nutrition, USA
- **Certified Personal Trainer (CPT)** 2009
National Academy of Sports Medicine, USA

Professional Experience

- **Performance Nutrition Lead** 2018 – present
 Egyptian National Football Team – for the FIFA World Cup: Russia, 2018
- **Performance Nutritionist** 2017-2017
 Elina Svitolina – WTA Tennis Player (Ranked #3 in the world)
- **Performance Nutritionist** 2015 – 2016
 British Fencing – World Class Program / GB Fencing Team (Rio Olympics)
- **Director, Performance Nutritionist & Exercise Physiologist** 2009 – present
 Guru Performance LTD, Norwich, UK
- **Performance Nutrition Consultant** 2013 – 2015
 Bath Rugby Club, Bath, UK
- **Performance Nutritionist** 2011 – 2013
 London Irish Rugby Club, Sunbury, UK
- **Performance Nutritionist** 2011 – 2012
 London Scottish Rugby Club, Richmond, UK
- **Performance Nutritionist** 2011 – 2012
 London Broncos Rugby League, Roehampton, UK
- **Strength & Conditioning Coach / Personal Trainer / Sports Nutritionist** 2002 – 2010
 Self Employed, Santa Fe, New Mexico, USA
- **Strength & Conditioning Coach / Personal Trainer / Gym Owner** 1992 – 2002
 Self Employed, Dorset & London, UK

Academic / Professional Advisory Board Positions

- **Advisory Board Member** 2009 – present
 International Society for Sports Nutrition

Academic Awards / Fellowships

- **Professor Clyde Williams OBE Award for Outstanding Work in the Field of Sport and Exercise Nutrition Education** February 2016
 Sport and Exercise Nutrition Register (SENr) / British Dietetic Association
- **Fellow** December 2014
 International Society for Sports Nutrition

Editorial Positions

- **Associate Editor** July 2017 – present
Journal of the International Society for Sports Nutrition
- **Editorial Board Member** May 2014 - present
Journal of the International Society for Sports Nutrition
- **Expert Reviewer** June 2014 – present
European Journal of Sport Science
- **Expert Reviewer** Sept 2016 - present
International Journal of Sports Nutrition and Exercise Metabolism

Teaching / Lecturing Experience

- **Senior Lecturer & Program Leader MSc Sport and Exercise Nutrition** 2015 – 2017
Middlesex University, London, UK
- **Program Director** 2013 – present
ISSN Post Graduate Diploma in Applied Sports & Exercise Nutrition,
Guru Performance Institute, London, UK.
- **Visiting Lecturer** 2013 – 2015
MSc Sports Nutrition
University of Westminster, London, UK.
- **Faculty & Lecturer (part time)** 2006 – 2011
Undergraduate and graduate programs in Nutrition & Sports Nutrition.
Huntington College of Health Sciences, Knoxville, TN, USA.
- **Tutor (part time)** 1998 – 2000
Certificate in Nutrition & Health.
The Royal Society for the Promotion of Health, London, UK.

Professional Development (Conferences, CPD, Workshops etc)

- ISSN Diploma Lecture Weekends, Middlesex University, London, UK ~ Every 8 weeks since
10 hours of lectures per weekend from leading academics & practitioners (> 200 hours so far attended) – endorsed for CPD by SENr and British Dietetic Association May 2013
- SENr SDUK Showcase Event (Sports Nutrition), GSK Lab, Brentford, UK 24/04/2015
- Skeletal Muscle Structure & Performance: From the Whole Muscle to the Genome BASES Workshop. Liverpool John Moores University, Liverpool, UK 30/03/2015
- Interpreting and Using Systematic Reviews, Nutrition Society, London, UK 17/02/2015

- Sports & Exercise Nutrition Register, (SENR) Undergraduate / Post Graduate Program Accreditation Training, Birmingham, UK 13/02/2015
- Sports & Exercise Nutrition Reg (SENR) Portfolio Preparation Training, Birmingham, UK 23/10/2014
- International Society for Sports Nutrition Annual Conference, Clearwater, FL, USA 19-21/06/2014
- Dietary Assessment Methods, Nutrition Society, London, UK 26/03/2014
- Statistics for Nutrition Research, Nutrition Society, London, UK 21/03/2014
- Sports Nutrition Symposium, British Nutrition Foundation, London, UK 09/06/2014
- Sports & Exercise Nutrition Register, (SENR) CPD Event, London, UK 31/01/2014
- International Sports & Exercise Nutrition Conference (ISENC), University of Northumbria, Newcastle, UK 17-19/12/2013
- 1st International Conference on Sports Nutrition, International Society for Sports Nutrition, London, UK 09/07/2013
- Nutritional Assessment Methods for Exercise Professionals, University of Surrey, UK 10/9/2010
- Performance Nutrition Workshop, Athletes Performance, AZ, USA 15-17/10/2009
- Advanced Exercise Nutrition, CPD Course, Human Kinetics Education, USA 02/08/2009
- Sports Nutrition Symposium, National Strength & Conditioning Association, CO, USA 15-16/05/2009

Affiliations/Memberships

- Nutrition Society, UK Since March, 2014
- Sports & Exercise Nutrition Register, UK Since June, 2011
- British Dietetic Association (Associate Member), UK Since June, 2011
- British Association for Sports & Exercise Sciences, UK Since January, 2011
- International Society for Sports Nutrition, USA Since October, 2009
- National Strength & Conditioning Association, USA Since October, 2010

Publications / Presentations / Public Works

PEER REVIEWED JOURNAL PUBLICATIONS

- Turner, A., Dimitriou, L., Marshall, G., Russell, M., **Bannock, L.**, (2018). Bishop, C. Physiological Demands of Sabre Competitions in Elite Fencers. *Journal of Australian Strength and Conditioning*. 26(1):18-21.
- Aragon, A., Schoenfeld, B., Wildman, R., Kleiner, S., VanDusseldorp, T., Taylor, L., Ernest, C., Arciero, P., Wilborn, C., Kalman, D., Stout, J., Willoughby, D., Campbell, B., Arent, S., **Bannock, L.**, Smith-Ryan, A., Antonio, J. (2017). *International Society of Sports Nutrition Position Stand: Diets and Body Composition*.

- Trexler, E., Smith-Ryan, A., Stout, J., Hoffman, J., Wilborn, C., Sale, C., Kreider, R., Jaeger, R., Earnest, C., **Bannock, L.**, Campbell, B., Kalman, D., Ziegenfuss, T., and Jose Antonio. (2015). International Society of Sports Nutrition Position Stand: Beta-Alanine. *Journal of The International Society of Sports Nutrition*.
- Ranchordas, M., **Bannock, L.**, Robinson, S. (2015). Case Study: Nutritional and Lifestyle Support to Reduce Infection Incidence in an International-Standard Premier League Soccer Player. *International Journal of Sports Nutrition and Exercise Metabolism*.
- Robinson, S., Morton, J., Close, G., Flower, D. and **Bannock, L.** (2014). Nutrition Intervention for an International-Standard Female Football Player. *Journal of Applied Case Studies in Sport and Exercise Science*.
- Robinson, S., Lambeth-Mansell, A., Gillibrand, G., Smith-Ryan, A., and **Bannock, L.** (2015). A Nutrition and Conditioning Intervention for Natural Bodybuilding Contest Preparation: Case Study. *Journal of The International Society of Sports Nutrition*.

