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Managing the shift to programme-level assessment: structural barriers, stakeholder experiences and mechanisms of sustained transition

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ABSTRACT

Programme-level assessment (PLA) has gained traction in higher education policy and practice, yet examples of successful implementation remain limited. This systematic review synthesises 28 empirical and conceptual studies to examine the structural and governance factors shaping PLA implementation across institutional and disciplinary contexts. The findings are presented thematically, examining institutional architecture, stakeholder experience and transition mechanisms. Three main arguments are developed: that implementation failure is primarily architectural rather than cultural; that programmatic assessment and Integrated Programme Assessment (IPA) are analytically distinct models with structurally different capacities to address the architecture problem and that mechanisms which sustain successful transition work by redistributing the cost-benefit asymmetry of implementation rather than by asking individuals to absorb it. The evidence base remains heavily concentrated in health and professional education, and findings should be applied to other disciplinary contexts with caution.

KEYWORDS

Programme level assessment; programmatic assessment; integrated programme assessment; curriculum reform

Introduction

Assessment is widely acknowledged as a primary driver of student behaviour in higher education: it defines the curriculum for students, dictating what they regard as necessary and how they allocate their time and effort (Boud 2000; Rust 2002). If institutions wish to improve the quality of student learning, they must fundamentally alter how they assess it (Brown, Bull, and Pendlebury 2013). Yet, traditional assessment practices remain essentially modular and fragmented. This is not a new

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observation: the problem has been recognised for at least two decades (Boud 2000; Hartley and Whitfield 2011).

The dominant modular structure of university education, where learning and assessment is organised into discrete, self-contained units (Figure 1A), has cultivated a disjointed learning experience (Jessop and Tomas 2017). Students are encouraged to revise and forget and fail to see the overarching rationale of their programme of study (Whitfield and Hartley 2017). Students perceive assessments not as steps in a developmental journey but as isolated hurdles to be cleared and discarded (Eva et al. 2016). This incentivises surface approaches to learning and the compartmentalisation of knowledge rather than the synthesis of ideas and holistic competencies required in professional environments (Boud and Molloy 2013). Short, compressed semesters and high volumes of summative assessment create an assessment arms race in which modules compete for student attention at the expense of deep engagement (Harland et al. 2015). When feedback is confined to a single module, students struggle to feed forward insights from one task to the next, limiting opportunities for the cumulative development of self-regulated learning and evaluative judgement across a programme (Hughes, Smith, and Creese 2015; Rutherford 2019). To address these systemic failures, interest has grown in Programme-Level Assessment (PLA).

This review focuses on two main approaches to PLA which have been implemented in higher education practice and which illustrate both the advantages and key issues: programmatic assessment and Integrated Programme Assessment (IPA, see Figure 1). Programmatic assessment was developed and is largely concentrated in medical education. Assessment is conceptualised as a system of longitudinally connected data points rather than a series of disconnected tests (van der Vleuten et al. 2012, Figure 1B). Individual assessment points are optimised for learning (low stakes), while high-stakes progression decisions are based on aggregated information across the entire programme (Schuwirth and Van der Vleuten 2011). IPA draws on similar concerns for coherence, longitudinal development and meaningful progression decisions, but has emerged within a broader subject base with an emphasis on

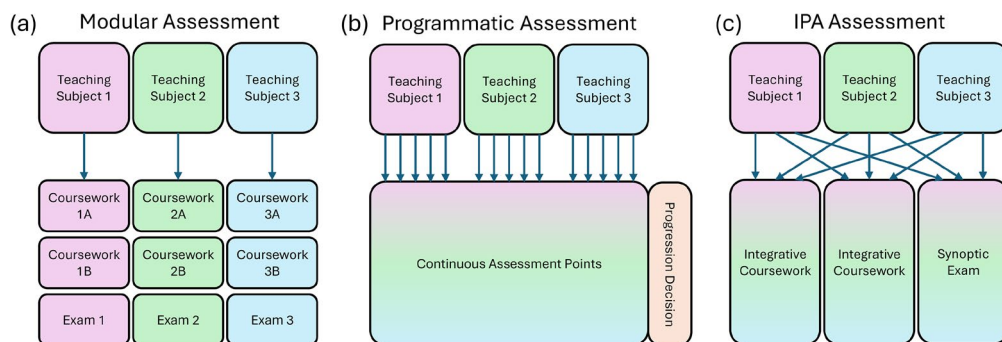


Figure 1. Schematic diagram comparing approaches to assessment design. (a) Modular assessment: each taught subject generates its own independent coursework and exam. (b) Programmatic assessment: subjects generate multiple continuous assessment data points that feed into a single programme-level progression decision. (c) IPA assessment: subjects are assessed through shared integrative coursework and a synoptic exam.

aligning fewer, higher-stakes assessments which integrate knowledge from across taught modules to support and assess cumulative learning and programme outcomes (Figure 1C).

