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# Reconceptualising Teacher Professional Identity in Primary School Context: A Review of Personal, Organisational, and Technological Dimensions

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**ABSTRACT:** *Artificial intelligence (AI), is entering schools at the same time as many education systems are asking teachers to enact competency-oriented and learner-centred reform. These developments affect more than classroom technique. They touch teachers' professional identity: how teachers understand their expertise, exercise judgement, sustain care, and remain accountable for children's development in changing institutional and technological conditions. This literature review synthesises scholarship on primary teacher professional identity across personal, organisational, and technological dimensions. The review draws on empirical studies, systematic reviews, theoretical works, academic books, and authoritative policy documents. The results show that primary teacher identity is formed through the interaction of self-efficacy, motivation, agency, emotion, care, leadership, collaborative professional culture, and critical engagement with AI. AI is analysed as a socio-technical condition that can support teachers when it reduces routine work, extends access to resources, and enables professional reflection, but can also weaken autonomy when it standardises judgement, intensifies surveillance, or obscures ethical responsibility. Sustainable AI integration in primary education requires more than technical training. It requires identity-sensitive teacher education, instructional leadership, communities of practice, and human-centred governance that protect the relational, developmental, and moral purposes of primary teaching.*

**KEYWORDS:** **teacher professional identity; artificial intelligence in education; primary education; teacher agency; instructional leadership; literature review.**

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## 1. Introduction

The realm of education is being reshaped by two developments that are often discussed separately: competency-oriented curriculum reform and the rapid diffusion of AI into educational practice. Competency-oriented reform asks teachers to move beyond the delivery of prescribed knowledge and to cultivate pupils' problem solving, communication, collaboration, self-regulation, and ethical judgement. In Vietnam, this direction is reflected in the 2018 General Education Curriculum, which emphasises learners' qualities and competencies rather than the accumulation of knowledge content alone (Ministry of Education and Training, 2018). At the same time, AI-supported applications are beginning to influence lesson planning, resource design, feedback, assessment interpretation, language support, and professional learning (UNESCO, 2024; Tan *et al*., 2025). These developments do not simply add new tasks to teachers' work. They alter the conditions under which teachers interpret what counts as expertise, how professional judgement is exercised, and which aspects of teaching should remain deliberately human.

Teacher professional identity offers a precise lens for analysing these changes because it connects teachers' personal meanings with the institutional and social worlds in which they work. Professional identity is not a fixed attribute acquired during teacher education; it is continually negotiated through beliefs, emotions, relationships, recognition, and participation

in professional communities (Akkerman & Meijer, 2011; Beijaard *et al*., 2004). Teachers interpret reform through their prior experiences, confidence, moral commitments, school cultures, and perceptions of agency (Day & Gu, 2010; Priestley *et al*., 2015). A new curriculum or digital tool may therefore be experienced as professional growth when it expands meaningful judgement, but as loss when it narrows teaching to compliance, measurement, or external control.

The primary school context makes this identity question especially important. Primary teachers usually teach across subjects, maintain sustained relationships with children and families, and attend to intellectual, emotional, social, and moral development. Their work is therefore not organised only around instructional delivery. It also depends on care, classroom belonging, developmental responsiveness, and the ability to read small changes in children's confidence, attention, and participation. Research on teaching as emotional and ethical work shows that teachers' professional selves are shaped by the meanings they attach to relationships with learners (Hargreaves, 1998; Noddings, 2013; Saunders, 2013). AI may assist some tasks, but it cannot assume responsibility for noticing a child's hesitation, deciding when encouragement matters more than correction, or judging whether efficiency has begun to weaken the relational conditions of learning.

AI sharpens these concerns because it can perform tasks that have traditionally signalled teacher competence. It can generate explanations, draft lesson plans, propose assessment items, summarise data, and produce feedback. These functions may reduce routine workload and support experimentation, but they also require teachers to judge accuracy, bias, privacy, authorship, dependence, cultural relevance, and developmental appropriateness (Ng *et al*., 2021; Selwyn, 2019). Recent studies suggest that AI can influence teachers' autonomy, professional development, role perception, digital burnout, and identity reconstruction (Duan & Zhao, 2024; Ghiasvand & Seyri, 2025; Lan, 2024; Lin *et al*., 2025). The issue, then, is not whether teachers will be replaced in any simple sense. The more serious question is how teachers maintain professional authority and ethical responsibility when algorithmic systems become part of pedagogical decision-making.

Organisational conditions determine whether this negotiation becomes productive or burdensome. Teachers construct identities within school cultures that may encourage inquiry, trust, and collaboration, or may frame innovation as compliance. Instructional leadership and communities of practice can provide interpretive resources for examining reform and technology use (Hallinger, 2005; Lave & Wenger, 1991; Patton & Parker, 2017; Wenger, 1998). Recent meta-analytic evidence also indicates that principal instructional leadership is associated with teacher efficacy and that cultural context shapes this relationship (Hallinger *et al*., 2025). This matters for AI because teachers are more likely to develop critical and confident professional identities when they are invited to evaluate tools, adapt them to learners, and discuss uncertainty, rather than being asked simply to adopt whatever technology is available.

