

Assessment Literacy and Feedback Design in Intensive Block Teaching: A Narrative Review with Implications for Sport Science Education

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Abstract

Intensive block teaching, wherein modules are delivered over a period of 2 to 6 weeks rather than the traditional semester-long format, is increasingly gaining prominence internationally within higher education. Notable adoption and emerging evidence are observed from Australia, North America, and the United Kingdom. Nevertheless, assessment and feedback practices often remain aligned with longer, conventional durations. This narrative review synthesises international evidence across five interconnected scholarly domains to address this discrepancy: assessment literacy, feedback for learning, intensive/block teaching, applied and vocational discipline assessment, and the Scholarship of Teaching and Learning (SoTL). While each domain is well-established globally, research exploring their collective utilisation within condensed, practice-oriented environments such as sports science is limited, particularly where graduates are required to develop complex, practical competencies to serve diverse performance and health industries.

Drawing on evidence from 2000-2025, the review identifies how compressed timelines intensify challenges around formative engagement, feedback uptake, and the development of evaluative judgement. It argues that effective assessment in block formats requires intentional redesign rather than merely compressing semester-based models. Key universally applicable strategies include early and repeated assessment literacy activities, embedded opportunities for dialogic feedback, multiple, smaller assessment points, rapid formative cycles supported by technology, and authentic, workplace-aligned tasks that mirror professional competencies.

The review advocates for a set of universally applicable, evidence-based design principles to guide assessment and feedback practices in intensive sport science modules, while emphasising the necessity for further empirical, discipline-specific case studies to evaluate and enhance these principles across diverse international contexts. It concludes that, with intentional planning, block and intensive teaching can facilitate meaningful learning across diverse global student cohorts; however, their effectiveness depends on structured feedback mechanisms, well-defined standards, and sustainable workload management for both staff and students.

Keywords: assessment literacy, feedback design, block teaching, authentic assessment, sport science

Introduction

Contemporary higher education is confronted with a persistent challenge: supporting students whilst judging quality and using feedback effectively within increasingly compressed teaching structures. Intensive or block teaching, in which modules are delivered over two to six weeks rather than traditional twelve to fifteen-week semesters, is now becoming more widely adopted across UK and international programmes (Buck et al., 2023; McCluskey et al., 2019). While intensive learning presents certain temporal limitations, there are also well-documented benefits to its adoption. By removing the competing demands of parallel modules, block formats offer an immersive educational environment that has been shown to improve overall academic achievement and student success (Loton et al., 2022; Wilson, Roche, et al., 2025). Importantly, this condensed schedule frequently acts as a catalyst for pedagogical reform, driving a shift away from passive lectures toward the increased adoption of collaborative, active, and enquiry-based learning approaches (Tangalakis et al., 2024; Tatum, 2010). Despite these pedagogical benefits, this shift reshapes the temporal conditions of learning, frequently reducing opportunities for formative dialogue and knowledge consolidation, constraining marking and feedback cycles, and creating workload pressures that are at odds with established feedback principles (Kretovics et al., 2005; Lee & Horsfall, 2010). Students, in turn, must process and apply feedback within limited timeframes, which can inhibit the development of professional competence in practice-based disciplines (Holzweiss et al., 2019; Thompson & Houston, 2024).

Globally, these challenges are particularly pronounced in sport science, where assessment must support both theoretical understanding and the development of authentic, workplace-aligned skills demanded by professional accreditation bodies. Although international research in applied and vocational disciplines highlights the importance of competency-aligned assessment to produce work-ready graduates (Bradley et al., 2022; Chong et al., 2020; Naumann et al., 2014), integrating such approaches into intensive delivery formats while still enabling meaningful formative support represents a significant design problem that remains underexamined (Thomas et al., 2025). However, resolving this design problem offers a valuable opportunity to harness the pedagogical benefits of block delivery through evidence-based active-learning reform. Across the wider literature, which offers relevant but fragmented insights, work on assessment literacy emphasises the value of making standards explicit and transferring tacit knowledge through active activities such as rubric analysis and exemplar engagement (Rust et al., 2003; Smith et al., 2013). Research on feedback increasingly foregrounds dialogic and feedforward processes that position students as active interpreters of commentary, enabling them to translate feedback into purposeful action and self-regulated learning (de Kleijn, 2023; Hill & West, 2020). In parallel, research on intensive delivery emphasises the importance of rapid formative cycles and the strategic use of multiple, smaller assessment points to sustain active engagement and learning within compressed teaching periods (Buck et al., 2023; Pagano & Paucar-Caceres, 2013).

Within applied and vocational disciplines globally, research consistently advocates for programmatic and authentic assessment models (such as Entrustable Professional Activities (EPAs)) that mirror workplace practices and support the development of professional competence (Bradley et al., 2022; Thompson & Houston, 2024). Complementing these pedagogic perspectives, the Scholarship of Teaching and Learning (SoTL) provides a

methodological foundation for rigorous practitioner-led inquiry, enabling educators to situate generic educational research within specific disciplinary contexts and connect classroom innovation to broader theoretical frameworks (Prosser, 2008; Trigwell, 2012). Despite the strength of these individual concepts, their empirical and conceptual integration remains limited across higher education globally. There are few accounts of how assessment literacy, feedback design, intensive delivery models, authentic vocational assessment, and SoTL principles connect and are implemented in practice to foster active, collaborative learning. The absence of such an international synthesis restricts educators' ability to design assessments and feedback that are both pedagogically robust and feasible within block-mode constraints.

Beyond considerations of efficiency or curriculum structure, intensive block teaching has increasingly been examined through an equity lens. Large-scale evaluations indicate that block delivery, particularly when coupled with deliberate assessment and feedback reform, can generate disproportionately positive outcomes for students from low socio-economic backgrounds and non-English-speaking backgrounds (Loton et al., 2022; Wilson, Roche, et al., 2025). These gains are most evident where assessment expectations are made explicit and feedback processes are structured to support early understanding and application, rather than relying on tacit academic norms or delayed commentary (Roche et al., 2025; Rust et al., 2003; Wilson, Roche, et al., 2025).

From this perspective, block teaching does not merely compress traditional pedagogies but alters the pedagogical conditions under which learning, judgement, and feedback operate (Samarawickrema & Cleary, 2021; Wilson, Roche, et al., 2025). The sequencing and visibility of assessment processes become especially consequential in intensive formats, where time pressure is unevenly experienced across student cohorts and can reinforce the kind of idealised learner assumptions that disadvantage those from less familiar academic backgrounds (Nieminen & Carless, 2023). Prioritising explicit criteria, shared exemplars, and dialogic feedback early within a block can therefore function as equity-enabling mechanisms (Ajjawi & Boud, 2017; Hendry et al., 2012; Jones et al., 2017), mitigating disadvantages associated with unfamiliar assessment cultures or limited opportunities to recover from early misunderstanding. As such, clarity and feedforward are not simply pedagogical enhancements within block models, but foundational conditions for inclusive practice in accelerated educational environments (Hill & West, 2020; N. E. Winstone & Nash, 2019). This narrative review addresses this gap by bringing these five domains into a single conceptual frame. By synthesising international evidence, particularly drawing from institutions leading block-mode transitions in Australia, North America and the UK. It synthesises evidence to develop a set of universally applicable design principles to guide assessment and feedback practices in intensive sport science modules and identifies priorities for future research to support their refinement. In doing so, the review positions assessment literacy and feedback design not as peripheral considerations, but as central mechanisms for enabling effective self-regulated learning and professional development in compressed educational environments.

Purpose and Scope of Review

This review aims to:

1. Synthesise key international empirical and theoretical evidence from five interconnected research domains relevant to the design of assessment and feedback in intensive block teaching.
2. Derive universally applicable evidence-based design principles applicable to sport science and similar applied disciplines globally.
3. Identify gaps in the international literature and articulate the rationale for future empirical case studies in sport science block teaching contexts.
4. Provide practical guidance for practitioners designing assessments that foster active and enquiry-based learning in intensive delivery formats.

