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TRANSFORMING MANAGERS INTO INNOVATION LEADERS: REFLECTION-BASED EXPERIENTIAL LEARNING JOURNEY

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Abstract: This paper examines how managers may transform into innovation leaders through a reflection-based experiential learning journey in an MBA context. The study draws on a qualitative interpretive case analysis of structured written reflections produced by ten participants after an intensive module combining real innovation projects, ecosystem immersion and guided reflection. The findings indicate that innovation leadership development unfolded as a reconstructive learning process shaped by changing meanings, assumptions and leadership orientations. Participants redefined innovation as a systemic and human-centred process, began to treat uncertainty as a condition for opportunity creation, shifted from control-oriented toward enabling leadership, and interpreted strategy as iterative sensemaking rather than fixed planning. The deepest change was visible in professional identity, as participants increasingly positioned themselves as reflective innovation leaders rather than operational executors. The paper contributes to an explanation of how disruptive experience and critical reflection interact in innovation leadership development.

Keywords: innovation leadership; transformative learning; experiential

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learning; reflection; MBA education; uncertainty exploitation; innovation ecosystems; professional identity; leadership transformation.

1 Introduction

Contemporary organizations increasingly operate in environments where technological turbulence, ecosystem interdependence, strategic ambiguity and weak-signal unpredictability make conventional managerial routines insufficient for continued innovation performance (Weiss et al., 2022; Sakellariou and Vecchiato, 2022; Bastian et al., 2025). The challenge goes beyond handling technical complexity. Managers are expected to interpret emerging signals, engage with multiple stakeholders, and act despite incomplete information and unstable problem definitions (Weiss et al., 2022; Moqaddamerad and Ali, 2024; Watson et al., 2024). This situation gradually shifts attention from traditional managerial competence, usually associated with planning and optimization, toward innovation leadership that relies on uncertainty engagement, tolerance for ambiguity, and relational influence across organizational boundaries (Sakellariou and Vecchiato, 2022; Wei, 2024; Ryan et al., 2024).

The tension becomes more visible in management education, especially in MBA contexts, where participants often bring extensive professional experience together with established decision habits formed in operational settings (Mintzberg, 2004; Gavetti et al., 2021; Helfat and Peteraf, 2023). In these contexts, conceptual exposure to innovation tools often remains insufficient, because learners tend to interpret new situations through previously validated managerial frames, especially under pressure and uncertainty (Weick et al., 2005; Gavetti et al., 2021; Weiss et al., 2022). The challenge is to create conditions under which managers begin to question their previous efficiency-centered assumptions especially when the challenging situations require for experimentation, reframing and collaborative sensemaking (Mezirow, 1997; Kuechler and Stedham, 2018; Vaisnore et al., 2023; Wei, 2024). These challenges underline the gap between traditional management education and innovation leadership requirements under uncertainty.

This study argues that transforming managers into innovation leaders requires experiential, transformative learning, where existing assumptions and logic of actions are reconsidered and reshaped. The importance is drawn towards experiential exposure to real innovation challenges in order to confront managers with ambiguity, interdependence and incomplete control. Thus far, the experience alone does not explain why some learners revise their meaning structures while others remain within existing frames (Kolb, 1984; Ceicyte and Petraite 2021, Balzano and Marzi, 2023; Tao et al., 2023). Focusing on reflection as a mediating mechanism becomes critical because it facilitates transfers between experience and developmental change, enabling learners to question their assumptions, reinterpret uncertainty and connect the actions to broader shifts in self-understanding and leadership logic (Schön, 1983; Mezirow, 1997; Burns et al., 2024; Wei, 2024).

This paper addresses a gap in understanding how managers develop innovation leadership capacities in conditions shaped by uncertainty, ambiguity, and ecosystem interdependence. While experiential learning and reflection are widely discussed in

management education, their role in enabling deeper developmental change remains insufficiently explained. The study aims to examine how reflection-based experiential learning supports the transition from managerial practice toward innovation leadership. The main research question is: how does reflection-based experiential learning contribute to the transformation of managers into innovation leaders in uncertain environments?

