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To cite this article: Ramchandra Bhusal (13 May 2026): Applied professional formation: a conceptual framework for rethinking accounting education in the digital age, Accounting Education, DOI: [10.1080/09639284.2026.2672134](https://doi.org/10.1080/09639284.2026.2672134)

To link to this article: <https://doi.org/10.1080/09639284.2026.2672134>



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Published online: 13 May 2026.



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# Applied professional formation: a conceptual framework for rethinking accounting education in the digital age

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## ABSTRACT

This paper develops Applied Professional Formation (APF) as a conceptual framework for explaining how professional formation in accounting education (AE) occurs under contemporary conditions where learning spans academic study, workplace participation, and digitally mediated practice. Existing approaches largely respond to these conditions through curricular reform or skills development, but offer limited theoretical account of how professional identity and judgment develop across such settings. APF addresses this limitation by conceptualising professional formation as a process shaped by participation across domains, mediated through boundary crossing and identity work. In doing so, it challenges dominant linear assumptions in which education precedes practice and professional formation is treated as a by-product of work exposure. The framework is illustrated through a design-oriented example from AE, using a degree apprenticeship context to render formation processes visible without offering empirical evaluation. The paper advances a theoretically integrated account of professional formation and provides a robust basis for analysing and designing AE under increasingly hybrid conditions.

## ARTICLE HISTORY

Received 9 May 2025  
Revised 22 April 2026  
Accepted 5 May 2026

## KEYWORDS

Applied Professional Formation; accounting education; multiple learning contexts; professional identity; situated learning

## Introduction

This paper addresses the following research question: *How can professional formation be reconceptualised to reflect the evolving, hybrid conditions under which accountants learn and develop their professional identities in the digital age?*

Accounting education (AE) is increasingly shaped by the simultaneity of academic study, workplace participation, and digitally mediated practice (Pargmann et al., 2023; Sebele-Mpofu, 2024). Under these conditions, traditional linear accounts of professional formation – where education precedes practice and professional identity consolidates post-qualification – struggle to explain how professional judgment, responsibility, and legitimacy are developed in real time (Reissner & Armitage-Chan, 2024; Tiron-Tudor et al., 2024). The paper therefore asks how professional formation can be conceptualised in ways that better reflect these contemporary learning realities.

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This research question is important because prevailing approaches in AE tend to respond to contemporary challenges – such as digitalisation, automation, and changing career trajectories – through curricular reform, skills additions, or delivery mechanisms, while leaving the underlying processes of professional formation under-theorised (Amin et al., 2024). As accounting work becomes increasingly judgment-intensive, ethically complex, and digitally mediated, understanding how professional identity and judgment develop across these contexts becomes critical (Tiron–Tudor et al., 2024). Without a robust conceptual account of professional formation under hybrid conditions, educational responses risk improving coordination or alignment without addressing how learners actually become professionals.

This question is of direct relevance to readers of AE because it speaks to persistent challenges faced by accounting educators internationally: how to support professional judgment and ethical responsibility in digitally mediated learning environments; how to integrate academic learning with diverse and uneven workplace experiences; and how to make sense of identity development in increasingly fragmented student trajectories (Jackson & Meek, 2021; Lajnef, 2025). These challenges cut across national systems, institutional models, and policy frameworks. By focusing on professional formation as a process rather than a programme type or delivery mode, the paper addresses concerns shared by accounting educators across higher education contexts worldwide.

The paper answers this research question by developing *Applied Professional Formation (APF)* as a conceptual framework that explains how professional formation unfolds through participation across academic, workplace, and digital learning domains. Drawing on and integrating insights from situated learning, boundary-crossing theory, and identity work, APF conceptualises professional formation as a dynamic, socially situated process shaped by movement across multiple learning systems. The framework is developed theoretically and illustrated through a design-oriented example from AE.

Technological acceleration, evolving regulatory expectations, and the proliferation of digital and data-intensive work practices continue to reshape what it means to be an accountant (Al-Htaybat et al., 2018; Vasarhelyi et al., 2015). Contemporary graduates are increasingly expected to navigate organisational boundaries, exercise ethical judgment, and integrate digital tools into professional reasoning (Lawson et al., 2014; Pargmann et al., 2023). Yet AE has historically been organised around relatively linear curricula, classroom-based teaching, and a separation of theory and practice (Coetzee & Schmulian, 2020; Kavanagh & Drennan, 2008). Concerns have consequently been raised about graduate readiness, the sustainability of the profession, and the robustness of the talent pipeline (Ballantine et al., 2024; Oliver et al., 2011).

Alongside these changes in professional work, research points to shifts in learners' expectations of careers, including greater emphasis on meaningful work, autonomy, and work–life balance, as well as more fluid career orientations (Ng et al., 2010). These evolving motivations shape how accounting students engage with professional identity development, the value they attribute to academic and workplace learning, and their willingness to invest in long-term professional trajectories.