To situate this review within an appropriate methodological frame, it adopts a narrative, integrative approach that foregrounds conceptual synthesis rather than systematic aggregation. However, to mitigate potential biases inherent in traditional narrative reviews and to ensure a comprehensive, objective overview, this synthesis was underpinned by clearly defined search criteria capturing a balanced range of global literature. This ensures that both the well-documented pedagogical benefits of block delivery; such as its capacity to drive active, immersive learning, and its temporal challenges are equitably evaluated. This allows the review to draw together diverse yet intersecting bodies of scholarship and apply their empirical insights to the specific challenges and opportunities of intensive block teaching. The intention is to prioritise theoretical coherence across domains while ensuring that the resulting synthesis remains transferable and practically applicable within time-intensive educational contexts across diverse international institutions.

Method

The decision to adopt a narrative review is deliberate and aligned with the aims of this study on assessment literacy and feedback design within intensive block teaching in sport science education. As Greenhalgh, Thorne, and Malterud (2018) argue, systematic reviews are well suited to narrowly defined effectiveness questions but are less appropriate for synthesising complex, heterogeneous, and conceptually driven bodies of literature; narrative reviews, by contrast, enable deeper interpretive engagement and support the integration of diverse theoretical perspectives and the development of new conceptual insights. Given that assessment literacy and feedback design span pedagogical theory, applied practice, and contextual variation within accelerated learning formats, a narrative approach allows for a critical synthesis that would be constrained by the procedural logic of systematic review methods. The narrative review is therefore a methodologically appropriate choice for the conceptual, multi-domain nature of the research question. While narrative in approach, the review followed a structured procedure for source identification, screening, and synthesis to support transparency and reliability. Literature was assembled and assessed through targeted searches of education databases (ERIC, Scopus) and discipline-specific journals in higher education, sport science, allied health, and assessment research. Inclusion focused on seminal and recent work (2000-2025) addressing: assessment literacy and evaluative judgement;

feedback for learning and feedback literacy; intensive, block, or accelerated teaching models; applied and vocational discipline assessment (sport science, exercise physiology, paramedicine, allied health); and SoTL methodology for assessment design. The 2000-2025 window was selected to capture contemporary assessment and feedback scholarship aligned with modern competency-based and block-teaching reforms. Additionally, the review excluded conference papers, grey literature and non-English sources. The review draws on theoretical frameworks, empirical intervention studies, systematic reviews, and methodological guidance relevant to practitioner-led case studies.

Sources were identified through database searches, citation tracking, and researcher expertise, supported by a literature-synthesis assistant (SciSpace) used to surface candidate sources against the inclusion criteria set out above. Two reviewers then independently screened the assembled studies to verify relevance and accuracy before inclusion. All included studies were interpreted and synthesised manually by the authors, following an iterative narrative synthesis approach in which conceptually relevant insights were extracted, grouped thematically, and integrated into a set of design principles aligned to their theoretical domain. To ensure consistency, the two reviewers met regularly to compare their independent interpretations and negotiate thematic groupings; any discrepancies regarding data extraction or theme alignment were resolved through discussion and consensus. Consistent with the interpretive nature of narrative synthesis, formal inter-rater agreement statistics were not calculated; the focus was on substantive convergence and the negotiated construction of shared meaning. The synthesis prioritised convergent evidence and transferable implications while acknowledging tensions and gaps within the literature.

The design principles that follow were then developed through a four-step synthesis process. First, recurring design implications were extracted from each of the five domains, prioritising recommendations that appeared across multiple sources and could be translated into practical assessment and feedback moves for block teaching. Where contradictory evidence or recommendations arose between domains, for example, the prolonged multi-stage feedback cycles advocated in traditional assessment literature conflicting with the compressed timelines of block teaching, we evaluated the contextual factors driving these differences and prioritised pedagogical strategies most feasible and transferable to intensive delivery (for instance, adapting delayed written feedback into rapid dialogic feed-forward practices). Any remaining disagreements on how to reconcile conflicting literature were resolved through iterative discussion and consensus among the research team. Second, we consolidated overlapping items by merging principles that reflected the same underlying mechanism (e.g., making standards explicit across assessment literacy and evaluative judgement), while sharpening boundaries where similar ideas operated at different levels (e.g., learner capability vs design condition). Third, the refined principles were grouped into five thematic areas to improve coherence and reduce redundancy, emphasising that the principles function as an interdependent package rather than a standalone checklist. Finally, the principles were ordered within clusters to reflect a typical block-module design workflow: orienting students to standards early, sequencing assessment for learning, enabling rapid feedback use through dialogic processes, maintaining authenticity, and ensuring feasibility and ongoing evaluation.

Integrated Theoretical Framework: Five Interconnected Domains

Assessment Literacy in Higher Education

While traditionally understood primarily as students' ability to interpret assessment criteria and recognise standards (Smith et al., 2013), the concept of assessment literacy has recently been expanded into a multifaceted construct. Hannigan, Alonzo, and Oo (2022) provide a comprehensive empirical framework identifying 45 indicators across six domains, demonstrating that assessment literacy requires not just knowledge, but also active engagement, the monitoring of learning progress, and specific affective dispositions. Similarly, Chan and Luo (2021) propose a four-dimensional model, comprising knowledge, attitude, action, and critique, highlighting the importance of students critically engaging with and taking ownership of their assessment processes. These expanded conceptualisations of assessment literacy provide the essential foundation for students to develop evaluative judgement, a distinct but highly interrelated theoretical construct defined as the capability to make decisions about the quality of work of oneself and others (Tai et al., 2018). Evaluative judgement has evolved from a teacher-led measurement practice into a critical capability required for lifelong learning. This developmental framing is fundamentally grounded in Boud's concept of sustainable assessment, which posits that assessment practices must meet present needs without compromising a student's ability to meet their own future learning needs (Boud, 2000). Therefore, while assessment literacy equips students with the necessary knowledge, strategies, and affective dispositions, evaluative judgement represents the ultimate capability to apply that literacy to appraise quality and guide future actions (Tai et al., 2018).

Explicit instruction in assessment processes is shown to enhance this capability, particularly when students engage with structured activities such as rubric deconstruction, exemplar analysis, and peer review (Jones et al., 2017; Rust et al., 2003; Smith et al., 2013; Yucel et al., 2014). Providing written criteria, however, is insufficient in isolation. Students benefit from sustained, active engagement with standards rather than passive exposure. Current literature emphasises that meaningful learning emerges through repeated interaction with assessment cues over time (Gyamfi et al., 2022; Rust et al., 2003). A key component of this development is the use of exemplars supported by an educator's explanation. Exemplars, when discussed and interpreted collaboratively, offer clearer insights into quality than text-based criteria alone and highlight the inherently dialogic role of the educator in making standards visible (Hendry et al., 2012; Hendry & Anderson, 2013). When students are invited to mark exemplars, analyse the features of work across different quality levels, and participate in peer review prior to undertaking their own assessments, they progressively build evaluative judgement and independence (Brignell et al., 2019; Yucel et al., 2014).

The value of these approaches is reinforced by a series of empirical studies that examine how assessment literacy develops in practice. Rust et al. (2003) conducted a landmark intervention demonstrating that explicit teaching of assessment criteria and processes can enhance both student learning and the transfer of understanding to subsequent tasks. Additionally, Smith et al. (2013) developed and validated an assessment literacy measure, showing that even brief interventions combining rubric analysis with exemplar discussion can raise assessment literacy scores and improve assignment performance. Further pedagogic structure is offered by Jones et al. (2017), who outline a five-step sequence consisting of deconstruction, engagement with

exemplars, peer review, self-review and reflection that supports students as they move from guided analysis toward independent evaluative judgement. Yet Hendry et al. (2012) provide evidence that educator-led in-class marking and discussion of exemplars strengthen students' understanding of standards and are associated with higher levels of achievement. However, in intensive block-teaching contexts, developing assessment literacy is a developmental competency that requires sustained pedagogic attention, not a one-off induction activity (Rust et al., 2003). This need for ongoing engagement becomes even more pronounced in block-mode delivery, where the compressed timeframe fundamentally reduces the natural spacing that would ordinarily allow students to revisit, apply, and refine their understanding of assessment expectations. In traditional semester structures, students encounter criteria and exemplars across multiple weeks, allowing repeated cycles of comparison, dialogue, and reflection, key mechanisms shown to strengthen evaluative judgement over time (Gyamfi et al., 2022; Rust et al., 2003).