2 Literature Review

2.1 The difference between management education and innovation leadership requirements

Management education has been historically grounded in assumptions of rational analysis, planning, coordination, and control, which remain effective when goals are clearly defined and the primary challenge is execution (Mintzberg, 2004; Sull and Eisenhardt, 2015; Gavetti et al., 2021). In innovation contexts managers operate under weaker informational conditions, where goals are still evolving, stakeholder positions are flexible, and causal relations remain only partially visible. Under such conditions, early closure may constrain rather than support strategic action (Weiss et al., 2022; Sakellariou and Vecchiato, 2022; Bastian et al., 2025).

Recent literature converges in questioning the sufficiency of traditional managerial competence, yet it explains this limitation through different analytical lenses. One stream highlights the limited integration of *socio-cognitive* and emotional dimensions in innovation research, despite innovation being enacted through interpretation and interaction (Weiss et al., 2022). Another emphasizes the role of *foresight and sensemaking* in constructing shared future-oriented meanings during early innovation stages (Sakellariou and Vecchiato, 2022; Moqaddamerad and Ali, 2024). A third perspective, grounded in *decision theory*, shows that radical uncertainty challenges calculative control, requiring action without stable probabilities (Bastian et al., 2025).

At the same time, the literature diverges in how innovation leadership is conceptualized. *Competence-oriented* approaches stress capabilities such as foresight, ambiguity tolerance, and ecosystem navigation (Moqaddamerad and Ali, 2024; Wei, 2024). *Relational perspectives* focus on psychological safety, cross-boundary interaction, and the management of competing organizational logics (Mukerjee and Metiu, 2022; Watson et al., 2024).

Table 1 Comparative perspectives on innovation leadership under uncertainty

Theoretical perspective	*Core analytical focus*	*Conceptual convergence*	*Limitation*	*Implications*
Socio-cognitive (Weiss et al., 2022)	Role of cognition, emotion, interaction	Innovation as interpretive process	Limited pedagogical implications	Need for socio-cognitive integration
Foresight–sensemaking (Sakellariou and	Construction of future-oriented meanings	Emphasis on uncertainty and interpretation	Limited focus on identity change	Supports anticipatory sensemaking

Vecchiato, 2022; Moqaddamerad and Ali, 2024)				
Decision-theory (Bastian et al., 2025)	Limits of calculative control under uncertainty	Recognition of non-predictability	Limited relational dimension	Requires non-calculative judgment
Competence-based (Wei, 2024)	Future-oriented skill sets	Alignment with uncertainty demands	Static view of development	Defines capability requirements
Relational (Mukerjee and Metiu, 2022; Watson et al., 2024)	Social conditions and interaction	Emphasis on collaboration and safety	Limited individual development focus	Positions leadership as relational practice

Source: Authors own creation.

These perspectives operate at different levels and are complementary. Cognitive perspectives clarify, how innovation leaders interpret uncertainty, while relational perspectives explain the conditions enabling such interpretation. Across both, a recurring limitation appears in managers' ability to recognize weak signals, engage with ecosystem complexity, and sustain action under ambiguity. This indicates that innovation leadership development requires changes in underlying assumptions about control, judgment, and interaction, which remain insufficiently addressed in management education.

2.2 A shift from management to innovation leadership

The transition from management to innovation leadership can be understood as a as a shift in how people act and make decisions. *Managerial logic* prioritizes reliability and closure, whereas *innovation leadership* involves interpretive openness and action even when the problem is not fully defined (Mintzberg, 2004; Weiss et al., 2022; Sakellariou and Vecchiato, 2022).

Empirical studies illustrate this shift through different perspectives. Research on foresight and sensemaking shows how collective interpretations of the future emerge in innovation processes (Sakellariou and Vecchiato, 2022), while related work positions sensemaking and learning as mediating mechanisms linking foresight to innovation outcomes (Moqaddamerad and Ali, 2024). These studies meet in emphasizing prospective interpretation, but differ in analytical scope, focusing either on team-level cognition or broader organizational capability.

The human side of innovation extends this perspective by highlighting emotional and relational dynamics. Innovation work is shaped by stress, emotion, identity, voice, psychological safety and social interaction, which remain underrepresented in innovation management research (Weiss et al., 2022). Psychological safety emerges through enacted social relations rather than formal structures (Mukerjee and Metiu, 2022), while cross-organizational innovation calls for new ways of working together to handle conflicting institutional demands (Watson et al., 2024).

