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Evaluation and Analysis of Strategies for Cultivating Teachers' Core Competencies in Schools

Yun ZHAO[1], Chengchung TSAI[2]

Abstract

This study develops and validates an integrated model explaining teachers' core competence, focusing on three antecedents - teaching professionalism, workplace embeddedness, and innovation capability - with teachers' job satisfaction as the key mediator that converts capabilities into sustained outputs. Using a questionnaire survey of university faculty, we distributed 800 surveys and collected 713 valid responses, for an effective response rate of 89%. The results show: (1) teaching professionalism positively enhances both job satisfaction and core competence; (2) within innovation capability, exploitation contributes more to job satisfaction, whereas exploration exerts a stronger influence on both subdimensions of core competence; (3) job satisfaction has a stable but moderate positive effect on core competence; and (4) the two subdimensions of core competence are highly correlated, indicating that institutional and process knowledge capabilities are mutually reinforcing. Theoretically, drawing on RBV/KBV, dynamic capabilities, social capital, and the JD-R framework, this study integrates the evidence chain among capability, satisfaction, and output, and proposes testable second-order process constructs. Practically, it offers governance-level investment priorities and evaluation indicators, integrating professional learning communities, deep workplace linkages, and value-aligned digital/AI integration into a single closed-loop management cycle to drive evidence-based improvements in curriculum and assessment, thereby enabling teachers to consistently deliver high-quality learning outcomes.

Keywords: teaching professionalism; innovation capability; job satisfaction; core competencies

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Introduction

Over the past decade, structural pressures on school education have continued to mount: declining birth rates have reshaped class sizes and resource allocation; learners' needs have grown more diverse; competence-oriented curriculum reforms have advanced; and digital technologies - including generative AI - are profoundly reshaping classrooms and assessment practices. This capability simultaneously integrates: (1) teaching professionalism grounded in learning evidence; (2) workplace embeddedness that couples learning with authentic contexts such as industry and community; and (3) innovation capability suited to rapidly changing policy and technological environments. The effective enactment of these capabilities is often conditioned by teachers' job satisfaction: when schools provide sufficient "job resources" in professional growth, evaluation and feedback, collaborative culture, and welfare safeguards, teachers are better able to convert these capabilities into stable classroom outputs and student development.

In recent years, schools have faced concurrent pressures from competence-based curricula, digital transformation, and teacher mobility. First, teacher quality has been repeatedly confirmed as a key variable shaping student learning, and its impact is not limited to the short term: a comprehensive synthesis of visible learning shows that many teacher-related practices (e.g., effective feedback, classroom clarity) produce medium-to-large effect sizes (Carter, 2009); education-economics research likewise finds that higher teacher effectiveness is significantly associated with students' later educational attainment and income (Chetty, Friedman, & Rockoff, 2014; Hanushek, 2011). It is therefore necessary to position teachers' core competencies as a central target for governance and evaluation. Second, regarding "how to improve," professional learning characterized by content focus, peer collaboration, and classroom-embedded feedback is more effective than one-off workshops in improving instruction and boosting student performance. This suggests that teaching professionalism should be operationalized as assessable cycles of curriculum, assessment, and classroom practice. Third, the gap between curricula and the real world has long persisted. When school – industry -community partnerships are isomorphic with course objectives and assessments, they can enhance learning relevance and skill transfer; shallow connections limited to "visits/ guest talks" rarely produce sustained outcomes (OECD, 2010; OECD 2018; Billett, 2009). Hence, measurable indicators of workplace embeddedness are needed to capture the progression from exposure to internalization. Fourth, the benefits of technology integration do not occur automatically. Studies indicate that devices and platforms yield learning gains only when aligned with instructional goals and methods; technology use is further constrained by both "first-order/second-order barriers" (resources and beliefs) (OECD, 2016; Ertmer, 1999). As generative AI rapidly enters schools, it is imperative - under ethical guardrails and learning objectives - to systematize innovation capability (solution generation, pedagogy–technology integration, iterative improvement) (Mishra & Koehler, 2006). Fifth,

converting capability into stable performance depends on organizational and psychological pathways. Teacher attrition is closely tied to working conditions, and turnover can significantly depress academic outcomes (Ingersoll, 2001; Ronfeldt, Loeb, & Wyckoff, 2013).

In sum, existing evidence tends to focus on single dimensions (instruction, linkage, technology, or satisfaction) and less often tests, within one integrated model, how teaching professionalism, workplace embeddedness, and innovation capability jointly affect teachers' core competencies through job satisfaction. This study is motivated to fill that gap by translating the "capability–satisfaction-output" evidence chain into an empirical framework that schools can use for investment decisions and evaluation.

