

STRATEGIES FOR ENHANCING FOREIGN LANGUAGE TEACHERS'
RESEARCH COMPETENCE AT UNIVERSITIES IN GUANGXI:
AN EDUCATIONAL ADMINISTRATION PERSPECTIVE

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the Degree of Doctor of Philosophy Program in Educational Administration
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Thesis Title Strategies for enhancing foreign language teachers' research competence at universities in Guangxi: An educational Administration Perspective

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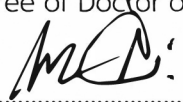
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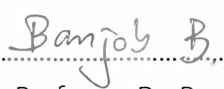
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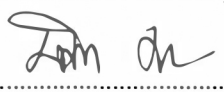

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ABSTRACT

The objectives of this research were: 1) to analyze the current situation of foreign language teachers' research competence at universities in Guangxi, 2) to formulate strategies for enhancing foreign language teachers' research competence at universities in Guangxi, and 3) to evaluate the suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi. The sample group included 313 foreign language teachers from 23 public undergraduate universities in Guangxi. The research instruments involved: 1) a questionnaire, 2) focus group discussions, and 3) an evaluation form. The data were analyzed using percentages, means, standard deviations, and content analysis.

The results showed that: 1) the overall level of foreign language teachers' research competence at universities in Guangxi was medium. 2) Strategies for enhancing foreign language teachers' research competence at universities in Guangxi have been proposed for all five dimensions, totaling 28 strategies. There are 6 strategies for enhancing skills in reviewing the state of research, 5 for enhancing methodological skills, 4 for enhancing skills in reflecting on research findings, 8 for enhancing communication skills, and 5 for enhancing content knowledge. 3) The results of the suitability and feasibility of the strategies were at a high level.

Keywords: strategies, research competence, foreign language teachers, educational administration.

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Chapter 1

Introduction

Rationale

High-quality research by university faculty is increasingly recognized as a key driver of educational innovation, disciplinary advancement, and institutional competitiveness. However, regional disparities, uneven resource distribution, and the rapid emergence of artificial intelligence pose new challenges to developing and sustaining research competence. Within this context, foreign language teachers at universities in Guangxi represent a critical yet under-explored group whose research competence directly affects curriculum quality, academic output, and institutional growth. This study examines their multidimensional research competence and proposes strategies to enhance their professional capabilities, aligning with national policy initiatives and regional educational priorities.

Teachers' research competence is increasingly recognized as a central determinant of both individual professional growth and institutional performance in higher education. Internationally, research competence encompasses not only technical skills but also the ability to apply research evidence to practice, generate knowledge, and engage in interdisciplinary collaboration (De Jonge et al., 2026; Drageset et al., 2025). The rapid development of digital technologies has reshaped expectations for teachers, requiring capabilities in data management, information retrieval, digital collaboration, and technology-mediated knowledge production (Suyo-Vega et al., 2022; Katayev et al., 2023).

In China, national policies have increasingly emphasized teachers' research competence as an important component of higher education development and teacher professional growth. Ongoing reforms in higher education have placed greater emphasis on strengthening university teachers' research capacity, promoting the integration of teaching and research, and improving the quality of academic and

professional development. Research competence has also become increasingly relevant to teachers' professional evaluation, career advancement, and participation in institutional knowledge production and innovation. These policy orientations highlight the need for universities to provide systematic institutional support, professional development opportunities, and appropriate organizational mechanisms for strengthening teachers' research competence. Accordingly, enhancing foreign language teachers' research competence is not only important for their individual professional development but also contributes to institutional development and the overall quality of higher education. These national policy orientations provide an important foundation for exploring strategies to enhance foreign language teachers' research competence in the regional context of Guangxi.

The universities in Guangxi, situated in a less-developed region of southern China, have benefited from national initiatives promoting research-oriented development. Nonetheless, they face structural constraints, including uneven resource allocation, imbalanced disciplinary composition, and limited research infrastructure in certain departments, particularly in foreign language faculties. Consequently, foreign language teachers' research competence remains uneven and contextually constrained, directly affecting curriculum quality, academic output, and institutional advancement. Existing research in China has primarily focused on general faculty populations, leaving a gap in understanding the unique challenges and developmental trajectories of in-service foreign language teachers in under-resourced regions.

Despite continuous emphasis on developing teacher research competence, foreign language teachers at universities in Guangxi exhibit substantial deficiencies in research competence. Empirical evidence suggests that while these teachers demonstrate strengths in literature review, research design, and methodological skills, they remain insufficiently proficient in updating disciplinary knowledge, applying data analysis techniques (Han et al., 2025; De Jonge et al., 2026). Existing professional development programs, mentoring systems, and institutional support mechanisms are often generic, failing to address the specific needs of foreign language teachers.

These limitations hinder teachers' ability to integrate theory with practice effectively, leverage technological tools for research, and innovate in scholarly inquiry. Therefore, this study aims to identify the core factors constraining research competence among in-service foreign language teachers at universities in Guangxi, analyze the limitations of current policies and practices, and develop systematic strategies for enhancing their research competence. In short, the central research problem addressed by this study is how foreign language teachers at universities in Guangxi can effectively enhance their research competence, overcoming constraints related to resources, institutional support, and technological skills, to achieve sustainable professional growth and research-teaching integration.

Although prior literature has advanced the conceptualization, dimensionality, and developmental pathways of teachers' research competence, substantial gaps remain. From a theoretical perspective, most studies adopt psychological or educational frameworks, focusing on individual skills or competence assessment, while the systematic application of educational governance and organizational learning theories to understand the development of research competence remains limited (Brooks, 2021; Oancea et al., 2021). This theoretical gap limits a comprehensive understanding of how policy frameworks, institutional structures, organizational culture, and teacher professional development interactively shape the development of research competence.