Table 2 Integrated perspectives on innovation leadership

Theoretical perspective	*Core analytical focus*	*Conceptual convergence*	*Limitation*	*Implications*
Foresight–sensemaking (Sakellariou and Vecchiato, 2022; Moqaddamerad and Ali, 2024)	Future-oriented interpretation	Links uncertainty, learning, innovation	Limited identity perspective	Explains strategic sensemaking
Human side of innovation (Weiss et al., 2022; Mukerjee and Metiu, 2022)	Emotional and social dynamics	Aligns with relational conditions of learning	Limited pedagogical insight	Highlights socio-relational leadership
Organizational logics and ecosystem collaboration (Watson et al., 2024; Carlgren and BenMahmoud-Jouini, 2022)	Cross-boundary coordination	Connects to systems thinking	Limited individual-level explanation	Grounds ecosystem navigation

Source: Authors own creation.

Across these perspectives, innovation leadership appears as an integrative practice combining interpretation, relational coordination, and action under uncertainty. The divergence across studies reflects differences in analytical focus rather than theoretical contradiction. What is less clearly explained is, how managers shift toward this form of leadership, particularly in educational contexts where established ways of acting tend to remain unchanged.

2.3 Experiential learning in innovation education: mechanisms, possibilities and limits

Experiential learning supports innovation leadership development, since judgment in uncertain situations does not come from abstract instruction alone (Kolb, 1984; Neck and Greene, 2011; Balzano and Marzi, 2023). Innovation work exposes learners to open-ended problems, conflicting inputs and incomplete information. Evidence shows that experience alone is insufficient. Learning depends on project conditions and interpretation: team learning varies with complexity, uncertainty and cohesion (Balzano and Marzi, 2023); failure contributes only with prior experience and error orientation (Tao et al., 2023); translation of failure into action relies on interpretive processes (Corvello et al., 2024). Experience provides exposure, while development depends on how meaning is made from it.

In MBA contexts, prior assumptions about control and efficiency shape interpretation of such experiences (Mintzberg, 2004; Gavetti et al., 2021; Helfat and Peteraf, 2023). Experiential settings may destabilize these assumptions or reinforce them, depending on how uncertainty is approached. Developmental change is associated with structured reflection that enables reinterpretation and supports shared reasoning under uncertainty (Wei, 2024).

A further limitation concerns the level of learning. Experiential models emphasize individual cycles, whereas innovation research positions learning as collective and negotiated across teams and ecosystems (Balzano and Marzi, 2023; Sakellariou and Vecchiato, 2022; Watson et al., 2024). Innovation leadership is enacted through shared sensemaking and coordination of ambiguity.

2.4 Transformative learning and identity development.

Experiential learning explains why authentic action matters, but it does not fully explain, why some experiences change how learners see things, while others are interpreted through existing assumptions. Transformative learning locates change in critical reflection on assumptions (Mezirow, 1997; Kuechler and Stedham, 2018; Malkki and Raami, 2022). For managers, established habits such as control, expertise and decisiveness shape how situations are understood. Innovation settings expose their limits and open space for rethinking.

Leader identity research frames development as meaning-making around self and role. Identity shifts emerge through interpretation of experience and reflective dialogue, not through content acquisition (Ryan et al., 2024; Sunderman and Orsini, 2024; Burns et al., 2024). Across studies, convergence lies in viewing development as reconstructive; divergence concerns analytical focus (process, conceptual integration, pedagogy). The implication is direct: innovation leadership development involves changes in how managers understand responsibility, judgment, and action under uncertainty.

Competence frameworks capture desirable capacities but tend to assume additive development. Evidence from transformative learning and identity work indicates that durable change requires alignment between new competencies and the learner's self-understanding, especially under conditions where prior logics remain institutionally reinforced (Ceicyte and Petraite 2021; Ryan et al., 2024; Sunderman and Orsini, 2024; Burns et al., 2024).

2.5 Reflection as the core mediating mechanism between experience and transformation

Reflection explains, how experience becomes developmental. The distinction between reflection-in-action and reflection-on-action is central in contexts requiring situated adaptation and subsequent interpretation (Schön, 1983). Transformative learning distinguishes between descriptive reflection, critical reflection, and collective reflexivity, and connects development to revising assumptions and changing perspectives (Mezirow, 1997; Burns et al., 2024; Wei, 2024). Evidence from failure-learning supports the same mechanism: developmental value depends on cognitive and emotional processing rather than exposure alone (Tao et al., 2023).