Although research on teacher identity, school leadership, professional learning, and AI in education is growing, the evidence remains fragmented. Foundational identity literature explains self-efficacy, agency, emotion, care, and professional community in considerable depth. Recent AI scholarship adds questions of literacy, ethics, datafication, and role transformation. Fewer reviews bring these bodies of work together in relation to primary teaching. This gap is consequential because AI integration in primary education cannot be reduced to digital competence. It is also a question of professional formation: how teachers understand responsible practice, how schools position them, and how policy can protect judgement, care, and accountability in increasingly automated environments.

This literature review therefore synthesises foundational and recent scholarship on primary teacher professional identity in the era of AI. It is guided by three research questions: first, how do self-efficacy, motivation, emotion, care, and professional agency shape primary teachers'

professional identity; second, how do instructional leadership and collaborative school cultures nurture or constrain identity development; and third, how does AI integration affect teachers' role perceptions, autonomy, ethical responsibilities, and identity negotiation in primary education and closely related contexts? The purpose is to offer a coherent account of teacher professional identity as a dynamic, relational, and ethically grounded construct at a moment when curricular reform and AI are redefining the conditions of professional work.

## 2. Methodology

This study was designed as a PRISMA-informed qualitative literature review with narrative and thematic synthesis. It is not presented as a meta-analysis because the evidence base does not consist of statistically comparable effect studies. The corpus includes qualitative, quantitative, and mixed-methods research; systematic reviews and meta-reviews; theoretical scholarship; academic books; and authoritative policy documents. PRISMA 2020 was used to strengthen transparency in reporting the rationale, eligibility criteria, information sources, screening logic, synthesis approach, and limitations (Page *et al*., 2021). PRISMA-S informed the reporting of search sources, terms, limits, and selection procedures because reproducible review work depends on clear documentation of how records were identified and screened (Rethlefsen *et al*., 2021; Rethlefsen & Page, 2022).

The review is systematic in its search, selection, classification, and documentation of sources, but interpretive in the way it synthesises conceptually diverse evidence. Teacher professional identity is relational, developmental, and context-sensitive; the AI-teacher identity literature is recent and uneven; and primary education requires attention to care, childhood development, school culture, and family trust. A purely aggregative review would flatten these differences, while a loose narrative account would not provide enough methodological discipline. The selected design uses structured procedures to organise the

*Table 1. Search Clusters Used to Organise the Literature Search*

| Search cluster | Illustrative search string | Rationale for inclusion |
|---|---|---|
| Teacher identity and personal dimensions | ("teacher professional identity" OR "teacher identity") AND (self-efficacy OR agency OR motivation OR emotion OR care) | Identified studies and theories explaining how teachers' beliefs, emotions, motivation, care, and agency shape professional self-understanding. |
| Primary education and elementary teaching | ("teacher professional identity" OR "teacher identity") AND (primary OR elementary) AND (care OR classroom OR curriculum reform) | Strengthened the primary education focus and identified literature relevant to the relational and developmental nature of primary teaching. |
| Leadership and school culture | ("teacher professional identity" OR "teacher agency" OR "teacher efficacy") AND ("instructional leadership" OR "school culture" OR collaboration OR "communities of practice") | Located organisational research explaining how leadership, collegiality, and professional learning communities shape identity resources. |
| AI and teacher identity | ("teacher professional identity" OR "teacher identity" OR "teacher agency") AND ("artificial intelligence" OR "generative AI" OR "educational AI" OR ChatGPT) | Identified emerging literature on AI-related professional role negotiation and teacher learning. |
| AI literacy, ethics, and policy | ("artificial intelligence" OR "generative AI") AND education AND (ethics OR privacy OR bias OR "AI literacy" OR "human-centred") | Provided conceptual and policy grounding for the discussion of critical AI literacy, data ethics, and human-centred technology use. |

literature and thematic reasoning to explain how different evidence groups illuminate the same professional phenomenon.

### 2.1. Search Strategy and Information Sources

Searches were conducted across Scopus, Web of Science, ERIC, and Google Scholar. Scopus and Web of Science were used to identify peer-reviewed international research across education, social sciences, leadership, and technology-related fields. ERIC was included because of its focus on educational research. Google Scholar was used as a supplementary source for citation chasing, verification of recently published AI-related studies, and identification of authoritative policy documents. Because Google Scholar results are ranking-based and less stable than database outputs, it was used cautiously rather than as an unrestricted source of records.

The search covered publications from 1990 to 2025. The lower boundary enabled inclusion of foundational work on situated learning, teacher emotion, self-efficacy, professional identity, and communities of practice. The upper boundary allowed the review to include recent publications on generative AI, AI literacy, and AI-enhanced teacher professional development. Searches were organised through clustered strings rather than a single restrictive Boolean expression. This strategy was appropriate because the review brings together several bodies of literature that do not always share terminology. A single expression requiring all constructs to appear together would have excluded important theoretical and empirical sources.