Emerging research on digital learning and generative artificial intelligence (AI) further suggests changing patterns of cognitive engagement, including increasing reliance on algorithmic assistance and efficiency-oriented learning strategies, with potential implications for deep learning and reflective inquiry (Kirschner & Hendrick, 2020; Lai &

Bower, 2019). At the same time, automation, data analytics, and AI-enabled systems are reframing accountants' roles toward interpretation, communication, and discretionary judgment (Ballantine et al., 2024; Moll & Yigitbasioglu, 2019; Susskind & Susskind, 2015). Taken together, these developments intensify the need to reconsider how AE supports the formation of professional judgment, adaptability, and ethical capability.

While university-based learning remains crucial for cultivating conceptual understanding, critical thinking, ethical reasoning, and reflective capacity (Barnett, 2000; Billett, 2011), conventional accounts of professional formation often conceptualise development as a sequential progression in which formal education precedes workplace practice and professional identity consolidates primarily after entry to the profession (Schein, 1978; Wenger, 1998). Such models assume relatively stable institutional boundaries, coherent career trajectories, and workplaces that function as neutral or benign sites of learning.

In practice, however, professional formation increasingly unfolds across fragmented, overlapping, and digitally mediated contexts, where academic study, workplace participation, and informal learning occur simultaneously rather than sequentially (Akkerman & Bakker, 2011; Eraut, 2004). Workplace environments, while offering authenticity and experiential learning, vary considerably in pedagogical capacity and may reproduce localised norms that constrain critical reflection and ethical reflexivity (Hager, 2011; Raelin, 2008). Similarly, academic curricula – despite their epistemic strengths – often struggle to account for the discontinuities, time pressures, and competing expectations learners encounter as they move between distributed learning systems.

As a result, prevailing accounts of professional formation tend to under-theorise identity development, judgment formation, and boundary navigation under hybrid conditions, often treating integration between education and practice as an outcome rather than a process requiring active support (Hamilton, 2013; Trede et al., 2012). Structured work-based pathways such as degree apprenticeships make these limitations particularly visible: while they intensify interaction between academic and workplace learning, they remain conceptually reliant on linear assumptions that obscure how learners negotiate identity, capability, and legitimacy across contexts in real time (Boud & Solomon, 2001; Guile & Griffiths, 2001).

It is in response to these intersecting transformations in professional practice, learner dispositions, and educational conditions that this paper introduces APF as a conceptual framework for rethinking professional formation in AE. APF does not propose additional curricular solutions or pedagogical techniques. Instead, it offers a theoretical lens for examining how professional identity, judgment, and legitimacy are formed through participation across contemporary hybrid learning environments. By foregrounding formation as a boundary-crossing process, APF provides a basis for questioning coordination-focused responses and reconsidering how professional becoming is understood under contemporary conditions. The conceptual foundations, internal logic, and explanatory capacity of the APF framework are developed in the sections that follow.

### **Contribution**

This paper contributes to AE scholarship by advancing a theoretically grounded reconceptualisation of professional formation suited to contemporary conditions

characterised by hybrid learning trajectories, digitally mediated practice, and blurred boundaries between education and work. Rather than treating professional formation as a linear or post-qualification process, the paper reframes formation as a dynamic, boundary-rich phenomenon unfolding across multiple contexts.

The central contribution lies in the development of APF as a conceptual framework that explicitly theorises how professional identity, judgment, and legitimacy are formed through ongoing participation across diverse learning environments. By integrating insights from situated learning, boundary-crossing theory, and identity work (Guile & Griffiths, 2001; Hamilton, 2013; Lave & Wenger, 1991), APF moves beyond descriptive or outcome-oriented accounts of professional development that dominate much AE research. In doing so, it provides a coherent theoretical explanation of how learning across contexts becomes professional formation over time.

The paper further contributes by offering a critical reappraisal of dominant assumptions underpinning professional formation in AE, including sequential transitions from education to practice, stable institutional boundaries, and the presumed formative sufficiency of workplace exposure (Eraut, 2004; Trede et al., 2012). APF reframes integration not as an automatic outcome of alignment or participation, but as a developmental process that requires sustained support through boundary crossing, reflection, and identity negotiation across domains.

Finally, the paper illustrates the explanatory and generative potential of APF through a design-oriented discussion of an accounting degree apprenticeship. This illustration demonstrates how APF can be used by programme teams as a conceptual resource for reasoning about formation challenges and coordinating learning across contexts, without prescribing a specific pedagogical model or institutional arrangement. In this way, APF is positioned as a transferable conceptual framework capable of informing curriculum thinking, pedagogical inquiry, and future empirical research within AE.