Literature Review

Teaching Professionalism

Hordern (2024) argues, from the vantage points of the sociology of occupations and the philosophy of professional skills, that professionalism is not a grab bag of techniques but a practical capacity to define educational problems and to diagnose, reason, and act using systematic, abstract knowledge. González-Fernández *et al*. (2024) define teaching professionalism as the knowledge, behavior, and attitudes teachers mobilize in instruction and training, which can be determined through instrument-based assessment. Accordingly, contemporary teaching professionalism encompasses dimensions such as technological competence, pedagogical competence, and situational ethics. Fabian *et al*. (2024) emphasize that teaching professionalism must integrate technology, pedagogy, and subject matter and be enacted in authentic classroom contexts. Boylan *et al*. (2023) maintain that teaching professionalism extends beyond the refinement of individual instructional craft to include connections to educational purposes, knowledge relations, teacher agency, and social justice.

Innovation Capability

Ganau and Grandinetti (2021) operationalize innovation capability as the ability, under resource constraints, to identify opportunities and implement product and process innovations to the market or to the firm, highlighting the structural roles of human capital, entrepreneurial orientation, and network embeddedness. It is not a single function but a composite capability involving resource bases, process mechanisms, organizational culture, and external networks, characterized by both continuity and dynamism. Hurtado-Palomino *et al*. (2022) operationalize innovation capability as the ability to integrate corporate resources to continuously generate

product-innovation outcomes (including knowledge exploration, application, and organized processes), distinguishing it from absorptive capacity.

Job Satisfaction

Zhang (2023) defines job satisfaction as employees' overall evaluation of and emotional response to their work - a pleasant or positive emotional state experienced when evaluating one's job and work experiences. Lee and Lee (2023) describe it as the degree of liking one's work, combining positive/negative emotions with cognitive appraisals, and note that it is one of the most commonly used indicators in organizational research to assess well-being and turnover intention. Pinheiro and Palma-Moreira (2025) define job satisfaction as to which employees feel fulfilled by -and favorably disposed toward-their jobs.

Core Competence

Edgar and Lockwood (2021) reviews the essence, context, and boundaries of core competence, arguing that "core" should be understood as a dynamically orchestrable bundle of capabilities that responds to digitalization and ecosystem competition. Seddighi and Mathew (2020) defines core competence as the composite of an organization's knowledge, skills, and know-how, emphasizing its tacit and path-dependent nature that drives sustained innovation and entry into new markets. Maheshwari *et al*, (2025) frame core competence as a customer-value-centered capability system, originating from the synergies among complementary resources - such as R&D, processes, brand, and key relational networks- and strengthened by corporate social responsibility, which enhances reputation and stakeholder capital and, in turn, increases inimitability. Mathew and Seddighi (2022) examines the formation and development of core competence, defining it as a platform-like capability formed through the long-term integration of diverse technologies and organizational processes that can be redeployed across markets. Hsu (2023) defines core competence as the critical capability–resource configuration that consistently supports a differentiated value proposition, and distinguishes it from core resources: core resources are inputs, whereas core competence is the performative capability that emerges through organizational processes.

The Impact of Teaching Professionalism on Job Satisfaction

Skaalvik and Skaalvik (2014) examined how teachers' self-efficacy and perceived professional autonomy (freedom to choose methods, plan instruction, and participate in decisions) affect engagement and job satisfaction; both independently and positively predicted satisfaction. Collie *et al*. (2012) reported that a positive school climate and lower occupational stress increase job satisfaction by enhancing teachers' self-efficacy. This work situates "professionalism" within the organizational context: professionalism depends not only on individual attributes

but also on whether the school provides a supportive environment. Høigaard *et al*. (2012) framed teaching professionalism as the efficacy beliefs needed to handle novice challenges and as active commitment to the professional role. For novices, whose professionalism is still developing, institutional supports are especially important for stabilizing satisfaction and retention intentions. Canrinus *et al*. (2012) treated job satisfaction, self-efficacy, professional commitment, and motivational change as indicators of professional identity and analyzed their interrelations using structural equation modeling. They found that classroom self-efficacy and relational satisfaction (with colleagues and leaders) play pivotal roles in the overall structure; the more consolidated the professional identity, the higher the satisfaction. Based on this, this study proposes the following hypothesis:

H1: Teaching professionalism has a significant positive effect on job satisfaction.

