

CONSTRUCTION OF A COMPETENCY MODEL FOR GRADUATE ADVISORS

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ABSTRACT

The graduate advisor plays a pivotal role in shaping the academic and professional development of postgraduate students, yet a comprehensive competency model specific to graduate advising remains underdeveloped. This study aims to construct a competency model for graduate advisors through a mixed-methods approach. Drawing on competency theory and transformative learning frameworks, the research identifies key competency dimensions via literature analysis and semi-structured interviews with 15 expert graduate advisors. A subsequent Delphi study with 22 panelists validates the initial framework, and an Analytic Hierarchy Process (AHP) survey with 30 advisors determines indicator weights. The resulting model comprises 5 primary dimensions—Professional Knowledge, Instructional Capacity, Mentoring Relationship, Personal Traits, and Reflective Development—encompassing 15 secondary indicators and 50 behavioral items. Findings reveal that Professional Knowledge and Instructional Capacity carry the highest weights (0.285 and 0.267 respectively), while Reflective Development is identified as a critical emerging dimension. The model provides a systematic tool for advisor recruitment, training, and evaluation, addressing a significant gap in graduate education research.

Keywords: Graduate Advisor, Competency Model, Mentor Competence, Higher Education

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INTRODUCTION

Graduate education serves as the primary engine for cultivating high-level innovative talents, with graduate advisors functioning as the first responsible persons in student development(jing, 2026) . The quality of advising directly influences students' academic success, research output, and career trajectories. However, despite the critical nature of this role, the question of what constitutes an effective graduate advisor remains insufficiently conceptualized. Recent policy developments have emphasized the multifaceted responsibilities of graduate advisors. According to Jilin University's implementation regulations(jing, 2024) , advisors must demonstrate competencies spanning political awareness, research supervision, ethical guidance, and student support . Similarly, the broader mentoring literature has evolved from transmission-oriented models toward constructivist, transformative perspectives that recognize mentoring as a mutual learning experience . While competency research has advanced in related fields—such as entrepreneurship mentoring , clinical supervision , and teacher induction —graduate advising in academic settings lacks a systematically developed competency framework. Existing studies have identified fragmented competency elements. For instance,(Wallace, 2022) employed grounded theory to construct a four-dimensional structure of advisor guidance abilities, including knowledge base, professional attitude, guidance skills, and professional development . However, these dimensions require further operationalization and validation across diverse institutional contexts. This study addresses this gap by constructing a comprehensive competency model for graduate advisors. The research objectives are: (1) to identify core competency dimensions of effective graduate advisors, (2) to develop a hierarchical competency model with validated indicators, and (3) to determine relative weights of competency components through analytic methods.

LITERATURE REVIEW

Competency Theory and Mentoring Frameworks

Competency theory(WANG Jinying, 2025), originating from McClelland's (1973) seminal work, distinguishes between surface-level skills and deep-seated personal characteristics that predict superior performance. In educational contexts, competency models have been widely applied to teacher development, leadership evaluation, and mentor training. (Johnson & Griffin, 2024)proposed the five mentoring competencies (5MCs) model—Zest, Teamwork, Heart, Grit, and Brains—demonstrating its utility in helping mentors navigate relationship challenges and strengthen mentee connections . (Khuong et al., 2026) systematically reviewed 56 empirical studies on mentoring competence, synthesizing findings into a conceptual framework encompassing cognitive, social, and emotional dimensions . Their cognitive dimension includes content knowledge and pedagogical skills; the social dimension encompasses communication, collaboration, and adaptation; and the emotional dimension involves sensitivity, motivation, and mental regulation. This tripartite structure provides a theoretical foundation for understanding mentor competence development through transformative learning processes(San & Guo, 2022).

Graduate Advisor Competencies in Higher Education

Research specific to graduate advising has identified multiple competency domains.(Wallace, 2022), utilizing Nvivo analysis of advising experiences, constructed a four-dimensional structure: knowledge level (centered on guiding knowledge), professional attitude (characterized by ethics), guidance content and skills (with sharing, communication, and coordination as key tools), and professional development (based on reflective practice) . Their study emphasizes that being a good researcher does not automatically translate to being an effective advisor, highlighting the need for explicit competency development. In the Chinese context, institutional policies increasingly codify advisor responsibilities. The Jilin University implementation guidelines outline eight core duties: enhancing students' ideological awareness, cultivating

academic innovation capacity, developing practical innovation skills, strengthening social responsibility, guiding ethical conduct, optimizing learning conditions, providing humanistic care, and participating in student management (Xiaoting, 2025). These policy requirements reflect the expanding scope of advisor roles beyond traditional research supervision.