CONFERENCE PRESENTATIONS:

- **Bannock, L.**, Robinson, S. (2015). Optimising Fat Oxidation - From Laboratory to Real World Practice. Conference presentation given at 12th Annual Conference of the International Society of Sports Nutrition, At Austin, Texas, USA.
- **Bannock, L.** (2013). Nutritional Influences on Adaptations to Strength Training. Conference presentation given at the *1st International Conference on Sports Nutrition of the International Society for Sports Nutrition*. Conference conducted at the University of Westminster, London, UK.

PODCASTS:

- **Bannock, L.** (2014–2017). 'We Do Science – The Guru Performance Podcast' [103 Episodes, Podcast] *Liberated Syndication Network*.

References

- Anthony Turner PhD MSc CSCS – Director of Post Graduate Programs, A.N.Turner@mdx.ac.uk
London Sports Institute, Middlesex University, London, UK
- Jose Antonio PhD FACSM CSCS – CEO, International Society of Sports expphys@aol.com
Nutrition, Florida, USA

Appendix B: Personal and professional timeline (initial version)

Appendix C: Testimonials from leading academics and practitioners

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 28th October 2016

<i>Name:</i>	Anthony turner
<i>E-Mail:</i>	a.n.turner@mdx.ac.uk
<i>Key Credentials (i.e. PhD, MSc etc)</i>	PhD, MSc, CSCS*D, ASCC
<i>Profession / Job Title(s):</i>	Director of Postgraduate Programmes and sport science consultant
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer
<i>How long have you known Laurent? (years approx):</i>	3 Years
<i>Testimonial / Comments:</i>	<p>The ways in which students learn have changed markedly in recent times. No longer are we (teachers) just recommending book chapters or journal articles, but instead guiding students toward info-graphics, you tube videos and podcasts for example. The latter especially, as they perfectly fit the busy lives of modern students, transforming the commute for example, in to opportunities to learn. Also more distance learning programmes are being written – also able to be worked around hectic schedules and better accommodating the older student who has additional commitments (e.g., family, job and a mortgage). These also allow the student to watch videos anywhere, at any time, and have the information repeated back to them. These are big advantages that will no doubt lead to more and more courses adopting a similar trend.</p> <p>Laurent has very much so led the way on this new approach to learning – his 1 million podcast downloads are testament to this. His output of the other aforementioned resources is also increasing rapidly and his distance-learning programme is already hugely successful. Laurent also works with me at British Fencing and with the special forces. His understanding of how to best disseminate information, using context and manageable chunks of information is outstanding. The use of info-graphics in the work place, and always relating information back to athlete (or soldier goals) goals, enables significant progress to be made, as well excellent buy-in from all – here I’m also referring to buy-in from all members of the sport science and medicine team.</p> <p>In closing, I would certainly describe Laurent work and approach to teaching and learning as having significant impact. This has evidently increased the knowledge of students and athletes, and this is very much so represented by performance. I would actually like to see the impact of (HE) lecturers measured more like this, rather than the number of citations a paper has had, or by the impact factor of the journal that your latest research paper was published in.</p>
<i>Signature:</i>	

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 7th November 2016

Name:	Professor Andy Lane
E-Mail:	A.M.Lane2@wlv.ac.uk
Key Credentials (i.e. PhD, MSc etc)	PhD, MSc, BA (Hons), PGCE, HPC chartered Psychologist, BASES Accredited Sport and Exercise Scientist, HPC Chartered Scientist
Profession / Job Title(s):	Professor of Sport and Learning (University of Wolverhampton); Sport Psychology Consultant, Centre for Health and Human Performance, 76 Harley Street, London
Relationship to Laurent (i.e. colleague, grad student, etc):	Guest Expert on Guru Performance Podcast
How long have you known Laurent? (years approx):	2 Years
Testimonial / Comments:	<p>I have known Laurent after becoming aware of his podcast "guru performance". I listened to a few of the shows and contacted him to offer a psychological perspective. I did this as I believe the show has real credibility. The listeners I had in mind were not so much academics, but athletes, coaches and practitioners, that is, the users of research. With impact in mind, "guru performance" is a highly useful tool in being able to translate science to practice.</p> <p>In addition to being a professor of sports science, I am also a competitor, running marathons and be active in terms of sport psychology practice. It was athletes who informed me about "guru performance" saying how useful it was as a means of translating complicated sports science. With academics opening up work to the public via open access, it means the general public read the scientific literature directly. However, the complexity of language can confuse the message. What Laurent has done is plug a vital gap in translating science to impact and this deserves recognition. The range of topics is truly impressive. The quality of guests, including world leading academics such as Prof Greg Whyte is equally impressive.</p> <p>There has been a growth in podcasts over the past few years. "Guru performance" is at number 88 and has maintained a regular updates. Interviews are detailed and this is not an easy task. Laurent deserves credit for this work. Each interview requires planning, searching research papers, and asking questions that allows full and elaborate answers.</p> <p>I am happy to endorse his application. Middlesex University has an extremely useful resource for an impact case study for the next REF which Laurent has led.</p>
Signature:	A handwritten signature in black ink, appearing to be "A. Lane", written over a horizontal line.

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 2nd December 2016

Name:	Craig Twist
E-Mail:	c.twist@chester.ac.uk
Key Credentials <i>(i.e. PhD, MSc etc)</i>	PhD, MSc, BASES Accredited Sport Scientist
Profession / Job Title(s):	Professor of Applied Sports Physiology (University of Chester)
Relationship to Laurent <i>(i.e. colleague, grad student, etc):</i>	Peer, Guest Lecturer on ISSN Diploma, Guest Expert on Podcast
How long have you known Laurent? <i>(years approx):</i>	18 months
Testimonial / Comments:	<p>I am pleased to provide a reference in support of the work by Laurent Bannock, most notably through his Guru Performance podcasts and ISSN Diploma.</p> <p>The Guru Performance podcasts provide an innovative and accessible resource for knowledge acquisition. The topics covered are varied and therefore appealing to a range of listeners. The guests are typically high profile individuals with both a sound theoretical understanding of the area and, most importantly, knowledge of the application of this material in a real-world setting. Laurent is able to ask questions that enable the interviewee to explore theoretical and applied applications, enabling the listener to grasp both the underpinning science and its context with respect to application. Before my own experience as an interviewee, I had very little familiarity of podcasts. I am now a keen advocate of this approach, either for personal learning or the teaching of my own students at undergraduate and postgraduate level.</p> <p>The ISSN Diploma again brings a range of quality speakers, in terms of both academic prowess and real-world experience, to an audience of varied experiences. From my own involvement of delivering on the course, I was impressed by the candidates' experiences in performance sport, health and business. Coupled with the content of the course, this variety facilitates a healthy and diverse learning environment that I am confident improves learning and the real-world practices of the candidates.</p> <p>My view is that both of these vehicles provide a valuable resource for students, practitioners and academics to ascertain knowledge and understanding of a range of topics. The translational approach that underpins these tools is fundamental in ensuring impact, both in terms of the individuals' learning and their ability to take this and improve their own delivery and working practice.</p>
Signature:	