The Impact of Innovation Capability on Job Satisfaction

Grolleau, Mzoughi, and Pekovic (2022) find that employees who participate in innovation activities have higher job satisfaction; however, when innovation is accompanied by layoffs or downsizing, the positive effect is diluted, suggesting that change-related pressures can offset the favorable work experiences brought by innovation. Eco-innovation enhances satisfaction through recognition at work; at the same time, job insecurity negatively moderates the recognition–satisfaction link (Falchi *et al*., 2023). Both innovation and participation as work values positively predict job satisfaction, with psychological ownership serving as a mediator: when employees believe they can proactively improve their work and are permitted to experiment, employees feel more "this is my job/organization" and therefore feel more job satisfaction (Aslan and Atesoglu, 2021). In contexts with strong knowledge enablement and learning-oriented cultures, innovation behaviors and satisfaction rise in tandem, implying that capability enactment/recognition and person–job fit are key psychological bridges (Huang, 2023). Innovative work behavior is significantly positively correlated with job satisfaction. When transformational leadership and the closeness between individuals and organizations are high, the three relationships are closer (Pham *et al*., 2024). Based on this, this study proposes the following hypothesis:

H2: Innovation capability has a significant positive effect on job satisfaction.

The Impact of Job Satisfaction on Core Competence

Schneider *et al*. (2003) argue that staff satisfaction is a leading indicator of external performance, showing that the internal state of human capital first shapes service quality and customer relationships, which then translate into market position—thus exhibiting the antecedent, core-capability nature of satisfaction. Gelade and Young (2005) find that higher satisfaction boosts employees' consistency and proactivity in service processes, thereby improving customer experience and

relationship strength; while these advantages appear on the market side, they rest on a capability system centered on high-quality service processes. Chi and Gursoy (2009) verify the mechanism by which satisfaction converts human capital into customer assets, building brand loyalty and word-of-mouth effects that constitute a hard-to-imitate customer-relationship capability. Wangenheim, Evanschitzky, and Wunderlich (2007) show that satisfaction not only strengthens frontline service, but also enhances overall value-delivery capacity through back-office processes and cross-department collaboration, rendering the end-to-end capability system more resilient and inimitable. Bakotić (2016) concludes that satisfaction is a more critical starting point for performance, indicating that investments in employee experience can first raise process efficiency, customer relationships, and innovation outcomes, cumulatively forming sustainable competitive strength. Based on this, this study proposes the following hypothesis:

H3: Job satisfaction has a significant positive effect on core competence.

The Impact of Teaching Professionalism on Core Competence

Baumert *et al*. (2010) show that educational content knowledge has a robust positive effect on high-quality instruction and students' learning gains, and that this impact does not disappear across school socioeconomic differences. This finding suggests that when teachers can translate subject matter into learnable representations and task designs, schools are better able to consistently deliver learning outcomes and develop a sustainable instructional advantage—that is, an education-oriented form of core competence. Kunter *et al*. (2013) find that Teaching content, teaching enthusiasm and self-regulation can improve the quality of teaching and promote student learning. This model expands teaching professionalism beyond knowledge to include motivation and self-regulation, underscoring the mechanisms by which professionalism operates sustainably. Ronfeldt *et al*. (2015) show that high-quality collaboration embeds individual expertise into organizational processes, shaping a replicable system for instructional improvement and strengthening schools' sustainable competitiveness. Vescio *et al*. (2008) argue that professional learning communities are the primary vehicle for converting professional knowledge into organizational capability, improving the coherence and feedback velocity of curriculum, instruction, and assessment. Kraft, Blazar, and Hogan (2018) demonstrate that instructional coaching builds continuous-improvement capacity, enabling schools to iterate teaching strategies quickly and accumulate advantages. Based on this, this study proposes the following hypothesis:

H4: Teaching professionalism has a significant positive effect on core competence.

The Impact of Innovation Capability on Core Competence

Calantone *et al*. (2002) show that a Learning orientation has a positive impact on innovation capabilities and corporate performance - validating a capability-mediated pathway; this pathway also explains why investments in knowledge management, if not translated into innovative practice, may not enhance competitiveness. Yam *et al*. (2004) find systematic links between multiple technological innovation capabilities and firms' innovation performance and competitiveness, indicating that bundles of capabilities - rather than single technology investments - are the real drivers of competitive differences. Guan and Ma (2003) report that most capability dimensions have significant positive effects on export performance, demonstrating that innovation capability directly converts into international market competitiveness—i.e., it is not only about internal efficiency but also a determinant of external competitive positioning. Ngo and O'Cass (2012) show that Innovation and marketing capabilities are crucial for customer-related results. Zhou and Wu (2010) argue that when firms use capabilities to support a wider range of strategic choices, they can more quickly seize environmental opportunities and convert them into product innovation, strengthening their position in intense competition. This capability–flexibility–innovation chain aligns with the microfoundations of dynamic capabilities. Based on this, this study proposes the following hypothesis:

H5: Innovation capability has a significant positive effect on core competence.