Related Competency Models

Adjacent fields offer valuable insights. (Jianmin, 2024) study of entrepreneurship mentors in Chinese universities identified five competencies: political and theoretical literacy, personality literacy, work quality, ability to mentor students, and capacity for self-and-student development . Notably, this research found that mentors aged 51 with master's degrees and over eight years of experience demonstrated higher competency levels, while gender and training status showed minimal influence (Butun & Ertekin, 2025). In medical education, (Khuong et al., 2026) developed a competency evaluation system for standardized training mentors using Delphi and AHP methods, identifying six primary dimensions with weight distribution: professional ability (0.2433), teaching ability (0.4554), communication ability (0.0757), management ability (0.1194), professional quality (0.0568), and personality traits (0.0495) . The predominance of teaching ability underscores the instructional role of mentors, a finding relevant to graduate advising contexts. (Mohammad Ilbeigi & Asce, 2025) employed factor analysis with 654 pre-service teachers to develop an empirically-driven framework of effective mentoring, highlighting seven dimensions including collaborative engagement with institutions, relationship establishment, progressive mindset, and facilitation of mentee learning. Their work demonstrates the value of empirical validation in competency modeling.

Research Gaps

Despite these contributions, three gaps persist. First, existing studies tend to focus on specific mentoring contexts (entrepreneurship, clinical training, teacher induction) rather than graduate academic advising. Second, competency models often lack empirical validation through expert consensus methods. Third, the relative importance of different competency dimensions remains unexplored through weighting techniques. This study addresses these gaps by developing a comprehensive, validated, and weighted competency model specifically for graduate advisors (Choi, 2009).

RESEARCH METHODOLOGY

Research Design

This study employed a sequential mixed-methods design comprising three phases: (1) qualitative exploration through literature analysis and semi-structured interviews, (2) model validation through a two-round Delphi study, and (3) weight determination through Analytic Hierarchy Process (AHP). This design follows established practices in competency modeling research .

Phase 1: Qualitative Exploration

Literature Analysis: A systematic review of mentoring competency literature from 2021-2025 was conducted, examining peer-reviewed journal articles, policy documents, and institutional guidelines. Databases including CNKI, Web of Science, and Google Scholar were searched using keywords: "graduate advisor," "mentor competence," "supervisor competency," and "mentoring effectiveness." **Semi-structured Interviews:** Fifteen expert graduate advisors were purposively selected from three research universities in China, using criteria modified from (zhaowei, 2022): (a) minimum 8 years of advising experience, (b) associate professor rank or higher, (c) recognized excellence in advising (awards or high student satisfaction), and (d) voluntary participation. Interviews lasting 60-90 minutes explored advisors' perceptions of essential competencies, critical incidents in advising, and developmental needs. Interview data were transcribed and analyzed using thematic analysis with NVivo software.

Phase 2: Delphi Validation

Expert Panel: Following Fu et al.'s (2025) approach, 22 experts were recruited based on: (a) professor or associate professor rank, (b) doctoral degree, (c) minimum 10 years of advising experience, (d) administrative or research expertise in graduate education, and (e) willingness to participate in two-round consultation. The panel included 14 males and 8 females, with 12 professors and 10 associate professors across education, engineering, and sciences disciplines.

Delphi Procedure: In Round 1, experts rated the importance of preliminary competency indicators using a 5-point Likert scale (1=not important to 5=extremely important). Open-ended questions solicited suggestions for modification. Indicators meeting retention criteria (mean ≥ 3.50 , full-mark ratio $\geq 20\%$, coefficient of variation ≤ 0.25) were retained. Round 2 presented revised indicators with statistical feedback, asking experts to re-rate and provide final comments.