### 2.2. Eligibility Criteria

Sources were included when they addressed at least one research question and contributed directly to understanding teacher professional identity, teacher agency, self-efficacy, motivation, emotion, care, leadership, school culture, collaborative professional learning, AI integration, AI literacy, or ethical issues in educational technology. Primary and elementary education were prioritised. However, selected studies from secondary education, language education, teacher education, and broader school contexts were included when they offered transferable insight into teacher identity or AI-mediated role negotiation. Such transfer was handled cautiously and explicitly: findings from non-primary contexts were not treated as direct evidence about primary teachers unless their conceptual relevance to primary teaching was clear.

*Table 2. Eligibility Criteria Applied During Source Selection.*

| Criterion | Included | Excluded |
|---|---|---|
| Publication type | Peer-reviewed empirical studies, systematic reviews, theoretical works, academic books, and authoritative policy documents. | Commercial commentary, unsupported online opinion, and unverifiable sources. |
| Substantive focus | Teacher identity, agency, efficacy, emotion, care, leadership, professional culture, AI literacy, AI ethics, or AI-related role negotiation. | Studies discussing technology use without reference to teacher role, professional judgement, identity, ethics, or professional learning. |
| Educational context | Primary education as priority; related school, teacher education, and language education contexts when transferability was explicit. | Adult learning or higher education contexts with no meaningful relevance to school teaching or teacher identity. |
| Language and accessibility | Mainly English-language scholarly sources with accessible bibliographic details and sufficient methodological or conceptual description. | Sources whose claims, publication details, or scope could not be verified. |

Sources were excluded when they discussed educational technology only as a functional classroom aid without addressing teacher role, identity, professional learning, ethics, agency, or autonomy. Studies focused solely on student achievement were also excluded unless they had clear implications for teachers' professional work. Commercial opinion pieces, unsupported online claims, and sources with unverifiable bibliographic details were not retained. This eligibility logic reflects the character of the research problem. Understanding teacher identity in the era of AI requires empirical findings, but it also requires conceptual and ethical literature capable of explaining why technological change becomes professionally significant.

### 2.3. Screening, Appraisal, and Synthesis Procedure

Screening was conducted in two stages. First, titles, abstracts, keywords, and publication details were reviewed for relevance to the research questions and eligibility criteria. Second, full texts or detailed publication records were examined for conceptual relevance, methodological adequacy, and contribution to the synthesis. AI-related studies were assessed with particular care because many studies describe technology use without examining identity, autonomy, professional judgement, or ethical responsibility. The review therefore distinguished between evidence about AI adoption in general and evidence about AI as a condition influencing teachers' professional self-understanding.

Quality appraisal was adapted to source type. Empirical qualitative, quantitative, and mixed-methods studies were considered in relation to criteria consistent with the Mixed Methods Appraisal Tool, including clarity of research question, appropriateness of design, coherence of data collection and analysis, and transparency of interpretation (Hong *et al*., 2018). Systematic reviews were assessed for search transparency, eligibility criteria, synthesis procedure, and stated limitations. Theoretical works and academic books were evaluated for conceptual relevance, scholarly influence, and usefulness in explaining teacher identity, care, agency, or professional learning. Authoritative policy documents were included only when they contributed to the ethical or governance framing of AI in education.

Synthesis followed a narrative and thematic procedure. Sources were first grouped according to the review questions and then coded into recurring dimensions: professional identity theory; self-efficacy, motivation, and wellbeing; emotion, care, and moral purpose; agency and professional judgement; instructional leadership and school culture; communities of practice; AI literacy and ethical governance; and Vietnamese or culturally situated reform contexts. The synthesis was informed by SWiM guidance because the evidence could not be combined statistically, but it could be systematically organised by source type, theme, and contribution to argument (Campbell *et al*., 2020).

### 2.4. PRISMA Boundary and Transparency Statement

The review is described as PRISMA-informed rather than as a fully registered PRISMA systematic review. The methods section reports the databases, search clusters, eligibility logic, appraisal approach, and synthesis procedure. The review uses PRISMA principles to strengthen clarity and reproducibility, while acknowledging that a future update should rerun the searches, export complete records, remove duplicates transparently, and report a full PRISMA flow diagram.