From an empirical perspective, research predominantly targets pre-service teachers, teacher educators, or general faculty populations, with very limited systematic investigation of in-service foreign language teachers at universities in Guangxi. Additionally, although digital competence has been increasingly studied, the specific role of transforming research practices and enabling innovative inquiry remains underexplored (Suyo-Vega et al., 2022; Kuznetsova et al., 2024).

From a methodological perspective, existing studies are often constrained by single-method or perception-based designs and limited contextual embedding. Many fail to integrate policy, institutional, and technological dimensions into a unified

analytical framework, thereby restricting a holistic understanding of how multi-level factors jointly influence the development of research competence.

Taken together, these theoretical, empirical, and methodological gaps highlight the need for a more comprehensive understanding of foreign language teachers' research competence as a multidimensional and contextually embedded construct. Addressing these gaps, this study is situated within an integrated analytical framework drawing on educational governance theory, organizational learning theory, and teacher professional development theory. From this perspective, research competence is understood as a dynamic construct shaped by the interaction of policy environments, institutional arrangements, organizational processes, technological conditions, and individual professional development. This framing provides a structured lens for examining how foreign language teachers develop and enact research-related capacities within complex higher education systems.

Research Questions

1. What is the current situation of foreign language teachers' research competence at universities in Guangxi?
2. What are the strategies for enhancing foreign language teachers' research competence at universities in Guangxi?
3. Are the strategies for enhancing foreign language teachers' research competence at universities in Guangxi suitable and feasible?

Objectives

1. To study the current situation of foreign language teachers' research competence at universities in Guangxi.
2. To formulate strategies for enhancing foreign language teachers' research competence at universities in Guangxi.
3. To evaluate the suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Scope of the Research

Population

The population of this research consisted of 1,716 foreign language teachers from 23 public undergraduate universities in Guangxi. As of 2025, Guangxi had 29 public undergraduate universities distributed across 11 prefecture-level cities. To ensure both representativeness and feasibility, 23 universities were selected using a stratified purposive sampling approach. The selection was based on three main criteria: geographical distribution, institutional type, and institutional level. In terms of geographical distribution, the selected universities covered all 11 prefecture-level cities that host public undergraduate institutions, ensuring representation across eastern, western, southern, northern, and central Guangxi, including border, coastal, ethnic minority, and less-developed areas. Regarding institutional type, the sample included comprehensive, normal, medical, engineering and technology, ethnic, finance and economics, arts, public security, agriculture-oriented, tourism-related, and vocational-oriented universities, thereby reflecting the diversity of the higher education system in Guangxi. At the institutional level, the sample included leading “Double First-Class” universities, provincially co-supported universities, regionally administered undergraduate institutions, and vocational undergraduate universities, enabling the study to capture variations in institutional development, resource allocation, and academic orientation. Overall, the selected sample demonstrated strong representativeness and structural diversity, providing a solid foundation for investigating foreign language teachers’ research competence at universities in Guangxi.

The Sample Group

According to Krejcie and Morgan's table, the sample group for this research comprises 313 foreign language teachers from 23 public undergraduate universities in Guangxi. A multistage sampling method was employed, beginning with stratified purposive sampling to select the target universities, followed by simple random sampling to select individual teachers within each university.

The sample of the focus group

The focus group sample in this research comprises 15 foreign language teachers from the sampled universities in Guangxi. They were purposively selected based on the following criteria: (1) holding a master's degree or above; (2) having at least ten years of teaching experience in public undergraduate universities in Guangxi; and (3) having experience in academic research, including participating in research projects or publishing academic papers.

Expert group

Fifteen foreign language experts from public undergraduate universities in Guangxi were invited to evaluate the suitability and feasibility of the strategies for enhancing foreign language teachers' research competence. The experts were purposively selected based on the following criteria: (1) having at least 10 years of experience in foreign language teaching in public undergraduate universities in Guangxi; (2) holding the academic title of associate professor or above or possessing a doctoral degree; and (3) having substantial experience in academic research, including leading and completing provincial-level or higher research projects, or publishing papers in high-level academic journals.

The Variables

Based on a synthesis of relevant theories and empirical studies, foreign language teachers' research competence in this study is conceptualized as a multidimensional construct comprising the following five dimensions:

- 1 Skills in reviewing the state of research
2. Methodological skills
3. Skills in reflecting on research findings
4. Communication skills
5. Content knowledge

Advantages

1. Theoretical significance: This study advances the conceptualization of foreign language teachers' research competence by framing it as a multidimensional construct. By integrating Educational Governance Theory, Organizational Learning Theory, and the Theory of Teacher Professional Development, it connects macro-level governance structures, meso-level organizational and institutional processes, and micro-level competence development mechanisms. In addition, it extends existing research competence frameworks by situating teachers' research competence within a multilevel educational administration framework, thereby providing a more comprehensive theoretical understanding of how governance, organizational conditions, and professional development interact to shape teachers' research competence.

2. Practical significance: This study provides empirically grounded strategies to enhance foreign language teachers' research competence at universities in Guangxi. By identifying current competence levels and key challenges, it offers actionable guidance for designing targeted professional development programs, research training, and institutional support mechanisms. The findings support improvements in teachers' competence across core domains, ultimately promoting more effective research engagement and academic productivity.

3. Policy implications: This study offers evidence-based insights for optimizing higher education policies related to teacher development and research capacity building. It highlights the importance of governance mechanisms, institutional support, and organizational learning in shaping teachers' research competence. The findings suggest that policymakers should strengthen professional development and research support systems, refine evaluation and incentive structures, and promote coordinated, multi-level governance to support the sustainable development of regional higher education systems.