A clear pattern can be identified: uncertain experiences disturb familiar ways of acting; reflection creates distance, allowing people to examine their assumptions and consider alternatives. When reflection becomes more critical, uncertainty starts to be seen as a space for inquiry and coordination. Over time, repeated cycles connect how people act with how they see themselves, showing development as a process of rethinking rather than simply adding new skills.

Reflection operates beyond the individual level. Innovation work is collective and negotiated, where coordination under ambiguity depends on shared meaning-making and psychological safety (Wei, 2024; Mukerjee and Metiu, 2022; Watson et al., 2024). Innovation leadership therefore includes the capacity to enable and guide collective reframing. This also aligns with emerging work on creative ecosystems and anti-disciplinary innovation learning, where innovation capability development is associated with exposure to diverse perspectives, ambiguity and reframing-oriented learning environments (Vaisnore et al., 2023).

Taken together, the literature defines a mechanism linking exposure, interpretation and transformation. Innovation leadership research defines the key capabilities as sensemaking, ecosystem awareness, tolerance for ambiguity, and relational influence (Weiss et al., 2022; Sakellariou and Vecchiato, 2022; Watson et al., 2024). Experiential learning explains exposure and its conditional effects (Kolb, 1984; Balzano and Marzi, 2023; Tao et al., 2023), while transformative learning and identity research explain the need for meaning reconstruction (Mezirow, 1997; Ryan et al., 2024; Sunderman and Orsini, 2024). Reflection connects these elements by converting disruption into reframing (Burns et al., 2024; Wei, 2024).

Innovation leadership development thus emerges when uncertainty challenges established assumptions and this disruption is processed through structured and critical reflection. Through iterative cycles of experience and reinterpretation, competencies and identity co-evolve in response to ambiguity.

3 Methodology

This study uses a qualitative interpretive single-case design to examine how a reflection-based experiential learning journey supported managers' movement toward innovation leadership under conditions of uncertainty. The case is bounded to one one-month MBA innovation management module, one participant cohort, and the reflective material generated within that intervention, which makes a case approach suitable for analysing a contemporary learning process in its natural educational setting (Yin, 2018; Merriam and Tisdell, 2016). The module combined real-life innovation project work, structured input on innovation and change management, and immersive exposure to innovation ecosystems, while competency-oriented learning goals were aligned through an Assurance of Learning logic and revisited through guided reflection. The empirical setting comprised ten mid-career and senior managers from diverse organizational contexts, an analytically relevant group because the study seeks to understand how experienced managers reinterpret uncertainty, leadership and innovation practice rather than how novice learners acquire basic knowledge (Mezirow, 1997; Ryan et al., 2024).

The primary data consist of structured written personal reflections produced at the end of the intensive learning period. These texts were treated as context-based narratives of participants' meaning-making, the analysis focused on identifying and interpreting shifts in assumptions, leadership orientation and perceived competence development (Schön, 1983; Kuechler and Stedham, 2018; Burns et al., 2024) looking for behavioural transformation indications. Data were analysed through a theoretically sensitized inductive thematic analysis informed by constant comparison, moving iteratively from participants' first-order expressions to higher-order themes related to critical reflection, perspective transformation, ambiguity tolerance, ecosystem thinking, strategic sensemaking and enabling leadership (Braun and Clarke, 2021; Mezirow, 1997; Wei, 2024). To strengthen analytical rigor, coding and theme development were conducted iteratively across all reflections, with attention to both recurring patterns and meaningful variation in learning trajectories, and interpretations were kept closely grounded in participants' own accounts and in the study's conceptual framework on transformative and experiential learning (Braun and Clarke, 2021; Yin, 2018).

4 Findings

The analysis shows that participants describe learning as a reconstructive process in which underlying assumptions guiding innovation, leadership, strategy, teamwork and professional role are reconsidered and increasingly reshaped. Across the reflections, development is expressed as a shift in action logic, visible in movement toward enabling, interpretation, and engagement with uncertainty. This pattern is consistent with a transformative learning process in which experience, mediated through reflection, alters meaning structures rather than extending existing competences.