By contrast, block formats condense this developmental trajectory into a sharply limited window, which heightens the risk that students engage with assessment criteria only superficially or too late to meaningfully influence their work. The literature on intensive teaching consistently highlights that compressed schedules restrict opportunities for iterative formative engagement and dialogue, unless assessment processes are deliberately re-engineered to compensate (Kretovics et al., 2005; Lee & Horsfall, 2010; Pagano & Paucar-Caceres, 2013). In this context, assessment literacy cannot be treated as a preliminary orientation task; instead, it must be woven purposefully across the block through multiple structured encounters with criteria, exemplars, and standards. Without such intentional sequencing, students may struggle to develop the evaluative resources required to interpret expectations, make informed decisions about quality, or use feedback productively, all of which typically rely on repeated cycles of guided practice (Jones et al., 2017; Yucel et al., 2014).

The pressures created by block delivery are not merely logistical but developmental. They compress the timeline across which assessment literacy ordinarily grows, making sustained pedagogic attention not only beneficial but essential. When assessment literacy development is truncated, students' ability to engage in self-monitoring, peer review, and feedback uptake is compromised precisely when these skills are most needed to manage accelerated learning demands. The block format, therefore, intensifies the imperative for educators to deliberately and repeatedly scaffold assessment literacy throughout the module, ensuring that students encounter standards early, revisit them often, and have structured opportunities to practise evaluative judgement before high-stakes submissions.

Feedback for Learning and Feedback Literacy

The feedback literature has shifted significantly from viewing feedback as one-way information passed from educator to student toward seeing it as a dialogic and feedforward process in which students actively interpret and act on comments (Carless, 2022; de Kleijn, 2023; Hill & West, 2020). Effective feedback is described as timely, actionable and embedded within assessment sequences so that students can use it meaningfully on subsequent tasks (Hill & West, 2022; Steen-Utheim & Hopfenbeck, 2019). Developing these capacities requires explicit attention to feedback literacy, including students' ability to interpret, store and transfer feedback across contexts (de Kleijn, 2023; Han & Xu, 2021). Foundational models initially

framed this as the understandings, capacities, and dispositions required to make sense of information (Carless & Boud, 2018), which Molloy, Boud, and Henderson (2020) empirically expanded into a framework of seven groupings across 31 categories. Crucially, this extended framework highlights active information elicitation and recognising feedback as a reciprocal process as core dimensions of learner feedback literacy. De Kleijn (2023) emphasises that feedback literacy is a pedagogically constructed competency rather than a skill that emerges spontaneously. Building on this, Nieminen and Carless (2023) offer a critical review identifying competing conceptualisations of feedback literacy: as a skill, as a socio-culturally situated practice, and as a capacity for critical and political action. They warn that purely skills-oriented approaches risk constructing an idealised student that does not reflect diverse learner contexts, a critique directly relevant to block teaching environments where intense time pressures are unequally experienced. Empirical studies reinforce this shift in practice. Hill and West (2022) show that a draft, dialogue, and revise cycle helps convert educator commentary into concrete improvement actions and encourages greater student ownership of learning. Winstone and Nash (2019) introduce the concept of proactive recipience, arguing that students require support to seek out, interpret, and use feedback. Similarly, Carless (2022) argues for co-constructed and action-oriented feedback practices that actively involve learners. As these practices increasingly incorporate technology to manage compressed timelines, the source of the feedback also significantly impacts student engagement. A recent large-scale survey of 6,960 students across four Australian universities by Henderson et al. (2025) found that while approximately 50% of students sought feedback from Generative AI, they rated teacher-provided feedback as significantly more trustworthy and helpful. This finding has direct implications for technology-mediated feedback principles, demonstrating that while AI can provide rapid formative input, the trusted relational dynamic of educator feedback remains essential.

Technology can support feedback for learning by enabling rapid responses and allowing comments to be stored, shared, and revisited through digital platforms. It also includes emerging GenAI tools that can offer timely clarification, exemplars, and scaffolded explanations to help students interpret and act on feedback in more iterative ways (Zhan et al., 2025). Internationally, students increasingly utilise GenAI for its accessibility, speed, and objective tone, which can reduce the emotional risks and anxiety associated with receiving critique (Henderson et al., 2025). These affordances can be aligned with contemporary models of feedback literacy that emphasise sense-making, managing affect, and taking action (Carless & Boud, 2018). However, technology on its own does not guarantee meaningful engagement with feedback, as students' willingness to engage with critique and the pedagogical framing of feedback tasks remain central influences on how feedback is received and used (Glover et al., 2015; Han & Xu, 2021; Parkin et al., 2012). Digital tools and AI assistants, therefore, need to be integrated into feedback loops that can intentionally cultivate feedback literacy, particularly evaluative judgement, self-regulation, and critical engagement with automated responses, supplementing rather than replacing relational, dialogic feedback practices (D. Nicol, 2021; Tai et al., 2018). Recent large-scale evidence highlights that while GenAI is valuable for rapid, digestible input, students still rate educator feedback as significantly more trustworthy, contextualised, and relationally expert (Henderson et al., 2025). Therefore, effective integration of GenAI requires a cyclical self-regulation approach where students actively set goals,

critically monitor GenAI's output, and reflect on their learning alongside trusted human guidance (Zhan et al., 2025).

In intensive block teaching contexts globally, timing is the critical condition that determines whether feedback operates as feedback for learning or collapses into post-hoc justification. In compressed modules, the window between task initiation, drafting, and summative submission is narrow, meaning feedback must be intentionally positioned before summative deadlines if it is to inform revision and improvement (D. J. Nicol & Macfarlane-Dick, 2006). However, block structures can make this difficult in practice, where turnarounds are short, assessment milestones cluster tightly, and students' cognitive bandwidth is often directed toward immediate task completion and acute information retention. Under these temporal constraints, even detailed written comments may be educationally inert if they arrive after key decision points or cannot be processed and acted upon in time (Boud & Molloy, 2013; N. Winstone & Carless, 2019). Conversely, when managed purposefully, the immersive nature of block teaching provides an ideal environment for active learning; the absence of competing modules allows students to focus entirely on iterative feedback cycles (Chau et al., 2023). By strategically embedding digital tools and rapid, smaller assessment points, educators can overcome these temporal constraints, transforming the intensive schedule from a limitation into a catalyst for continuous, self-regulated improvement and enhanced active student engagement (Chau et al., 2023).

As a result, across global higher education contexts, brief dialogic moments become increasingly important, particularly face-to-face discussions embedded within active and enquiry-based teaching sessions. By enabling rapid clarification of standards, immediate checks of understanding, and co-constructed next steps, dialogic feedback directly mitigates common shortcomings of written feedback, including misinterpretation, limited uptake, and challenges translating comments into action (Ajjawi & Boud, 2017; Carless, 2022). In a block context, the advantage of dialogue is both relational and temporal. Instead of viewing the condensed timeframe purely as a limitation, educators can leverage it as a pedagogical advantage: the immersive nature of block delivery naturally facilitates closer rapport, enhanced peer collaboration, and a stronger educational alliance between staff and students (Ajjawi & Boud, 2017). This positive relational dynamic allows feedback to be processed in the moment and converted into feedforward within constructional restrictions (D. J. Nicol & Macfarlane-Dick, 2006). From a feedback literacy perspective, this matters because students' capacity to appreciate, interpret, and act on feedback is developed through supported engagement rather than passive receipt; dialogic exchanges provide a time-efficient scaffold when iterative written cycles are constrained (Carless & Boud, 2018; N. Winstone & Carless, 2019). By positioning students as active partners in these collaborative exchanges, block teaching effectively drives the development of universally applicable skills such as self-regulation and lifelong learning (Carless, 2022). To fully harness these active learning benefits in intensive blocks, written feedback should act as a secondary resource, with brief, strategically timed dialogue serving as the primary vehicle for enabling students to use feedback before summative submission (Ajjawi & Boud, 2017; Boud & Molloy, 2013).