Definition of terms

Strategies for enhancing foreign language teachers' research competence refer to systematic, context-oriented measures designed to improve their multidimensional research competence. These strategies aim to strengthen teachers' abilities to review and critically evaluate research, apply appropriate research methods, reflect on research findings, communicate research outcomes, and develop disciplinary knowledge. They further involve institutional support, professional development, collaborative learning, and governance mechanisms that facilitate the sustainable development of teachers' research competence.

Research competence refers to a multidimensional professional competence comprising five interrelated dimensions: skills in reviewing the state of research, methodological skills, skills in reflecting on research findings, communication skills, and content knowledge. It refers to the integrated ability to systematically review and critically evaluate literature, plan and conduct research using appropriate methods, reflect on findings from theoretical, methodological, and ethical perspectives, communicate results in line with disciplinary standards, and apply relevant theoretical and methodological knowledge within a specific domain.

Skills in reviewing the state of research refer to the ability to systematically review the state of research and critically evaluate it within a specific domain. It encompasses conducting targeted literature searches, identifying appropriate sources, and synthesizing existing studies to establish a coherent overview of a topic. It further involves identifying research gaps and unaddressed questions, and evaluating the methodological quality of research findings. It also involves identifying research gaps and unaddressed questions, as well as evaluating the methodological quality of research findings.

Methodological skills refer to the ability to systematically plan and prepare the research process and to select and apply appropriate methods to address specific research questions. It includes formulating research questions or hypotheses, determining relevant data, sources, and materials, and designing and initiating research procedures. It further involves selecting suitable methods, judging their

appropriateness, applying diverse research methods, and analyzing quantitative and qualitative data using appropriate analytical tools.

Skills in reflecting on research findings refer to the ability to theoretically and methodologically reflect on research results, to reflect on scientific and practical research, and to reflect on ethical implications. It includes interpreting research findings, relating them to relevant theories, and critically examining methodological limitations. It further involves reflecting on disciplinary implications and practical applications, as well as considering social and ethical issues in research.

Communication skills refer to the ability to write academic publications and to present research findings in accordance with disciplinary standards. It includes writing research findings, producing academic publications, preparing research reports and project proposals, and leading and completing research projects. It further involves preparing research outputs for presentation and presenting research at academic venues such as colloquia and conferences.

Content knowledge refers to knowledge of central theories and current findings, central research methods, and communication standards in academic research within the discipline. It includes familiarity with major theories, their historical development, and current research findings, as well as a sound understanding of core research methods. It further involves knowledge of national and international academic publication outlets and standards for academic writing and presentation.

Educational administration refers to the systematic process of planning, organizing, leading, coordinating, and evaluating educational organizations to achieve educational goals through the effective management of people, resources, organizational relationships, and institutional change. Rather than merely maintaining organizational order, it increasingly emphasizes collaborative governance, capacity building, and continuous improvement within dynamic educational environments.

Research Framework

Based on the theoretical foundations and the research objectives of this study, a research framework is developed to illustrate the key variables and their interrelationships. The framework is presented in Figure 1.1:

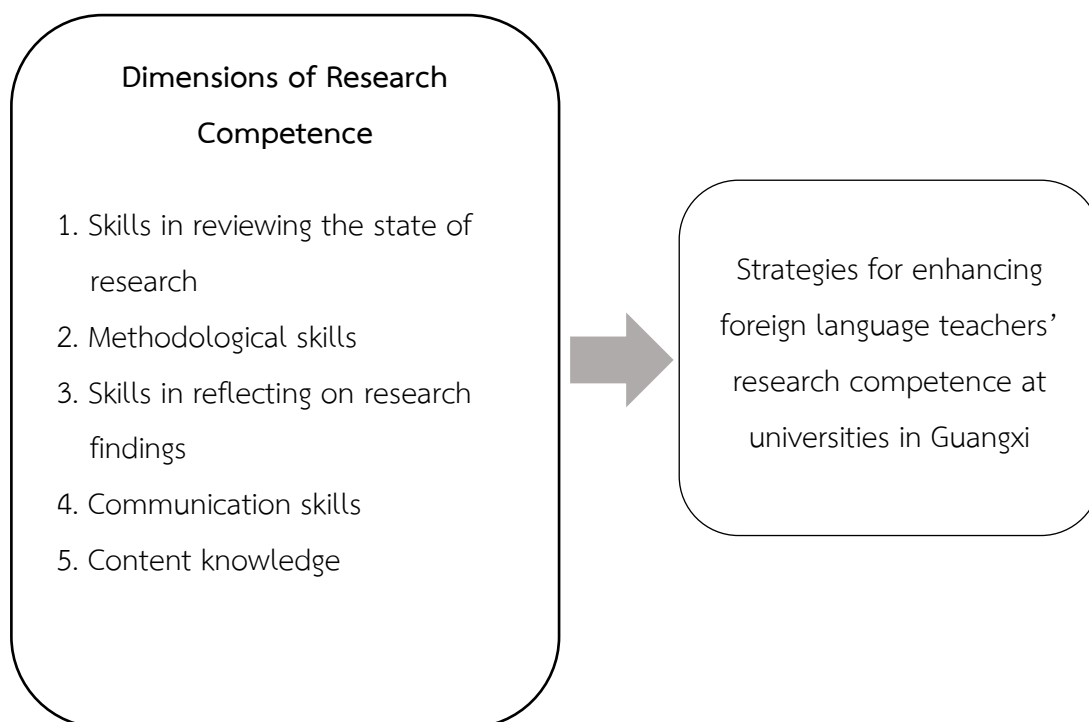


Figure 1.1 Research Framework

Chapter 2

Literature Review

The present subsection focuses on concepts and theories of educational administration, establishing core definitions, tracing classic theoretical developments, and reviewing recent high-quality studies that refine and challenge the field's assumptions in light of contemporary policy, organizational, and technological change. Specifically, the literature to be reviewed mainly includes:

1. Concept and theories of educational administration
2. The Concept of Competence
3. Research Competence in Educational Contexts
4. Strategies for Enhancing Teachers' Research Competence
5. Context of universities in Guangxi
6. Related research

Concepts and theories of educational administration

The Evolution of Educational Administration Theories

Educational administration has been conceptualized in diverse ways across different theoretical traditions, reflecting an evolution from classical management orientations to socially grounded interpretations and, more recently, governance and capacity-building frameworks. Each of these perspectives has contributed to the expansion of the ways in which educational administration is defined, studied, and applied in research and practice, particularly in complex organizational contexts. Drawing on foundational administrative theory and contemporary educational research, this section reviews key scholars whose work has shaped the conceptual landscape of educational administration and highlights how their contributions advance understanding of the administrative environment relevant to teachers' research competence in higher education.

1. Educational Administration as a Technical-Rational System

Educational administration originated within a technical-rational paradigm that emphasized efficiency, control, and formal organizational structures. Drawing on the principles of scientific management, Frederick W. Taylor (1911) conceptualized organizations as systems that could be optimized through standardization and efficiency maximization, a perspective that strongly influenced early educational administration. Similarly, Max Weber (1922/1978) theorized bureaucracy as a rational-legal system characterized by hierarchy, rules, and formal authority, providing a foundational model for understanding educational institutions as structured and rule-governed organizations. Within this framework, Ellwood P. Cubberley (1916) applied these principles to public schooling, defining educational administration as the organization and supervision of school systems based on efficiency and rational coordination.

This technical-rational orientation was further refined through decision theory. Herbert A. Simon (1947/1997) reconceptualized administration as a process of decision-making under conditions of bounded rationality, shifting the analytical focus from formal authority structures to cognitive processes within organizations. Building on this perspective, Daniel E. Griffiths (1959) positioned decision-making as the central function of educational administration, thereby consolidating its status as a scientific and managerial discipline. Taken together, these perspectives establish a coherent theoretical trajectory from efficiency-oriented management to decision-centered administration, framing educational administration as a rational and systematic process of planning, organizing, directing, and controlling institutional resources.

2. Educational Administration as Social System

From the mid-twentieth century onward, the limitations of the technical-rational paradigm prompted a shift toward understanding educational organizations as complex social systems. Chester I. Barnard (1938) introduced the concept of organizations as cooperative systems sustained by informal relationships and shared purposes, thereby highlighting the importance of human interaction beyond formal structures. Building on this relational foundation, Hoy and Miskel (1991)

conceptualized schools as open social systems in which structural, individual, cultural, and political elements interact dynamically.

Within this perspective, educational administration extends beyond procedural control to encompass the regulation of social relationships and organizational processes. Argyris and Schön (1978) further advanced this view by introducing organizational learning as a mechanism through which institutions detect and correct errors and adapt to changing environments. Their work reframes educational administration as facilitating reflective practice, collective sense-making, and adaptive change. Recent developments further reinforce this systemic and relational understanding, with scholars in educational complexity theory emphasizing the interconnectedness and nonlinearity of educational systems, thereby positioning administration as a process that must address multi-level interactions and dynamic adaptation (Davis & Sumara, 2006). Overall, the social systems perspective expands the scope of educational administration by foregrounding trust, organizational climate, and interpersonal dynamics as central to institutional effectiveness.

3. The Interpretive Turn in Educational Administration

A significant paradigmatic shift in educational administration emerged with the rise of interpretive approaches, which challenged the positivist and functionalist assumptions underlying earlier models. Thomas B. Greenfield (1975, 1980) argued that educational organizations are not objective entities but socially constructed realities shaped by human values, beliefs, and meanings. This perspective fundamentally redefined educational administration as a value-laden and context-dependent practice, rejecting the notion of universal administrative principles.

The interpretive turn introduced a critical emphasis on subjectivity, agency, and meaning-making processes, thereby repositioning educational administration as an activity embedded in social interaction rather than technical control. This shift also opened the field to considerations of power, context, and human agency, laying the conceptual groundwork for more recent governance-oriented and relational approaches. By foregrounding the constructed nature of organizational reality, the

interpretive perspective serves as a crucial bridge between structural-functional models and contemporary theories of distributed governance.

4. Educational Administration as Governance and Capacity Building

Building on these theoretical developments, contemporary scholarship increasingly conceptualizes educational administration as a governance process oriented toward collaboration, distributed leadership, and capacity building. Greenfield's interpretive insights (1975, 1980) paved the way for understanding administration as a socially situated practice, which is further developed in distributed leadership theory. Spillane (2006) argues that leadership is not confined to formal roles but emerges through interactions among organizational actors. This perspective is further elaborated by Alma Harris (2008), who emphasizes the systemic and collaborative nature of distributed leadership in fostering school improvement.

In parallel, leadership research has increasingly linked educational administration to teaching and learning processes. The instructional leadership tradition highlights the role of school leaders in improving teaching and learning processes (Hallinger, 2005), while research on successful school leadership further demonstrates its impact on student outcomes (Leithwood et al., 2008). Lambert (2002) similarly emphasizes leadership capacity building and shared leadership as central to organizational improvement.