Both varieties of PLA involve strategically designing assessments to sequentially develop overarching discipline knowledge, transferable skills and career readiness (Charlton and Newsham-West 2024a). This aligns with the concept of constructive alignment, ensuring that teaching activities and assessment tasks are explicitly linked to both module objectives and high-level programme outcomes (Biggs 1996). By integrating assessment strategies such as longitudinal portfolios and synoptic or integrative assessments, PLA aims to foster connective learning (Whitfield and Hartley 2019). Such assessments facilitate students in developing evidence of their learning over time, and in bridging the gap between formative and summative assessments (Clarke and Boud 2018). Both approaches respond to concerns about fragmentation and one-off testing, but they do so through distinct design practices and with different degrees of emphasis on formalised, portfolio-based decision-making.

Where PLA has been successfully implemented, the benefits have been demonstrated repeatedly across stakeholder groups. For students, PLA mitigates the fragmented learn-and-forget cycles encouraged by modular structures, developing feedback literacy, self-regulation and evaluative judgement over time (Baartman, van Schilt-Mol, and van der Vleuten 2022; Baartman and Quinlan 2024). The reduction in overall assessment volume that typically accompanies PLA has been shown to improve student psychological well-being and lower assessment-related anxiety (Ryan and Judd 2022; Vanderheide and Walkington 2009). For academic staff, well-implemented PLA reduces summative marking loads and has been shown to break down entrenched disciplinary silos, encouraging collaboration and a shared sense of curricular ownership (Schwegler, Shell, and Clark 2025). For employers and external stakeholders, PLA provides a more authentic and holistic representation of graduate competencies than module-by-module transcripts can offer (Kotnour, Farr, and Vergopia 2022; Tree, Harvey, and Rand-Weaver 2025). In this sense PLA embodies the principle of sustainable assessment, developing students' capacity to manage their own learning well beyond graduation (Boud 2000; Boud and Soler 2016). The question this article addresses is not whether PLA is worth pursuing, because the evidence suggests it is, but why we see so few examples of implementation which realise these ambitions.

Rationale for this review

Despite a growing body of literature advocating PLA, there remains a significant gap in systematic analyses of the practical mechanics of implementation, particularly beyond medical education. Recent work has begun to reframe this as a problem of institutional readiness, recognising that structural, cultural and governance conditions shape whether implementation can succeed (Turnip, Velan, and Polly 2026). However systematic review of the implementation evidence across major models of PLA, and across disciplinary contexts, remains limited. This review addresses that gap directly.

Research questions

1. What are the primary structural and cultural barriers to implementing programme-level assessment in higher education, and how does the relationship between them shape implementation outcomes?
2. How does the shift to programme-level assessment affect key stakeholders such as students, academic staff and administrators in terms of workload, engagement and outcomes?
3. What management strategies, governance structures and policy changes have been identified as facilitating successful and sustainable transition to programme-level assessment?

The findings are presented thematically, examining institutional architecture and barriers (RQ1), stakeholder experience (RQ2) and management strategies for sustained transition (RQ3) in turn, before we develop our central arguments and address the implications for practice and policy in the discussion.

Methods

Comprehensive literature searching

Systematic searches across two databases, Scopus and ProQuest, were carried out using Boolean search strings ([Supplementary Table S1](#)). Each string was matched as closely as possible to each other within the constraints of the individual databases, to ensure the alignment between searches. The search strings were designed to identify papers that evaluated programme-level assessment in higher education, with a specific focus on adoption and implementation processes and stakeholder experiences. Further literature was identified through backwards and forwards snowballing. Backwards snowballing was achieved by scanning reference lists of papers to identify older, foundational papers. Forward snowballing was facilitated using the AI-powered tool Research Rabbit to identify citations of seed papers. In addition, some work including two sector reports was included on the basis of direct relevance identified during the review process.

Systematic refinement using inclusion and exclusion criteria

In total, 663 papers were identified through Scopus and ProQuest searches (last date of screening: 16th October 2025). Each paper was subsequently reviewed for relevance to the topic, initially by title and subsequently by abstract. Further papers were identified through snowballing. Exclusion criteria ([Supplementary Table S2](#)) were then applied to remaining papers in accordance with the PRISMA protocol (Page et al. 2021).