Intensive and Block Teaching Models

Intensive (block) delivery introduces temporal constraints that fundamentally reshape assessment and feedback practices. The most current synthesis of block teaching evidence, a scoping review of 138 sources from 2000 to 2024, confirms the complex duality of this model: while 93% of studies report pedagogical benefits, 69% document challenges, revealing contradictory findings on both student satisfaction and staff workload, and identifying a critical lack of longitudinal content retention data (Thomas et al., 2025). Across contexts, compressed schedules are consistently associated with intensified staff workload, shortened feedback cycles, and fewer opportunities for iterative formative engagement unless assessment is deliberately redesigned (Holzweiss et al., 2019; Kretovics et al., 2005; Lee & Horsfall, 2010; Pagano & Paucar-Caceres, 2013). However, recent evidence demonstrates that deliberate structural redesign can successfully mitigate these constraints and yield substantial benefits. Documenting institution-wide assessment reform at Southern Cross University, Wilson, Goode, and Roche (2025) provide the strongest published evidence on assessment design in block formats currently; they report statistically significant improvements in student pass rates following the adoption of a maximum of three assessments per unit and the near-elimination of end-of-unit examinations. Without such purposeful reform, empirical studies illustrate that, under time pressure, educators often modify assessment and feedback practices, such as reducing draft-based guidance, limiting the depth of commentary, or narrowing the range of formative interactions available to students (Holzweiss et al., 2019; Kretovics et al., 2005; Lee & Horsfall, 2010). These constraints can alter the function of feedback, shifting it from developmental support to post-hoc justification when comments arrive too late to inform improvement.

Far from being merely a structural limitation, the immersive nature of block delivery serves as a powerful catalyst for pedagogical innovation across international higher education. When assessment is re-sequenced to introduce earlier checkpoints and repeated cycles of task production and response, compressed timelines can enhance the usability of feedforward and foster highly focused, active learning environments where students can apply knowledge immediately (Chau et al., 2023). Buck et al. (2023) show improved performance when blocks use multiple smaller summative tasks rather than a single end-of-block submission, indicating that staged assessment sustains active engagement with feedback processes. At programme level, McCluskey et al. (2019) demonstrate that coordinated scheduling and resourcing can enable rapid, embedded feedback loops and reduce variability in practice. Together, these findings suggest that effective block delivery requires deliberate programme-level “feedback architecture” rather than isolated teacher-level adjustments.

Globally, technological and pedagogic tools may further mitigate some timing pressures and actively enhance the student learning experience, but evidence suggests their effects are conditional. Classroom response systems can provide frequent formative checks and foster peer interaction (Pagano & Paucar-Caceres, 2013), and adaptive tutorials may extend opportunities for feedback tailored to individual learning needs when staff time is constrained (Khawaja et al., 2013). However, these approaches may rely on students’ capacity and willingness to engage with rapid, iterative information, and can shift feedback labour onto learners without guaranteeing the depth of interpretation and action required for developmental learning. Yet, rather than viewing this shift in feedback labour negatively, modern socio-constructivist

frameworks reposition it as a vital opportunity to build student agency, self-regulation, and feedback literacy, positioning the learner as an active partner rather than a passive recipient (Carless, 2022; Carless & Boud, 2018). Moreover, workload pressures associated with compressed marking cycles remain salient, and studies have highlighted that pedagogic tools alone cannot address the structural conditions that constrain timely, actionable feedback unless they are integrated into carefully scaffolded, active assessment designs (Chau et al., 2023).

Taken together, the international literature suggests that while block delivery can be supported through targeted design, it does not remove the tension between rapid turnaround and meaningful formative engagement. However, it does provide a unique, immersive environment where students are not distracted by competing modules, allowing them to fully dedicate their cognitive bandwidth to these rapid feedback cycles. In intensive formats, the key constraint is often not the quality of feedback but its usability within the time available, whether students can interpret and act on information before the summative submission (D. J. Nicol & Macfarlane-Dick, 2006). This positions effective feedback in blocks as a systemic design problem and a valuable opportunity for curricular reform: feedback must be treated as a process embedded in assessment sequencing and dialogic opportunities, rather than as post hoc information (Boud & Molloy, 2013). Staged assessment points can create repeated opportunities for judgement and action, supporting feedback literacy and the development of evaluative judgement (Carless & Boud, 2018; N. Winstone & Carless, 2019), yet they also risk intensifying workload if introduced without resourcing and programme-level coordination (Boud & Molloy, 2013; N. Winstone & Carless, 2019). Consequently, sustainable practice in block teaching globally depends on concise, actionable commentary, embedded dialogue, and coordinated scheduling and support structures that protect time for uptake and foster self-regulated, lifelong learning (Ajjawi & Boud, 2017; Carless, 2006).

Applied Disciplines and Practice-Based Assessment

In applied and vocational disciplines such as sport science, exercise physiology, paramedicine and allied health, assessment must bridge theoretical learning and professional practice. Establishing evidence-based pedagogy to achieve this, however, remains challenging. As confirmed by Burgess et al. (2025) in the most comprehensive scoping review of teaching and learning research in sport and exercise science to date, which initially identified 44,447 records before including 156 articles, the field's pedagogical literature is highly fragmented and often hampered by methodological limitations, such as an overreliance on simple case reports rather than robust empirical synthesis. Despite this underdeveloped state of broader sport science pedagogy research, the literature consistently highlights the value of authentic, workplace-aligned assessment tasks that develop professional competence and readiness for practice (Bradley et al., 2022; Chong et al., 2020; Naumann et al., 2014; Thompson & Houston, 2024). A central feature of these approaches is programmatic assessment, in which competence is evaluated through multiple low-stakes, formative opportunities rather than single high-stakes assessments. This structure can support more robust judgements of competence and provides ongoing opportunities for learning (Chimea et al., 2020; Wu et al., 2015). Authentic assessment formats, including Objective Structured Clinical Examinations (OSCEs), Entrustable Professional Activities (EPAs) and continuous professional tasks, further align assessment with real workplace activities and strengthen the transfer from theory to real-world practice (Bradley et al., 2022; Chong et al., 2020; Naumann et al., 2014).

A series of studies illustrate how these approaches operate in practice. Bradley et al. (2022) implemented an EPA framework in undergraduate sport and exercise science modules, reporting strong student agreement on clarity and alignment. Naumann et al. (2014) developed OSCE stations aligned to exercise physiology competencies from work-integrated learning, demonstrating the feasibility of authentic assessment within sport science. Additionally, Chong et al. (2020) examined exercise prescription and instruction taught through authentic continuous assessment with structured rubrics, finding that longitudinal formative feedback was crucial for skill development. Thompson and Houston (2024) describe a decade-long implementation of assessment for learning within paramedicine, showing how authentic, immersive and continuous assessment can effectively integrate theory and workplace readiness.

Internationally, assessment rubrics and assessment sequencing have a pivotal role in the authentic assessment process. Assessments that incorporate multiple low-stakes assessment points and sustained formative feedback support competency development and active student engagement more effectively than isolated summative clinical tests (Chimea et al., 2020; Wu et al., 2015). The use of clear rubrics and explicit task roles provides structure for self-regulated learning and the development of evaluative judgement by making complex professional standards visible to learners (Chong et al., 2020), while co-design with professional stakeholders enhances workplace validity and builds trust in assessment outcomes to ensure graduates are genuinely work-ready (Bradley et al., 2022; Thompson & Houston, 2024). Crucially, when these sequenced, authentic tasks are embedded within intensive block delivery, the immersive format acts as a catalyst rather than a constraint; by removing the competing cognitive demands of parallel modules, block teaching allows students to dedicate their full focus to iterative cycles of practice, feedback, and professional competency development (Roche et al., 2025).

Scholarship of Teaching and Learning

SoTL provides an essential interpretive frame for this review, assessment literacy and feedback design in intensive block teaching is inherently design-led, context-dependent, and often shaped by practitioner innovation rather than controlled experimental studies. To provide a robust and widely recognised theoretical anchor for this practitioner-led inquiry across global higher education, this review adopts Felten's (2013) five principles of good practice in SoTL. Felten posits that quality SoTL must be: (1) focused on student learning, (2) grounded in context, (3) methodologically sound, (4) conducted in partnership with students, and (5) appropriately public. In compressed formats, where the time available for formative assessment cycles is restricted, the effectiveness of assessment and feedback depends less on isolated best practices and more on how feedback loops, task sequencing, and workload are engineered within those intense periods (Gibbs & Simpson, 2005; Loton et al., 2022; Samarawickrema & Cleary, 2021). A SoTL lens guided by Felten's principles aims to legitimise and structure the forms of evidence that dominate this area through curriculum redesign reports, pedagogic case studies, and institutional implementations, while still requiring conceptual grounding and methodological transparency to ensure findings are appropriately public and transferable across diverse contexts.