## 3. Results

The included literature was organised into three interdependent levels of evidence. The first level consists of foundational scholarship on teacher professional identity. This literature establishes that identity is multiple, relational, negotiated, and shaped by teachers' histories, values, emotions, and participation in professional communities (Akkerman & Meijer, 2011; Beijaard *et al*., 2004; Day & Gu, 2010; Feser & Haak, 2023). The second level consists of studies and theories explaining the personal and organisational conditions that enable teachers to sustain identity during reform, including self-efficacy, motivation, care, agency, leadership, and professional learning communities (Canrinus *et al*., 2012; Hallinger,

2005; Priestley *et al*., 2015; Tschannen-Moran & Hoy, 2001). The third level consists of emerging AI-related evidence and policy literature that examines AI literacy, professional development, role negotiation, autonomy, digital burnout, and human-centred governance (Duan & Zhao, 2024; Lan, 2024; UNESCO, 2024; Ng *et al*., 2021; Tan *et al*., 2025).

Across these evidence groups, a consistent pattern emerged: teacher professional identity is most productively understood as a mediating construct. It mediates between policy and classroom practice, between technological affordances and pedagogical judgement, and between institutional expectations and teachers' moral purposes. Competency-oriented reform and AI integration do not influence teachers in direct or uniform ways. Their effects depend on whether teachers experience them as coherent with their values, supported by school culture, and compatible with professional agency. This finding is particularly relevant to primary education, where teaching is not only cognitive and instructional but also developmental, relational, and ethically charged.

The evidence also showed a clear imbalance in the literature. Research on teacher identity, efficacy, emotion, agency, and leadership is comparatively mature. By contrast, direct evidence on AI and primary teacher identity is still emerging. The most relevant AI studies often come from teacher education, language education, online teaching, or broader school contexts. These sources are valuable because they identify mechanisms through which AI may reshape professional identity, including role

*Table 3. Evidence Groups and Their Contribution to the Synthesis.*

| Evidence group | Representative sources | Nature of evidence | Contribution to the synthesis |
|---|---|---|---|
| Teacher professional identity theory | Beijaard *et al*. (2004); Akkerman & Meijer (2011); Day & Gu (2010) | Conceptual review and theoretical scholarship | Establishes identity as negotiated, multiple, relational, and shaped by personal and institutional contexts. |
| Self-efficacy, motivation, and wellbeing | Canrinus *et al*. (2012); Tschannen-Moran & Hoy (2001); Skaalvik & Skaalvik (2010) | Empirical quantitative and theoretical work | Shows that efficacy, motivation, satisfaction, commitment, and burnout are closely connected to teachers' professional self-understanding. |
| Emotion, care, and moral purpose | Day & Kington (2008); Hargreaves (1998); Noddings (2013); Saunders (2013) | Empirical, theoretical, and philosophical scholarship | Explains why identity is emotionally and ethically situated, especially in contexts of reform and change. |
| Agency and professional judgement | Bandura (1997); Priestley *et al*. (2015) | Social cognitive and ecological theories | Provides theoretical foundations for understanding agency as both individual capacity and contextually enabled action. |
| Leadership and school culture | Hallinger (2005); Hallinger *et al*. (2025); Drago-Severson (2012) | Leadership theory and meta-analytic evidence | Shows that instructional leadership and developmental school climates can support teacher efficacy and identity formation. |
| Communities of practice and professional learning | Lave & Wenger (1991); Wenger (1998); Patton & Parker (2017); Postholm (2018) | Situated learning theory and review literature | Explains professional identity as socially learned and negotiated through participation in communities. |

| Evidence group | Representative sources | Nature of evidence | Contribution to the synthesis |
|---|---|---|---|
| AI, professional learning, and teacher identity | Lan (2024); Ghiasvand & Seyri (2025); Lin *et al*. (2025); Duan & Zhao (2024); Tan et al. (2025) | Emerging empirical studies and systematic review evidence | Indicates that AI affects teacher identity through autonomy, role perception, professional learning, reflection, and technology-mediated collaboration. |
| AI literacy and ethical governance | Ng *et al*. (2021); UNESCO (2024); Selwyn (2019) | Review, policy guidance, and critical technology scholarship | Frames AI integration as requiring ethical judgement, human agency, privacy protection, bias awareness, and critical literacy. |
| Vietnamese and culturally situated reform context | MOET (2018); Liên *et al*. (2025); Ho (2018); Gay (2018) | Policy, empirical, and cultural-context literature | Supports the argument that teacher identity is shaped by national curriculum reform, cultural expectations, and responsiveness to learners and communities. |

reconstruction, perceived autonomy, professional learning, reflective collaboration, and technology-related strain. However, their transfer to primary education must be cautious because primary teachers' work involves younger learners, close family relationships, multi-subject teaching, and a stronger everyday emphasis on care.

The results are best read as an integrative synthesis rather than as a claim that the field has already established a settled evidence base on AI and primary teacher identity. The strongest evidence supports the importance of personal and organisational identity resources. The AI-related evidence is persuasive but still developing. Its value lies in showing where professional identity is likely to be renegotiated as AI enters schools: in definitions of expertise, boundaries of autonomy, responsibilities for assessment and feedback, expectations about workload, and ethical decisions about data, bias, privacy, and age-appropriate use.