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 25th November 2016

Name:	Daniel Kings
E-Mail:	Daniel.Kings@aspetar.com
Key Credentials <i>(i.e. PhD, MSc etc)</i>	BSc (Hons) MSc, IOC Dip SENr High Performance Practitioner, International MBa (in Progress)
Profession / Job Title(s):	Head of Sports Nutrition Services, Aspetar Sports Medicine Hospital and Aspire Elite Academy, Doha, Qatar
Relationship to Laurent <i>(i.e. colleague, grad student, etc):</i>	Colleague
How long have you known Laurent? <i>(years approx):</i>	3 Years
Testimonial / Comments:	<p>While I have known Laurent for only the last three years, I was actually made aware of him several years prior to our first conversation through <i>professional networks</i>. In my opinion, Laurent has achieved a meaningful impact in several key ways over this time.</p> <p>As a practitioner, I have always taken pride in embracing differentiation. Watching from a far, what I was able to see immediately from Laurent was a real passion, energy and wide scope of knowledge that in my view was scarce in the profession. More importantly, that he was integrating this combination into a different form of exciting practice that was very applied, challenging and bridged sports nutrition with exercise science.</p> <p>What made Laurent different to other sports scientists attempting to build a practice in sports nutrition, was his personal dis-satisfaction in some of the “fringe science” which through self-admission had become part of his initial practice. I believe that this pursuit of science, seeking answers and providing solutions is today the fundamental basis for everything that has subsequently led to him achieving meaningful impact across many areas of the sports nutrition profession. Some specific examples are explored in turn below in the <i>context</i> of the profession, my individual practice and the practice of others.</p> <p>Historically, the Sports Nutrition profession within elite sports has been very stereotypic, bordering on tribal towards those who did not “fit the mould”. However, over the last two Olympic cycles the profession has had to morph in response to threats from other disciplines, needs of the elite athletes and their National Governing Bodies. Specifically, the need for a new generation of practitioners with a broader scope of reference knowledge and pedagogy, not just in nutrition in order to add greater value and impact. It is on this basis that the discipline of Performance Nutrition now exists and thrives within elite sport.</p>

The development of any discipline hinges on professional integrity. At the heart of this is an accreditation for access into the discipline, a regulatory body, courses and accredited material for professional development. As our profession expanded with swelling numbers from alternative non-traditional sports science routes this was even more important than ever before to maintain professional standards.

Remarkably, Laurent's work has had an impact across all of these important areas within professional service development. Notably, using his experience and broad knowledge to bridge exercise science into his work with the Sports Nutrition Exercise Register (SENr). Unseen work behind the scenes alone has contributed to shaping a new regulatory body that will help build confidence in an unregulated industry and a legacy of better quality practitioner capacity for the future. In doing so he has significantly contributed to bringing the sports science and traditional nutrition disciplines closer together for the benefit of professional services to elite sport.

As a Head of Service, Laurent's work on education and professional development has had some of the most significant impact on my role, personal practice and the practice of others over the last 3 years.

Firstly, working in Qatar has provided significant distance between more traditional methods employed to maintain my own standards and knowledge. In establishing a pod cast series "*We Do Science*", Laurent has brought variety of different areas previously only accessible with conference or targeted professional visits direct to my department meeting room in a cost effective manner. As a result we have been able to integrate specific pod casts and videos into our journal club and own CPD activity to reflect on, and change practices here in the Middle East. This may sound trivial, and I am sure that others have picked up on the value of this service. However, to contextualize this effectively, I work in an organisation with a multi cultural diversity of 68 nationalities. As a result of his pod cast series I can evidence meaningful impact within the multi cultural practice across our organisation in other disciplines such as physiology, sports podiatry, sports psychology research and sports medicine. The reach is quite incredible. It has provided a base and broken down barriers to build a sport nutrition service for the country of Qatar.

Secondly, I would refer to Laurent's development of the ISSN Diploma.

As a Head of service in a developing country, the need for non-traditional practice entry is fundamental in my strategy to build professional capacity Qatar. In my opinion, the changes in our profession have not been matched with diversity in structured learning activities. Specifically, using technology effectively to deliver more applied accredited certification using new exciting generations of applied academics in one simple platform. Through the ISSN diploma, Laurent has achieved this. As a service we have now been able to develop a non-traditional access route for Arabic speaking sports science graduates into newly created positions of "*exercise scientist*". The ISSN diploma certificate is a key part of this post-graduate learning within their career development pathway. This alone is very significant as it now means we will now help build capacity of Arabic speaking practitioners in the Gulf and Middle East.

Laurent's journey provides a powerful case history in itself.

In a world dominated by supplements and snake oil, for non-traditional practitioners, it provides evidence that credible science has to underpin practice and that it is possible to bridge to a career in sports nutrition from sports science.


For organisations, his case and reach has highlighted to many the dangers of adopting fringe science. Pushing barriers of performance can be achieved through adopting a more "*Informed*" practice mindset. The effect of this is clearly seen today in changes within several large elite organisations and their approaches to procurement of performance nutrition services.

Finally, for the profession Laurent's work has not only been pivotal in helping integrate an expanding talented group of sport scientists into a more regulated sports nutrition industry. I am

glad to say that as the profession has evolved to react with uncertainty in elite sport, lessons have been learnt from "tagging" individuals who differentiated themselves from the norm. His case has shown contemporary modern leaders within the profession that something different is not always a bad thing.

In summary, I believe that there are several people responsible for helping to shape the current discipline and Laurent is one of these select few. For this, as a fellow practitioner I owe him a lot of thanks and considerable respect. I only hope that within my own journey I am able to impart some of the meaningful impact on my profession as he has achieved.

Signature:

 27/11/2016.
DANIEL KINROSS.

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 28th October 2016

<i>Name:</i>	David Joyce
<i>E-Mail:</i>	David.joyce@gwsgiants.com.au
<i>Key Credentials (i.e. PhD, MSc etc)</i>	BPhy (hons), MPhy (Sports), MEx (Strength and Conditioning), CSCS, MCSP
<i>Profession / Job Title(s):</i>	Head of Athletic Performance, Greater Western Sydney GIANTS Football Club
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer, Guest Expert on Podcast
<i>How long have you known Laurent? (years approx):</i>	1 Year
<i>Testimonial / Comments:</i>	<p>It is evident from the type, quantity and quality of Laurent's work that he is leaving a significant footprint on our industry. His work with ISSN Diploma, publications, podcasts, and the Middlesex University MSc speaks volumes for his drive to impact upon our performance profession. It is very easy to settle back into allowing others to do the heavy lifting in terms of disseminating information, but Laurent is as proactive as anyone in our industry. Leaders create leaders, and through passion, hard work and creativity, Laurent is ensuring his legacy will of leadership in not just nutrition, but in performance development and education.</p> <p>From the interview that he did with me for his podcast, it is clear that Laurent has a mature integrity to improve others in our industry. As such, the discussions were not simply limited to operational "nitty gritty", but extended to bigger picture issues such as the value of mentoring and volunteer work. His grasp of the more philosophical issues of our profession allow mature debate to continue, critical to advancing standards of the industry and all who serve in it.</p>
<i>Signature:</i>	<i>David Joyce</i>