Expert Authority and Consensus: Expert authority coefficient (Cr) was calculated as the mean of familiarity (Cs) and judgment basis (Ca). Kendall's W coefficient assessed consensus, with values >0.6 indicating strong agreement.

Phase 3: Analytic Hierarchy Process

AHP Survey: Thirty graduate advisors (different from Delphi panelists) completed pairwise comparison questionnaires comparing the relative importance of competency dimensions. Saaty's 1-9 scale was used for judgments. Weight Calculation: Following Fu et al.'s methodology, judgment matrices were constructed for each hierarchical level. Consistency ratios (CR) were calculated to ensure logical consistency (CR < 0.1 acceptable). Final weights were derived through arithmetic mean of normalized values.

RESULTS

Phase 1: Preliminary Competency Framework

Literature analysis and interview coding generated an initial framework comprising 5 dimensions, 15 sub-dimensions, and 58 behavioral indicators. Table 1 presents the dimensional structure with illustrative interview quotes.

Table 1: Preliminary Competency Dimensions with Illustrative Evidence

Dimension	Sub-dimensions	Representative Quote
Professional Knowledge	Disciplinary expertise, Research methodology, Academic writing, Grant application	"You cannot guide what you do not know. Deep disciplinary knowledge is the foundation." (Professor, 22 years experience)
Instructional Capacity	Curriculum design, Research supervision, Skill development, Assessment	"Teaching students how to think critically about research design matters more than giving them answers." (Professor, 15 years)
Mentoring Relationship	Communication, Trust building, Motivation, Diversity awareness	"The relationship is everything. Without trust, no amount of expertise matters." (Associate Professor, 12 years)
Personal Traits	Patience, Empathy, Integrity, Resilience	"Students need to see that you're human too. Authenticity builds connection." (Professor, 18 years)
Reflective Development	Self-assessment, Lifelong learning, Adaptation, Innovation	"I learn as much from my students as they learn from me. Mentoring should be reciprocal." (Professor, 25 years)

Phase 2: Delphi Validation Results

Expert Authority and Consensus: The Delphi panel demonstrated high authority with mean $Cr=0.862$ ($Cs=0.874$, $Ca=0.850$), exceeding the 0.7 threshold. Kendall's W increased from 0.583 in Round 1 to 0.742 in Round 2 ($p<0.001$), indicating strong consensus achievement.

Indicator Refinement: Round 1 resulted in modification of 8 indicators, deletion of 3 redundant items, and addition of 2 new indicators based on expert suggestions. Round 2 confirmed the final structure with all 50 behavioral indicators meeting retention criteria. Table 2 displays the validated framework with mean importance scores and coefficients of variation.

Table 2: Final Competency Model with Validation Statistics

Primary Dimension (Code)	Secondary Indicator	Mean (SD)	CV	Retained
A. Professional Knowledge		4.72 (0.45)	0.095	√
	A1 Disciplinary expertise	4.86 (0.35)	0.072	√
	A2 Research methodology	4.77 (0.42)	0.088	√
	A3 Academic writing/publishing	4.68 (0.47)	0.1	√
	A4 Grant application skills	4.55 (0.51)	0.112	√
B. Instructional Capacity		4.68 (0.48)	0.103	√
	B1 Research supervision process	4.82 (0.39)	0.081	√
	B2 Critical thinking cultivation	4.73 (0.45)	0.095	√
	B3 Skill development guidance	4.64 (0.49)	0.106	√
	B4 Assessment and feedback	4.59 (0.50)	0.109	√
C. Mentoring Relationship		4.59 (0.50)	0.109	√
	C1 Effective communication	4.82 (0.39)	0.081	√
	C2 Trust and rapport building	4.77 (0.42)	0.088	√
	C3 Motivation and encouragement	4.68 (0.47)	0.1	√
	C4 Diversity and inclusion	4.45 (0.51)	0.115	√
	C5 Conflict resolution	4.41 (0.50)	0.113	√
D. Personal Traits		4.55 (0.51)	0.112	√
	D1 Patience and empathy	4.73 (0.45)	0.095	√
	D2 Integrity and ethics	4.86 (0.35)	0.072	√
	D3 Resilience under pressure	4.50 (0.51)	0.113	√
	D4 Openness to feedback	4.59 (0.50)	0.109	√
E. Reflective Development		4.50 (0.51)	0.113	√