## 4. Literature Review and Thematic Synthesis

### 4.1. Conceptualising Primary Teacher Professional Identity

Teacher professional identity refers to the ways teachers understand, explain, and enact who they are as professionals. It includes beliefs about teaching and learning, perceptions of competence, ethical commitments, emotional investments, and forms of recognition from pupils, colleagues, leaders, families, and policy systems. Beijaard *et al*. (2004) argue that teacher identity is not a stable essence but a continuing process of interpretation. Akkerman and Meijer (2011) extend this view by showing that identity is dialogical: teachers may hold several professional positions at once, and these positions can be complementary or in tension. A primary teacher may understand herself simultaneously as a curriculum designer, caregiver, assessor, classroom leader, colleague, reform implementer, and learner of new technologies.

The dialogical view is useful because primary teaching is rarely experienced as a single role. A teacher may value child-centred learning while working under assessment pressure; may support innovation while worrying that new tools weaken pupils' independence; or may welcome AI support while resisting automated interpretations of children's learning. These tensions are not signs of professional inconsistency. They are part of the identity work through which teachers decide what kind of professional practice is educationally and ethically defensible. Identity therefore helps explain why the same reform or technology can be received differently by

teachers working in similar policy environments.

Primary teacher identity also has a strong moral and relational character. Campbell (2003) frames teaching as ethical work because teachers' decisions affect learners' dignity, fairness, and opportunities. Noddings (2013) places care at the centre of education, not as sentimentality but as a disciplined relational orientation toward the learner as a person. For primary teachers, this orientation is visible in ordinary professional decisions: how to respond to anxiety, how to balance correction with encouragement, how to make a task accessible without lowering expectations, and how to sustain a classroom climate in which children feel known. AI may support aspects of planning or feedback, but it cannot replace the teacher's responsibility for these situated judgements.

The literature also shows that teacher identity is culturally situated. Expectations of authority, respect, collaboration, reform, and pedagogical change differ across contexts. In Confucian heritage settings, pedagogical reform may interact with traditions of teacher authority and social respect in complex ways rather than simply replacing them (Ho, 2018). Vietnamese teachers' experiences of competency-oriented curriculum change similarly need to be understood in relation to cultural expectations and career adaptability (Liên *et al*., 2025). Culturally responsive teaching further reminds us that professional identity is shaped by how teachers recognise learners' backgrounds and community knowledge (Gay, 2018). These perspectives caution against universal claims about AI and teacher identity. Technology enters classrooms through local cultures of teaching, authority, care, and reform.

### 4.2. Personal Identity Resources: Self-Efficacy, Agency, Emotion, and Care

Self-efficacy is one of the most important personal resources in teacher identity. Bandura (1997) defines self-efficacy as belief in one's capacity to organise and execute actions required to manage situations. In teaching, efficacy refers to teachers' beliefs that they can influence student learning, engagement, and classroom participation. Tschannen-Moran and Hoy (2001) show that teacher efficacy is a distinct and important construct, while Skaalvik and Skaalvik (2010) and Canrinus *et al*. (2012) connect efficacy with job satisfaction, motivation, commitment, and broader indicators of professional identity. These relationships matter during reform because teachers are more likely to engage seriously with new expectations when they believe they can act effectively within them.

In primary education, efficacy is not limited to subject explanation. It includes the confidence to manage classroom relationships, differentiate instruction, communicate with families, support pupils with varied developmental needs, and interpret learning in ways that are fair and humane. Competency-oriented reform and AI integration can strengthen efficacy when teachers experience them as resources for better professional action. They can weaken efficacy when new expectations are introduced without time, training, dialogue, or autonomy. The difference lies not in the existence of reform or technology itself, but in whether teachers are supported to transform new demands into intelligible practice.

Professional agency is closely related to efficacy but is not identical to it. Agency refers to the capacity to act intentionally and responsibly within a particular environment. Priestley *et al*. (2015) describe agency as ecological because it emerges through the interaction of teachers' past experiences, present conditions, and future aspirations. This view avoids an overly individualistic account of teacher change. Teachers do not simply decide to be agentic; their agency is enabled or constrained by curriculum demands, leadership, resources, assessment systems, parental expectations, technological infrastructure, and professional trust.

Emotion and care give agency moral direction. Hargreaves (1998) argues that teaching is an emotional practice, and Day and Kington (2008) show that identity, wellbeing, and effectiveness are closely connected through emotional contexts. Teacher emotion should not be treated as a private distraction from professional work. It is part of how teachers interpret whether a reform feels meaningful, whether a school culture feels safe, and whether pupils are thriving. In AI-

rich environments, emotion may also reveal legitimate professional concerns: anxiety about surveillance, frustration with unreliable tools, or unease about delegating feedback to systems that do not know the child.