### ***Structure of the paper***

The remainder of the paper is structured as follows. Section 2 reviews the literature on professional formation and identifies limitations in how formation has been conceptualised within AE. Section 3 develops the theoretical foundations and conceptual architecture of the APF framework. Section 4 provides an illustrative, design-oriented discussion drawn from the development of an accounting degree apprenticeship, demonstrating how APF can be used as a lens for reasoning about professional formation under hybrid conditions. Section 5 discusses why such a way of reasoning matters for AE, situating APF within broader debates on professional learning, digitalisation, and contemporary educational challenges. Section 6 concludes by revisiting the research question, outlining the contribution of the paper, and identifying directions for future research.

### **Literature review**

Professional formation (PF) has been conceptualised in higher education and professional learning research as a developmental process through which individuals

acquire not only technical competence, but also professional identity, legitimacy, and recognition as members of a profession (Hamilton, 2013; Schein, 1978; Trede et al., 2012). Broadly conceived, PF extends beyond the acquisition of knowledge or skills to encompass the development of professional judgment, values, and ways of being. In contrast to narrower notions of training or competence acquisition, formation foregrounds the socially mediated, identity-oriented, and longitudinal dimensions of becoming a professional (Eraut, 2004; Wenger, 1998).

Extant studies characterise formation as a process shaped by participation in professional communities, engagement with disciplinary norms, and the ongoing negotiation of personal and professional identities (Hamilton, 2013; Trede et al., 2012). Professional identity is therefore not transmitted through formal curricula alone, but constructed through interaction, reflection, and situated practice over time. In this sense, PF provides a useful analytic lens for examining how learners integrate knowledge, judgment, and identity across educational and professional trajectories (Eraut, 2004; Hamilton, 2013; Trede et al., 2012).

Despite its growing prominence, PF remains conceptually diffuse. The term is often used interchangeably with related constructs such as professional education, employability, work readiness, and competence development, blurring important distinctions (Hincliffe, 2013; Reid et al., 2008). However, PF differs in emphasis. Professional education focuses on curriculum design, assessment, and disciplinary knowledge, while employability frameworks prioritise transferable skills and labour market outcomes. In contrast, PF centres on how individuals come to understand themselves as professionals and how this understanding is shaped across multiple learning contexts (Reid et al., 2008). Clarifying this distinction is particularly important in AE, where debates about skills gaps and graduate readiness often dominate, leaving deeper questions of identity, judgment, and professional purpose under-examined (Nie & Mastor, 2024; Otermans et al., 2025).

In AE issues central to PF have been examined across several strands of research. Studies of professional identity demonstrate how accounting students and early-career professionals construct understandings of what it means to ‘be’ an accountant, shaped by educational experiences, professional narratives, and perceived occupational values (Hamilton, 2013; Trede et al., 2012). This paper highlights that identity formation is neither automatic nor linear, but emerges through ongoing negotiation between personal values, institutional expectations, and professional cultures.

However, within AE research, PF has rarely been theorised as an integrated developmental process. Instead, professional identity, ethics, and professional capability are more commonly examined as discrete outcomes or curriculum components, rather than as interrelated and co-constitutive dimensions of formation (Nie & Mastor, 2024). This fragmentation limits the field’s capacity to explain how learners integrate knowledge, judgment, and identity as they move between multiple learning environments.

A persistent theme in AE research concerns the misalignment between university education and professional expectations. Previous studies document an enduring ‘*expectation–performance gap*’, whereby graduates are perceived as insufficiently prepared for the complexity, ambiguity, and responsibility of professional work despite

strong technical grounding (Bui & Porter, 2010; Jackling & De Lange, 2009; Oliver et al., 2011). This gap is frequently attributed to limited opportunities for authentic engagement with practice and delayed exposure to professional judgment and responsibility (Watty et al., 2016).

Importantly, extant literature has tended to frame the problem primarily in terms of skills acquisition and work readiness rather than PF. As a result, proposed responses often focus on curricular enhancement, competency frameworks, or employability initiatives, leaving under-examined the formative processes through which professional identity, judgment, and legitimacy develop over time. This emphasis on outcomes rather than processes obscures how learners become professionals, not merely how they become employable.

Research on work-integrated and work-based learning has sought to address some of these limitations by bringing students closer to professional practice. Existing work on work-based learning highlights the value of authentic participation, contextualised judgment, and early socialisation into professional communities (Boud & Solomon, 2001; Eraut, 2004). In AE, evidence suggests that work-integrated learning interventions, particularly those incorporating structured, multi-source feedback and reflection, can build students' confidence and better prepare them for professional challenges (Twyford & Dean, 2024).