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 8th December 2016

<i>Name:</i>	Eric S. Rawson
<i>E-Mail:</i>	erawson@messiah.edu
<i>Key Credentials (i.e. PhD, MSc etc)</i>	Ph.D., FACSM, CSCS
<i>Profession / Job Title(s):</i>	Professor, Chair, Health, Nutrition, and Exercise Science, Messiah College, PA, USA
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer, Guest Expert on Podcast
<i>How long have you known Laurent? (years approx):</i>	3 Years
<i>Testimonial / Comments:</i>	<p>I have had the pleasure of interacting with Laurent Bannock through several different platforms, including his We do science! Guru performance podcast, where I have been featured as a Guest Expert, through his Guru performance website (www.guruperformance.com), and his Twitter feed, and I am confident I can comment about his impact on the exercise physiology and performance nutrition professions. One of the most important parts of research is dissemination of information. The information must be peer reviewed, valid, and of the highest quality. Traditionally, research has been exclusively disseminated through peer reviewed medical journals and at professional conferences. However, this method reaches only a small number of individuals, primarily other scientists and some students in the field. Ultimately, and often in a somewhat less accurate and diluted fashion, research findings might be picked up by the popular press and disseminated to a larger audience. Practitioners, athletes, clinicians, and the average person have the same need for high quality scientific information as researchers, but are often ignored by the traditional methods of research dissemination and education. Social media platforms, such as Twitter, and the internet, have the potential to reach many more people, but they contain a frightening amount of misinformation which is also an obstacle in education. Laurent is one of the few people who stands firmly in both the peer reviewed, medical journal, professional society community (high quality/small dissemination) and the global, online, applied community (potential for high quality/massive dissemination). Laurent's reach has become quite large, with over 18,000 followers on Twitter between his personal, Guru performance, and Sport Nutrition diploma Twitter feeds. His "expert guest podcasts," in particular, are widely downloaded, listened to, and then discussed and recommended on other platforms such as Twitter. With such reach comes tremendous responsibility, and as expected, Laurent shares research findings of the highest quality.</p> <p>An underlying theme of Laurent's many educational endeavours is not just teaching others about science, but teaching others how to "do" science. In other words, the podcasts, infographics, videos, educational opportunities, and position stands all strive to teach how one properly locates, analyses, interprets, and applies science. Laurent has positioned himself as a bridge between science and practice and has attained enormous reach, both on a foundation of high quality science education. The traditional metrics, such as journal impact factor, and scientific citations,</p>

do not accurately measure Laurent's impact. Twitter impressions, mentions, and downloads would be more revealing. The fact that Laurent is well known and respected for his education programs by both scientists and practitioners is a testimony to how successfully his methods have allowed him to bridge the gap between science and practice. From my own personal perspective, the proof of impact is in part measured by the fact that I, even though I have some expertise, download each Guru performance podcast. The podcasts are part of my own continuing education, they allow me to keep up with the latest and best quality research, and have it delivered straight from the experts. I advise my students to listen to the podcasts, and point them towards Laurent's videos and infographics to use as a supplement to their own formal training and to help them educate their clients, patients, and athletes. I can give no higher endorsement or statement of impact. This spring, I will be utilizing Laurent's new position stands in my own performance nutrition classes. Laurent has created a global educational program that shares the latest research findings, but importantly, also teaches how to apply these data to real life.

Signature: Eric S. Rawson, Ph.D., FACSM

DProf Research Project: Meaningful Impact



Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate

Date:	13 November 2016
Name:	Stuart Phillips
E-Mail:	phillis@mcmaster.ca
Key Credentials <i>(i.e. PhD, MSc etc)</i>	Ph.D., FACN, FACSM
Profession / Job Title(s):	Professor and Canada Research Chair (Tier 1), McMaster University, Department of Kinesiology; Director, Physical Activity Centre of Excellence; Director, McMaster Centre for Nutrition, Exercise, and Health Research
Relationship to Laurent <i>(i.e. colleague, grad student, etc):</i>	Peer, Guest Lecturer on ISSN Diploma, Guest Expert on Podcast
How long have you known Laurent? <i>(years approx):</i>	3 Years
Testimonial / Comments:	<p>I have known Laurent Bannock on a professional and personal level for more than 3 years. In my capacity as a visiting Professor while at Loughborough University 2013-14, Laurent generously invited me to come to London to give two lectures on topics related to my research for the ISSN diploma. I was more than happy to give the lectures and I was very pleased when Laurent said I could talk about anything I wanted and he made no suggestions and asked for nothing other than a lecture that was for higher-level students with varying backgrounds. Laurent clearly viewed himself as a facilitator for my lecture. He had also invited my colleague Dr. Kevin Tipton from Stirling University to join me. I thoroughly enjoyed my time with Laurent and felt that the sessions were greatly appreciated by the diploma students. Laurent made sure to keep some lively conversation going during discussion, and clearly had a very tight rapport with the diploma students. The ISSN lectures boast an impressive international cast of top-level people (Dr. Kevin Tipton, Dr. Graeme Close, Dr. Craig Sale, Dr. James Morton to name a few) and I feel privileged to be amongst this cast. The topics Laurent has asked his guests to cover represent a variety of classic and contemporary issues in exercise science, exercise nutrition, and body composition. I view Laurent's efforts in this area as exemplary and a great example of how to get knowledge from the top people in the science down to those in the 'trenches' who crave messages that are true signals and not noise. In fact, filtering the signal from the noise for practitioners is, these days, becoming one of the hardest parts of their job.</p> <p>I have been a guest on Laurent's (Guru Performance Ltd.) 'We Do Science' podcast on two occasions. At more than 85 episodes, the We Do Science stands out as one of the most authoritative and factual podcasts for fitness professionals. Once again, I count myself as privileged to have been a guest on Laurent's podcast. I covered topics ranging from</p>

protein metabolism and body composition, to weight loss, and muscle mass gain. Laurent is a terrific host who always asks stimulating questions, provides contextual narratives, and always keeps it light and enjoyable. As someone who has very little time I can tell you that Laurent's podcast is the *only* fitness-based podcast to which I subscribe and listen regularly. These podcasts are professional, have great guests, cover interesting current topics in the field of sport nutrition, exercise, body composition, and athletic performance. Laurent has done an outstanding job and I give him full credit for bringing a concept from podcast #1 in 2014 to #88 in 2016 this podcast series is top-notch!

In a vast and noisy fitness and nutrition information-scape Laurent Bannock's communication and science translations skills are allowing the mere mortals and listen to, ask questions of, and interact with some of the top scientists in the field. Making this seem easy (I realize it's not) is what Laurent does best. He's facilitating the transfer of knowledge and doing it in highly polished and professional manner. What Laurent's doing represents an exciting brand of KT and one that these days must be most welcome by those trying to find good information.