Care is particularly significant in primary education because children's learning is inseparable from trust, belonging, and developmental security. Noddings' (2013) ethics of care helps explain why primary teachers often evaluate innovations by asking not only whether they are efficient but whether they preserve attention to the child as a whole person. AI-generated materials may be useful, but their educational value depends on the teacher's capacity to judge tone, difficulty, cultural relevance, and emotional consequences. A technically correct response can still be pedagogically poor if it discourages a learner, ignores context, or treats a child's difficulty as a data pattern rather than as a human situation requiring interpretation.

The personal dimension of identity therefore consists of interrelated resources. Self-efficacy gives teachers confidence that they can act effectively; agency enables them to act with judgement within constraints; emotion helps them register the meaning of change; and care anchors action in responsibility for learners. Professional development that treats AI as a set of functions misses this complexity. Teachers need opportunities to examine how AI affects their sense of competence, responsibility, and purpose, not only instructions on how to operate tools.

### 4.3. Organisational Identity Conditions: Leadership, Culture, and Professional Communities

Teacher identity is shaped inside organisations. School leadership, especially instructional leadership, can either strengthen or weaken teachers' capacity to make sense of reform. Hallinger (2005) argues that instructional leadership remains influential because it focuses attention on teaching, learning, vision, and professional support. This is especially important when reforms are complex or when new technologies enter classrooms. A leader can frame change as compliance with external pressure, or as a shared inquiry into how teaching can be improved without losing professional judgement. These framings create different identity conditions.

Recent evidence reinforces this point. Hallinger *et al*. (2025) show that principal instructional leadership is associated with teacher efficacy and that cultural context moderates this relationship. This means leadership should not be treated as a universal technique. Its effects depend on trust, authority, collaboration, and cultural expectations about professional responsibility. In primary schools, leaders who wish to support AI integration need to do more than provide access to tools. They need to establish principles for use, create time for experimentation, protect teachers' authority over pedagogical decisions, and make ethical questions discussable.

School culture also influences whether teachers can learn without fear. Drago-Severson (2012) emphasises that school climates can support adult development when they provide opportunities for reflection, collaboration, and leadership. This matters because AI integration requires teachers to learn not only new technical procedures but new ways of evaluating information, risk, and responsibility. If uncertainty is interpreted as incompetence, teachers may hide doubts or comply superficially. If uncertainty is treated as a normal part of professional learning, teachers can examine AI tools more honestly and critically.

Communities of practice provide another key organisational condition. Lave and Wenger (1991) and Wenger (1998) show that professional learning is situated in participation, shared meaning, and social practice. Patton and Parker (2017) similarly argue that teacher education communities of practice involve more than collaboration as a slogan; they require sustained interaction, shared inquiry, and mutual accountability. Postholm (2018) adds that professional development in schools is most meaningful when it is embedded in teachers' work rather than separated from classroom realities.

These ideas are directly relevant to AI. The ethical and pedagogical questions raised by

AI cannot be solved by individual teachers working alone. Teachers need shared spaces to examine AI-generated feedback, compare lesson materials, discuss privacy and bias, and decide what forms of use are consistent with school values. Professional communities can prevent both uncritical adoption and defensive rejection. They allow AI to become an object of pedagogical inquiry, where teachers ask whether a tool improves learning, preserves care, respects diversity, and leaves final judgement with the human professional.

### 4.4. Technological Identity Tensions: AI, Autonomy, Expertise, and Critical Literacy

AI creates identity tensions because it can support tasks associated with professional expertise while also introducing new forms of dependency and control. The present synthesis does not assume that AI will replace teachers, nor does it treat technology as neutral. AI is better understood as a socio-technical condition: its educational meaning depends on how it is selected, governed, interpreted, and embedded in practice. A generative AI tool may help a teacher draft differentiated materials, but the professional act lies in evaluating whether those materials are accurate, age-appropriate, culturally responsive, and useful for a particular group of children.

Emerging empirical studies show that AI can reshape teachers' professional self-understanding. Lan (2024) identifies identity tensions in AI-enhanced teacher training, including tensions between individuality and groupness, humanity and technology, and continuity and openness. Ghiasvand and Seyri (2025) describe how AI can influence language teacher identity through role transformation, pedagogical alignment, reflection, and technological self-understanding. Lin *et al.* (2025) show how teachers using generative AI for L2 Chinese reading materials moved from function-centred exploration toward pedagogy-centred collaboration and learner-centred adaptation. Duan and Zhao (2024) connect AI-powered educational applications with perceived autonomy, professional development, and digital burnout. Although these studies are not all situated in primary education, they identify mechanisms that primary education research should investigate more directly.

The teacher's expertise in an AI-rich environment is therefore not diminished automatically, but it is reconfigured. AI may generate outputs quickly; speed, however, is not the same as judgement. A lesson plan must still be evaluated for curriculum alignment, sequencing, differentiation, cultural relevance, classroom feasibility, and developmental appropriateness. Feedback must still be considered in relation to a child's confidence and motivation. Assessment support must still be interpreted alongside contextual knowledge that a system does not possess. The teacher's distinctive contribution lies in connecting evidence, curriculum, relationships, ethics, and local knowledge into decisions that are educationally responsible.