At the same time, this literature identifies important constraints. Workplace learning is uneven in quality, shaped by local organisational norms, and often weakly connected to academic reflection or conceptual generalisation (Jackson & Meek, 2021). Consequently, work-integrated initiatives may strengthen employability without necessarily supporting deeper professional formation, particularly in relation to ethical reasoning, identity development, and adaptive professional judgment. These findings suggest that proximity to practice alone is insufficient to address the challenges of PF because work-integrated learning addresses where learning occurs, professional formation concerns how learners become professionals across and through those learning contexts.

Recent learning theories offer useful perspectives for addressing these limitations. Boundary-crossing research conceptualises learning as emerging through movement between distinct activity systems, highlighting how discontinuities between education and work can generate opportunities for reflection, identity negotiation, and knowledge transformation (Akkerman & Bakker, 2011; Guile & Griffiths, 2001). Similarly, situated learning theory emphasises participation in communities of practice as central to becoming a professional, foregrounding legitimacy, belonging, and identity rather than mere skill acquisition (Lave & Wenger, 1991).

Despite their relevance, these perspectives have rarely been synthesised within AE research to provide a coherent account of PF under hybrid conditions. As stated above, existing studies tend to address identity, practice, and learning in isolation, offering partial explanations that struggle to account for how PF unfolds across learning spheres. This theoretical fragmentation underscores the need for an integrative conceptual framework capable of explaining how professional identity, judgment, and legitimacy are formed through ongoing participation across multiple learning systems. It is this gap that the APF framework seeks to address.

## Applied professional formation: a conceptual framework

### *What is (is not) APF?*

APF is a conceptual framework for understanding how PF unfolds under contemporary hybrid conditions characterised by blurred boundaries between education, work, and digital practice. It conceptualises PF as a dynamic, socially situated, and identity-centred process through which individuals develop professional legitimacy, judgment, and capability over time, through ongoing participation across academic, organisational, and digital learning environments. Rather than treating formation as a linear progression or as an outcome of curricular coordination, APF conceptualises formation as emergent, arising through participation, boundary crossing, and identity work as learners navigate multiple and often competing expectations across learning contexts. However, it is not a curriculum model, pedagogical method, competency framework, or assessment tool.

The purpose of APF is threefold. First, it seeks to explain how PF unfolds under contemporary hybrid conditions, where learning is distributed across institutions, workplaces, and technologies. Second, it provides a diagnostic function, enabling educators and institutions to identify where existing professional education models fail to support identity development, judgment formation, and boundary navigation. Third, it offers a generative framework for thinking about how learning environments can be designed to support formation as an active, developmental process rather than as an assumed by-product of education or work exposure.

While APF is informed by AE, it is not discipline-specific. It is intended to be applicable in professional education contexts where professional judgment and ethical responsibility are central to practice, where learning is integrated with work, and where digital systems increasingly mediate how professional work is enacted.

### *Theoretical foundations of APF*

APF is grounded in the integration of three complementary theoretical perspectives: situated learning, boundary-crossing, and identity work. These perspectives are treated as interdependent mechanisms explaining how professional formation unfolds across hybrid learning environments.

Situated learning theory conceptualises learning as participation in communities of practice, through which individuals acquire not only skills, but legitimate ways of acting, reasoning, and being (Lave & Wenger, 1991). From this perspective, becoming a professional involves gradual movement toward fuller participation, supported by social interaction, mentorship, and engagement with authentic practice. APF adopts this view by positioning participation as foundational to formation, while recognising that contemporary professionals rarely participate within a single, stable community of practice.

Boundary-crossing theory extends this account by conceptualising learning as emerging through movement between distinct activity systems, such as education and work, or academic and organisational practice (Akkerman & Bakker, 2011; Guile & Griffiths, 2001). Within this perspective, boundaries are not treated as obstacles to be minimised, but as productive sites of learning, where differences in norms, purposes, and knowledge practices become visible. Importantly, discontinuities across contexts do not

automatically result in learning; rather, they can generate occasions for reflection, perspective-taking, and knowledge recontextualisation when supported through boundary practices such as guided reflection, boundary objects, and opportunities for translation across settings (Akkerman & Bakker, 2011; Øgård, 2025). Under such conditions, boundary crossing may enable learners to integrate and reconfigure knowledge across contexts, and support deeper transformation of professional understanding (Bakker & Akkerman, 2019). Boundary crossing explains how learning travels; APF explains how such learning becomes professional identity and judgment.

Identity work theory provides the integrative mechanism linking participation and boundary crossing. Identity work refers to the ongoing, reflexive processes through which individuals construct, maintain, and revise their sense of self in response to social expectations and institutional demands (Hamilton, 2013). Within APF, professional identity is not transmitted through curricula nor automatically acquired through practice; it is assembled through continuous negotiation as learners encounter competing norms across learning contexts. Professional judgment is thus understood as an identity-inflected capacity to act legitimately, ethically, and responsibly in situations where formal rules, professional standards, or digital systems constrain action but do not resolve what ought to be done. Considering this context, APF conceptualises sustainability literacy and ethical capability as formative dimensions of professional becoming, emerging through participation in multiple learning domains rather than as supplementary competencies appended to curricula.