Numbers of records excluded and retained at each stage are summarised in a PRISMA diagram ([Figure 2](#)). Primary screening used database filters to exclude papers that were not primary research papers, not available in English, or not accessible. Each remaining paper was then evaluated independently by three members of the research team against the exclusion criteria. Where differences of opinion

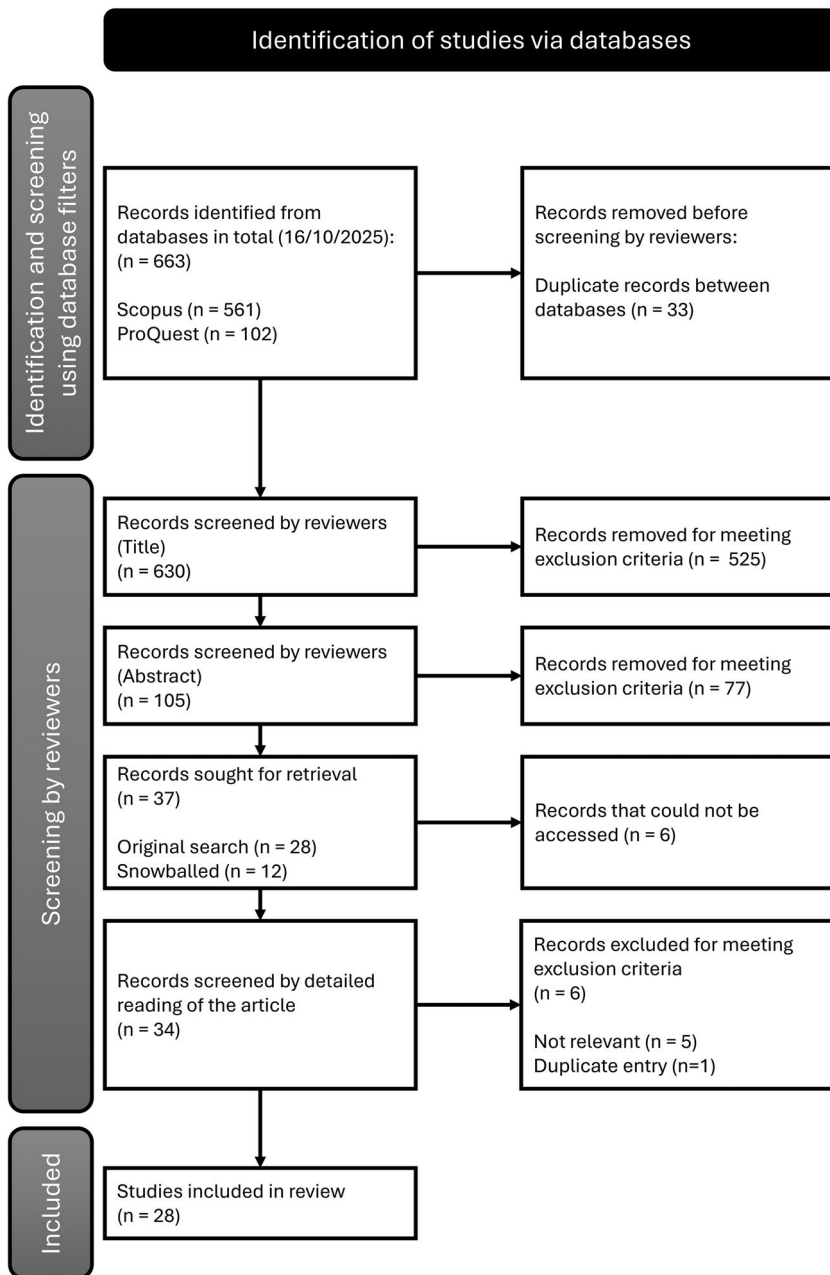


Figure 2. PRISMA flowchart detailing the systematic review's search and selection process. The flowchart depicts the process of identification, screening, eligibility assessment and inclusion of studies. The initial search across two databases (Scopus and ProQuest) resulted in 663 records. After the removal of duplicates ($n = 33$), 630 articles were screened by the review team based on their title, resulting in the exclusion of 525 studies. A total of 105 articles were then screened by abstract by the same review team, resulting in the removal of a further 77 records. A total of 37 articles (28 from the original search and 12 found *via* snowballing using the AI tool Research Rabbit) were sought for retrieval; 6 were unavailable. This resulted in 34 articles being retrieved for detailed reading. Subsequently, 5 further articles were excluded for meeting the predefined exclusion criteria, and 1 duplicate article was identified. Twenty-eight studies that met the inclusion criteria were incorporated into the final analysis.

occurred, a fourth member reviewed the paper independently to provide a final decision. After applying all exclusion criteria, 28 papers were included in the final review (Supplementary Table S3).

A thematic analysis process was adopted, adapted from the six-stage structure described by Naeem et al. (2023): familiarisation with the data; identification of keywords linking to PLA implementation; coding through in-depth review of each paper; identification of common themes; compilation and conceptualisation of keywords, codes and themes; and development of the conceptual model.

Findings

For each research question, a substantive overarching key finding emerged from the analysis. RQ1: the institutional architecture that reproduces modular logic. RQ2: the asymmetries stakeholders experience during transition. RQ3: the numerous mechanisms needed to sustain successful change. Each of these key findings was comprised of several sub-themes, examined below.