Critical AI literacy is part of professional identity. Ng *et al*. (2021) define AI literacy in terms of understanding, using, evaluating, and ethically engaging with AI. UNESCO guidance calls for human-centred regulation, protection of privacy, institutional validation of tools, age-appropriate use, and the preservation of human agency (UNESCO, 2024). For primary teachers, AI literacy must include operational knowledge, but it must also include the capacity to ask whether a tool is necessary, fair, transparent, safe, and consistent with care for children. The teacher becomes an evaluator of systems that affect learning, relationships, and professional responsibility.

Autonomy is the central tension. AI can support autonomy when it reduces clerical work, expands access to examples, and assists teachers in designing inclusive materials. It can constrain autonomy when it standardises decisions, encourages surveillance, narrows learning to measurable traces, or positions teachers as implementers of algorithmic recommendations. For this reason, AI governance cannot be separated from teacher identity. Whether AI strengthens or weakens teachers depends on who selects tools, what data are collected, how outputs are interpreted, whether bias is addressed, and whether teachers retain authority over final pedagogical decisions.

## 5. Discussions

### 5.1. Discussion of the Review Results

The review results suggest that teacher professional identity should be read less as a fixed attribute than as a practical negotiation between what teachers value, what their institutions make possible, and what new technologies ask them to reconsider. This interpretation is consistent with identity scholarship that treats teacher identity as dialogical, relational, and continuously shaped through professional experience rather than as a stable personal characteristic (Akkerman & Meijer, 2011; Beijaard *et al*., 2004; Feser & Haak, 2023). In the reviewed literature, identity becomes visible at moments of pressure: when curriculum reform asks teachers to reorganise their pedagogical role, when leadership cultures either protect or narrow professional judgement, and when AI tools introduce new forms of assistance, surveillance, and uncertainty. The central implication is that professional identity is not merely a background variable in educational change. It is one of the mechanisms through which teachers decide whether change is educationally meaningful, professionally legitimate, and ethically acceptable.

A first contribution of the review is to connect the personal dimensions of identity with the conditions under which reform is enacted. Studies of teacher efficacy and agency show that teachers are more likely to sustain demanding pedagogical change when they believe that their work can influence pupils' learning and when they have room to exercise informed judgement (Bandura, 1997; Priestley *et al*., 2015; Tschannen-Moran & Hoy, 2001). This point is especially relevant to competency-oriented reform, because such reform requires more than technical compliance with new curriculum language. It asks teachers to interpret broad developmental aims, design meaningful learning experiences, and respond to children's social and emotional needs. The review results therefore support a cautious interpretation of reform implementation: teachers may accept reform aims in principle but still struggle to enact them when workload, assessment pressure, limited collaboration, or weak instructional guidance prevent the reform from becoming part of their professional self-understanding (Canrinus *et al*., 2012; Day & Kington, 2008; Saunders, 2013).

A second contribution concerns the moral and relational character of primary teaching in the context of AI. The literature on care and teacher emotion makes clear that primary teachers' work cannot be reduced to the delivery of instruction or the management of learning data (Campbell, 2003; Hargreaves, 1998; Noddings, 2013). AI may support planning, feedback, differentiation, and access to resources, but these functions do not replace teachers' situated knowledge of children, families, classroom relationships, and local cultural expectations. The most defensible position, based on the current evidence, is neither resistance to AI nor uncritical adoption. Rather, AI integration should be judged by whether it strengthens teachers' capacity to notice pupils carefully, respond ethically, and sustain pedagogical relationships. This is also why AI literacy needs to include critical judgement, data awareness, and ethical reasoning, not only operational skill (UNESCO, 2024; Ng *et al*., 2021; Selwyn, 2019).

The review also indicates that AI-related identity change is organisationally mediated. Recent studies suggest that teachers' responses to AI are shaped by perceived autonomy, opportunities for professional learning, and the extent to which technology is introduced as a source of professional support rather than as an external demand (Duan & Zhao, 2024; Lan, 2024; Lin *et al*., 2025; Tan *et al*., 2025). This finding aligns with broader research on instructional leadership and professional communities, where school conditions influence whether teachers experience reform as shared inquiry or isolated pressure (Hallinger, 2005; Hallinger *et al*., 2025; Patton & Parker, 2017; Postholm, 2018; Wenger, 1998). For primary teachers, the organisational question is therefore not simply whether schools provide access to AI tools. It is whether leaders create the professional conditions in which teachers can test tools, discuss risks, compare pedagogical decisions, and develop shared norms for responsible use. Without such conditions, AI may intensify fragmentation by

leaving individual teachers to solve ethical and pedagogical questions that require collective deliberation.