Together, these perspectives provide the theoretical basis for conceptualising professional formation as emerging through participation within domains, boundary crossing between domains, and identity work across learning contexts, as elaborated in the APF framework below.

### **Three domains of APF**

While APF conceptualises professional formation as a dynamic and processual phenomenon, it is not unstructured. Formation unfolds across three analytically distinct but interdependent domains, each of which contributes to the development of professional identity, judgment, and legitimacy. These domains are not stages or delivery modes, but formative systems through which different aspects of professional becoming are enabled in practice.

The *Academic – conceptual domain* provides the epistemic and normative foundations of professional formation. Within this domain, learners engage with disciplinary knowledge, ethical frameworks, and conceptual abstractions that enable critical distance from immediate practice. Academic learning supports professional judgment by cultivating reasoning, ethical deliberation, and the capacity to evaluate practice against broader standards and societal expectations (Barnett, 2000; Billett, 2011). In APF, the academic domain functions not merely as a site of knowledge transmission, but as a space for reflective inquiry that prepares learners to navigate uncertainty and ambiguity across contexts.

At the same time, APF recognises that academic learning alone may remain abstract, decontextualised, or insufficiently consequential unless concepts and values are mobilised through participation and responsibility in practice (Du-Babcock, 2016;

Herbert et al., 2020). Within the APF framework, the formative potential of academic knowledge is realised through boundary crossing and identity work, as learners translate conceptual understanding into situated judgment across workplace and digital contexts.

The *Workplace – participatory domain* supports formation through legitimate participation in organisational practice. Drawing on situated learning, this domain foregrounds enculturation, role enactment, and the acquisition of tacit knowledge through engagement with real work, colleagues, and professional communities (Eraut, 2004; Lave & Wenger, 1991). Participation allows learners to develop soft skills, credibility, exercise judgment in context, and negotiate professional identity ‘in role’. APF does not assume that workplace learning is inherently formative; rather, it recognises that its contribution to formation is mediated by organisational culture, supervision, and opportunities for reflection (Hager, 2011; Raelin, 2008).

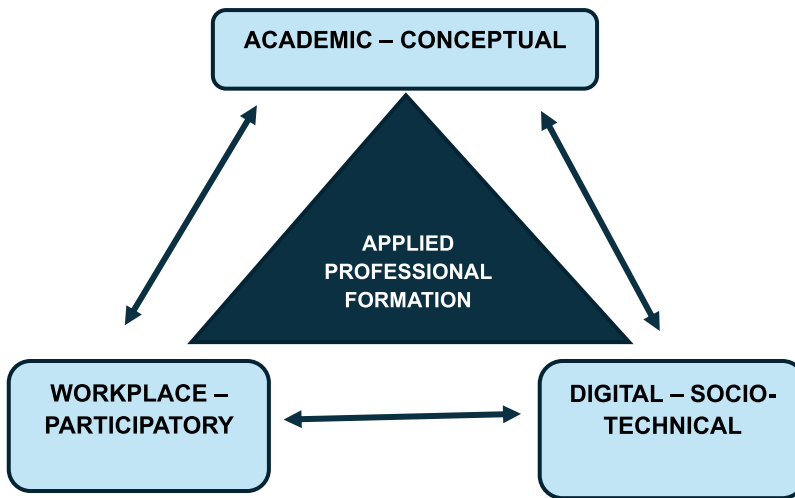
APF acknowledges the limitations of ‘in role’ learning identified in prior research. Workplace environments vary widely in pedagogical capacity, supervisory quality, and ethical culture, and may reproduce localised practices that constrain critical reflection or conceptual generalisation (Hager, 2011; Raelin, 2008). APF therefore challenges the assumption that proximity to practice alone ensures professional formation. Instead, it conceptualises workplace learning as one domain within a broader formation ecology, whose limitations must be mitigated through connection with academic reflection and cross-contextual dialogue.

The *Digital – socio-technical domain* reflects the increasingly central role of technologies, platforms, and data systems in shaping professional practice. In contemporary accounting, professional judgment is enacted through digital infrastructures such as enterprise systems, analytics tools, and reporting platforms (Kokina et al., 2017; Moll & Yigitbasioglu, 2019). This domain highlights how reasoning, accountability, and ethical responsibility are mediated by socio-technical arrangements rather than exercised independently of them. Formation within this domain involves learning to interpret algorithmic outputs, navigate system constraints, and engage critically with the ethical and sustainability implications of digital decision-making (Fülöp et al., 2025).