Methodology

Research Framework

This study proposes the research framework as shown in Figure 1:

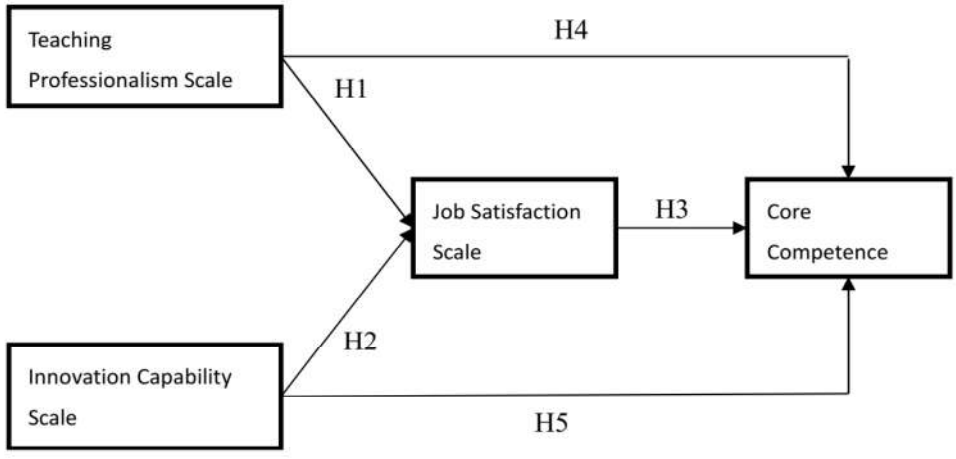

Figure 1. Research framework diagram

Measurement Instruments

- *Teaching Professionalism Scale.* This study draws on Roy *et al*. (2013), who developed a differentiated instruction implementation scale. Teachers systematically adjust course content, learning processes, and learning environments to suit students' readiness, interests, and learning situations, and monitor progress through closed-loop learning. The essence is operationalizing "equity" in classroom tasks and assessment cycles - an essential practical competence for inclusive education (Roy *et al*., 2013): (a) Instructional Adaptation: Systematically adapt content, programs, products, and the broader environment to student interests/learning; (b) Learning Progress Monitoring: Use of formative assessment, checkpoints, and data visualization to track and feedback learning progress.
- *Innovation Capability Scale*. Measurement items are based on the exploration/exploitation framework of innovation capability proposed (Jansen *et al*. 2006). The dimensions include exploration and exploitation: (a) Exploration Capability: Experimentation, variation, trials of frontier technologies, and learning of new business models; (b) Exploitation Capability: Standardization, lean practices, and reuse of existing knowledge to improve efficiency and quality.
- *Job Satisfaction Scale*. Job satisfaction was measured the Job Satisfaction from Overall Short Scale by Bowling and Hammond (2008), which captures a single-factor, global evaluation of one's job.
- *Core Competence Scale*. Core competence is measured with reference to Gold, Malhotra, and Segars (2001), who specify two major dimensions of knowledge-based capability: (a) Knowledge Infrastructure: Technology, structure, and culture; (b) Knowledge Processes: The maturity of cyclical mechanisms for acquisition, transformation, application, and protection.

Research Sample and Administration

This study follows Tinsley and Tinsley's (1987) guideline that when officially distributing questionnaires, the ratio of questions to samples is between 1:5 and 1:10. The target population comprises university faculty. The instrument contains 64 items; adopting a 1:10 item-to-sample ratio, the minimum required number of valid responses is 640. Anticipating a portion of unusable questionnaires, we distributed 800 surveys and obtained 713 valid responses, yielding an effective response rate of 89%.

Regarding research ethics and informed consent, all investigators were required to obtain participants' consent. Participation and withdrawal decisions were made voluntarily, without coercion, undue pressure, or external inducement. Researchers provided sufficient information, and participation was fully informed and voluntary. The questionnaire was administered anonymously, and all data were used solely

for academic research, in compliance with the "informed consent" provisions of research ethics.