Recent empirical studies further extend this governance-oriented perspective. Zhang et al. (2022) demonstrate that participatory leadership practices enhance teacher knowledge sharing and professional engagement, while Mifsud (2024) and Shaked (2024) show that distributed and collaborative governance structures support leadership development and institutional learning.

In summary, the evolution of educational administration theories reflects a shift from technical-rational and efficiency-oriented models toward socially grounded, interpretive, and governance-based perspectives. Educational administration can therefore be broadly defined as the systematic process of planning, organizing, leading, coordinating, and evaluating educational organizations to achieve educational goals through the effective management of people,

resources, organizational relationships, and institutional change. Rather than merely maintaining organizational order, it increasingly emphasizes collaborative governance, capacity building, and continuous improvement within dynamic educational environments. Early theories emphasized hierarchy, rationality, and decision-making, whereas later approaches highlighted social interaction, organizational learning, subjectivity, and collaborative leadership. Contemporary educational administration increasingly focuses on governance, distributed leadership, and capacity building, emphasizing institutional adaptability, professional collaboration, and organizational learning as essential mechanisms for improving educational effectiveness and supporting teacher development in complex higher education contexts.

Key Theoretical Foundations of the Study

1. Educational Governance Theory

1.1 Conceptualization of Educational Governance

Educational Governance Theory originated from broader shifts in public administration and policy studies in the late twentieth century. It emerged as a distinct strand within education policy research in response to the limitations of traditional hierarchical models of educational administration and policy delivery, advancing an analytic focus on how educational systems assign roles, responsibilities, and accountabilities across multiple actors and levels (Brewer & Smith, 2008). At its core, the theory conceptualizes educational governance as the structures, processes, and mechanisms through which educational decisions are made, implemented, and evaluated across stakeholders, including governments, institutions, educators, and communities, emphasizing multi-level coordination, shared responsibility, and stakeholder engagement (Brewer & Smith, 2008; Rodrigues et al., 2025). Unlike classical bureaucratic models centered on top-down authority, educational governance underscores dynamic interdependencies among public, private, and civil society actors, with governance arrangements shaping policy outcomes, resource distribution, and institutional behaviour within educational systems (Rodrigues et al., 2025). Within educational research, governance theory has been used to examine how policy reforms, organizational structures, and multi-stakeholder relationships

shape educational outcomes, institutional autonomy, and professional practices (Marginson, 2011).

1.2 Theoretical Foundations and Development of Governance Theory

R. A. W. Rhodes (1996, 1997) conceptualized governance as the coordination of interdependent actors through policy networks rather than through centralized state authority. Governance, in this sense, reflects negotiated interactions among public and private actors operating within relatively autonomous but mutually dependent structures.

Bob Jessop (1998) introduced the concept of “metagovernance”, arguing that while the state no longer monopolizes control, it continues to shape the “rules of the game” by steering, coordinating, and regulating governance arrangements. These contributions collectively redefined state authority as relational, indirect, and strategic. Further advancing this theoretical development, Jon Pierre and B. Guy Peters (2000) highlighted that governance represents a transformation in the exercise of public authority, particularly under conditions of complexity and multi-actor coordination. Their framework has informed subsequent/early? policy analyses of decentralization, institutional autonomy, and accountability reforms in education systems. The early 2000s thus marked the explicit application of governance theory to the field of education.

1.3 Core Mechanisms of Educational Governance

Dominic J. Brewer and Joanna Smith (2008) emphasized that educational governance functions as the interface between schools and the political system, defining it as “the act of transforming the needs, wishes, and desires of the community into policies that direct the community’s schools” (California School Boards Association 2007). Stephen J. Ball (2008) analyzed the marketization of education, arguing that governance increasingly operates through competition, performativity, and managerial accountability rather than bureaucratic command. Governance, in this perspective, involves the restructuring of institutional incentives and professional subjectivities. Complementing this perspective, Jenny Ozga (2009) demonstrated that data and performance indicators function as key governance

technologies. She argued that governance increasingly operates “through data,” where mechanisms such as self-evaluation and audit practices replace direct state intervention, marking a shift from external regulation to internally mediated self-regulation.

1.4 Educational Governance in Global and Institutional Contexts

Roger Dale (2005) introduced the concept of a “globally structured educational agenda,” arguing that national education policies are increasingly shaped by global economic and political forces, thereby extending governance beyond the territorial state. Susan L. Robertson (2012) further examined how global governance frameworks position education systems and teachers within transnational regulatory structures shaped by international organizations, policy transfer, and benchmarking systems. Karen Mundy et al. (2016) consolidated this perspective by demonstrating how global policy networks and multilateral institutions influence national education reform trajectories. At the institutional level, Giliberto Capano and Andrea Pritoni (2020) analyzed higher education governance across European contexts, revealing diverse reform trajectories characterized by varying combinations of state supervision, marketization, and re-regulation, thereby highlighting the contextual and dynamic nature of governance transformation. In addition, Graham Wise et al. (2020) emphasized the importance of inclusive governance in higher education, particularly in promoting diversity, equity, and stakeholder participation, while Francisco Rubio et al. (2023) argued that in the 21st-century knowledge society, higher education institutions must transform their governance systems to address increasing demands for sustainability and societal impact, emphasizing the need for more agile and professionalized structures with enhanced participation, decision-making, transparency, and accountability.