Key finding RQ1: the institutional architecture of higher education is stubbornly modular

The widespread adoption of modular degree structures represents a significant structural barrier to PLA. Modules are often too short to facilitate complex, deep learning, encouraging a memorise-and-forget cycle in which students rote-learn content for isolated assessments only to quickly forget it once the module ends (Kovaichelvan and King 2020; Jimenez et al. 2022). The papers examined in this review consistently identify a cluster of obstacles to PLA: staff resistance, student anxiety, resource constraints, and inadequate leadership. These are real, but the evidence below suggests they may not be the primary explanation for limited implementation. What emerges from this evidence across contexts and model types is more structural: institutions attempting to implement PLA are largely doing so using governance systems designed to reproduce the modular logic they are trying to escape.

Restrictive policy frameworks for quality assurance

Institutional quality assurance frameworks and validation processes provide some of the clearest evidence for this. Jessop, McNab, and Gubby (2012) found that QA frameworks tend to promote a one-size-fits-all approach through rigid regulation, focusing heavily on standards, metrics, and summative compliance leaving the pedagogical mechanisms that support student learning largely unexamined. Programme and module validation documents are heavily skewed towards summative assessment, rendering formative and developmental assessment discretionary instead of required (Jessop, McNab, and Gubby 2012). Bowe and Armstrong (2017) described an embedded culture of accreditation that places excessive reliance on the outcomes of segregated modules, leading to assessment fatigue and failing to capture holistic student learning across a programme. University policies frequently lack the explicit

terminology and progressive guidelines needed to mandate cross-module integration (Charlton, Weir, and Newsham-West 2022; Charlton and Newsham-West 2024b).

Gibbs and Dunbar-Goddet (2009), in a detailed case study of nine undergraduate programmes across three UK universities, found that QA frameworks actively orient institutional energy towards module-by-module compliance, leaving the architecture of learning largely unexamined. In Australia, TEQSA's Higher Education Standards Framework requires course design to enable the progressive and coherent achievement of course-level learning outcomes (Standard 3.1.3; Tertiary Education Quality and Standards Agency (TEQSA) 2021), but this requirement can be satisfied through documentation of existing modular structures without requiring genuine programme-level integration, creating the appearance of alignment while leaving the underlying architecture intact.

The assumption of modularity in assessment policy

The problem is compounded by the language of assessment policy. Charlton, Weir, and Newsham-West (2022), in a systematic discourse analysis of 61 assessment-related policies from 22 top-ranked Australian universities, found that only two explicitly used the terms 'program-based' or 'program-approach' to assessment, and that terms such as 'holistic', 'progressive' and 'vertical alignment' appeared inconsistently or not at all. Assessment continued to be evaluated and governed at module level by default, because the policy architecture contained no other unit of analysis. Where policies nominally endorsed programme-level approaches, they provided no operational mechanism for enacting them.

Locally negotiated workarounds and their fragility

Where practitioners have succeeded in implementing PLA within modular institutional architectures, they have typically done so through locally negotiated workarounds which sidestep the governance systems but do not change them. Tree, Harvey, and Rand-Weaver (2025) described two UK case study institutions, one running a BA Journalism programme and another a Foundation Year in Nursing, where programme teams created single 120-credit modules for an entire year of study, allowing integrated teaching and assessment to proceed while remaining technically compliant with modular regulations. These arrangements are pragmatic and can therefore be 'fragile'. They depend on the goodwill of professional services staff and the continuity of personal relationships. They leave the underlying architecture entirely intact.

Ad hoc arrangements to bypass modular structures are fragile because they have limited formal institutional backing – they are sustained by personal goodwill and relational continuity which are not guaranteed by governance structures. This is borne out empirically: practitioners across seven Australian universities identified three times as many barriers to programme-level assessment as enablers, with barriers being structural and enablers almost entirely personal and relational (Charlton and Newsham-West 2024b). Overcoming that precariousness means converting personal enablers into structural ones. The most developed published model of

institutional support is a curriculum redesign in civil engineering at a UK university, which required dedicated resources, external accreditation leverage and a willingness of staff to absorb significant extra workload before the structural benefits materialised (Turnbull 2020).

Comparing the two models: different histories and capacities

The significance of the architecture problem becomes clearer when the two models of PLA are placed alongside each other. Programmatic assessment achieved its earliest and most sustained traction in medical education, where the institutional governance infrastructure was already compatible with the longitudinal integrated assessment. Medical schools typically operate within fitness-to-practise frameworks, manage progression through committee-based decisions, maintain separation of the mentor and assessor roles, and are accustomed to portfolio-based licencing requirements (Fielding and Regehr 2017; van der Vleuten et al. 2012). These features represent a pre-existing institutional architecture that is more consistent with programme-level thinking than the credit-based modular frameworks governing most of higher education. In addition, the Ottawa 2020 Consensus Statement codified programmatic assessment principles into 12 agreed principles (Heeneman et al. 2021), giving practitioners a shared framework to work from and a shared language for defending design decisions.