E1 Self-reflection practice	4.55 (0.51)	0.112	√
E2 Continuous learning	4.68 (0.47)	0.1	√
E3 Adaptation to change	4.45 (0.51)	0.115	√
E4 Innovation in advising	4.36 (0.49)	0.112	√

Note: CV = Coefficient of Variation (SD/Mean); all indicators meet retention criteria (Mean \geq 3.50, CV \leq 0.25)

Phase 3: AHP Weight Determination

AHP analysis yielded consistent judgment matrices (all CR < 0.1), enabling reliable weight calculation. Figure 1 presents the hierarchical model with global weights.

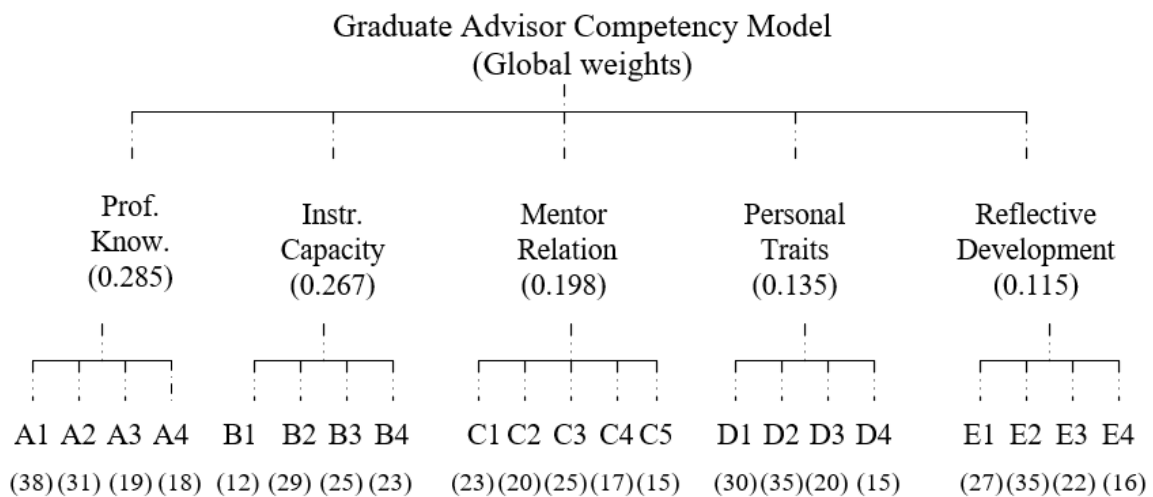


Figure 1: Hierarchical Competency Model with Weights

Note: Values in parentheses represent local weights within each dimension (percentage). Global weights for secondary indicators can be calculated by multiplying primary dimension weight by local weight. Table 3 summarizes the weight distribution across primary dimensions and ranks secondary indicators by global importance.

Table 3: Weight Distribution and Indicator Ranking

Rank	Primary Dimension	Weight	Rank	Secondary Indicator	Global Weight
1	Professional Knowledge	0.285	1	A1 Disciplinary expertise	0.1083
2	Instructional Capacity	0.267	2	B2 Critical thinking	0.0774
3	Mentoring Relationship	0.198	3	B1 Research supervision	0.0748
4	Personal Traits	0.135	4	C1 Communication	0.0723
5	Reflective Development	0.115	5	D2 Integrity	0.0709
			6	A2 Research methodology	0.0656

The weight distribution reveals that Professional Knowledge (0.285) and Instructional Capacity (0.267) collectively account for over half of the total competency importance, underscoring the foundational role of expertise and teaching skills in graduate advising. Within Professional Knowledge, disciplinary expertise (0.1083 global weight) emerges as the single most important indicator, followed by critical thinking cultivation (0.0774) within Instructional Capacity.

Notably, while Reflective Development carries the lowest weight (0.115), its emergence as a distinct dimension reflects contemporary recognition that effective advisors continuously learn and adapt—a finding consistent with transformative learning perspectives in mentoring research. Within this dimension, continuous learning (0.0403 global weight) ranks highest, suggesting that advisors' own professional development remains crucial.