Signature:



DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 26th November 2016

<i>Name:</i>	Professor Graeme L. Close
<i>E-Mail:</i>	g.l.close@ljmu.ac.uk
<i>Key Credentials (i.e. PhD, MSc etc)</i>	PhD, ASCC, rSEN, fBASES
<i>Profession / Job Title(s):</i>	Professor of Human Physiology, Liverpool John Moores University Expert Nutrition Consultant England Rugby Lead performance nutritionist, Everton FC SENr board member and Deputy chair.
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer, Guest Lecturer on ISSN Diploma, Guest Expert on Podcast
<i>How long have you known Laurent? (years approx):</i>	3 Years
<i>Testimonial / Comments:</i>	<p>I have known Laurent since he returned to the UK some 5 years ago. In that time I have got to know Laurent as a friend and work colleague. Over the last 3 years Laurent has made a significant contribution to sport nutrition in the UK, through his podcast, the ISSN diploma and the creation of the MSc in Sport Nutrition at Middlesex university and I am therefore delighted ton write this letter of support.</p> <p>The “We do Science” Podcast is in my opinion the best podcast in sport nutrition. It has single handedly given access to world leading sports nutritionists to the general public and in doing so I believe had played a major role in providing high quality science driven education to people who would normally not have access to it. Over the past 2-3 years, there has been a dramatic change in the culture of sports nutrition in the UK for the better with many non scientists now looking for and indeed expecting solid science to support claims – I genuinely believe that the “we do Science” podcast has been a huge influence on this change and for that Laurent should be congratulated.</p> <p>I believe that the ISSN diploma is the best nutrition qualification outside of a University in the UK, if not the world. This is extremely important as it is giving personal trainers a route to obtain a recognised qualification and is turning a group of individuals who would not normally be, into evidence-based practitioners. It is testament to Laurent that this course had attracted the biggest names in sport nutrition. No other course in the world has this calibre of academics delivering sport nutrition education.</p> <p>In summary, I do believe that Laurent has had a huge influence on sport nutrition for the better in the last 3 years. This has culminated in Laurent being awarded the Clyde Williams award for services to sport nutrition, and in particular the podcast that has translated nutritional science to</p>

the mass market. Clyde Williams as everyone in sport nutrition knows, is one of the pioneers of sport nutrition in the UK so to be the recipient of the inaugural Clyde Williams award is a real achievement and something I am sure Laurent is extremely proud of. I have thoroughly enjoyed working with Laurent and intend to continue to do so in the future

Signature:

A handwritten signature in black ink, appearing to be 'C. Williams', written in a cursive style.

DProf Research Project: Meaningful ImpactTestimonial in Support for Laurent Bannock,
Professional Doctorate Candidate**Date:** 10th December 2016

<i>Name:</i>	James Morton
<i>E-Mail:</i>	J.P.Morton@ljmu.ac.uk
<i>Key Credentials (i.e. PhD, MSc etc)</i>	PhD
<i>Profession / Job Title(s):</i>	Reader in Exercise Metabolism (Liverpool John Moores University); Head of Nutrition Team Sky
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer, Guest Lecturer on ISSN Diploma, Guest Expert on Podcast
<i>How long have you known Laurent? (years approx):</i>	4 Years
<i>Testimonial / Comments:</i>	<p>On a recent trip to California to deliver a conference presentation, I was asked by a member of the US cycling media if I knew Laurent Bannock. That's when I realised that the work of Laurent and his team was truly impactful across the globe.</p> <p>During the last 4 years, I have watched Laurent work tirelessly to promote learning in our profession. Through his work on the ISSN Diploma he has managed to develop a curriculum that is led by some of the world's most high profile academic researchers and applied practitioners. This blend of theory and practice ensures that students on this programme are truly exposed to the latest thinking on exercise physiology, metabolism and sport nutrition. The fact that students enrolled on this program come from all corners of the world truly reflects the esteem of the award.</p> <p>Through his work on the Guru Performance podcasts, Laurent has managed to expose a global audience to some of the world's most innovative thinkers and promote dissemination of contemporary topics to a truly world wide audience. It is safe to say that the world of sport nutrition is more connected as a result of his efforts.</p> <p>Sport nutrition is still a young but rapidly growing profession. We need people like Laurent who are committed to improving standards, sharing knowledge and driving our profession forward.</p>
<i>Signature:</i>	JPM

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 1st December 2016

<i>Name:</i>	Jose Antonio
<i>E-Mail:</i>	Ja839@nova.edu , issn.sports.nutrition@gmail.com
<i>Key Credentials (i.e. PhD, MSc etc)</i>	PhD FNCSA FISSN CSCS
<i>Profession / Job Title(s):</i>	Associate Professor of Exercise and Sports Science, Nova Southeastern University, Davie Florida USA CEO and co-founder of the International Society of Sports Nutrition (founded 2003)
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer, Guest Expert on Podcast, Collaborated with Laurent on the ISSN Diploma
<i>How long have you known Laurent? (years approx):</i>	Approximately 7 years
<i>Testimonial / Comments:</i>	<p>Laurent Bannock is one of the most accomplished and impactful individuals in the sports nutrition category. His contributions to the ISSN, particularly in the European theatre, are without parallel. He has been the driving force in promoting and organizing the ISSN-London conferences. In addition, he is a reviewer and a member of the Editorial board for our peer-reviewed journal, the Journal of the International Society of Sports Nutrition (www.jissn.com).</p> <p>Perhaps the most influential accomplishment of Laurent is the genesis and tremendous growth of the ISSN Diploma. The ISSN Diploma is now considered the pre-eminent diploma course in the world. It is capped off with students taking the advanced sports nutrition certification of the ISSN, the CISSN. Moreover, his students typically score in the upper echelon and are among the best in the world. This clearly shows the quality of work that Laurent produces. Furthermore, the enormity of the work needed to start and maintain the superlative quality of</p>

instructors in the ISSN Diploma program can only be applauded. It is an undertaking that very few (if any) in our category could successfully pull off.

Moreover, Laurent has earned the highest honor of the ISSN. He is a Fellow of the International Society of Sports Nutrition (FISSN). He is a true integrative scientist who can deliver information to both the academic and lay person in an equally effective manner.

I count Laurent as one of the truly inspirational figures in sports nutrition science.

Signature:

A handwritten signature in black ink, appearing to be 'A. S.', written in a cursive style.

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 17th November 2016

Name:	Kevin Currell
E-Mail:	Kevin.currell@eis2win.co.uk
Key Credentials <i>(i.e. PhD, MSc etc)</i>	PhD, MSc
Profession / Job <i>Title(s):</i>	Head of Performance Nutrition, English Institute of Sport
Relationship to Laurent <i>(i.e. colleague, grad student, etc):</i>	Peer, Guest Lecturer on ISSN Diploma, Guest Expert on Podcast
How long have you known Laurent? <i>(years approx):</i>	3 Years
Testimonial / Comments:	<p>Laurent has undertaken significant work for the profession of sports nutrition over the last few years. My interaction has come in two main forms. Firstly, as a guest lecturer on the ISSN Diploma, and secondly as a guest on the We Do Science podcast.</p> <p>I feel the ISSN Diploma has provided a good, effective education process especially as a distance learning course. As a lecturer on the course I found the students engaging and interested in the topic. As an Institute we have been able to access the recordings of the ISSN diploma weekends to provide a learning resource for our staff.</p> <p>The We Do Science podcast has been a useful tool for many in the profession to stay on top of the latest evidence base. It is time efficient and informative, and unlike many other podcasts evidence based.</p>
Signature:	K.Currell

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 8th November 2016

<i>Name:</i>	Neil Walsh
<i>E-Mail:</i>	n.walsh@bangor.ac.uk
<i>Key Credentials (i.e. PhD, MSc etc)</i>	PhD, FACSM
<i>Profession / Job Title(s):</i>	Professor of Exercise Physiology (Bangor University); Director Extremes Research Group
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Guest Expert on Podcast
<i>How long have you known Laurent? (years approx):</i>	1 Year
<i>Testimonial / Comments:</i>	<p>Laurent's idea to instigate the Guru performance 'We Do Science' podcast and educational programs and tools shows great innovation and leadership. These podcasts provide a fantastic resource for students and practitioners. Traditionally, academics, practitioners and students learn about scientific research by reading textbooks and attending lectures, conferences, workshops etc. The podcasts Laurent has created offer an innovative educational format that leads the way in delivery of academic content (e.g. for distance learning) and discussion of cutting edge research in an informative and accessible way. The conversational format that Laurent adopted for the podcasts make the educational content innovative, accessible and understandable for all. In my sports nutrition module, for each lecture I now suggest a Guru performance podcast alongside suggested reading from sports nutrition textbooks. The students by far prefer to listen to the podcasts. These podcasts are an important point of reference for my students in sports nutrition and researchers in my team keen to get the inside track on research beyond the scientific papers. In terms of impact i.e. 'does any of this really matter' the podcasts get right at the heart of the matter of a topic with an in depth interview with a subject matter expert in a way that a scientific paper does not.</p>