The IPA evidence base has a markedly different character. IPA emerged from practitioner-led sector development, substantially through the PASS project (Hartley and Whitfield 2011) and Jessop's TESTA methodology (Jessop 2023), and has spread through workshops, sector networks and discipline-level initiatives, often without an institutional mandate supporting it. There is no IPA equivalent to the Ottawa Consensus: no shared framework to anchor institutional conversations, no agreed set of principles against which implementation quality can be evaluated. This means IPA practitioners must make the case from first principles each time, in each institution, against governance frameworks that have no category for what they are proposing (Charlton, Weir, and Newsham-West 2022). The IPA evidence base is also disciplinarily narrow. Beyond nursing (Vanderheide and Walkington 2009), it is drawn from a variety of individual disciplinary experiments: health promotion (Dukhi, Southwood, and Srinivas 2014), sociology (Crockett et al. 2018), database computing (Gorra, Lazarevski, and Campbell 2007) and a 15-year engineering implementation that succeeded only through sustained relationship-building (Brandes and Anderson 2020). This is a set of disparate case studies rather than a coordinated evidence base, and the gap remains despite active advocacy for implementation across humanities and arts disciplines (Walker 2025).

Placed alongside each other, both models face the same underlying problem of governance systems designed for modularity that must be circumvented or overridden to implement programme-level approaches. Programmatic assessment has largely addressed this by building parallel governance infrastructure. IPA in broader higher education relies instead on locally negotiated workarounds that are pragmatic but structurally brittle.

Key finding RQ2: stakeholders experience asymmetries in PLA transition

Stakeholder experiences encompass both the structural barriers documented above and the transition mechanisms examined in the following section. The cost-benefit asymmetry that shapes how academic staff experience PLA implementation and the anxiety-to-engagement trajectory that characterises student experience are central to understanding why implementation fails or succeeds.

Staff experience and the cost-benefit asymmetry

Structural barriers do not operate in isolation from human experience. Staff and student resistance is real and widely reported, but it is best understood as a rational response to the structural problem rather than an independent obstacle. The Charlton and Newsham-West (2024b) study captures the lived experience of this asymmetry: practitioners reported that the forces obstructing implementation were systemic and outside their control, while the forces enabling it depended entirely on personal relationships and individual goodwill. This describes a specific professional experience in which the capacity to act is structurally constrained while the responsibility to act remains personal.

Timing compounds this: staff workload increased substantially in the first iteration of one documented redesign, while the benefits of reduced exam volumes, stronger student outcomes and more meaningful relationships with students all arrived later and accrued differently across the programme team (Turnbull 2020). The costs of transition are front-loaded, and unevenly distributed, while the benefits are delayed. That structural fact, more than any cultural disposition, seems to shape how staff experience and respond to PLA implementation. The relational uncertainties underlying these arrangements are compounded by workforce casualisation: as institutions rely more heavily on sessional and contract staff, the sustained collaboration and shared programme vision that IPA requires becomes structurally harder to maintain, a pattern documented in both Australian and US contexts (Charlton and Newsham-West 2024b; Schwegler, Shell, and Clark 2025).

Student experience: from anxiety to engagement

Students consistently report a general preference for multiple smaller assessments over single high-stakes ones to manage risk (Pye et al. 2025). Transition to PLA is often experienced as higher-stakes than previous modular assessments, whether that transition means many lower-stakes assessment points aggregated over time in programmatic assessment, or fewer, more consolidated assessments in IPA.

Staff anxiety and student anxiety are not independent: where staff are genuinely committed to PLA and well-supported in implementing it, student anxiety tends to resolve more quickly, suggesting that the staff experience of transition shapes the student experience in ways prior work has not always made explicit (Schwegler, Shell, and Clark 2025). In the initial phase, students accustomed to modular, compartmentalised assessment encounter longitudinal, integrative demands for which their prior experience has not prepared them. This initial stress recurs across the

sources examined here: nursing students have reported acute anxiety when integrated assessments linked multiple modules, fearing that a single-shared task failure would damage marks across several areas (Vanderheide and Walkington 2009); even low-stakes formative tasks in programmatic contexts initially carry high-stakes feelings for students preconditioned by modular grading cultures (Baartman, van Schilt-Mol, and van der Vleuten 2022); and in one documented redesign the first cohort was probably asked for too much (Turnbull 2020).