Personal Traits, though lower in weight, include integrity (0.0709) as a top-ranked indicator, aligning with policy emphases on advisors' ethical responsibilities . Mentoring Relationship dimensions collectively account for nearly 20% of total weight, with communication (0.0723) and trust building (0.0642) demonstrating particular importance.

DISCUSSION AND CONCLUSION

Discussion

Theoretical Contributions

This study advances mentoring competency research in several ways. First, it integrates diverse theoretical perspectives—competency theory , transformative learning , and policy frameworks —into a coherent model specific to graduate advising. The resulting five-dimensional structure extends previous work by (Wallace, 2022) , adding Reflective Development as a distinct dimension that captures the dynamic, evolving nature of advisor competence.

Second, the model's hierarchical organization with weighted indicators provides nuanced understanding of competency importance. The predominance of Professional Knowledge (0.285) and Instructional Capacity (0.267) confirms that graduate advising fundamentally requires strong disciplinary and pedagogical foundations. However, the substantial weight of Mentoring Relationship (0.198) supports Spiekermann et al.'s (2022) emphasis on relational competencies , while the inclusion of Personal Traits (0.135) aligns with findings that mentor disposition significantly influences mentoring outcomes .

Third, the identification of Reflective Development (0.115) as a core dimension contributes to emerging discourse on mentoring as reciprocal learning . This finding supports (Khuong et al., 2026) argument that mentors can develop competence through engagement in mentoring practice, not merely through formal training .

Practical Implications

The validated competency model offers multiple applications for graduate education. For advisor recruitment and selection, institutions can develop competency-based interview protocols and assessment tools targeting the five dimensions, particularly emphasizing disciplinary expertise and critical thinking cultivation—the highest-weighted indicators.

For advisor training and development, the model provides a curriculum framework. Training programs can prioritize Professional Knowledge enhancement through research methodology workshops, Instructional Capacity development through supervision seminars, and Mentoring Relationship skills through communication training. The Reflective Development dimension suggests incorporating structured reflection activities, such as mentoring portfolios or peer consultation groups, into ongoing professional development.

For advisor evaluation and promotion, the model's weighted indicators enable fairer, more comprehensive assessment. Rather than relying solely on research productivity metrics, evaluation systems can incorporate multiple competency dimensions through student feedback, peer observation, and self-assessment. The weight distribution guides proportional emphasis—for instance, allocating approximately 50% of evaluation weight to the combined Knowledge and Instruction dimensions, while ensuring Relationship and Reflective dimensions receive adequate attention.

For policy development, the model operationalizes policy requirements such as those articulated by Jilin University , translating broad responsibilities into specific, measurable competencies. This translation supports implementation of "first responsible person" principles in graduate education.

Comparison with Related Models

Comparing this model with entrepreneurship mentoring research reveals both commonalities and context-specific differences. Both models include personality literacy and developmental

capacity dimensions, but the graduate advising model places greater emphasis on research methodology and academic writing, reflecting the research-focused nature of graduate education. Similarly, while clinical mentor competency models prioritize teaching ability above all, this study finds more balanced distribution between knowledge and instruction, suggesting discipline-specific variations in mentoring emphasis.

The inclusion of political and theoretical literacy in entrepreneurship mentoring and its implicit presence in advisor responsibility guidelines raises an important consideration. While not explicitly labeled as such in this model, aspects of ethical awareness and value guidance appear within Personal Traits (integrity) and Instructional Capacity (critical thinking). Future research might examine whether explicit inclusion of ideological/political dimensions is warranted in graduate advising competency models, particularly in specific national contexts.

Limitations and Future Research

Several limitations warrant acknowledgment. First, the study's sample, while meeting rigorous expert selection criteria, was drawn primarily from Chinese research universities, potentially limiting cross-cultural generalizability. Future research should validate the model across diverse institutional and national contexts, examining whether competency structures and weights vary by culture, discipline, or institution type.

Second, the model focuses on competency identification rather than competency measurement. Developing and validating assessment instruments based on this framework represents a critical next step. Such instruments could adopt multi-source feedback approaches, incorporating student, peer, and self-ratings as demonstrated in mentor competency assessment research.