The main interrelated shifts in how participants understand and engage with innovation, reflecting changes at the level of assumptions, reasoning, and professional self-positioning were identified.

Ontological shift: innovation as a systemic field. Participants progressively understand and reinterpret innovation from a technical perspective toward a relational and systemic phenomenon. Early accounts associate innovation with solutions, technologies or implementation outcomes. This narrows as participants begin to describe innovation as embedded in organizational culture, ecosystems and problem framing. As one participant notes, *"Until then, I mostly associated innovation with technical solutions… an organization is a living, continuously learning organism"*. Another reflects, *"Technology is only one part of the system — it changes the whole environment"*.

The reflection material suggests that the object of innovation is being redefined from an implementable artefact to a field of interdependencies requiring interpretation and coordination. This pattern can be interpreted as an ontological shift, consistent with foresight–sensemaking literature, where innovation emerges through the construction of shared meanings rather than execution of predefined solutions. In this sense, innovation becomes something to be interpreted and shaped, which repositions leadership as a practice of contextual reading and relational alignment.

Reflexive shift: critical thinking as self-implicating reflection. Critical thinking develops toward reflexivity directed at one's own assumptions. Participants describe moments of self-questioning and discomfort: *"Was I really analysing, or just collecting*

the data that suited me?" and *"I began to consciously look for what could harm our idea"*. Criticality is framed as *"the courage to question why we are doing it exactly this way"*.

This pattern indicates movement from descriptive or analytical reflection toward critical reflection, where the object of critique includes the learner's own interpretive habits. The presence of *"inner discomfort"* hat familiar ways of thinking are disrupted and existing meanings begin to shift and change. This aligns with transformative learning theory, where disorientation triggers deeper cognitive and interpretive revision. When people reflect on how they think, they engage in metacognition, which is a skill that is increasingly important for navigating complex and uncertain future contexts. The findings extend this perspective by showing, how such reflexivity emerges within innovation tasks, linking critical thinking with uncertainty engagement.

Generative shift: entrepreneurship as opportunity construction. Entrepreneurship is reconstructed as the capacity to interpret and shape opportunity in conditions of ambiguity. Participants describe it as *"the ability to create meaning under conditions of risk and uncertainty"* and *"creating new horizons of possibilities"*. Uncertainty is reinterpreted as *"a necessary condition of innovation"*.

This shift can be understood as a move from a corrective logic (problem–solution) toward a generative logic (interpretation–construction). The material suggests that uncertainty is not only tolerated but increasingly treated as a productive space for exploration. This finding is consistent with opportunity-based and sensemaking perspectives in entrepreneurship research. Its contribution lies in demonstrating how such a revaluation is experienced and internalized through reflection-based experiential learning.

Legitimacy shift: leadership as enabling under uncertainty. Leadership is reconstructed around enabling collective progress rather than directing outcomes. This pattern aligns with innovation leadership perspectives emphasizing relational influence, ambiguity tolerance and enabling coordination under uncertainty (Kaudela-Baum, 2022). Participants emphasize openness and facilitation: *"A leader… allows both themselves and others not to know, but still move forward", "Now I ask more questions instead of giving instructions"*.

The data suggest a redefinition of leadership legitimacy. Authority becomes grounded less in certainty and more in the capacity to sustain engagement when outcomes remain unclear. This can be interpreted as a shift from control-based to relational legitimacy, consistent with literature on psychological safety and shared sensemaking. The findings extend this perspective by showing how this shift is tied to changes in assumptions about knowledge, control and responsibility.

Epistemic shift: strategy as interpretive practice. Strategic thinking is described as ongoing interpretation rather than plan execution. Participants frame strategy as *"the ability to act in uncertainty"* and emphasize engagement with trends and signals: *"Now they become the basis for decisions"*.

This pattern indicates an epistemic shift in how strategy is understood. Knowledge is treated as provisional and situated, requiring continuous interpretation. Strategy becomes an iterative sensemaking practice rather than a fixed architecture. This aligns with foresight and sensemaking literature, while the empirical material shows how this perspective becomes integrated into participants' reasoning about action and decision-making.