Taken together, the evidence supports a more measured account of technology and teacher identity than is often found in public debates about AI in education. AI is likely to alter parts of teachers' work, particularly planning, resource design, feedback, and administrative routines. However, the reviewed studies do not justify claims that AI will transform teacher identity in a single, predictable direction. Its effects depend on how teachers interpret the technology, how schools govern its use, and whether professional development connects AI with teachers' existing commitments to learning, care, inclusion, and judgement (Ghiasvand & Seyri, 2025; UNESCO, 2024; Tan *et al*., 2025). The review therefore reframes AI integration as an identity-sensitive process. The key issue is not whether teachers will use AI, but how they can remain professionally answerable for pedagogical decisions in environments where automated recommendations, data outputs, and platform logics are becoming more visible. This framing gives the review its practical significance: policy and professional development should begin from teachers' professional identity, rather than treating identity as an obstacle to technological change.

### 5.2. Implications for Teacher Education, Leadership, and Policy

For teacher education, the review suggests that AI literacy should be integrated with professional identity formation. Pre-service and in-service programmes should not only demonstrate tools. They should ask teachers to evaluate AI-generated materials, identify bias and error, protect privacy, consider developmental appropriateness, and decide when not to use AI. These activities connect digital competence with professional judgement. They also help teachers see AI use as an ethical decision rather than a technical shortcut.

For school leadership, the review points to the need for structured professional inquiry. Leaders should provide time for teachers to test AI tools in relation to real classroom needs, discuss both benefits and failures, and build shared principles for acceptable use. Professional learning communities can examine anonymised examples of AI-generated lesson plans, feedback, and assessment interpretations, asking whether they support curriculum goals, equity, care, and learner agency. Such inquiry makes AI integration collective rather than individualised.

For policy, the findings support human-centred AI governance. Policies should clarify data protection, age-appropriate use, transparency, accountability, procurement standards, and limits on automated decision-making. They should also protect teachers' professional agency by making clear that AI may support but should not replace human judgement. In primary education, this protection is especially important because young learners are less able to understand data use, automated feedback, or the limitations of AI-generated content. A policy framework that ignores teacher identity may produce compliance without professional commitment.

### 5.3. Limitations

This review has several limitations. First, complete database export logs were not available, and exact PRISMA flow counts were not be retrieved. This limits reproducibility and means that the review should be read as PRISMA-informed rather than as a fully replicable registered systematic review. A future version should rerun searches, export all records, document duplicate removal, and report identification, screening, eligibility, and inclusion decisions in a complete PRISMA flow diagram.

Second, the review includes heterogeneous source types. This breadth is appropriate for a conceptually complex topic, but it limits direct comparison across studies. Empirical articles, theoretical books, reviews, and policy documents make different kinds of claims and carry different evidential weight. Third, the AI-related evidence base remains recent and is not yet strongly concentrated in primary education. Findings from teacher education, language education, high school, or online teaching contexts were therefore used cautiously. Fourth, the review

is limited to mainly English-language sources, which may underrepresent Vietnamese and other non-English scholarship on teacher identity, reform, and educational technology.

These limitations define the level of confidence with which conclusions should be interpreted. The strongest conclusions concern the established importance of efficacy, agency, emotion, care, leadership, and professional community for teacher identity. The more tentative conclusions concern AI-specific identity transformation in primary education. Future research should prioritise longitudinal and classroom-based studies that follow primary teachers as they encounter AI tools, negotiate school expectations, communicate with families, and make pedagogical decisions for young learners.

## 6. Conclusions

This review has argued that primary teacher professional identity is a dynamic and ethically grounded process shaped by personal resources, organisational cultures, and technological conditions. It is not a static label attached to teachers after qualification. It is built and rebuilt as teachers interpret reform, respond to children, work with colleagues, engage with leadership, and decide how far new tools can be used without weakening the purposes of education.

The central conclusion is not that AI will make teachers obsolete, nor that AI should be embraced without reservation. AI makes visible what has always been central to teaching: interpreting learners' needs, making ethical decisions under uncertainty, building relationships of trust, and transforming curriculum into meaningful human experience. In primary education, where intellectual growth is inseparable from emotional security and social development, this human dimension remains indispensable.

The scholarly contribution of the review lies in bringing together literatures that are often separated: teacher identity, self-efficacy, agency, emotion, care, leadership, communities of practice, cultural reform contexts, and AI ethics. This integrative framing shows that AI-related change cannot be understood as a narrow digital-skills issue. It must be examined as a question of professional formation. The practical implication is equally clear: if AI is introduced through compliance and novelty, it may intensify workload and weaken autonomy; if it is introduced through trust, ethical clarity, and collaborative inquiry, it may help teachers focus more deliberately on the relational and developmental aspects of teaching.

Future research should examine how primary teachers in different cultural and policy contexts actually experience AI integration over time. Such research should attend to classroom practice, teacher emotion, professional learning, leadership conditions, parental expectations, children's developmental needs, and governance of data. Only through careful empirical inquiry can the field move beyond speculation and develop a grounded understanding of how primary teacher professional identity is being renegotiated in the era of on-going educational reforms.

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