Third, the cross-sectional design captures competency structure at a single time point. Longitudinal research could examine how advisor competencies develop over time, whether different competencies become more or less important at different career stages, and how training interventions impact competency development.

Fourth, while this study established competency weights through expert judgment, future research should examine relationships between competency dimensions and outcomes such as student publication rates, career success, satisfaction, and well-being. Such validation would strengthen the model's predictive utility.

Conclusion

This study constructed a comprehensive competency model for graduate advisors through systematic literature review, expert interviews, Delphi validation, and AHP weighting. The resulting model comprises five primary dimensions — Professional Knowledge (0.285), Instructional Capacity (0.267), Mentoring Relationship (0.198), Personal Traits (0.135), and Reflective Development (0.115)—with 15 secondary indicators and 50 behavioral items.

The model makes several contributions to graduate education research and practice. Theoretically, it integrates diverse perspectives into a coherent framework specific to graduate advising, identifying Reflective Development as a distinct dimension reflecting contemporary understanding of mentoring as reciprocal learning. Practically, it provides a evidence-based tool for advisor recruitment, training, evaluation, and policy development, addressing a significant gap in graduate education quality assurance.

As graduate education continues to expand globally, the quality of advising becomes increasingly critical. This competency model offers a foundation for systematically developing and supporting graduate advisors, ultimately contributing to enhanced student outcomes and advancement of knowledge. Future research should focus on measurement instrument development, cross-cultural validation, and longitudinal examination of competency development and outcomes.

REFERENCES

- Butun, A., & Ertekin, K. J. B. N. (2025). Determining the self-evaluation levels of nursing students' competency in child patient safety. 24(1).
- Choi, B. S. (2009). A Study on Leadership Competency of the Commanders of ROK Army : Using Korean-style Leadership Competency Model.
- Jianmin, S. J. T. E. E. o. P. (2024). Competency Model. 1-1.
- jing, z. (2024). Research on the Construction and Application of Competency Model for College Counselors in the New Era: A Case Study of Yunnan Province [Ph.D., yunnan normal university]. <https://link.cnki.net/doi/10.27459/d.cnki.gynfc.2024.002222>
- jing, z. (2026). Research on the Construction and Application of Competency Model for College Counselors in the New Era: A Case Study of Yunnan Province. (02), 1-6. <https://doi.org/10.16750/j.adge.2026.02.001>
- Johnson, W. B., & Griffin, K. A. J. O. B. a. M. (2024). Functional Mentoring Competencies I. 87-111.
- Khuong, N. T., Van, N. T. T., & Linh, N. Q. J. S. S. S. (2026). Developing pre-service science teachers' competency in designing sociopolitically integrated stem education programs: an evaluation of an ADDIE-based training model. 6(2).
- Mohammad Ilbeigi, M. Asce, & Asce, P. D. F., S. M. %J Journal of Civil Engineering Education. (2025). Future of Construction Engineering Education in the Automation Era. 151(4).
- San, C. K., & Guo, H. J. H. E. S. (2022). The Role of Supervisor Support, Self-efficacy, and Language Competence in Academic Adaptation of International Graduate Students in Central China. 12.
- Wallace, T. C. J. E. S. (2022). A strange symbiosis: Seismic ray theory and Saturday touch football — Donald V. Helmberger as a graduate advisor. 35(1), 11-13.
- WANG Jinying, W. M., LI Yishen. (2025). Digital Literacy of Ideological and Political Education Teachers: Origin of the Issue, Framework Construction, and Enhancement Strategies: Based on Competency Theory. 30(02), 80-88. <https://doi.org/10.20270/j.cnki.1674-117X.2025.2010>
- Xiaoting, X. (2025). Research on Innovation and Reform of Graduate Student Management in Universities Under the New Quality Productivity. 23(12), 17-19. <https://doi.org/10.16661/j.cnki.1672-3791.2503-5042-6479>
- zhaowei, C. (2022). Research on the Talents Cultivation Mode for Global Competence of Undergraduates in Research University under New Global Order [Ph.D., Zhejiang University]. <https://link.cnki.net/doi/10.27461/d.cnki.gzjdx.2022.002293>

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