What the sources examined here also show is that where the assessment architecture is stable and well-supported, this initial anxiety soon gives way, leading to significantly improved engagement, confidence and outcomes. Students shift from stress to engagement as they become accustomed to PLA, with increased resilience and satisfaction over time (Vanderheide and Walkington 2009). Measurably better outcomes follow in later cohorts (Turnbull 2020). The trajectory from anxiety to engagement is therefore not evidence against implementing PLA, but evidence for the importance of architectural stability in allowing the transition to complete. The underlying developmental mechanism is that students move from passive grade-recipients to proactive feedback-seekers, developing evaluative judgement and self-regulation as their relationship with assessment changes (Baartman and Quinlan 2024). Students, like staff, absorb the initial costs of PLA in exchange for delayed benefits. They do so most successfully when the assessment architecture is stable enough for the transition to complete. That stability is what less formal locally-negotiated IPA implementations, dependent on individual goodwill and personal relationships, often cannot guarantee.

Key finding RQ3: management strategies and mechanisms of sustained transition

Reframing the transition problem

Reference to PLA implementation in the analysed papers acknowledges structural barriers like restrictive policies, governance frameworks, and resource constraints, but tends to respond to them with cultural and psychological solutions. The main recommendations are professional development to improve assessment literacy (Charlton and Newsham-West 2024b), incremental rollout to manage staff anxiety (Medina et al. 2013; Ryan and Judd 2022) and leadership support to build buy-in (Jessop, McNab, and Gubby 2012). More elaborate responses have been proposed, such as institution-wide curriculum mapping systems and assessment cycle infrastructure built to satisfy accreditation requirements, but these show insufficient evidence of impact on student learning outcomes (Alyasin et al. 2023). Whether these address the underlying causes of implementation failure, or primarily its symptoms, is a question we now return to.

The cost-benefit asymmetry documented under key finding RQ2 suggests that the typical recommendations highlighted in the previous paragraph are actually treating symptoms rather than causes. For example, professional development and leadership support do not change who bears the costs of transition, or when the benefits arrive. At the UK civil engineering programme discussed above, exam papers fell from nearly

fifty to twenty-six and first-class outcomes rose from 28% to 39%, but only after the initial cohort of staff absorbed years of front-loaded costs (Turnbull 2020). This pattern recurs: reduced marking loads (Schwegler, Shell, and Clark 2025), better student outcomes (Turnbull 2020) and improved graduate employability (Kotnour, Farr, and Vergopia 2022; Tree, Harvey, and Rand-Weaver 2025). These are all repeatedly documented benefits of PLA, but mechanisms that work do so by changing who bears the transition costs, or when, not by making the asymmetry disappear.

Programmatic assessment: governance infrastructure as the primary mechanism for success

Mechanisms that sustain the transition to programmatic assessment point consistently to infrastructure rather than persuasion, built incrementally rather than imposed all at once. Incremental rollout allows the governance infrastructure like committees, portfolio systems and shared judgement frameworks that enable multiple assessors to make consistent progression decisions, to develop progressively before the next phase is added (Medina et al. 2013; Ryan and Judd 2022). Each phase creates the structural preconditions for the next rather than front-loading the full burden of implementation onto a single cohort of staff.

Two pieces of that infrastructure are particularly important within programmatic assessment. The first is the expert progression committee, which distributes high-stakes decision-making across a collective governance structure rather than concentrating it on individual educators, redistributing both the burden and the accountability of progression decisions institutionally (Baartman, van Schilt-Mol, and van der Vleuten 2022; van der Vleuten et al. 2012). The second is pass/fail grading at the individual data-point level – a defining feature of programmatic assessment in which each assessment contributes evidence to a cumulative portfolio rather than carrying its own summative grade. This is a governance mechanism as much as a design choice: by ensuring that no single assessment is high-stakes in isolation, it redistributes the risk of failure across time rather than concentrating it in single all-or-nothing moments, with documented reductions in student anxiety and increases in peer collaboration as a result (Ryan and Judd 2022). Where professional accreditation frameworks exist, as in engineering and in disciplines allied to health, they provide a third mechanism that sustains the change: external authority for redesign that partially substitutes for institutional mandate, raising the standing of the change above individual academic preference (Turnbull 2020).

Ryan and Judd (2022) are explicit that even in well-resourced, committed implementations, full programmatic assessment (specifically, decision-making about progression based on holistic judgement of competencies rather than aggregation of marks) ‘would not be permissible within our current university-wide assessment policy’. Central university policy remains a structural barrier even for the most advanced implementations. The evidence from programmatic assessment therefore describes not a solved problem but one partially addressed in contexts where institutional investment was structurally possible, with real tensions remaining even where that investment has been extensive.

IPA: relational mechanisms and their structural ceiling

Whereas programmatic assessment relies on governance infrastructure, the IPA evidence base often documents a different set of mechanisms driving success: faculty learning communities, programme audit processes such as TESTA, and incremental department-level rollout that shift individual and team practice (Jessop 2023; Lilly and Cooper 2021; Schwegler, Shell, and Clark 2025). These mechanisms depend on appropriate levels of collegial cooperation, education-focused leadership and professional development backed by dedicated support staff (Charlton and Newsham-West 2024b).

