

# The Fallacy of the Generalist-Specialist: Does the Category Exist for Football Science Practitioners?

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**Football science | Generalist–specialist | Professional expertise | Competency framework | Hybrid practitioner roles | Integration specialist | Multidisciplinary teams | Scope of practice | Role design | Professional accreditation**

## Headline

**R**ecent work on a sport science practitioner taxonomy has conceptualised expertise within football performance support as a domain-specific construct, characterised by specialised knowledge, contextual judgement, professional competence, and a clearly defined scope of practice (1). The central argument is that expertise cannot be inferred from job titles, years of service, or professional status, but must be demonstrated through professional competence within a specified area of practice. Therefore, expertise should be regarded not as a general attribute, but as a contextually demonstrated capability.

## Aim

While the previous paper sought to define expertise, this follow-up addresses a more challenging question within the same framework: the legitimacy of the ‘generalist specialist’ category. Although recent commentary has tended to accept this figure as a legitimate, albeit problematic, emergent role, this analysis directly questions that assumption. When evaluated against the competency framework establishing the taxonomy, it is necessary to determine whether the generalist specialist exists as a coherent category or is merely a rhetorical artefact of organisational design that conflicts with its purported promises and the framework’s criteria. Clarifying this distinction is critical for practice, as the definition and recognition of expertise influence recruitment, accreditation, job structure, and the standard of performance support provided to players and coaches. If the generalist specialist is a false category, persisting in constructing roles around it may result in differences between organisational expectations and actual competence, with important effects for both individual practitioners and the functioning of multidisciplinary teams.

## From the origins to the present

To contextualise the concept of the generalist specialist, it is important to acknowledge the origins of sport science in football, which was established by specialists rather than generalists. The modern foundations are typically traced to Liverpool, where physiologist Tom Reilly was instrumental in establishing what is considered the world’s first BSc in sports science in 1975. Subsequently, Reilly and Vaughan Thomas published one of the first quantitative time-motion analyses of the game, demonstrating that activity profiles varied systematically by positional role (2). In April 1987, Reilly convened the first World Congress on Science and Football in Liverpool, whose proceedings brought together distinct disciplines — physiology, biomechanics, match analysis, sports medicine, and psychology — side by side (3). Reilly’s later textbook,

Science and Soccer, suggested that football science was the combination of the disciplines rather than a single undifferentiated competence (4).

During the 1990s and 2000s, sport science became more embedded within professional clubs and match analysis commenced to see the emergence of video and computerised time-motion systems, and by the 2010s GPS and wearable tracking for systematic training-load monitoring was becoming more common, with a further turn towards data analytics (5,6). Moreover, each emergence required greater opportunities for practitioners to specialise in more areas of the football science umbrella.

This historical background provides a valuable lens towards interpreting hybrid roles. Football science has established credibility through cooperation between specialists, rather than through reliance on individuals with expertise across all areas. The emergence of the generalist specialist represents a recent reversal of this tradition and could result in a loss of individual expertise.

## The rise of the hybrid role

In contrast to assembling multidisciplinary teams of specialists, many clubs have adopted hybrid roles that consolidate responsibilities previously distributed across several professions. This trend is reflected in job descriptions with titles such as *Physical Performance Coach*, *Athletic Performance Coach*, and *Integrated Performance Scientist*. Individuals in these roles are expected to design physical preparation programmes, collect, clean, analyse, and communicate data, contribute to rehabilitation and return to performance, plan and monitor training load, deliver strength and power programmes, inform return-to-play decisions, and advise on recovery sessions. Notably, this list is not exhaustive and excludes practices such as performance testing.