Data Analysis Methods

This study conducted factor analyses and reliability tests on each measurement scale and its dimensions to verify scale reliability, thereby ensuring high internal consistency among items within each questionnaire. Then, regression analysis is used to analyze the correlation between teaching expertise, innovation ability, job satisfaction, and core competitiveness variables, and finally the significance of the average values between two or more samples is tested.

Results

Descriptive Statistical Analysis

The descriptive statistics of each variable explored in this study are as follows. By gender, there were 340 males (45.3%) and 289 females (54.7%). By age, 99 participants were under 30 (13.9%), 321 were 31–40 (45.0%), 186 were 41–50 (26.1%), and 107 were 51 or older (15.0%). Regarding the length of service, 146 (20.5%) were 5 years of service or less, 334 (46.8%) were 6 to 10 years of service, 128 (18.0%) were 11 to 15 years of service, and 15% (15.0%) had more than 15 years of service. Regarding marital status, 391 were unmarried (including single) (54.8%) and 322 were married (45.2%). By annual income, 394 earned 100,000 yuan or less (55.3%), 208 earned 100,001–200,000 yuan (29.2%), 87 earned 200,001–300,000 yuan (12.2%), and 24 earned 300,001 yuan or more (3.4%).

Reliability Analysis

According to the results of this study, The Teaching Professionalism Scale consists of 12 items, and its Cronbach's αis .954; The innovation ability scale consists of 16 items and its Cronbach's α is .964.; The job satisfaction scale consists of three items and has a Cronbach's α is .968.; and The core competency scale consists of 12 items with a Cronbach's α is .960. These coefficients indicate that each scale demonstrates good reliability.

Validity Analysis

For the teaching professionalism scale, the KMO values all exceeded 0.7, indicating suitability for factor analysis. Two factors were extracted: the first factor, "Market Capability" (eigenvalue = 8.327, α = .99), and the second factor, "Integration Capability" (eigenvalue = 1.879, α = .86). The two factors jointly explained 85.051% of the variance.

For the innovation capability scale, the KMO values all exceeded 0.7, indicating suitability for factor analysis. Two factors were extracted: the first factor, "Exploration Capability" (eigenvalue = 3.392, α = .97), and the second factor, "Exploitation Capability" (eigenvalue = 10.403, α = .98). Together, these two factors explained 86.220% of the variance.

For the job satisfaction scale, the KMO values all exceeded 0.7, indicating suitability for factor analysis. A single factor—"Job Satisfaction" (eigenvalue = 2.818, α = .97)—was extracted, accounting for 93.949% of the variance.

For the core competence scale, the KMO values all exceeded 0.7, indicating suitability for factor analysis. Two factors were extracted: the first factor, "Knowledge Infrastructure" (eigenvalue = 8.397, α = .96), and the second factor, "Knowledge Processes" (eigenvalue = 1.402, α = .95). The two factors jointly explained 81.662% of the variance.

In sum, the factor-analytic results for teaching professionalism, innovation capability, job satisfaction, and core competence indicate that the extracted factors possess adequate validity. Moreover, the extracted factors align with this study's operational definitions, suggesting that the subscales exhibit appropriate construct validity.

Regression Analysis

The Impact of Teaching Professionalism on Job Satisfaction. Regression analysis shows that teachers' professional quality has a significant impact on job satisfaction, and the regression model reaches a significant level. ($F = 72.812$, $p < .000$). Within teaching professionalism, both "Instructional Adaptation" and "Learning Progress Monitoring" exert significant positive effects on job satisfaction ($\beta = .533$, $p < .001$; $\beta = .136$, $p < .05$). Multicollinearity and Durbin–Watson diagnostics show VIF values below 3 (indicating acceptable multicollinearity) and a DW value close to 2 (indicating no autocorrelation). These findings suggest that instructional adaptation and progress monitoring positively influence job satisfaction. Therefore, Hypothesis H1 is supported.