Block teaching necessitates a curriculum redesign rather than a simple scheduling change; assessment placement, accelerated turnaround expectations, and the deliberate use of early low-stakes tasks are central strategies for preserving feedforward opportunities (Samarawickrema & Cleary, 2021). Crucially, when this redesign is conducted in partnership with students, as advocated by Felten's framework, it fosters a more democratic intellectual community and authentic co-inquiry that empowers active learners. Large-scale international evaluations similarly suggest that improvements in student performance coexist with concerns around workload and pacing, indicating that outcomes are mediated by assessment and feedback design rather than by block structures alone (Loton et al., 2022). The implication is that learning in block mode depends on whether assessment and feedback have been intentionally redesigned to operate under compressed conditions to drive self-regulated, immersive learning.

A SoTL orientation is particularly well-suited to synthesising this kind of design-sensitive evidence because it prioritises clear articulation of the educational problem, systematic documentation of pedagogic interventions, and careful consideration of transferability across diverse global contexts. This is especially relevant in sport science, where learning outcomes often span academic, laboratory, and practice-based domains, and where feedback must support rapid calibration to international disciplinary standards. The review's focus on assessment literacy and evaluative judgement illustrates why practitioner-led accounts are not a weaker form of evidence but a necessary complement: evaluative judgement develops through repeated cycles of comparison and action, which must be deliberately engineered when time is scarce (D. Nicol, 2021; Tai et al., 2018). Similarly, feedback literacy is not a natural byproduct of receiving comments but a constructed set of capabilities involving sense-making, affective management, and purposeful action (Carless & Boud, 2018; de Kleijn, 2023). Rather than viewing the condensed timeframe of block teaching as a deficit, this model provides an immersive, focused environment that actively drives the need to teach these capabilities explicitly because students cannot rely on delayed tutor commentary to drive improvement before summative submission. Consequently, it acts as a catalyst for fostering active student agency and self-regulated learning.

Positioning this review within a SoTL stance clarifies why the focus is on how feedback is made usable within rapid cycles to promote active, collaborative learning. Evidence from dialogic feed-forward research demonstrates that short, structured interactions (e.g., draft–discussion–revision cycles) can translate feedback into immediate action and support the affective work of engaging with critique by building relational trust (Hill & West, 2020, 2022). Studies of technology-enhanced feedback similarly show that digital systems can support storage and revisiting of comments, but also that their effectiveness depends on how feedback is integrated into required learning activities rather than offered as optional information (Glover et al., 2015; Parkin et al., 2012). Such findings align with a SoTL emphasis on designing for uptake: in block contexts, feedback processes must be configured as short, repeatable loops through which students generate internal feedback (D. Nicol, 2021) and practise evaluative judgement under authentic disciplinary constraints (Tai et al., 2018), rather than relying on extensive written comments that arrive too late to influence work. By engineering these rapid, dialogic loops, educators can leverage the immersive block format to cultivate deeply engaged learners who take ownership of their own professional development.

Accordingly, in this narrative review, SoTL functions as an interpretive stance that frames block and intensive teaching reforms, as well as an opportunity for theoretically informed, transparent, and cumulative practitioner inquiry that bridges the gap between general educational theory and discipline-specific practice. This stance recognises the value of large-scale international evaluations that confirm the objective pedagogical benefits of immersive delivery (Loton et al., 2022) while highlighting that much of what is actionable for sport science educators emerges from well-documented pedagogic designs that explicitly connect mechanisms such as feedback loops, rapid turnaround, and student judgement practices to their outcomes and limitations (Gibbs & Simpson, 2005; Hill & West, 2020; Samarawickrema & Cleary, 2021). Ultimately, this review asserts that when intentionally designed using SoTL principles, the block model ceases to be a temporal constraint and instead becomes a universally applicable pedagogical framework for fostering active, enquiry-based, and work-ready graduates.

Conceptual Tensions and Theoretical Boundaries

Taken together, the five domains offer complementary but not interchangeable perspectives on assessment and feedback in intensive contexts. Before introducing the resulting design principles, it is necessary to clarify their conceptual relationships and the tensions that arise when they are enacted under block-mode constraints.

The framework deliberately draws together assessment literacy, evaluative judgement, and feedback literacy, yet these constructs maintain distinct theoretical lineages and emphases. Assessment literacy primarily concerns students' access to assessment standards, criteria, and processes (Rust et al., 2003; Smith et al., 2013); evaluative judgement emphasises learners' capacity to make informed judgements about the quality of work, including their own and others' (Tai et al., 2018); and feedback literacy foregrounds the interpretation, uptake, and application of evaluative information for improvement (Carless & Boud, 2018; Molloy et al., 2020). While interrelated, these constructs are not interchangeable. Activities that support assessment literacy (e.g., rubric deconstruction, exemplar analysis) serve as necessary but insufficient foundations for evaluative judgement, which itself requires repeated opportunities for comparison, dialogue, and action, opportunities that significantly constrain teaching (Gyamfi et al., 2022; Kretovics et al., 2005).

A further tension concerns how feedback literacy itself is conceptualised. Nieminen and Carless (2023) caution against reducing feedback literacy to a decontextualised skill set, positioning it instead as a socially situated practice shaped by power relations, disciplinary norms, and time pressure. This resonates with Molloy et al.'s (2020) empirically derived framework, which extends the original Carless and Boud (2018) conception into seven groupings and 31 categories, including active elicitation and reciprocity as core dimensions, and thereby treats feedback literacy as considerably more than a discrete skill. Together, these accounts have direct implications for block teaching: while structured activities can initiate the development of feedback literacy, sustained sociocultural scaffolding remains necessary for durable capability, and the unequal distribution of time pressure across student cohorts means that feedback processes risk reproducing rather than mitigating existing inequities. A related tension arises with dialogic feedback. Although dialogue is argued to be pedagogically efficient in compressed formats (Ajjawi & Boud, 2017), its scalability is not unproblematic (Hill & West,

2022), particularly in large cohorts or where staff time is constrained. Group-based dialogue, peer feedback, and internal feedback processes (D. Nicol, 2021) therefore function not as compromises but as essential design adaptations when one-to-one dialogue is infeasible. Internal feedback, in which students generate meaningful comparisons between their own work and exemplars, peer work, or criteria, is particularly valuable under block constraints because it distributes feedback labour without depending on additional staff input (D. Nicol, 2021).

The five domains reviewed here represent well-established areas of higher education scholarship rather than constructs unique to intensive or block teaching. Assessment literacy, evaluative judgement, feedback literacy, authentic assessment, and SoTL are widely applicable across teaching contexts. What distinguishes intensive block teaching is not the novelty of these principles, but the conditions under which they must operate. Block delivery compresses the developmental timelines assumed by much of the assessment and feedback literature, constrains opportunities for iteration, and heightens the consequences of early misunderstanding (Kretovics et al., 2005; Lee & Horsfall, 2010; Pagano & Paucar-Caceres, 2013). As a result, pedagogical principles that are effective in semester-long formats require resequencing, reprioritisation, and adaptation to remain functional in intensive contexts. The contribution of this framework therefore lies not in proposing new pedagogical principles but in articulating how established principles interact and must be deliberately configured under the specific temporal and workload constraints of block teaching.

By making these conceptual tensions explicit, the framework acknowledges the limitations of any single assessment or feedback approach and rejects additive or checklist-based implementation. Instead, it advances a design ecology perspective, in which principles are combined, adapted, or selectively prioritised in response to contextual constraints. This positioning underpins the evidence-based design principles that follow, which are intended to guide judgement and trade-off decisions in block teaching rather than prescribe uniform solutions.

Evidence-Based Design Principles

The 20 principles that follow were created from the four-step synthesis procedure described in the Methods section. They are presented in five thematic clusters, assessment literacy development; feedback design and feedback literacy; intensive and block teaching adaptations; applied and vocational contexts; and SoTL and reflective practice, and are ordered within clusters to reflect a typical block-module design workflow, moving from orienting students to standards, through sequencing assessment for learning and enabling rapid feedback use, to maintaining authenticity and ensuring feasibility and ongoing evaluation.

The principles do not represent context-free best practice. Rather, they translate established pedagogical concepts into a coherent design framework for intensive and block teaching. While many of the underlying principles are familiar across higher education, their relative importance, sequencing, and feasibility are reshaped by compressed delivery formats. The principles therefore function as context-sensitive design responses to the temporal, cognitive, and workload pressures characteristic of block-mode delivery.