Integrated physical performance roles are commonly regarded as more efficient, less siloed, and better suited to the difficulties of athlete performance (6). However, outcome-based evidence regarding the effectiveness of hybrid roles compared with traditional specialist teams remains limited and equivocal. Recent literature indicates that, while integrated roles may strengthen communication and improve processes, they are sometimes associated with reduced depth of expertise and less rigorous outcomes in specific domains, notably in complex or high-pressure environments such as professional football (5,7). Evidence from multidisciplinary work in high-performance sport further suggests that integration is challenging to achieve even among specialists, and even more so for a single practitioner (8,9). Therefore, the central question is not whether integration is desirable, but whether consolidating specialist responsibilities into a single hybrid role yields the specialist expertise it claims to provide.

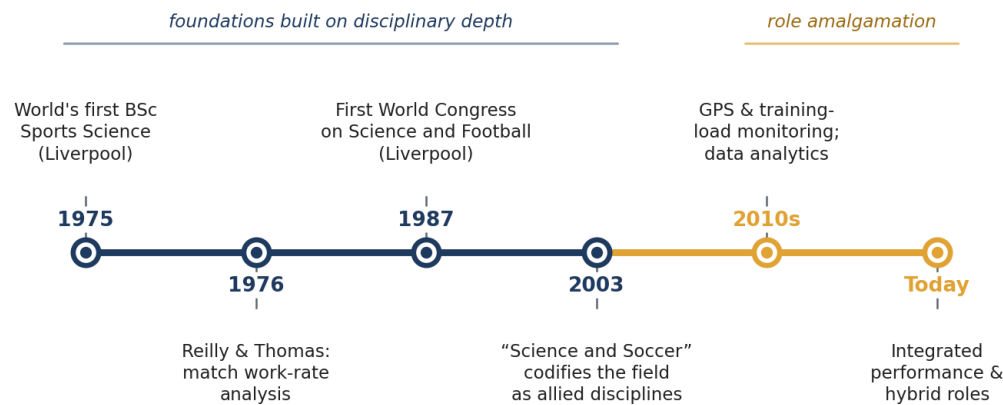


Fig. 1. The origins of football science for the contemporary practitioner.

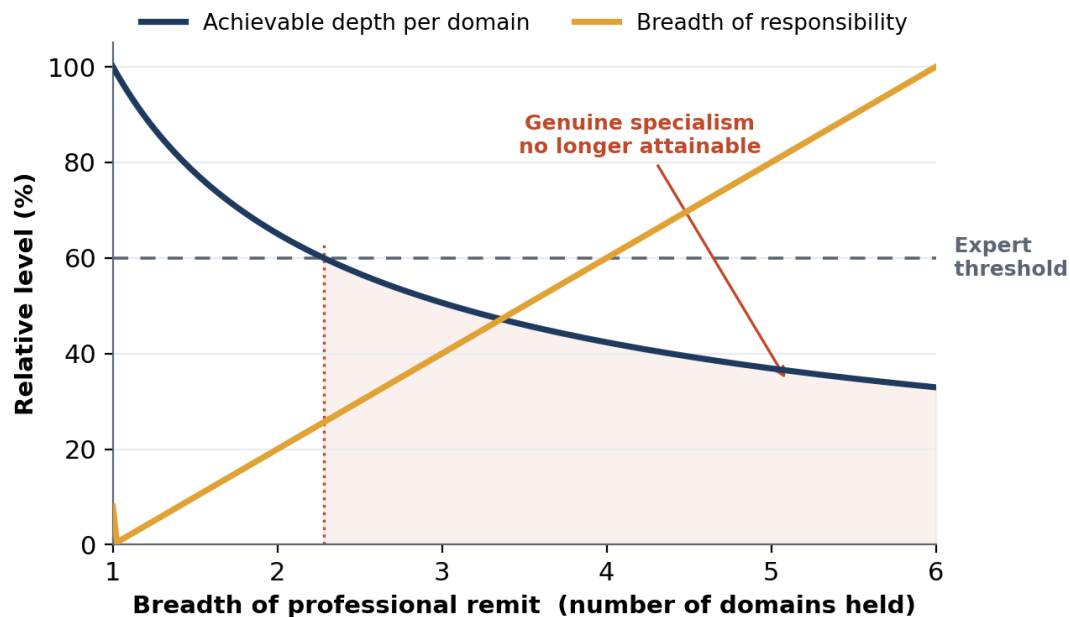


Fig. 2. The Expertise Paradox: balancing breadth and depth in football science roles.