Table 1. Regression of Teaching Professionalism on Job Satisfaction

Variable	Job Satisfaction		
	β	t	VIF
Teaching Professionalism			
Instructional Adaptation	0.533***	9.233	1.335
Learning Progress Monitoring	0.136*	2.098	1.335
R^2	0.170		
AdjR^2	0.168		
F	72.812***		
DW	1.447		

The Impact of Innovation Capability on Job Satisfaction. The research results are shown in the following table. The regression analysis indicates that innovation capability has a significant effect on job satisfaction; the regression model reached significance ($F = 23.899$, $p < .000$). Within innovation capability, both "Exploration Capability" and "Exploitation Capability" exert significant positive effects on job satisfaction ($\beta = .150$, $p < .05$; $\beta = .274$, $p < .001$). Multicollinearity and Durbin–Watson diagnostics show VIF values below 3 (indicating acceptable multicollinearity) and a DW value close to 2 (indicating no autocorrelation). These findings suggest that exploration and exploitation capabilities positively influence job satisfaction. Therefore, Hypothesis H2 is supported.

Table 2. Regression of Innovation Capability on Job Satisfaction

Variable	Job Satisfaction		
	β	t	VIF
Innovation Capability			
Exploration Capability	0.150*	2.117	1.349
Exploitation Capability	0.274***	4.589	1.349
R^2	0.063		
AdjR^2	0.060		
F	23.899***		
DW	1.171		

The Impact of Job Satisfaction on Core Competence. The research results are shown in the following table. The regression analyses indicate that job satisfaction significantly affects the "Knowledge Infrastructure" dimension of core competence; the model is significant ($F = 34.965$, $p < .000$). Job satisfaction exerts a significant positive effect on Knowledge Infrastructure ($\beta = .133$, $p < .001$). Job satisfaction also significantly affects the "Knowledge Processes" dimension; the model is significant ($F = 26.392$, $p < .000$), with a significant positive effect ($\beta = .119$, $p < .001$). Multicollinearity and Durbin–Watson diagnostics show VIF values below 3 (indicating acceptable multicollinearity) and DW values approach 2. These findings suggest that job satisfaction positively influences core competence. Therefore, Hypothesis H3 is supported.

Table 3. Regression of Job Satisfaction on Core Competence

Variable	Core Competence					
	Knowledge Infrastructure			Knowledge Processes		
	β	t	VIF	β	t	VIF
Job Satisfaction	0.133***	5.913	1.000	0.119***	5.137	1.000
R^2	0.047			0.036		
AdjR^2	0.046			0.034		
F	34.965***			26.392***		
DW	2.089			2.015		

The Impact of Teaching Professionalism on Core Competence. The results are shown in the table below. In the regression analyses of teaching professionalism on core competence, teaching professionalism has a significant effect on the "Knowledge Infrastructure" dimension; the model is significant ($F = 97.946$, $p < .000$). Within teaching professionalism, both "Instructional Adaptation" and "Learning Progress Monitoring" have significant positive effects on Knowledge Infrastructure ($\beta = .342$, $p < .001$; $\beta = .138$, $p < .001$). Teaching professionalism also has a significant effect on the "Knowledge Processes" dimension; the model is significant ($F = 63.505$, $p < .000$). Within teaching professionalism, "Instructional Adaptation" and "Learning Progress Monitoring" both exert significant positive effects on Knowledge Processes ($\beta = .283$, $p < .001$; $\beta = .133$, $p < .01$). Multicollinearity and Durbin–Watson diagnostics show VIF values below 3 (indicating acceptable multicollinearity) and DW values close to 2 (indicating no autocorrelation). These findings indicate that instructional adaptation and progress monitoring positively influence core competence. Therefore, Hypothesis H4 is supported.

Table 4. Regression of Teaching Professionalism on Core Competence

Variable	Core Competence					
	Knowledge Infrastructure			Knowledge Processes		
	β	t	VIF	β	t	VIF
Teaching Professionalism						
Instructional Adaptation	0.342***	9.925	1.335	0.283***	7.726	1.335
Learning Progress Monitoring	0.138***	3.568	1.335	0.133**	3.230	1.335
R^2	0.216			0.152		
AdjR^2	0.214			0.149		
F	97.946***			63.505***		
DW	2.025			1.941		

The Impact of Innovation Capability on Core Competence. The research results are shown in the following table. In the regression analyses of innovation capability on core competence, innovation capability has a significant effect on the "Knowledge Infrastructure" dimension; the model is significant ($F = 93.278$, $p < .000$). Within innovation capability, both "Exploration Capability" and "Exploitation Capability" have significant positive effects on Knowledge Infrastructure ($\beta = .383$, $p < .001$; $\beta = .119$, $p < .001$). Innovation capability also has a significant effect on the "Knowledge Processes" dimension; the model is significant ($F = 65.542$, $p < .000$), with significant positive effects from Exploration Capability and Exploitation Capability ($\beta = .342$, $p < .001$; $\beta = .101$, $p < .01$). Multicollinearity and Durbin–Watson diagnostics show VIF values below 3 (indicating acceptable multicollinearity) and DW values approach 2. These findings indicate that exploration and exploitation capabilities positively influence core competence. Therefore, Hypothesis H5 is supported.