1.5 Emerging Trends in Educational Governance: Digitalization and AI

Recent studies have increasingly focused on the transformative impact of digital technologies and artificial intelligence on educational governance. Abdullah Addas et al. (2024) found that the integration of telepresence robots and gamification can enhance student engagement and support more inclusive and data-informed

governance practices in AI-driven higher education contexts. Xiaomin Li et al. (2025) proposed that artificial intelligence can enhance “education governance” in higher education, although its effectiveness varies across different types of decision-making contexts; generative AI is particularly suited to localized, sub-symbolic decision processes, while system-level governance requires continued human oversight. Similarly, Ren-Hao Xu (2025) demonstrated that open data platforms reshape higher education governance by enhancing transparency and enabling informed decision-making, transforming universities into calculable and comparable entities to maintain competitiveness and institutional reputation. These developments highlight that while digital technologies expand governance capacities, human leadership remains essential in ensuring ethical judgment, strategic coordination, and overall system coherence.

In summary, Educational Governance Theory offers a comprehensive framework for understanding how authority, responsibility, and decision-making processes are distributed and coordinated across multiple actors and levels within education systems. By highlighting mechanisms such as policy networks, accountability, and data-informed governance, it explains how institutional and policy environments shape educational practices and outcomes. In this study, the theory functions as a macro-level analytical lens to examine how governance structures, policy support, and technological contexts influence the development of foreign language teachers’ research competence, thereby providing a theoretical foundation for proposing context-sensitive and feasible enhancement strategies.

2. Organizational Learning Theory

2.1 Conceptualization of Organizational Learning

Organizational learning is generally understood as a process through which organizations change their knowledge base, beliefs, routines, and behaviors in response to experience and interaction with their environments (Argote, 2011; Argyris & Schön, 1978/1996). This conception moves beyond the narrow view of learning as individual skill acquisition or formal training and instead treats learning as a socially situated, organizationally embedded phenomenon. In this sense, organizations do

not “learn” in a metaphorical way only; rather, learning becomes organizational when individual and collective knowledge is shared, interpreted, and embedded in routines, procedures, structures, and systems that persist beyond any one individual member (Argote et al., 2021; Simon, 1991).

A central feature of organizational learning is its multi-level nature. Crossan, Lane, and White’s (1999) influential 4I framework conceptualizes organizational learning as a set of interrelated processes—intuiting, interpreting, integrating, and institutionalizing—that connect the individual, group, and organizational levels. This model has become foundational because it explains not only where learning occurs, but also how learning flows forward and backward across levels. More recent work continues to build on this multi-level premise by showing that organizational learning must be analyzed in terms of both feed-forward and feedback flows, as well as the tensions between exploration and exploitation that shape those flows (Balarezo et al., 2024; Crossan et al., 1999).

Organizational learning is also widely conceptualized as process-oriented rather than event-based. Huber (1991) and Argote (2013) emphasize that organizations learn through ongoing processes of knowledge creation or acquisition, retention, and transfer. In this view, learning is not a one-time outcome but a continuous reworking of what the organization knows and how it acts. This process orientation is especially important in contexts characterized by uncertainty, complexity, and change, where organizations must repeatedly revise assumptions, discard obsolete routines, and integrate new forms of knowledge.

2.2 Theoretical Development of Organizational Learning

The theoretical development of organizational learning has proceeded from early behavioral and experiential accounts to more complex cognitive, social, and knowledge-based perspectives. A classic point of departure is Argyris and Schön’s distinction between single-loop and double-loop learning. Single-loop learning refers to error detection and correction within existing norms and governing assumptions, whereas double-loop learning involves questioning and revising the very assumptions, values, and frames that underlie action (Argyris & Schön,

1978/1996). Their work remains indispensable because it established that not all learning is equally transformative. In addition, Argyris and Schön introduced deutero-learning, or learning how to learn, which later became central to discussions of adaptive and reflexive organizations.

Another major theoretical strand derives from March's (1991) distinction between exploration and exploitation. Exploration refers to search, experimentation, variation, and innovation; exploitation refers to refinement, efficiency, implementation, and use of existing knowledge. March demonstrated that organizational learning is inherently shaped by the tension between these two orientations, and that adaptive systems often become overly biased toward exploitation because their returns are more immediate, clearer, and less risky. This insight remains highly influential because it explains why organizations may become competent in the short term yet strategically rigid in the long term.

Senge's (1990) work on the learning organization introduced a more systemic and normative perspective. Whereas organizational learning theory asks how learning occurs, Senge asked what conditions allow organizations to become places where continuous learning can flourish. His five disciplines, personal mastery, mental models, shared vision, team learning, and systems thinking, popularized the idea that learning is not merely an internal adjustment process but a cultural and structural feature of organizational life. Particularly important is systems thinking, which functions as the integrative discipline for understanding patterns, feedback loops, and interdependence in organizational development.

The theory was later expanded through knowledge-based and capability-oriented perspectives. Nonaka and Takeuchi (1995) shifted their attention to knowledge creation, particularly the dynamic interaction between tacit and explicit knowledge. Their SECI model—socialization, externalization, combination, and internalization—offered a mechanism for explaining how personal, experience-based knowledge becomes collective and organizationally useful. In parallel, Argote (2011, 2013) and related scholars further consolidated the field by conceptualizing organizational learning in terms of knowledge creation/acquisition, retention, and

transfer. This move brought organizational learning into closer dialogue with knowledge management and strategic management.

Crossan et al. 's (1999) 4I framework then became a major bridge between these traditions by linking cognition, action, levels of analysis, and organizational processes in a single model. More recent scholarship has extended this framework by demonstrating that learning processes are often constrained by cognitive and organizational barriers, including biases, framing effects, and distortions in information search and interpretation. Research has shown that such barriers can impede the flow of learning across levels and limit the effectiveness of organizational adaptation (Balarezo et al., 2023; Argote, 2013). These studies further suggest that overcoming these barriers requires deliberate organizational practices, including structured reflection, knowledge integration mechanisms, and supportive learning environments.