APF also recognises that digitally mediated learning environments may encourage surface engagement, automation bias, or uncritical reliance on system outputs if left unmediated (Kirschner & Hendrick, 2020; Rudolph et al., 2023). These risks are addressed within the framework through boundary crossing and identity work, as learners are required to interpret, justify, and take responsibility for digitally produced outputs across academic and workplace contexts.

Figure 1 visualises the APF framework and illustrates how professional formation emerges through the interaction of three interdependent domains. APF is positioned at the centre of the framework to emphasise that formation is not located in academic, workplace, or digital settings alone, but arises through learners’ ongoing movement between them.

Within APF, professional formation advances through three linked mechanisms: participation in domain-specific practices, boundary-crossing episodes that expose discontinuities between domains, and identity work through which learners interpret expectations and stabilise a sense of professional legitimacy. These mechanisms are not sequential stages, but overlapping and iterative processes that unfold over time.



**Figure 1.** Applied professional formation framework.

Participation situates learners within professional practice; boundary crossing occurs as learners move between domains and encounter tensions; and identity work occurs as learners interpret these experiences and reconcile competing expectations. Learning within any one domain contributes to formation only insofar as it is mobilised, contested, and reinterpreted as learners cross boundaries between academic, workplace, and digital environments, with each iteration reshaping subsequent participation and judgment.

The bidirectional arrows between domains signal that formation involves continuous boundary crossing rather than linear progression. As learners move repeatedly across domains, they encounter tensions between conceptual principles, organisational demands, and digitally mediated practices. These discontinuities prompt reflection, translation, and judgment, enabling learning to be integrated into a coherent professional identity over time.

The central APF space therefore represents a dynamic formation process rather than a discrete instructional component. It captures how conceptual knowledge is translated into practice, how digital outputs are interpreted through professional judgment, and how organisational expectations are reconciled with ethical and sustainability considerations. In this sense, APF operates as an emergent formation space through which learning becomes professional identity, judgment, and capability across domains.

### APF in action

To illustrate the explanatory and generative potential of the APF framework, this section draws on the development of the Accounting Finance Manager Degree Apprenticeship (AFMDA) at a UK university. The apprenticeship context is used not because APF depends on apprenticeship structures, but because such programmes intensify and make visible professional formation processes that are often obscured in more sequential educational models. The illustration is not presented as a formal empirical case study, nor

does it seek to evaluate programme effectiveness or learner outcomes. Instead, it functions as a design-oriented exemplar, demonstrating how APF can be used by programme teams as a conceptual lens for reasoning about professional formation across learning domains.

The purpose of the illustration is therefore not to demonstrate impact, but to show how APF can surface formation-related assumptions, tensions, and design considerations that are frequently left implicit in professionally oriented programmes (Boud & Solomon, 2001; Guile & Griffiths, 2001; Trede et al., 2012). Although illustrated through a degree apprenticeship, APF is not specific to apprenticeship pathways and is equally relevant to other AE contexts, including campus-based undergraduate programmes, professional body-accredited degrees, and programmes incorporating internships or work-integrated learning components.

Accounting degree apprenticeships provide a particularly salient context for illustrating APF because they intensify interaction between academic study and workplace participation from the outset of the learner journey. Apprentices occupy multiple roles simultaneously – as employees, students, and emerging professionals – while remaining subject to regulatory, institutional, and professional body expectations. Prior research suggests that such hybrid arrangements amplify both the formative potential and the tensions associated with professional learning, particularly in relation to identity development and judgment formation (Billett, 2011; Eraut, 2004; Jackson & Meek, 2021).

In the AFMDA context, learners engage concurrently in rigorous academic study aligned with professional standards, sustained participation in workplace practice across diverse organisational settings, and routine interaction with digital systems supporting accounting, reporting, and compliance. This configuration foregrounds the limitations of sequential models of professional formation in which education is assumed to precede practice and identity consolidation is deferred until post-qualification (Schein, 1978; Wenger, 1998). Instead, learners are required to negotiate professional legitimacy, responsibility, and judgment in real time, often without clear boundaries between learning domains. It is precisely this simultaneity and boundary permeability that APF is designed to conceptualise.

During the design of the AFMDA programme, APF functioned as a conceptual lens for programme-level decision-making. Programme discussions were framed around formation-oriented questions concerning where and how learners would encounter opportunities to exercise professional judgment, how academic concepts might be translated into workplace reasoning, where identity tensions were likely to arise, and how digitally mediated practices shape what counts as competent and ethical accounting work.

Adopting APF as a framing lens shifted attention away from the alignment of discrete learning outcomes toward the coordination of formative experiences across domains. Academic modules were therefore designed not only to transmit disciplinary knowledge, but to support conceptual abstraction, ethical deliberation, and reflective capacity – capabilities widely recognised as central to professional judgment in accounting (Barnett, 2000; Billett, 2011; McPhail, 2001). Assessment tasks were oriented toward interpretation and reflexive judgment, requiring learners to engage critically with workplace situations through academic concepts rather than replicate technical procedures.