As established in the preceding section, the principles target three related but distinct constructs: assessment literacy (access to standards), evaluative judgement (capacity to

appraise quality), and feedback literacy (interpretation and use of evaluative information). Principles 1–4 primarily develop assessment literacy, with P3 scaffolding the transition to evaluative judgement. Principles 5–9 primarily develop feedback literacy, with P8 supporting evaluative judgement through timely application. Principles 10–13 are design-condition principles: they create the conditions under which learner capabilities can develop rather than targeting a specific construct directly. Principles 14–17 primarily support evaluative judgement through programmatic, authentic, criterion-aligned work, with secondary benefits for assessment literacy. Principles 18–20 address practitioner enquiry rather than student-facing capabilities. Table 1 summarises each principle, its thematic cluster, key citations, and the specific block-teaching adaptation that distinguishes it from semester-mode application.

Table 1. Evidence-Based Design Principles for Assessment and Feedback in Intensive Block Teaching

#	Cluster	Principle	Key Citations	Block-Teaching Adaptation
Cluster 1 - Assessment Literacy Development				
1	Assessment literacy	Make assessment criteria and standards explicit through structured activities (rubric deconstruction, exemplar analysis, peer review) rather than assuming students understand written criteria alone.	Jones et al. (2017); Rust et al. (2003); Smith et al. (2013)	Frontload within the first session of the block, since iterative exposure across semester weeks is unavailable.
2	Assessment literacy	Use exemplars combined with educator explanation and dialogue to communicate standards more effectively than text-based criteria.	Hendry et al. (2012); Hendry & Anderson (2013)	Educator-led exemplar discussion replaces the slower comparative exposure that unfolds over a semester. Discussions should be non-prescriptive when discussing with students to stimulate developing evaluative judgement.
3	Assessment literacy	Scaffold assessment literacy development through staged activities (exemplar marking, peer review, self-assessment) to build evaluative judgement progressively.	Brignell et al. (2019); Jones et al. (2017); Yucel et al. (2014)	Compress the staged sequence into days rather than weeks, with explicit transitions between stages.
4	Assessment literacy	Recognise that assessment literacy is developmental; plan for iterative engagement with standards across tasks rather than one-off induction.	Gyamfi et al. (2022); Rust et al. (2003)	Distribute literacy activities across all weeks of the block — not only Week 1.
Cluster 2 - Feedback Design and Feedback Literacy				
5	Feedback design	Design assessment sequences and processes that enable feedforward. Feedback must be usable for subsequent tasks, not only retrospective commentary.	Hill & West (2020, 2022); Winstone & Nash (2019)	Position at least one low-stakes task before summative deadlines so feedback can inform revision.

6	Feedback design	Embed dialogic opportunities (draft consultations, face-to-face discussions) to convert written feedback into concrete action plans.	de Kleijn (2023); Hill & West (2020)	Use brief small-group consultations (10–15 minutes) where one-to-one dialogue is not feasible.
7	Feedback literacy	Require students to produce explicit responses to feedback (action plans, revision logs, next-step reflections) to activate engagement and develop feedback literacy.	Han & Xu (2021); Steen-Utheim & Hopfenbeck (2019); Winstone & Nash (2019)	Structured response tasks compensate for the compressed time between receiving and using feedback.
8	Feedback design	Time feedback to arrive when students can act on it. Formative moments before summative deadlines are critical.	Glover et al. (2015); Parkin et al. (2012); Steen-Utheim & Hopfenbeck (2019)	Timing is the primary determinant of feedback functionality in block formats; late feedback becomes post-hoc justification.
9	Feedback design	Use varied feedback modalities (verbal, written, technology-mediated) and pair technology with pedagogic tasks that teach students how to retrieve and apply feedback.	Glover et al. (2015); Parkin et al. (2012)	Short screencasts and audio feedback can be faster to produce than written comments while remaining personal.
Cluster 3 - Intensive and Block Teaching Adaptations				
10	Block adaptation	Use multiple smaller assessments rather than single high-stakes tasks to preserve formative feedback opportunities and reduce end-of-block pressure.	Buck et al. (2023); McCluskey et al. (2019); Wilson, Goode & Roche (2025)	Three or fewer assessments per unit with end-of-unit exams removed improve outcomes. Here, "multiple" means more than one, not many: two to three well-distributed tasks (weighted appropriately) preserve formative opportunity while avoiding cognitive and marking overload.
11	Block adaptation	Prioritise concise, actionable feedback appropriate for short turnaround times; avoid lengthy commentary that students cannot process within block timelines.	Kretovics et al. (2005); Lee & Horsfall (2010); Pagano & Paucar-Caceres (2013)	Brevity is a pedagogical choice, not a compromise; long feedback that arrives late is educationally inert.
12	Block adaptation	Leverage technology (classroom response systems, adaptive tutorials, online assessment materials, generative AI) to deliver rapid formative feedback and manage marking workload strategically.	Chau et al. (2023); Henderson et al. (2025); Khawaja et al. (2013)	Automated feedback tools reduce turnaround time significantly, but student trust remains anchored in tutor dialogue; technology is therefore most effective as a scaffold, not a substitute.
13	Block adaptation	Redesign assessment fundamentally for block contexts rather than simply compressing semester-long assessment into shorter timeframes.	Holzweiss et al. (2019); Samarawickrema & Cleary (2021); Thomas et al. (2025)	Redesign means reconsidering alignment, weighting, and sequencing from the ground up. Replacing deferred summative tasks with integrated checkpoints that fit naturally within the block's rhythm rather than against it.

<i>Cluster 4 - Applied and Vocational Contexts</i>				
14	Authentic assessment	Use authentic, workplace-aligned assessment tasks (OSCEs, EPAs, continuous professional tasks) to strengthen theory–practice integration and professional competence development.	Bradley et al. (2022); Chong et al. (2020); Naumann et al. (2014); Thompson & Houston (2024)	The immersive block format permits sustained practical engagement without competing module demands.
15	Programmatic	Adopt programmatic assessment with longitudinal formative feedback rather than relying solely on single summative clinical tests.	Chimea et al. (2020); Thompson & Houston (2024); Wu et al. (2015)	Multiple low-stakes checkpoints compensate for the absence of an extended semester-long developmental arc.
16	Authentic assessment	Provide clear rubrics and explicit task roles to scaffold self-regulated learning and help students interpret feedback for skill improvement.	Chong et al. (2020)	Rubric explicitness is an equity-enabling mechanism when tacit norms cannot be absorbed over time.
17	Co-design	Co-design assessment criteria and tasks with professional stakeholders (clinical supervisors, employers, professional bodies) to enhance workplace validity and student trust.	Bradley et al. (2022); Thompson & Houston (2024)	UKSCA / CASES competency mapping provides discipline-specific anchors for sport science block modules.
<i>Cluster 5 - SoTL and Reflective Practice</i>				
18	Scholarly inquiry	Frame pedagogic innovations against existing literature to situate local inquiry within broader scholarship and enable transferable insights.	Felten (2013); Prosser (2008); Trigwell (2012)	Felten's principles of being 'grounded in context' and 'appropriately public' are especially pertinent to block reform.
19	Scholarly inquiry	Use pedagogic case studies with systematic documentation of context, methods, and outcomes to generate rigorous practitioner-led evidence.	Felten (2013); Robson et al. (2013)	Addresses the methodological fragmentation in sport science pedagogy identified by Burgess et al. (2025).
20	Reflective practice	Build structured reflection into both student learning activities and practitioner inquiry to support iterative improvement and evidence-informed practice.	Musolino & Mostrom (2005)	Reflection functions as a feedback mechanism for the educator as well as the learner under compressed conditions.

Assessment Literacy Development

Principle 1: Make assessment criteria and standards explicit through structured activities (rubric deconstruction, exemplar analysis, peer review) rather than assuming students understand written criteria alone (Jones et al., 2017; Rust et al., 2003; Smith et al., 2013).

Principle 2: Use exemplars combined with educator explanation and dialogue to communicate standards more effectively than text-based criteria (Hendry et al., 2012; Hendry & Anderson, 2013).

Principle 3: Scaffold assessment literacy development through staged activities (exemplar marking, peer review, self-assessment) to build evaluative judgement progressively (Brignell et al., 2019; Jones et al., 2017; Yucel et al., 2014).