2.3 Core Mechanisms of Organizational Learning

The literature suggests that organizational learning operates through several recurring mechanisms. One of the most basic is learning from experience, often framed as learning by doing. This mechanism has deep roots in both organizational theory and experiential learning traditions. Kolb (1984) emphasized the cyclical nature of experience, reflection, conceptualization, and experimentation, while organizational scholars showed that repeated action can generate improved routines and performance. Yet research also demonstrates that experience alone does not guarantee sound learning. Park and Puranam (2021) show that organizations may become trapped in self-confirming biased beliefs, whereby acting on inaccurate beliefs prevents the collection of disconfirming evidence. In such situations, organizations “learn,” but what they learn may reinforce suboptimal choices.

A second core mechanism is knowledge sharing and integration. Organizational learning depends not only on what individuals know, but on whether that knowledge is circulated, interpreted, and combined across the organization. Huber (1991), Nonaka and Takeuchi (1995), and Argote (2011, 2013) all underscore that knowledge must move if it is to become organizational. The recent literature

further demonstrates that this movement is mediated by both structural and cultural conditions. Knowledge management practices support the creation, capture, storage, and dissemination of knowledge, but their effectiveness depends heavily on relational and communicative environments.

A third mechanism concerns the psychological and social conditions that make learning possible. Recent work has drawn strong connections between psychological safety, knowledge management, and organizational learning. Psychological safety, as developed by Edmondson (1999, 2019), refers to a shared belief that the environment is safe for interpersonal risk-taking. In such conditions, members are more willing to admit uncertainty, voice ideas, share knowledge, and engage in reflective dialogue. The bibliometric and thematic work by Figueiredo et al. (2025) demonstrates that psychological safety functions as a foundational condition for knowledge sharing and collective learning, particularly when leadership supports voice, error tolerance, and open communication. This line of work broadens organizational learning theory by showing that learning is not only cognitive and structural but also affective and relational.

A fourth mechanism is organizational learning capability. This refers to the organization's capacity to acquire, assimilate, interpret, and apply knowledge in ways that enhance adaptation and performance. Recent empirical studies indicate that such capability mediates the relationship between organizational practices and broader outcomes such as sustainability, agility, and innovation. Ullah et al. (2025), for instance, show that organizational learning capability mediates the relationship between mindful organizing and sustainability performance. In this sense, organizational learning is not merely a descriptive process but also a strategic capability that supports long-term organizational development.

Contemporary studies also point to the growing importance of socio-technical learning systems. Figge et al. (2025) argue that AI is increasingly embedded in organizational learning systems as an active participant in knowledge generation, forgetting, coordination, and performance. Their system dynamics model shows that individual, collective, and AI learning processes interact over time, suggesting that

organizational learning theory must now grapple with human–AI interdependence rather than exclusively human learning.

2.4 Organizational Learning in Educational Contexts

Although organizational learning theory was initially developed largely in management and organizational studies, it has become increasingly relevant in educational settings. Higher education institutions and schools are not only sites of knowledge transmission; they are also organizations that must learn, adapt, and reconfigure themselves in response to changing social, professional, and technological demands. Research on higher education points to the importance of organizational learning for redesigning academic structures, strengthening collaboration, and responding to new competence needs in society and industry (Eriksson & Lycke, 2025).

Within educational organizations, organizational learning frequently appears through professional learning communities, educational teams, coaching, and collaborative inquiry. Studies on educational teams show that when teachers collaborate around shared responsibility, team learning, and distributed leadership, both professional learning and organizational learning can be strengthened (Pineiro & Alves, 2024). Likewise, district-level studies of instructional coaching show how educational systems engage in single-loop and double-loop adjustments as they redesign professional support structures over time (Woulfin & Spitzer, 2024). These findings are particularly significant for your topic because they demonstrate that teacher development is not simply an individual matter; it is deeply shaped by organizational structures, leadership, collaboration, and knowledge flow.

Organizational learning has developed into a rich and multi-dimensional field grounded in several classic theoretical pillars: Argyris and Schön's (1978/1996) distinctions among single-loop, double-loop, and deuterio-learning; March's (1991) exploration–exploitation tension; Senge's (1990) systemic vision of the learning organization; Nonaka and Takeuchi's (1995) knowledge-creation model; and Crossan et al.'s (1999) multi-level 4I framework. Contemporary research extends these foundations by emphasizing cognitive barriers, psychological safety, organizational

learning capability, and human–AI learning systems. Taken together, the literature shows that organizational learning is best understood as a multi-level, socially embedded, and strategically consequential process through which experience, knowledge, interaction, and institutionalization are linked.

In summary, the present study adopts organizational learning theory as a central analytical framework for examining the enhancement of foreign language teachers' research competence. This theory is particularly appropriate because it provides a mechanism-oriented explanation of how teachers' research competence can develop through experience, collaboration, knowledge sharing, reflective practice, and institutional support. It also enables the connection between macro-level educational governance and micro-level learning processes. In the context of this study, organizational learning theory helps explain how research competence is not simply an individual possession but an outcome of organizational conditions that enable teachers to inquire, interact, experiment, and institutionalize new forms of academic practice.

3. Theory of Teacher Professional Development

3.1 Concepts and Mechanisms of Teacher Professional Development (TPD)

Teacher Professional Development (TPD) refers to the ongoing process by which teachers expand their professional capacities throughout their careers, encompassing changes in professional knowledge, instructional practices, beliefs, and identity (Opfer & Pedder, 2011). Early perspectives often equated TPD with discrete workshops or training sessions; however, contemporary research emphasizes that meaningful professional development occurs when learning is sustained, context-embedded, and relational (Postholm, 2012). According to Opfer and Pedder (2011), TPD must be conceptualized within a framework of teacher learning that integrates cognitive, social, and affective domains, with collaborative reflection and inquiry serving as core mechanisms of development.