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 22nd November 2016

<i>Name:</i>	Richard Chessor
<i>E-Mail:</i>	richard@rjcnutrition.com
<i>Key Credentials (i.e. PhD, MSc etc)</i>	MSc, SENr
<i>Profession / Job Title(s):</i>	Performance Nutritionist, British Swimming Nutrition Consultant, RJC Nutrition
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer
<i>How long have you known Laurent? (years approx):</i>	~5 years
<i>Testimonial / Comments:</i>	<p>I've known Laurent for around 5 years and tracked his career with a keen interest over this period.</p> <p>My first significant interaction with Laurent was a phone call regarding the placement of one of my athletes on Laurent's ISSN Diploma programme. The athlete was under-qualified for the course but Laurent took an understanding yet professional line in accepting him. Laurent trusted me and my judgement that the athlete could cope with the study, he didn't need to do that but I recognise and appreciate his actions.</p> <p>Since then I have followed Laurent's work via the growth and prestige of the ISSN Diploma and the excellent We Do Science Podcast.</p> <p>The ISSN Diploma has exploded into the 'place-to-be' for nutrition education in the UK. Its versatility in attracting and catering for a wide diversity of students is not unique, however to do so but retain prestige with the qualification very much is. Laurent and his team have driven this and created a programme that is the envy of many education institutions. All of the lecturers who have delivered on the course have mentioned how engaging they found the audience – this is testament to the learning environment that Laurent and his team have created.</p> <p>With the 'We Do Science' Podcast I don't know if Laurent appreciates the challenge that he has set the formal higher education systems in the UK. With the quality of material, standard of presenters and practical translation, Laurent has raised the bar for the teaching of sports nutrition in higher education. At no previous time have students been able to access such a large amount of high quality free-to-access information which will challenge the way they interact with their lecturers. To have built the Podcast to over 800,000 downloads whilst maintaining a professional and academic career is a testament to Laurent's commitment and ability.</p> <p>More recently, his publications have further enhanced the role of the applied sport and exercise nutritionist by detailing practical solutions to problems by applying sound scientific principles with pragmatism. This is an important part for young and developing practitioners to appreciate.</p>

Laurent and I worked together on a staff education project at Scottish Rugby which was very well received and all participants commented on the high quality of the material and its delivery.

Laurent is a humble man with humility and altruism at his core. I respect this immensely and in particular the way he publically discusses the errors that he made in his early career and how he put himself in a position to recognise these errors and move forward positively.

I wish him all the very best in the future and safe in the knowledge that he deserves the accolades and honours he will be awarded because he has worked incredibly hard to achieve them.

Signature:

A handwritten signature in black ink, appearing to be 'J. E.', written on a white background.

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 25th November 2016

<i>Name:</i>	Wendy Martinson
<i>E-Mail:</i>	Wendy.martinson.uk@gmail.com
<i>Key Credentials (i.e. PhD, MSc etc)</i>	BSc (Hons), PG Dip, IOC PG DipSNutr, MSc, SENr high performance
<i>Profession / Job Title(s):</i>	Lead Performance Nutritionist English Institute of Sport & Lead Nutritionist Great Britain Rowing Team
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Peer
<i>How long have you known Laurent? (years approx):</i>	~ 3 Years
<i>Testimonial / Comments:</i>	<p>Reading and thoroughly evaluating research literature is a time consuming task that requires great skill and patience. The volume of published material in the area of nutrition that can influence sports performance is vast and it is impossible to keep up with all the literature in this specialist field. Once read and understood, the translation of this information into every day practice is another essential skill that has to be fine tuned in order to influence the behaviour of athletes and clients alike.</p> <p>Innovative methods enabling this extensive field of literature to become more accessible to practitioners and students is an extremely valuable endeavour, especially in our time poor society. The guru performance 'we do science' podcast series developed by Laurent Bannock is an excellent, accessible platform to deliver a synopsis of the science, evidence and practice recommendations in key areas of performance nutrition. Laurent selects well-established and respected experts to deliver their knowledge and experience in an interview style format. There is a vast range of topics covered and all in about 1 hour and so easy to absorb on a daily commute or during a walk in the park. Very cleverly available through iTunes with which all generations are familiar, this series is an exceptionally well-executed educational tool that deserves recognition.</p>

<i>Signature:</i>	<i>W. Medina</i>

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 28th October 2016

Name: Deepak Patel

E-Mail: deepakpatel@me.com

Key Credentials (i.e. PhD, MSc etc): MSc., Dip.ISSN., BSc(Hons)., CISSN

Profession / Job Title(s): Performance Nutritionist

Relationship to Laurent (i.e. colleague, grad student, etc): Graduate Student: ISSN Diploma and MSc Sport and Exercise Nutrition

How long have you known Laurent? (years approx): 3 Years

Testimonial / Comments: Laurent provided unique offering to post graduation education in Sports and Exercise Nutrition. His blended learning approach developed during the ISSN Diploma was a innovative approach to learning a complex subject matter. The depth of expertise from the lecturers on this diploma was world class and having personal contact and network time with these experts was key to developing my practice. Laurent utilised his network and influence to ensure a high quality content was maintained at all times. Context is key to any conversation in this area and he continuously pushed us to think about the basics with specified context.

Having passed the ISSN Diploma with a distinction I was inspired to take on the MSc in Sports and Exercise Nutrition. Laurent developed a series of podcasts and white papers which further grounded my critical view of the subject matter. His podcasts enabled the listener to experience the first hand knowledge and practical application of the subjects being discussed globally. This enabled listeners to then follow up with the host speakers and engage in constructive dialogue.

The MSc was a challenging part of my journey for being a performance nutritionist. Laurent secured the facilities of the London Sports Institute at Middlesex University which provided a wealth of on-site resources from comprehensive library services to athlete lab testing. Having completed and passed by MSc successfully I will move to the next stage of my journey with product development.

The education continues with invitations to weekend lectures that all students can continue to attend even after completion of their course for free. This continued learning and network interaction remains a key driver to ensure my knowledge base and practical application remains at the forefront with industry thought leaders.

Laurent continues to provide an innovative and personalised approach to education allowing individuals to explore the subject matter through different resources and approaches whilst ticking all the academic boxes to maintain the high quality standards demanded at each academic level.

Signature:

A handwritten signature in black ink, appearing to read "Deepak Patel", written over a horizontal line.