### The Expertise Paradox

The emergence of hybrid roles poses an Expertise Paradox: as a practitioner's remit broadens, achieving expertise within any single domain of football science becomes increasingly difficult. As the responsibilities associated with hybrid roles expand, the time available for deliberate practice, reflective learning, and experiential accumulation within a specific area diminishes.

Furthermore, expertise in different domains consistently relies on sustained, effortful, domain-specific engagement rather than broad exposure (10), and on progressing from novice to expert. Research shows that expertise depends on prolonged, targeted practice rather than incidental exposure (10). The path from novice to expert involves developing pattern recognition that is specific to each situation, which rarely transfers

across disciplines (11,12). Therefore, expecting someone to be an expert in multiple domains simultaneously is likely unrealistic and may put excessive pressure on a single professional. If attaining expert-level competence across various fields is unlikely, it suggests that the concept of a generalist specialist in football science may be inaccurate, potentially leading to mislabelling of performance practitioners.

### Testing the category against the competency framework

A competency framework operationalises expertise as a set of assessable competencies, mapped to defined domains and graded by proficiency level (1,13). However, when the 'generalist specialist' is evaluated within such a framework, ambiguity emerges regarding the location of specialisms or expertise,

given the several responsibilities required to satisfy the demands of a hybrid practitioner role.

To qualify as a generalist specialist, a practitioner would need to demonstrate expert-level competence across multiple technical areas simultaneously and consistently. However, research on deliberate practice and skill acquisition indicates that this is not feasible within the limited time and cognitive capacity of a working practitioner (10,11). Consequently, when a hybrid practitioner is examined within this system, they do not simply become a generalist or specialist but instead correspond to one of three distinct profiles.

**The profundo specialist** equipped with adjacent literacy — an expert in a specific domain (for instance, physical preparation) possessing functional, non-expert competence in neighbouring areas. This representation corresponds to the well-known “T-shaped” practitioner model: a single deep stem complemented by several shallow arms. Such a profile is defensible and assessable; however, its expertise stays singular rather than plural.

**The capable integrator** possesses broad competence across numerous fields and demonstrates genuine expertise in coordination, translation, and synthesis. However, they do not hold a domain-specialist standing in any of the technical disciplines. Moreover, their specialisation sits within the integration aspect itself, rather than fundamentals of football science specialisms.

**The sub-threshold multi-domain operator** — distributed across multiple domains without achieving expert status in any. This represents the risk scenario that the taxonomy was devised to highlight, such as expansive responsibility which may easily be mistaken for extensive expertise.

As demonstrated above, it is questionable whether any of these three entities qualifies as a conceptual generalist-specialist. When analysed through these profiles, the practitioner is classified as either a specialist or a generalist, with the respective type of competence clearly delineated. The term ‘generalist specialist’ does not refer to a specific competency profile; rather, it denotes an organisational design that defines a role rather than a form of expertise; therefore, this designation results from interpreting a job title as if it were indicative of expertise.

### Is there space for the hybrid practitioner role?

Critical analysis is important for understanding the hybrid role. Clubs and practitioners should audit current role profiles using a competency framework to map knowledge, proficiency, and integration skills. This process helps identify where roles such as ‘generalist specialist’ correspond to profiles—specialist, integrator, or multi-domain operator—and where expectations are mismatched. Based on the results, roles can be redesigned with better-defined boundaries, and areas for career development or cross-disciplinary work can be identified, assuring that job titles accurately reflect required competencies. Such audits clarify expectations and guide recruitment, accreditation, and ongoing professional development.