Collective shift: teamwork as distributed sensemaking. Teamwork is reinterpreted as a space for shared interpretation. Participants emphasize diversity, ownership and

productive tension: *"Different viewpoints allowed us to discover solutions…"*, *"Conflict… is a sign of new energy"*.

The reflection material suggests that teams are increasingly understood as environments where meaning is constructed collaboratively (Ceicyte and Petraite, 2021) rather than tasks coordinated. This can be interpreted as a shift toward distributed sensemaking, consistent with relational and ecosystem perspectives in innovation research. The findings show how participants begin to engage with plurality as a resource for reframing (Vaisnore et al., 2023), linking individual learning with collective processes.

Identity shift: professional self as integrative mechanism. The most integrative change appears at the level of professional identity. Participants describe a redefined sense of self: *"I am becoming a reflective practitioner"*, *"I see myself as an innovation and change leader"*. Experiences are interpreted as identity-relevant: *"It was a stage in the development of my professional identity"*.

This pattern indicates that development is consolidated through identity reconstruction. Changes in innovation understanding, leadership orientation and strategic reasoning are integrated into a revised self-concept oriented toward uncertainty and change. This aligns with leader identity literature, while the findings extend it by demonstrating how identity transformation emerges within innovation-focused experiential learning contexts.

Across themes, the findings reveal a consistent developmental trajectory. Innovation-related experience exposes the limits of established managerial assumptions. Reflection directs attention toward underlying interpretive habits. Uncertainty is reinterpreted as a condition for inquiry and coordination. These shifts become visible across leadership, strategy and teamwork practices and consolidate through identity transformation. This pattern supports a reconstructive account of innovation leadership development. The contribution lies in demonstrating how reflection-based experiential learning connects exposure, interpretation and identity work into a coherent mechanism. Innovation leadership emerges through iterative cycles in which meaning structures, competencies and identity co-evolve in response to uncertainty.

5. Contribution

The study addresses a fragmentation in the literature concerning innovation leadership development. Innovation-management research highlights interpretive and relational dimensions of innovation work but provides limited explanation of how these capacities are developed in educational settings (Weiss et al., 2022; Mukerjee and Metiu, 2022; Watson et al., 2024). Experiential learning research establishes the value of real-world engagement, while leaving open the conditions under which experience leads to transformation rather than participation (Balzano and Marzi, 2023; Tao et al., 2023; Corvello et al., 2024). Transformative learning and reflection literature explains assumption revision and perspective change, but remains weakly connected to innovation-specific competence development and ecosystem-based learning contexts (Mezirow, 1997; Malkki and Raami, 2022; Wei, 2024). Leader identity research emphasizes meaning-making as central to development, though its linkage to innovation leadership trajectories in MBA contexts remains limited (Ryan et al., 2024; Sunderman and Orsini, 2024).

This study contributes by integrating these strands into a coherence. It conceptualizes innovation leadership development as a reconstructive process emerging through the

interaction of real organizational challenge, ecosystem immersion, structured reflection and identity work. The findings extend innovation leadership research by demonstrating, how competencies associated with enabling, interpretive and relational leadership emerge through reflection-based experiential learning (Kaudela-Baum, 2022). The paper extends existing theory by showing how reflection-based experiential learning supports shifts in meaning structures, leadership orientation and professional identity. In this way, the study moves beyond competence-based accounts and provides a process explanation of how experienced managers develop capacities for sensemaking, uncertainty engagement and relational leadership in innovation contexts.

6. Practical implications

The findings suggest that innovation leadership development requires deliberate alignment between experience, reflection and learning design. Exposure to real innovation challenges alone does not ensure developmental change. Educational interventions benefit from combining project-based work with structured reflection that surfaces assumptions and supports reinterpretation of uncertainty.

Program design in MBA and executive education contexts may therefore incorporate iterative cycles linking action, reflection and dialogue. Reflection practices should extend beyond descriptive accounts toward critical examination of decision logic and underlying assumptions. Collective formats, including team-based reflection and facilitated discussion, support shared sensemaking and strengthen learning under ambiguity.

Ecosystem immersion further expands the learning context by exposing participants to multiple perspectives and institutional logics. This supports development of strategic interpretation and relational coordination. Taken together, these elements indicate that innovation leadership development can be strengthened through integrated learning environments where uncertainty is engaged, reflected upon and translated into new forms of leadership practice and professional self-understanding.

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