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 28th October 2016

Name:	Jacob Paczesny
E-Mail:	jacobpaczesny@gmail.com
Key Credentials <i>(i.e. PhD, MSc etc)</i>	MSc., Dip.ISSN., BA., CISSN., SENr Grad
Profession / Job Title(s):	Performance Nutritionist
Relationship to Laurent <i>(i.e. colleague, grad student, etc):</i>	Graduate Student: ISSN Diploma and MSc Sport and Exercise Nutrition
How long have you known Laurent? <i>(years approx):</i>	3 Years
Testimonial / Comments:	<p>After years of not enjoying my job, I decided to look into making a career change at 30 years old. I love nutrition and its impact on sport, so decided to pursue a career in this field. In October 2013 I looked into doing a masters at Westminster but I wasn't eligible due to an unrelated undergraduate degree. Sally Parsonage, the course director, pointed me in Laurent's direction as he had a sports nutrition diploma running at Westminster. I contacted Laurent and had a good telephone chat with him about my current qualifications, knowledge and career aspirations. He was very understanding of my situation and although I didn't meet the eligibility criteria, he could tell I was passionate and serious about my goals and offered me a place in the January 2014 cohort on the condition I completed a suite of prerequisite reading and coursework.</p> <p>After 2 months of extensive reading and getting my assignments completed, I started the ISSN diploma. The platform and resources available to me were amazing. The content is second to none and its the only course in the world where you can watch lectures by all the leading experts in their field. I was blown away by the level of content and structure of the course learning material, all strategically categorised. The fact I could distance learn and not have to give up my job was the biggest factor I was able to pursue a career change in a completely new field. I could go home and watch a lecture when I had time without impacting on my time with my wife or have to give up my job.</p> <p>Admittedly I was very apprehensive if I would be able to learn all the material, at times I felt out of my depth. The ISSN also has taught weekends, and as I got to meet people I grew in confidence and realised we're all in the same boat, some of us further in our journeys than others. I was at the start, and as I watched more and more lectures and read the research, I started to believe in myself. Then I found the podcast. This was an absolutely fantastic supplement to my learning as I drive to work everyday and was able to learn for an extra hour. As I listened to the podcasts I'd use them to test my knowledge, read further research and generally keep afloat of current practise/research. Although it was evidence based, there was also a practical element to it. I found this very important to my development as I was only in the beginning of my career. I had further academic aspirations but that was a little way off.</p>

I set myself a target of completing the ISSN diploma a week before my wedding in July 14. Once I set that I was a man possessed. I read and re-read the course material, a key book being James Morton's biochemistry book. I'll be honest, that book is the best book I've ever read. I continued watching the lectures and passed by CISSN with 90% in the exam, I was over the moon. I'll be honest the ISSN diploma changed my life. It was such a great investment, I'd learnt from the best in the industry, networked with people I respect and look up to in the industry and gave me the confidence that I could achieve my dream to work in the sports nutrition world.

Towards the end of ISSN I wondered what I was going to do next, I felt I wasn't finished with academia yet. Very fortunately for me Laurent announces that he will be running an MSc at Middlesex University. Whether this was good fortune or the gods looking after me, but this was a) perfect timing, b) Middlesex is only a 25 minute drive from my house, again another blessing. So off to uni I went to further educate myself. At the same time I also applied for an internship at Ealing Trailfinders, a championship rugby club. I got the job. I can put this down to having completed the ISSN and in the interview I'd advised them that I'd been lectured by Graeme Close, lead England Rugby sports nutritionist. So now I was putting what I'd learnt into practise whilst completing an MSc.

The MSc this year has put everything together. With Laurent as a tutor he has really helped guide my learning to the next level. Again, I have been very fortunate that the MSc is part time and the majority of the learning is on the weekends. Laurent's work has without doubt provided a flexible way of learning without impacting my 9-5 job, again I must stress that without this I would have not been able to complete an MSc. I have learnt so much research based science this year; how to lab use equipment, I'm now a trained phlebotomist, how to effectively research and carry out research. I can safely say this year, through the MSc, I have learnt so much invaluable lessons. I have just finished my dissertation and I hope it is of a standard that has made my tutor proud, and also one that is publishable. I really have taken to this field and believe I will make an impact on it.

To summarise, through Laurent's work I have been able to pursue my dream of working in sports nutrition without having to make huge sacrifices. Yes I have given up hundreds of hours study time, but I did not have to give up my full time job. It would have been impossible to get where I am today without Laurent's work as I would have had to go into full time education. With a mortgage, wife and child, I wouldn't have been able to. It would have only been something I would have dreamed of, maybe in another lifetime. For that I am truly grateful Laurent and hope you have enjoyed watching me grow academically and as a person.

Signature:



DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 7th November 2016

Name:	Mohammed Saad
E-Mail:	msaadnutrition@gmail.com
Key Credentials <i>(i.e. PhD, MSc etc)</i>	MSc(c), Dip.ISSN CISSN
Profession / Job Title(s):	Sports Nutritionist
Relationship to Laurent <i>(i.e. colleague, grad student, etc):</i>	MSc Candidate in sports and exercise nutrition & ISSN Diploma graduate
How long have you known Laurent? <i>(years approx):</i>	3 Years
Testimonial / Comments:	<p>I am writing to recommend Laurent Bannock in the Middlesex University into the professional doctorate program. I have known Laurent for around three years. It was my sincere pleasure to get all the unlimited support from Laurent, from 2014 since I started studying the ISSN diploma and until now.</p> <p>I have attended the advanced sports nutrition course in Guru Performance lab with Laurent in one-to-one bases, which resulted in boosting my knowledge, and prepared me to the work field. Moreover, based on Laurent's advice, I have taken the Anthropometry Level 1 in the UK, to be the only Bahraini holding the ISAK certificate in the country. I learned a lot from Laurent, as he was a great supporter with sharp mind, passion, optimism, commitment, and knowledge.</p> <p>Laurent work in the field has contributed to help me think like a professional, putting everything into context, being able to get access to quality and professional knowledge, having different tools in the box as a practitioner when it comes to real world of sports nutrition, also having the opportunity in meeting some of the world's leading experts while I have attended the ISSN taught weekends in London. Listening to his cutting-edge knowledge podcast We Do Science Podcast. Laurent's professionalism had indeed impressed me, and brought the best out of me. In 2016 I started my professional job and worked with Bahrain U20 Football National Team being the first nutritionist to work with a football team in the history of Bahrain, and a lot of professional athletes, and became the private nutritionist for Bahrain's Royal Family as a result of knowing Laurent and his great support through the years. Plus, being a TV presenter of sports nutrition segments in the National TV station.</p> <p>Now I am starting my MSc in sports and exercise nutrition with Laurent in Middlesex University, which I am pretty sure it will give me a great advantage in my knowledge and experience.</p> <p>My life has changed to the best since I started my sports nutrition studies with Laurent, and I am looking forward to learn more from him.</p>
Signature:	A handwritten signature in black ink, appearing to read "MSA", with a long horizontal line underneath.