Faculty learning communities, TESTA and incremental rollout all share a common structural ceiling. Faculty learning communities can shift practice within a department, but they operate below the institutional level where validation processes, credit frameworks and quality assurance systems are governed. TESTA can reveal assessment patterns and stimulate programme-level conversations but cannot mandate institutions to act. Incremental rollout can build local momentum but cannot protect that momentum when key individuals move on or institutional priorities shift.

The most developed available model of what institutional mandate looks like in an IPA context is the UK civil engineering programme discussed earlier: dedicated roles, financial incentives, a shared curriculum design framework and formal institution-wide engagement (Turnbull 2020). It has not solved the architecture problem, but it illustrated what moving beyond locally negotiated workarounds requires. Even so, digital monitoring infrastructure designed to support outcome tracking was shown to improve efficiency of data collection. But usability gains of this kind do not substitute for the governance conditions that make programme-level decision-making possible (Asmaranto, Kusumasari, and Alam 2025).

What the evidence shows about sustained transition

Across both programmatic assessment and IPA, the mechanisms associated with sustained transition share certain features such as: protected time allocations; releasing academic staff from other duties specifically to undertake curriculum and assessment redesign and redistributing the cost of that work from individuals' discretionary effort to institutional investment (Tree, Harvey, and Rand-Weaver 2025; Turnbull 2020). A second mechanism operates through professional accreditation, distinct from the institutional accreditation culture described earlier that entrenches modular compliance (Bowe and Armstrong 2017). Where professional body accreditation requirements exist, as in engineering and allied health, external authority from that body substitutes for institutional mandate, raising the standing of the change above what individual academic preference alone can claim (Turnbull 2020). The same pattern holds for progression committees and pass/fail grading: both spread what would otherwise be an individual, single-moment risk across a collective and across time (Baartman, van Schilt-Mol, and van der Vleuten 2022; van der Vleuten et al. 2012). The clearest evidence of what happens when these mechanisms are absent comes from Charlton and Newsham-West (2024b). Things that stop IPA working are structural; the things that make it work are personal, a distribution that is itself a finding and one that the discussion takes up directly.

Discussion

Implementation failure is primarily architectural

The findings of this review directly address the first research question: the primary structural barriers to PLA implementation are not staff resistance, student anxiety or resource constraints, though all of these are real and documented, but rather the governance systems, quality assurance frameworks, credit structures and assessment policy language through which universities regulate assessment. These systems were designed to reproduce modular logic, and they do so effectively. Staff resistance, where it exists, is in significant part a rational response to being asked to implement change within a system that has not been restructured to enable it (Charlton and Newsham-West 2024b; Schwegler, Shell, and Clark 2025). Treating resistance as the primary obstacle, when it is better thought of as a symptom of the architectural problem, leads to a mismatch between diagnosis and prescription: institutions invest in professional development, change management and leadership support while leaving the governance architecture intact. The evidence reviewed here suggests this is insufficient.

This architectural explanation extends the argument made by Turnip, Velan, and Polly (2026), who reframe PLA transformation as a problem of institutional readiness rather than assessment design. Our work adds a more specific claim: that readiness cannot be developed through cultural and pedagogical intervention alone when the structural architecture actively reproduces the conditions that make PLA impossible to sustain.

Programmatic assessment and IPA are analytically distinct

The second finding addresses a gap in how the literature has framed the relationship between the two main models of PLA. The literature frequently treats programmatic assessment and IPA as points on a continuum, related approaches to a shared problem that differs mainly in emphasis. The evidence reviewed here suggests a more precise distinction: both models face similar underlying architecture problems, but they differ categorically in the institutional resources available to address it. Programmatic assessment has an established, transferable framework and compatible institutional governance infrastructure behind it whereas IPA has neither. Treating this as a shared problem with a shared solution overlooks a difference that is substantive, not just terminological.

Programmatic assessment developed in medical education in a context where the institutional governance infrastructure was already compatible with longitudinal integrated assessment. The Ottawa 2020 Consensus Statement subsequently provided the field with a shared framework of a kind that few educational innovations achieve (Heeneman et al. 2021). IPA in broader higher education has no equivalent mandate and no shared framework. Practitioners face the barrier/enabler asymmetry already established above (Charlton and Newsham-West 2024b) each time they attempt implementation.

This does not mean programmatic assessment is impossible outside medicine, as the Baartman, van Schilt-Mol, and van der Vleuten (2022) study of nine Dutch programmes demonstrated. Nor does it mean IPA cannot succeed. The UK civil engineering programme discussed earlier illustrated what is achievable with sufficient institutional investment (Turnbull 2020). However, conflating the two models can produce guidance that is calibrated to the better-resourced context and applied uncritically to the less well-resourced one.