Principle 4: Recognise that assessment literacy is developmental; plan for iterative engagement with standards across tasks rather than one-off induction (Gyamfi et al., 2022; Rust et al., 2003).

Feedback Design and Feedback Literacy

Principle 5: Design assessment sequences and processes that enable feedforward. Feedback must be usable for subsequent tasks, not only retrospective commentary (Hill & West, 2020, 2022; N. E. Winstone & Nash, 2019).

Principle 6: Embed dialogic opportunities (draft consultations, face-to-face discussions) to convert written feedback into concrete action plans (de Kleijn, 2023; Hill & West, 2020).

Principle 7: Require students to produce explicit responses to feedback (action plans, revision logs, next-step reflections) to activate engagement and develop feedback literacy (Han & Xu, 2021; Steen-Utheim & Hopfenbeck, 2019; N. E. Winstone & Nash, 2019).

Principle 8: Time feedback to arrive when students can act on it. Formative moments before summative deadlines are critical (Glover et al., 2015; Parkin et al., 2012; Steen-Utheim & Hopfenbeck, 2019).

Principle 9: Use varied feedback modalities (verbal, written, technology-mediated) and pair technology with pedagogic tasks that teach students how to retrieve and apply feedback (Glover et al., 2015; Parkin et al., 2012).

Intensive and Block Teaching Adaptations

Principle 10: In compressed delivery, use multiple smaller assessments rather than single high-stakes tasks to preserve formative feedback opportunities and reduce end-of-block pressure (Buck et al., 2023; McCluskey et al., 2019; Pagano & Paucar-Caceres, 2013).

Principle 11: Prioritise concise, actionable feedback appropriate for short turnaround times; avoid lengthy commentary that students cannot process within block timelines (Kretovics et al., 2005; Lee & Horsfall, 2010; Pagano & Paucar-Caceres, 2013).

Principle 12: Leverage technology (classroom response systems, adaptive tutorials, online assessment materials, Generative AI) to deliver rapid formative feedback and manage marking workload strategically (Chau et al., 2023; Khawaja et al., 2013; Pagano & Paucar-Caceres, 2013).

Principle 13: Redesign assessment fundamentally for block contexts rather than simply compressing semester-long assessment into shorter timeframes (Holzweiss et al., 2019; Kretovics et al., 2005; Lee & Horsfall, 2010).

Applied and Vocational Contexts

Principle 14: Use authentic, workplace-aligned assessment tasks (OSCEs, EPAs, continuous professional tasks) to strengthen theory-practice integration and professional competence development (Bradley et al., 2022; Chong et al., 2020; Naumann et al., 2014; Thompson & Houston, 2024).

Principle 15: Adopt programmatic assessment approaches with longitudinal formative feedback rather than relying solely on single summative clinical tests (Chimea et al., 2020; Thompson & Houston, 2024; Wu et al., 2015).

Principle 16: Provide clear rubrics and explicit task roles to scaffold self-regulated learning and help students interpret feedback for skill improvement (Chong et al., 2020).

Principle 17: Co-design assessment criteria and tasks with professional stakeholders (clinical supervisors, employers, professional bodies) to enhance workplace validity and student trust (Bradley et al., 2022; Thompson & Houston, 2024).

SoTL and Reflective Practice

Principle 18: Frame pedagogic innovations against existing literature to situate local inquiry within broader scholarship and enable transferable insights (Prosser, 2008; Trigwell, 2012).

Principle 19: Use pedagogic case studies with systematic documentation of context, methods, and outcomes to generate rigorous practitioner-led evidence (Robson et al., 2013).

Principle 20: Build structured reflection into both student learning activities and practitioner inquiry to support iterative improvement and evidence-informed practice (Musolino & Mostrom, 2005).

Literature Gaps and Priorities for Future Research

While each of the five domains is well-theorised individually, empirical accounts of their combined implementation are scarce. Assessment literacy research rarely addresses intensive delivery constraints (Gyamfi et al., 2022; Hendry et al., 2012; Jones et al., 2017; Rust et al., 2003; Smith et al., 2013; Yucel et al., 2014). Feedback scholarship seldom examines applied vocational contexts under time pressure (Carless, 2022; de Kleijn, 2023; Han & Xu, 2021; Hill & West, 2022), however block teaching studies focus on outcomes but provide limited detail on assessment literacy or feedback literacy development (Buck et al., 2023; Kretovics et al., 2005; Lee & Horsfall, 2010; Pagano & Paucar-Caceres, 2013). Applied discipline research emphasises authentic tasks but rarely addresses compressed timelines (Bradley et al., 2022; Chong et al., 2020; Naumann et al., 2014). Consequently, future research should document how these domains interact in practice, providing holistic implementation accounts for practitioners facing similar constraints. Empirical case studies examining strength and conditioning modules, exercise physiology blocks, or sport science professional practice units would support addressing this gap.

Discipline-Specific Adaptation

Most assessment literacy and feedback research is conducted in traditional semester-long formats and in traditionally essay-based disciplines. Evidence from applied, practice-based

disciplines (sport science, exercise physiology, paramedicine) operating under intensive delivery is limited (Bradley et al., 2022; Chong et al., 2020; Naumann et al., 2014; Thompson & Houston, 2024). This gap is further emphasised within a recent scoping review by Burgess et al. (2025), that notes that no facet of pedagogic research in sport and exercise science has reached saturation. Furthermore, they point out that while some evidence exists regarding assessment within these fields, it often relies heavily on simple case reports and opinion pieces rather than collated, empirical evidence. The few studies in applied fields focus on workplace-based assessment, but not on how students develop assessment literacy or feedback literacy within compressed academic modules. Consequently, future research should contribute discipline-specific evidence about adapting assessment literacy and feedback design principles to professional competency frameworks and intensive formats. For example, a level 6 strength and conditioning module delivered over 6 weeks with authentic assessments (client delivery videos, athlete case studies) would provide valuable evidence about operationalising these principles in sport science contexts.

Student Perspective and Uptake

Research consistently notes variable student engagement with rubrics, exemplars, and feedback (Gyamfi et al., 2022; Han & Xu, 2021; Smith et al., 2013; Steen-Utheim & Hopfenbeck, 2019), yet studies report interventions without consistently explaining why some students engage deeply while others do not, particularly under time pressure (Kretovics et al., 2005; Lee & Horsfall, 2010). The affective and metacognitive dimensions of assessment literacy and feedback literacy development remain under-explored in intensive contexts. Nieminen and Carless (2023) further caution that feedback literacy is a socially situated practice shaped by power relations and disciplinary norms, which may be unequally experienced across student cohorts in compressed formats. Future research should therefore document students' responses, barriers to engagement, and affective factors through qualitative methods (e.g., interviews, focus groups) and module evaluation data, with particular attention to how diverse learner backgrounds mediate uptake.

Scalability and Workload

Intensive delivery research highlights staff workload concerns and often recommends technology or redesigned assessment (Chau et al., 2023; Holzweiss et al., 2019; Khawaja et al., 2013; Kretovics et al., 2005; Lee & Horsfall, 2010; Pagano & Paucar-Caceres, 2013). However, practical accounts of how to implement dialogic feedback, exemplar-based teaching, and programmatic assessment within realistic workload constraints are rare, especially as most exemplar studies are small-scale pilots (Brignell et al., 2019; Hendry et al., 2012; Yucel et al., 2014). Consequently, future research should transparently report resource allocation, workload trade-offs, and scalability considerations. For example, how feasible is dialogic feedback with varying student demographics in a 6-week block? What technology or design adjustments enable rapid feedback cycling without an unsustainable marking burden?

Longitudinal and Transfer Effects

Assessment literacy and feedback literacy are theorised as developmental competencies that transfer across tasks and modules (de Kleijn, 2023; Gyamfi et al., 2022; Han & Xu, 2021; Rust et al., 2003). Yet longitudinal evidence of transfer, particularly in compressed formats where

students have limited time to consolidate learning, is insufficient (Hill & West, 2022). Applied discipline research calls for long-term employability outcomes but rarely tracks them (Chimea et al., 2020; Wu et al., 2015). Future research should examine the transfer of assessment literacy and feedback literacy developed in intensive contexts to subsequent modules or professional practice (e.g. Master's study, or professional pathways such as the Chartered Association of Sport and Exercise Science (CASES) Supervised Experience). Longitudinal tracking would strengthen evidence for longer-term impacts.