DProf Research Project: Meaningful Impact

Testimonial in Support for Laurent Bannock,
Professional Doctorate Candidate



Date: 28th October 2016

<i>Name:</i>	Neil Livemore
<i>E-Mail:</i>	Neil.livemore@gmail.com
<i>Key Credentials (i.e. PhD, MSc etc)</i>	MRes., Dip.ISSN., CSCS., CISSN
<i>Profession / Job Title(s):</i>	Performance Nutritionist & Strength Conditioning coach
<i>Relationship to Laurent (i.e. colleague, grad student, etc):</i>	Graduate Student: ISSN Diploma
<i>How long have you known Laurent? (years approx):</i>	3 Years
<i>Testimonial / Comments:</i>	<p><u>The impact on myself</u></p> <p>There were two turning points in my career. Leaving my occupation, becoming a nutrition adviser and personal trainer in 2011 followed by enrolling on the ISSN course in 2013. Although always passionate about scientific subjects, the ISSN diploma was my first experience of critical thinking, the scientific method and meeting researchers. On the strength of this course without an initial degree, I completed the CISSN, was accepted and completed the NSCA CSCS, completed a Masters of Research and was formally offered a PhD, which I decided to take a year out to study other subject then commence next year. 7 years ago working in an office I wouldn't think I'd be here.</p> <p><u>The impact it has on others.</u></p> <p>I pass all the critical thinking skills and communicate the scientific reasoning behind why they are doing what they are doing in a language they will understand; teach them everything is not black and white but needs to be thought of in a contextual sense. Many of my clients are coaches and pass this on to their clients, their families and follow the ISSN. I have a massive number of individuals listening to the guru performance podcasts, the impact this has on individuals who probably wouldn't read studies is massive, they can get views from educated practitioners or researchers without having to understand how to analyse a paper. It reaches and helps a whole new audience who may never get the chance to be exposed to the scientific method and critical thinking, which is something that need to be brought to the public's attention as much as possible with the amount</p>

of misinformation on social media and the web.

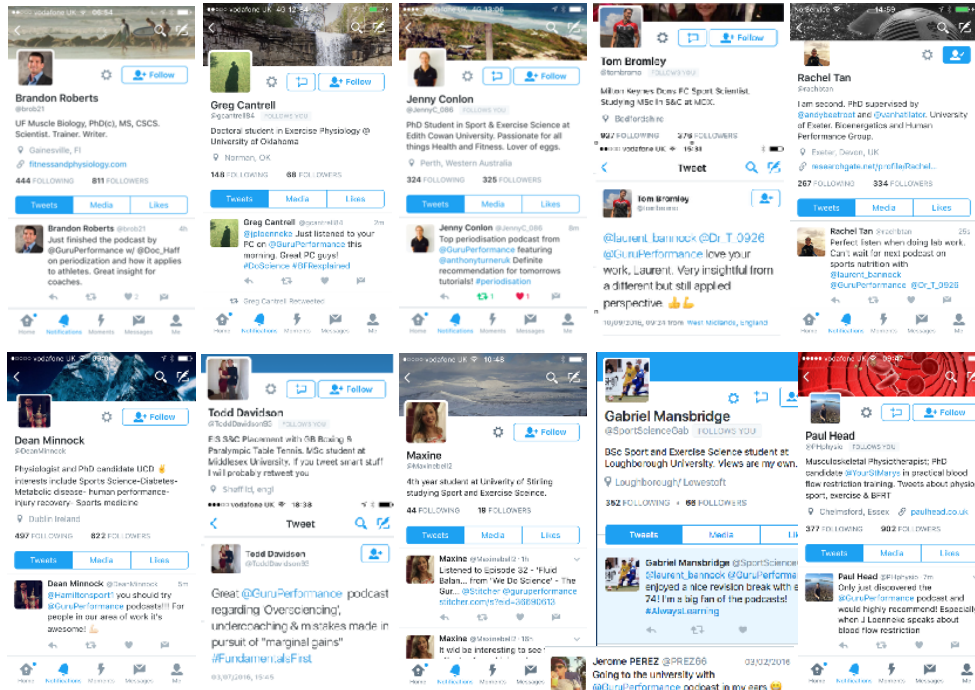
The new shot videos are also fantastic addition; it summarises a topic and allows people to watch without the switching off mentally. They are eye catching, short, educational and very social media friendly is a sense of sharing and people watch. If this allows people to dip their toes in or counter pseudo science they may have seen previously, All the better! Everything is ripped in the pond and the knowledge being shared increases exponentially with the individuals received it.

Signature:

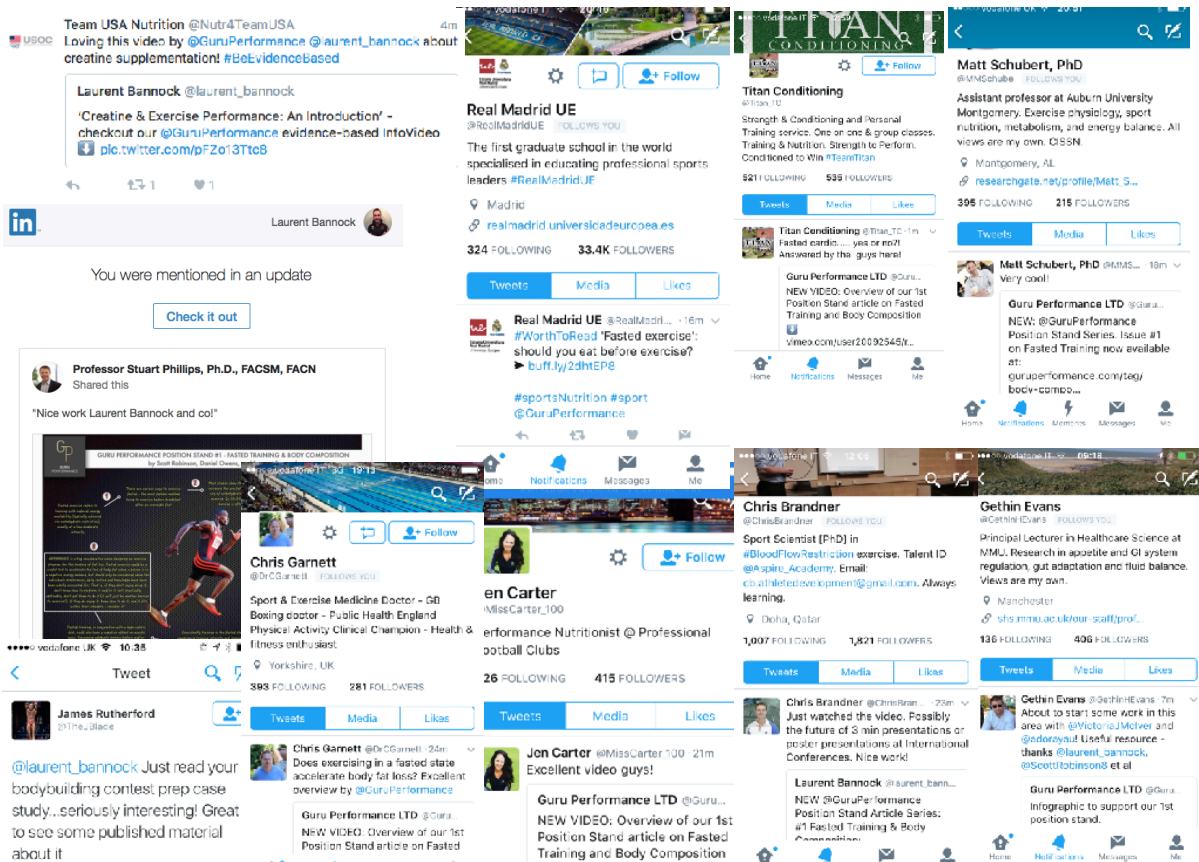
Neil Michael Livemore

**Appendix D: Examples of unsolicited praise for a variety of the
public works on social media**

Unsolicited Feedback via Twitter from BSc, MSc, PhD Students



Unsolicited Feedback from Teams, Institutions, Practitioners etc.



Word Count: 29980 (excluding footnotes, bibliography, and appendices)