Architecture and asymmetry as a single problem

The evidence on management strategies, the third research question, also illuminates the relationship between the structural and experiential findings above. The architecture problem is about governance systems that make PLA structurally costly to implement at every level, from validation processes down to the individual academic's workload calculation. The cost-benefit asymmetry describes the consequences of that architecture for the people being asked to implement change: the costs are front-loaded and personal, while the benefits are delayed and often accrue to different people. These are two faces of a single structural condition, operating at two levels simultaneously. Mechanisms that work do so by altering that structural condition; they do not just ask individuals to absorb it.

Across both models, every mechanism that sustains transition works the same way: it redistributes something, decision-making burden, risk or cost, from the individual academic to a collective structure. Progression committees and pass/fail grading redistribute burden and risk; incremental rollout and protected time allocations redistribute cost; professional body accreditation redistributes legitimacy. None of them simply leave individuals to shoulder it alone.

The practical implication is that institutions need to ask what structural changes would alter the cost-benefit calculation for the people being asked to change, rather than how to persuade them to change. Governance restructuring must precede or accompany cultural change programmes, not follow them. Validation documents, credit frameworks and assessment policies need to be redesigned to recognise and require programme-level approaches before professional development and change management can be expected to take hold.

Implications for practice and policy

For institutional leaders, the UK civil engineering programme discussed earlier represents the most developed available model of what this looks like in practice for IPA: dedicated roles, financial incentives, a shared curriculum design framework and formal institution-wide engagement (Turnbull 2020). Institutions considering IPA implementation should treat this as a minimum viable model for sustained adoption, not an aspirational stretch goal.

The same logic applies to those who fund, regulate and quality-assure higher education. The evidence reviewed here suggests that the disciplinary reach of current IPA advocacy considerably exceeds the disciplinary scope of the evidence base. The field needs systematic research in humanities, social sciences and arts disciplines before confident claims about broad applicability can be made. Funding bodies and

quality agencies that mandate or incentivise programme-level assessment without simultaneously restructuring the governance frameworks that make it structurally difficult are asking institutions to do something the system is not yet built to support.

Limitations

The evidence base reviewed here is heavily concentrated in health and professional education, reflecting the disciplinary distribution of the published literature rather than the disciplinary reach of current PLA advocacy. Findings should be applied to other disciplinary contexts with caution. The inclusion of sector reports alongside peer-reviewed studies, while justified by their direct relevance, introduces variation in methodological rigour.

Conclusion

The evidence synthesised here supports the conclusion that PLA implementation fails when institutions ask staff to change without first replacing the modular systems that underlie higher education. Institutions that keep treating implementation as a problem of persuasion will keep rediscovering the same barriers under new names. Governance architecture, not culture, is where reform needs to start, whichever model of PLA an institution chooses to build.

Three findings from this review are worth restating:

First, implementation failure is primarily architectural: the governance systems, quality assurance frameworks and credit structures through which universities regulate assessment are built around modular logic. Staff resistance, though real, is downstream of this fundamental problem.

Second, programmatic assessment and IPA are distinct models with structurally different resources for addressing the architecture problem; treating them as interchangeable points on a continuum produces guidance calibrated to the better-resourced context and applied uncritically to the less well-resourced one.

Third, the mechanisms that sustain successful transition in both models work by redistributing who bears implementation costs, and when, rather than by asking individuals to absorb them on goodwill alone.

Several directions for further research follow from these findings. The most pressing is disciplinary: the evidence base reviewed here is heavily concentrated in health and professional education, yet IPA is actively being promoted and implemented across humanities, social sciences and arts disciplines where the peer-reviewed literature is almost entirely absent. Research in those contexts is needed before confident claims about broad applicability can be made. A second priority is longitudinal: most of the implementation evidence examined here is cross-sectional or retrospective, capturing snapshots rather than tracking whether specific governance interventions sustain adoption beyond the tenure of the individuals who initiated them. Studies that follow implementations over 5 to 10 years and that specifically examine what happens when key champions move on would strengthen the evidence base. Third, the cost-benefit asymmetry identified here as a central explanatory concept has not been directly tested: there is good descriptive evidence for it, but no studies that systematically compare implementation outcomes in contexts where redistribution mechanisms were deliberately built in against those where they were

not. The evidence on student outcomes is similarly limited, and what PLA means for differential attainment and awarding gaps across student groups remains largely unexamined. Both comparisons would generate more precise guidance for institutional leaders about which mechanisms matter most and for whom.

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The authors report there are no competing interests to declare.

Declaration of generative AI use

The authors used the AI-powered citation tool Research Rabbit during the literature search to identify forward citations of seed papers, as described in the Methods section. The authors also used a generative AI tool (Claude, Anthropic) during manuscript editing to assist with sentence-level editing and structural issues to comply with the journal's word count requirements. All research design, data extraction, analysis, interpretation and conclusions are the authors' own.

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