Rather than positioning ethics or sustainability as standalone curriculum components, academic learning foregrounded ethical reasoning embedded within financial decision-making, sustainability considerations in reporting and governance, and critical interrogation of professional standards and organisational practices. Prior research suggests that such integration is more likely to support ethical sensitivity and professional judgment than compartmentalised ethics instruction (Hamilton, 2013; Trede et al., 2012).

In APF, workplace participation is conceptualised as a central site of identity formation and judgment development rather than as a venue for applying pre-acquired knowledge. In the AFMDA context, learners encounter authentic responsibilities, professional relationships, and organisational constraints that shape their emerging understanding of what it means to act legitimately as an accountant. At the same time, APF draws explicit attention to the uneven pedagogical capacity of workplace learning environments (see Section 3.3). Workplace participation offers opportunities for developing interpersonal skills, professional norms, and situated judgment, while also surfacing tensions between commercial pressures and ethical principles.

Viewing workplace learning through the APF lens therefore foregrounded the importance of structured academic mediation and reflective support. Rather than assuming that professional formation would emerge organically from practice exposure, programme design emphasised opportunities for learners to interpret workplace experiences critically, relate them to academic concepts, and examine their implications for professional identity and responsibility (Boud & Solomon, 2001; Jackson & Meek, 2021).

Digital systems formed a pervasive backdrop to both academic and workplace learning within the AFMDA programme. Learners engage routinely with accounting and reporting software, data analytics tools, AI-enabled systems, and digital compliance infrastructures that mediate professional decision-making. Consistent with research on digitalisation in accounting, these systems were conceptualised as socio-technical arrangements that shape how judgment is exercised and responsibility allocated, rather than as neutral tools (Kokina et al., 2017; Moll & Yigitbasioglu, 2019).

In the AFMDA programme, learners repeatedly cross boundaries between APF domains. APF conceptualises these transitions as productive sites of formation, where identity negotiation and judgment development are prompted by discontinuities in norms, values, and expectations (Akkerman & Bakker, 2011; Guile & Griffiths, 2001). Structured opportunities for reflection – embedded within assessment design, academic support, and programme processes – were designed to support learners in articulating tensions between academic principles and workplace practices, making sense of competing professional logics, and reflecting on evolving professional identities. Integration was thus treated not as an automatic outcome of participation, but as a process requiring intentional pedagogical support.

This illustration does not claim that the AFMDA programme represents a definitive or optimal instantiation of APF, nor does it seek to demonstrate effectiveness or generalisability. Instead, AFMDA is used as a revealing case (Yin, 2018), in which the dynamics of professional formation are made particularly visible. As noted in methodological work on case study research, single, information-rich cases can make a substantive contribution to conceptual and theoretical development by enabling deeper

insight into underlying processes (Flyvbjerg, 2006). Its value lies in showing how APF can be used by programme teams to reason more explicitly about professional formation under hybrid conditions, diagnose formation-related tensions, and design learning environments that connect multiple learning domains. In this way, APF supports the intentional design of learning that foregrounds identity development, professional judgment, soft skills, ethics and sustainability literacy as formative processes rather than add-on outcomes.

## Discussion

The preceding illustration demonstrates how APF can be used as a conceptual lens for reasoning about programme design under hybrid conditions. This section explains why such a way of reasoning matters for the accounting profession and for AE more broadly. The discussion situates APF within ongoing debates on professional learning, technological change, and graduate preparedness, and argues that APF helps to make sense of persistent challenges in more theoretically robust ways.

A central challenge in AE scholarship has been the dominance of skills-based and employability-oriented framings of graduate preparedness. While these perspectives have generated valuable insights, they tend to privilege outcomes over processes and offer limited explanation of how learners come to understand themselves as professionals capable of exercising judgment and ethical responsibility (Bui & Porter, 2010; Jackling & De Lange, 2009; Watty et al., 2016). APF centres professional formation as the primary analytic concern. In doing so, it aligns AE with broader professional learning scholarship that conceptualises becoming a professional as a socially mediated, identity-rich process unfolding over time (Eraut, 2004; Hamilton, 2013; Trede et al., 2012). This shift moves debate beyond questions of curricular coverage or skills gaps toward deeper questions about how professional judgment, legitimacy, and responsibility are formed under contemporary conditions.

A second persistent assumption in AE is that integration between academic learning and professional practice follows naturally from work exposure or curricular alignment. Research on work-based and work-integrated learning has increasingly challenged this assumption, showing that integration is uneven, fragile, and highly dependent on pedagogical mediation and opportunities for reflection (Billett, 2011; Jackson & Meek, 2021; Trede et al., 2012). APF reframes integration as a developmental achievement rather than an outcome. By foregrounding boundary crossing and reflection as formative mechanisms, it helps explain why proximity to practice alone is insufficient and why structured opportunities for interpretation and identity negotiation are critical. This provides a more theoretically grounded explanation for long-standing concerns about the limits of practice-based learning and the uneven development of professional judgment across organisational contexts (Hager, 2011; Raelin, 2008).