Table 5. Regression of Innovation Capability on Core Competence

Variable	Core Competence					
	Knowledge Infrastructure			Knowledge Processes		
	β	t	VIF	β	t	VIF
Innovation Capability						
Exploration Capability	0.383***	9.552	1.349	0.342***	8.096	1.349
Exploitation Capability	0.119***	3.545	1.349	0.101**	2.851	1.349
R^2	0.208			0.156		

$AdjR^2$	0.206	0.153
F	93.278***	65.542***
DW	2.067	1.993

Discussion

This study examines the pathways through which teaching professionalism and innovation capability influence job satisfaction and core competence.

RBV (Grounded in the resource-based view) posits that scarce, inimitable, and combinable resources are the source of competitive advantage, while KBV(knowledge-based view) emphasizes that the creation, diffusion, and application of knowledge are central to organizational performance. Empirically, both instructional adaptation and learning progress monitoring - two elements of teaching professionalism - significantly predict the two subdimensions of core competence, with instructional adaptation exerting a particularly strong effect on knowledge infrastructure. This aligns with KBV's expectations regarding codifiable and transferable knowledge: when teachers systematically adjust curricula, tasks, and assessments and then template and standardize them, these practices are translated into shared lesson banks, assessment rubrics, assignment repositories, and workflow SOPs. Ultimately, these become organization-level platforms, rules, and a common vocabulary - what this study terms knowledge infrastructure and knowledge processes.

Dynamic capability stresses sensing, seizing, and reconfiguring under environmental turbulence; absorptive capacity refers to recognizing, assimilating, and applying new knowledge. Results show that exploration capabilities have a stronger effect on both subdimensions of core competence, whereas exploitation capabilities better explain job satisfaction. This pattern is consistent with the theorized complementarity between exploration and exploitation: exploration - through piloting new tools, charting novel pathways, and running small-scale instructional experiments - triggers organizational absorption and institutionalization; exploitation - via process optimization, SOP standardization, and resource reuse - directly lowers individual strain and raises instructional efficiency, yielding immediate gains in subjective job satisfaction and, subsequently, indirect effects on the organizational knowledge system through mediating pathways.

Job resources buffer job demands and promote positive outcomes. When teachers receive instructional resources (e.g., differentiated content libraries, collaborative lesson planning, assessment tools, teaching assistants, and automated grading), their affective evaluations and work attitudes become more positive. In turn, they are more inclined to share voluntarily, sustain usage, annotate proactively, and

iterate versions - behaviors that convert individual-level instructional innovation and professional practice into organization-level systems and processes.

Taken together, the empirical evidence closely aligns with established theory while revealing more granular path coefficients: instructional adaptation is the fastest lane from individual practice to organizational institutionalization; exploration capability is the ignition switch for upgrading organizational knowledge; exploitation capability is the gearbox that stabilizes individual efficiency and satisfaction; and job satisfaction is the clutch that tightly couples individual innovation with organizational sedimentation. The integration of these mechanisms enriches the empirical landscape of RBV/KBV in education and offers a theoretically coherent and empirically testable account of how teachers' professionalism and innovation translate into school-level core competence.

Compared with prior studies - many of which analyze knowledge management capabilities at the organizational level in relation to performance - this study enters at the teacher (individual) level through teaching professionalism and innovation capability and links them to organization-level core competence (knowledge infrastructure/processes). It thereby strengthens a cross-level mechanism: individual instructional adaptation and progress monitoring are not merely classroom efficiencies; they accumulate into institutionalized resources and process schemas at the organizational level. Individual exploratory innovation can trigger the organization's absorption and embedding of new tools and processes. Job satisfaction functions as the psychological and behavioral valve that retains individual experiences within the organization, explaining why similar levels of innovation and professional effort sediment into organizational capabilities to different degrees under different satisfaction conditions.

Conclusion

This study centers on the mechanisms by which schools can cultivate teachers' core competencies. The main findings are as follows:

- High instrument quality: Cronbach's α for all dimensions ranged from .95 to .99; KMO values were all > .78 and Bartlett's tests of sphericity were significant ($p < .001$), confirming strong reliability, validity, and construct validity.
- Significant correlations: All key variables were positively correlated at the 1% significance level, meeting the conditions for causal inference.
- Clear regression results: Innovation ability has a significant positive impact on job satisfaction; Teachers' professional qualities have a significant positive impact on job satisfaction ; job satisfaction has a significant positive impact on core competitiveness; teachers' professional qualities have a significant positive impact on core competitiveness; innovation ability has a significant positive impact on core competitiveness.