First, some hybrid roles are, in substance, integration specialists, and this must be viewed as a genuine and somewhat underrated competency. The capability to translate complex information into contextual, usable performance solutions is itself an expert skill with its own knowledge base and failure modes (6,14). Recent literature on structuring multidisciplinary delivery around shared methodology has suggested that integration is a discipline, not a by-product (9). Moreover, where a practitioner’s role is built around this perspective, it is less a “generalist specialist” and more suggestive of an integration specialist, which in turn should be named, assessed, and accredited as such.

Hybrid roles are often designed as efficiency-driven consolidations that prioritise reducing staff numbers over preserving comprehensive expertise. While these roles may function effectively at an operational level, they incur costs highlighted by the framework: the loss of diagnostic reasoning from experienced clinicians or the methodological rigour of sport scientists cannot be compensated by goodwill or effort (15,16). In intense-pressure elite environments such as professional football, this compression may subtly undermine the quality of support, even when practitioners possess individual competence (5,7). Therefore, the primary concern is not hybridity itself, but the unrecognised trade-offs it entails.

Additionally, some hybrid roles may contribute to title inflation, where the term ‘specialist’ is used honorifically without accurately reflecting specific domain skills. The taxonomy demonstrates that expertise is often claimed through titles rather than demonstrated in practice (1,13). When a role’s scope is exaggerated as expertise, broad coverage may be mistaken for genuine competence, consequently justifying labels such as ‘generalist specialist’ while concealing actual skill gaps.

### Shared understanding and relationship skills

Connecting with coaches, establishing common ground, and communicating in a shared language are skills often overlooked by the generalist-specialist perspective. In football support work, success depends not only on technical accuracy but also on a practitioner’s real understanding of the game and credibility with coaching staff, which ensures the applicability of information. Bartlett and Drust (6) and Fullagar et al. (14) emphasise that knowledge translation is influenced by the receiver and their relationship with the practitioner, rather than by evidence alone. Furthermore, expert coaching relies heavily on tacit, experiential knowledge accessed through shared language and trust, rather than solely on data (15).

This consideration reveals a twofold fallacy. First, the ability to understand the game and communicate effectively with coaches is a genuine skill, arguably central to integrating specialism, and should be explicitly recognised and developed rather than assumed. Second, relational fluency is often misinterpreted as evidence of technical expertise. A practitioner who engages credibly with coaches, physiotherapists, and analysts is often presumed to have extensive knowledge across these domains. Such an individual primarily possesses situational understanding of football and the interpersonal skills required to bridge gaps between specialists. Thus, while establishing rapport with coaches underscores the value of skilled integrators, it may not substantiate the existence of a generalist specialist.

### Implications for the framework

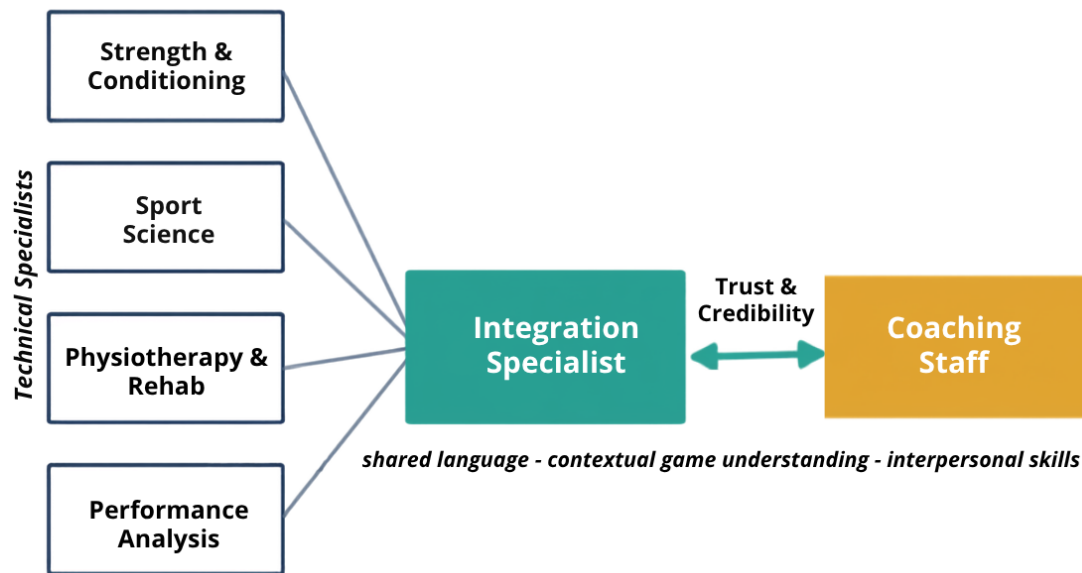
Viewing the hybrid role from this perspective improves the competency framework and suggests three key improvements.