Technological acceleration and AI-enabled practice further intensify these challenges. As routine technical tasks become increasingly automated, professional value in accounting shifts toward interpretation, discretion, and communication (Susskind & Susskind, 2015). While AE research has recognised the implications of digitalisation, responses are often framed in terms of digital skills development or curriculum updates. APF redirects attention to how professional judgment, accountability, and ethical

responsibility are formed through participation in digitally mediated work practices. By conceptualising digital systems as socio-technical environments rather than neutral tools (Fülöp et al., 2025; Moll & Yigitbasioglu, 2019), APF highlights how interpretive choices and value judgments are enacted within these systems. From this perspective, engagement with sustainability considerations and digital ethics is integral to professional formation, emerging through participation rather than being appended as additional competencies.

APF also speaks to emerging challenges associated with increasingly fluid career trajectories. Contemporary accounting learners often navigate reduced organisational loyalty, heightened expectations of autonomy, and evolving conceptions of professional purpose (Hamilton, 2013; Trede et al., 2012). By placing identity work at the centre of formation, APF offers an account of professional becoming in which continuity is achieved through reflective identity negotiation rather than institutional stability. This helps explain how professional responsibility and legitimacy can be sustained across transitions, roles, and organisational boundaries, rather than being undermined by them.

For AE research, APF provides a conceptual vocabulary for examining formation processes that are frequently implicit or under-theorised. It invites empirical inquiry into how learners experience boundary crossing, how judgment develops across contexts, and how identity is negotiated under digitally mediated conditions. For educational practice, APF does not prescribe pedagogical techniques or programme structures. Instead, it offers educators and programme teams a way of reasoning about design decisions that foregrounds formation rather than coordination, and processes rather than outcomes. In this sense, APF provides a unifying lens for interrogating how contemporary learning across academic, workplace, and digital domains supports professional becoming, and for making explicit the assumptions about identity, judgment, and responsibility that underpin existing educational designs.

## Conclusion

This paper set out to address the question: *How can professional formation in accounting education be reconceptualised to reflect the hybrid, digitally mediated conditions under which contemporary accountants learn and develop?* It has responded to this question by developing APF as a conceptual framework that explains professional formation as a socially situated, boundary-crossing process unfolding across multiple learning environments, rather than as a linear or post-qualification outcome.

The central contribution of the paper lies in offering a theoretically integrated account of how professional identity, judgment, and legitimacy are formed through participation across multiple learning systems. By synthesising insights from situated learning, boundary-crossing theory, and identity work, APF reframes long-standing debates in AE that have tended to focus on curricular coordination, skills alignment, or work exposure, while leaving the formative processes of becoming a professional under-theorised. In doing so, the paper advances AE theory by shifting attention from programme structures and delivery mechanisms toward the developmental processes through which learners come to act, reason, and identify as accounting professionals under contemporary conditions.

The illustrative discussion of an accounting degree apprenticeship demonstrated how APF can be used as a conceptual resource for programme teams to reason more explicitly about professional formation in boundary-rich educational contexts. The illustration was not intended as an evaluation of programme effectiveness, nor as a model to be replicated, but as a design-oriented exemplar showing how APF can support diagnostic and reflective thinking about identity development, judgment formation, and responsibility across learning environments.

Several limitations of this study should be acknowledged. As a conceptual paper, APF does not offer empirical validation, nor does it specify pedagogical techniques, assessment designs, or institutional arrangements. Its explanatory value is therefore contingent on contextual factors such as institutional collaboration, workplace support, and opportunities for structured reflection. Moreover, while the framework is developed in relation to AE, its applicability across different accounting roles, regulatory regimes, and organisational settings remains an open question requiring empirical investigation.

Future research could build on this framework in several ways. Longitudinal qualitative studies could examine how learners experience identity development and judgment formation across academic, workplace, and digital contexts over time. Comparative research could explore how different AE pathways and employment settings enable or constrain formation processes. Design-based studies could investigate how APF-informed programme designs support reflective judgment and professional identity development in digitally mediated learning environments.

In offering APF, this paper provides a theoretically grounded reconceptualisation of professional formation that is attentive to the realities of contemporary AE, while remaining sensitive to the complexity, contingency, and situated nature of professional learning. It is hoped that APF will support further scholarly inquiry into how accountants are formed under conditions of increasing hybridity, technological change, and evolving professional trajectories.

## Acknowledgements

The author would like to acknowledge that ChatGPT 4.0 mini was used for language improvement.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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