Synthesizing the above evidence, the core conclusions are:

- Teaching professionalism positively enhances both job satisfaction and core competence, with instructional adaptation exerting the strongest influence.
- Within innovation capability, exploitation contributes more to job satisfaction, whereas exploration has a stronger impact on both subdimensions of core competence.
- Job satisfaction exerts a stable, though moderate, positive effect on core competence.
- The two subdimensions of core competence are highly correlated, indicating that institutional and process knowledge capabilities are mutually reinforcing.

Recommendations

If the policy aim is to upgrade organization-level knowledge infrastructure in the short term, prioritize resources for instructional adaptation and exploration incubators, as these have the most direct effects on system upgrades. Concrete steps include: creating a university-wide repository of differentiated materials and tasks (with aligned difficulty tiers and assessment rubrics), promoting standardized templates for multi-track assessment and course presentation adjustments, funding an instructional design support unit to help teachers convert effective practices into reusable SOPs and exemplars, and providing small, rapid grants and technical advising for pilots of new forms of assessment and course pacing. Require every pilot to deliver shelf-ready templates and cases with version control and bilingual (Chinese/English) abstracts to facilitate cross-course transfer and diffusion.

If the goal is to steadily improve teachers' job satisfaction, simultaneously strengthen exploitation capability and workplace embeddedness, which have more direct effects on satisfaction. Start with three fronts: 1.Process load reduction: provide automated grading tools, feedback phrase banks, and one-click administrative workflows to fold high-frequency, low-creativity tasks into platforms; 2.Standardization and reusability: establish checklists for preparation, instruction, assessment, and feedback, plus clonable "course packs" and end-of-term assessment packs to reduce repetitive work and uncertainty; 3.Connection and recognition: develop cross-school communities and industry partnerships; set up dual recognition tracks (external dissemination and internal commendation) so external reputation, career development, and tangible rewards feed a single system that increases visibility and acknowledgment.

To sustain knowledge processes, embed an evidence-oriented cycle across lesson planning, in-class implementation, outcome evaluation, and improvement feedback, forming an auditable closed loop: each term, require courses to submit a pre-course design, mid-term tracking, and an end-of-term AAR; use collaborative planning meetings as milestones; feed learning data, assignment exemplars, and rubrics back into the knowledge base. Establish minimum compliance thresholds (data anonymization, consistent indicator definitions, version notes). The teaching

and learning center should spot-check and assist to ensure data quality and comparability. Add process "guardrails" (e.g., mid-term classroom observations, peer reviews) to raise process reliability and prevent innovation from remaining at the individual level.

To amplify the organizational value of exploration, implement a twin-engine model of exploration and diffusion: on the exploration side, adopt a multi-point, small-grant, rapid-iteration mechanism that must deliver reusable outputs (templates, item banks, teaching scripts, tool guides) within three months; on the diffusion side, have the teaching and learning center operate a standard-operating-procedure library, reward cross-course adoption of high-uptake solutions, and spread them through workshops and online micro-courses. Require recipient units to return a second-round localized version so cases branch and grow, avoiding single-point dependence.

In staffing and incentive design, bind individual effort to organizational accumulation: add contribution indicators to performance reviews and promotion (e.g., number of templates published, citations/adaptations, collaborative-planning participation, cross-department collaboration). Make sharing, redundancy, and reusability explicit values. Establish a "knowledge craftsman" or "instructional architect" career track so faculty who specialize in templating, standardization, and platformization have a clear path for advancement. Include external dissemination, community leadership, and industry–university collaboration outcomes in workplace-embeddedness evaluations, linking them to micro-bonuses, authorization levels, and travel support so social capital converts into institutional dividends.

For change management, practice a minimum-viable-change strategy: avoid all-at-once college-wide rollouts; move in small, fast steps that continuously demonstrate value and adjust governance. Design countermeasures for pain points (e.g., time costs, assessment burden, academic recognition), such as prep-time offsets, shared TA pools, and recognizing instructional outputs as equivalent academic contributions to reduce adoption friction. Offer early adopters a dedicated technical line and priority resources; provide late adopters with one-click install packs and migration services to narrow the gap.

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