The framework should clearly distinguish between domain-specific competencies and meta-competencies related to integration, including the relational and coach-facing skills of shared language and game understanding. These meta-competencies should be recognised as specialism, rather than as an assumed by-product of various duties. To implement this in practice, integration and relational competencies could be assessed through approaches such as structured observation of real or simulated interdisciplinary meetings, direct feedback from collaborating coaches and team members, peer review of case studies or reflective accounts, or the use of targeted situational judgement tasks.

The framework should also demand clear proficiency levels, assuring that the designation of ‘specialist’ is based on demonstrated standards within specific domains rather than on job

titles alone. Additionally, it should facilitate transparent role design, permitting practitioners to be recognised as experts in integration and one technical domain, with acknowledged literacy in other areas. This strategy generates a defensible, assessable, and practically valuable profile, in contrast to the untenable notion of an all-encompassing expert implied by the generalist specialist label. It also reframes the central design challenge within the field. The logic of the taxonomy supports

multidisciplinary accomplished through collaboration among experts, rather than through the amalgamation of responsibilities into single roles (8,9). While integration continues the objective, the generalist specialist represents an ineffective means of achieving it, as it shifts that integration challenge from the collective team to the unrealistic expectation of a single individual.



**Fig. 3.** Shared understanding with coaches. The integration specialist links technical experts to coaching staff through shared language, game understanding, and interpersonal skills.

## Conclusion

The generalist specialist has historically served as a useful provocation; however, upon evaluation against the competency framework, it does not withstand as a valid categorisation. It constitutes a job title that implies a certain level of expertise, combining two attributes that the framework considers mutually exclusive. When football science practitioners are aligned with the framework, they are accurately classified as either genuine specialists, authentic integrators, or practitioners whose roles are too broad to be precisely defined, and appropriately naming these categories is of utmost importance.

The taxonomy paper defined expertise as bounded, demonstrable, and domain-specific. This analysis broadens that argument to its logical conclusion: the profession's responsibility is not to create practitioners who are experts in all areas, but to identify, assess, and combine genuine competencies—including integration and the relational fluency necessary to connect with coaches—accurately. The generalist specialist appears when organisations overlook this definition. Therefore, the solution may not be to intensify efforts within the fallacy, but to discontinue the design of roles that it creates.

## Key Points

- Assess and compare current hybrid roles with the competency framework to clarify responsibilities and identify gaps between expectations and expertise.
- Redesign job profiles to accurately reflect specialisms—whether technical, integrative, or relational—by explicitly listing relevant competencies.
- Base assessments and professional development initiatives on these clarified roles and competencies.
- Customise professional development to focus on domain-specific skills, integration abilities, or coach-facing competencies as needed.
- Update recruitment and accreditation processes to align with the new, taxonomy-based profiles.
- Clearly communicate profile and process updates to staff to ensure understanding and support.
- While initial investments in training and restructuring are necessary, these steps will ultimately lead to sustainable alignment with genuine expertise and enhance the quality of support for athletes and coaches.

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