Methodological Contribution

SoTL literature advocates for pedagogic case studies as rigorous practitioner-led inquiry (Prosser, 2008; Robson et al., 2013; Trigwell, 2012). However, exemplars of case studies that integrate multiple theoretical domains, use mixed methods systematically, and report both successes and limitations transparently remain valuable for building methodological capacity in the field (Musolino & Mostrom, 2005). Future research should model how practitioners can conduct theoretically grounded, reflective inquiry in complex teaching contexts. Well-documented case studies contribute methodologically by demonstrating rigorous SoTL approaches.

Implications for Block and Intensive Teaching in Sport Science Education

While the twenty principles are presented as a coherent design framework, they are not intended to function as a checklist in which all elements can be implemented simultaneously without trade-offs. In practice, tensions frequently arise when principles are enacted under the temporal and workload constraints of intensive delivery. For example, increasing the number of low-stakes assessments to preserve formative opportunities (Principle 10) may conflict with the need to maintain concise, timely feedback within limited marking windows (Principle 11). Similarly, frontloading assessment literacy activities (Principles 1–4) inevitably competes for time with authentic, practice-based tasks central to applied disciplines (Principles 14–17).

To address these tensions, the principles should be understood as a prioritisation framework rather than a prescriptive sequence. In early-stage or lower-level modules, where students' evaluative judgement is underdeveloped, the relative priority may lie in assessment literacy and feedback processes, even at the expense of task complexity. Conversely, in later-stage modules with professionally oriented cohorts, authenticity and programmatic assessment may justifiably take precedence, with assessment literacy embedded implicitly through task design rather than explicit instruction. The utility of the framework therefore lies in supporting context-sensitive decision making, enabling educators to make deliberate trade-offs rather than attempting unsustainable implementation of all principles concurrently.

To translate these prioritisation decisions into practice, the following five design moves consolidate the twenty principles into a manageable workflow for sport science educators working in intensive formats.

Frontload Assessment Literacy Activities

Given that compressed delivery models often constrain opportunities for iterative engagement with assessment standards (Gyamfi et al., 2022; Rust et al., 2003), Principles 1–4 advocate for frontloading assessment literacy within the first week of a block. A six-week strength and

conditioning module, for example, could scaffold its opening week around a deliberate sequence of evaluative activities: rubric deconstruction, exemplar video analysis, peer review training, and self-assessment practice. This sequence draws on the five-step pedagogy proposed by Jones et al. (2017) and on evidence that educator-led exemplar discussion is more effective than exposure to written criteria alone (Hendry et al., 2012; Smith et al., 2013). This frontloaded sequence establishes evaluative foundations within the compressed timeframe, supporting students' transition to independent work before summative submissions.

Design Feedforward Opportunities

Principles 5–9 emphasise feedforward design. Even in tightly timed blocks, at least one formative or low-stakes task should precede summative submissions (Hill & West, 2020; N. E. Winstone & Nash, 2019). For a module with two summative assessments (video delivery 40%, case study 60%), both due in Week 6, consider: a formative video script or plan with rapid feedback in Week 3, and a case study outline with peer review in Week 4. This creates feedforward moments in which students can apply their learning before final submissions. Dialogic feedback, brief small-group consultations of 10–15 minutes, can efficiently convert written comments into concrete action plans (Ajajawi & Boud, 2017; Carless, 2022).

Use Technology Strategically

Principles 10–13 highlight technology's supportive role. In blocks, technology should support the logistics of rapid cycling. Examples include classroom response systems for in-session formative checks (Pagano & Paucar-Caceres, 2013); students reviewing prior feedback through the VLE and write action plans (Glover et al., 2015; Parkin et al., 2012); and brief screencast feedback for complex tasks, which is faster to record than to type and more personalised than generic comments. Technology, when paired with pedagogical tasks such as feedback response logs and action planning templates, explicitly develops feedback literacy (Carless & Boud, 2018).

Importantly, recent large-scale evidence indicates that while students increasingly use generative AI tools for feedback, they rate teacher feedback as significantly more trustworthy and helpful (Henderson et al., 2025). GenAI can support rapid, iterative feedback if embedded within structured self-regulation tasks (Zhan et al., 2025), but should supplement rather than replace relational, dialogic feedback from educators. In sport science and related disciplines, virtual reality and simulation tools have shown effectiveness in anatomy, biomechanics, and decision-making tasks, particularly where 3D visualisation, repeated practice, and realistic scenario exposure enhance learning and performance (DiCesare et al., 2020; Jia et al., 2024; Zhao et al., 2020). Such tools are less appropriate as substitutes for embodied, coach–athlete interactions central to strength and conditioning practice, where video-based feedback, peer observation, and live practical demonstrations offer greater fidelity to professional contexts than immersive simulation. Technology should therefore be deployed selectively, in ways that preserve hands-on skill development while supporting rapid feedback cycling in block formats.

Align Authentic Tasks with Professional Competencies

Principles 14–17 advocate authentic, programmatic assessment that bridges theoretical learning and professional practice (Bradley et al., 2022; Chong et al., 2020; Naumann et al., 2014; Thompson & Houston, 2024). Sport science modules can align summative tasks directly

to professional competencies. A client delivery video assesses communication, exercise prescription, and technique demonstration, core strength and conditioning competencies. An athlete case study assesses evidence-based practice, needs analysis, and programme design, equally authentic to applied sport science work. In strength and conditioning modules delivered in block mode, this authentic assessment structure may be extended through coached practical sessions, client programme design, and reflective performance debriefs.

Rubrics should map explicitly to professional standards such as UK Strength and Conditioning Association (UKSCA) competencies and Chartered Association of Sport and Exercise Science (CASES) standards to enhance workplace validity and student trust (Bradley et al., 2022). Involving professional practitioners in rubric co-design or exemplar provision can further strengthen authenticity and bridge the theory-to-practice gap identified across applied disciplines (Thompson & Houston, 2024). The effectiveness of this authentic task structure depends on the frontloaded assessment literacy work described above: exemplar video analysis of coaching practice conducted early in the block reduces later feedback demands and enables dialogic feedback sessions to focus on applied decision-making rather than basic criterion compliance.

Plan Workload Realistically

Principles 18–20 emphasise transparent documentation and reflective practice. When designing intensive assessment, educators should estimate marking time per student for each assessment, plan feedback modality based on turnaround windows (concise written comments alongside group dialogue may be more sustainable than lengthy individual written feedback), and schedule dialogic feedback sessions explicitly in the block timetable. Structured internal feedback tasks, in which students compare their own work against exemplars, peer outputs, or criteria, can also generate meaningful formative input without additional staff marking time (D. Nicol, 2021). Peer review and self-assessment similarly distribute evaluative work, allowing students to develop assessment literacy while reducing staff marking burden (Brignell et al., 2019; Yucel et al., 2014). Institutional support, clear marking turnaround policies, timetable adjustments, and recognition of intensive delivery workload, is essential for sustainable practice.

Conclusion

This narrative review demonstrates that effective assessment and feedback practices in intensive block teaching are achievable when underpinned by a deliberate, theoretically informed design. By integrating evidence across five areas of scholarship, the review highlights how compressed teaching structures intensify the need for explicit standards, timely feedforward processes, and authentic, workplace-aligned tasks.

The review offers an integrated framework of design principles to support assessment planning in block mode environments, emphasising early assessment literacy induction, purposeful sequencing of feedback opportunities, strategic use of technology to sustain rapid formative cycles, and alignment with professional expectations in applied disciplines such as sport science. Implementing these principles requires intentional design and realistic attention to staff workload and student capacity, rather than simply compressing semester-length models. These design principles also carry equity implications: evidence suggests that explicit

standards, early formative engagement, and structured feedback processes can function as equity-enabling mechanisms in compressed formats, supporting students from diverse academic backgrounds who are less able to rely on tacit disciplinary knowledge (Loton et al., 2022; Wilson, Goode, et al., 2025).

Significant gaps remain in the evidence base. Limited research examines how these domains operate together in real sport science block modules, particularly regarding student engagement under time pressure, the development of assessment and feedback literacy in compressed formats, and the scalability of dialogic feedback practices. Practitioner-led case studies in areas such as strength and conditioning, exercise physiology, and professional practice modules, documented using the SoTL principles outlined above, are needed to refine and validate the principles proposed here.

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