Central to modern TPD theory is the integration of reflective practice, collaborative inquiry, and research engagement. Postholm (2012) argues that

reflective practice enables teachers to critically interpret classroom events, examine assumptions, and adapt pedagogical choices. Collaborative mechanisms—such as Professional Learning Communities (PLCs), lesson study, or teacher networks—provide social structures for shared knowledge construction, mutual support, and sustained dialogue that support sustained professional learning (Vangrieken, Meredith, Packer, & Kyndt, 2017). These forms of collaboration help teachers negotiate meaning, share pedagogical strategies, and co-construct professional knowledge, making collaboration a core component of contemporary TPD theory. These mechanisms are rooted in sociocultural learning theory, which posits that learning is distributed across people and practices within communities (Vygotsky, 1978 as cited in Postholm, 2012).

Research engagement—participation in action research, inquiry projects, or curriculum investigation—is increasingly recognized as a potent mechanism for professional learning. Martinovic and Dabaja (2023) found that when pre-service teachers participated in structured research tasks, they developed enhanced reflective capacity, methodological awareness, and pedagogical confidence, illustrating how research activities can strengthen both professional knowledge and identity. Similarly, Nekrasov et al. (2023) emphasize that research competence is an integral component of professional growth and that research-oriented tasks help future teachers to synthesize theoretical foundations with classroom practice while cultivating problem-solving expertise.

3.2 Institutional and Contextual Influences

Teacher professional development does not occur in isolation; organizational conditions, institutional supports, and policy environments significantly shape the nature and effectiveness of TPD (Kirsten, 2020). Systematic reviews show that professional growth is more likely when schools and teacher education institutions provide structures such as mentoring, allocated time for collaboration, ongoing support, and alignment with educational priorities (Kirsten, 2020; Oancea et al., 2021).

Institutional support mechanisms, such as coaching, research supervision, and structured learning opportunities, affect teachers' capacity to engage deeply in professional learning. Oancea et al. (2021) argue that without organizational scaffolding, even high-quality PD designs may fail to produce enduring changes in practice. This includes access to resources, such as professional literature, time to plan collaboratively, and technical support for research tasks.

Policy frameworks also exert influence. For example, national and regional policies that promote teacher leadership, evidence-based practice, and research capacity building create incentives for teachers to engage in sustained professional development (Kirsten, 2020). Policies that marginalize teacher agency, enforce compliance-oriented evaluations, or restrict time for collaboration can impede meaningful professional learning. Thus, TPD theory acknowledges multilevel contextuality, individual development intersects with organizational culture, leadership practices, and broader educational governance structures (Opfer & Pedder, 2011; Oancea et al., 2021).

3.3 Empirical Evidence, Debates, and Implications

Empirical research on TPD consistently identifies common features of effective professional development: content focus, active learning, coherence with practice contexts, collaboration, duration, and embedded application (Sims et al., 2025; Opfer & Pedder, 2011). Sims et al.'s (2025) meta-analytic review synthesized findings across multiple contexts, confirming that TPD programs incorporating these features are associated with improvements in teacher instructional practices and student achievement.

In the field of language education and teacher education, research shows that professionally oriented PD that integrates reflective practice and collaborative inquiry facilitates epistemic growth and pedagogical competence. For instance, Li (2022) concluded that EFL/ESL teachers involved in reflective and collaborative PD exhibited higher instructional adaptability and professional confidence. Similarly, Zhou (2022) found positive correlations between teachers' research capabilities and

their professional development outcomes, indicating that research engagement enhances broader dimensions of teacher professional competence.

Theoretical debates in the literature include discussions of the balance between individual and collective learning pathways and the extent to which research should be integrated into TPD designs. Some scholars argue that teacher engagement with research (e.g., classroom-based inquiry) strengthens professional autonomy and reflective judgment, while others caution that research demands must be aligned with teachers' workload and professional identities to avoid overload (Postholm, 2012; Oancea et al., 2021). These debates underscore that TPD is not monolithic but multifaceted, requiring nuanced design and contextual sensitivity.

Taken together, the implications of TPD theory for practice emphasize that professional development should be continuous, collaborative, contextually grounded, and connected to research and reflective inquiry. This has direct relevance for initiatives aimed at enhancing teachers' research capacity: integrating research-oriented tasks within ongoing PD fosters methodological competence, reflective judgment, and instructional innovation (Martinovic & Dabaja, 2023; Nekrasov et al., 2023).

In summary, Educational Governance Theory, Organizational Learning Theory, and the Theory of Teacher Professional Development collectively provide an integrated educational administration perspective for this study. Educational Governance Theory offers a macro-level perspective, explaining how policies, governance structures, resource allocation, institutional regulations, and coordination mechanisms shape the conditions for developing foreign language teachers' research competence. Organizational Learning Theory provides a meso-level perspective, highlighting how universities can facilitate competence development through organizational learning, knowledge sharing, collaborative practices, institutional support, and the creation of a supportive research culture. The Theory of Teacher Professional Development contributes a micro-level perspective, focusing on teachers as active professional learners whose research competence develops

through continuous learning, reflective practice, research engagement, collaboration, and professional experience. Taken together, these three theories conceptualize the enhancement of teachers' research competence not merely as an individual responsibility, but as an educational administration process shaped by the interaction among governance arrangements, organizational environments, and individual professional development. This integrated theoretical foundation therefore enables the present study to examine foreign language teachers' research competence systematically across macro-, meso-, and micro-level factors and provides a coherent theoretical basis for formulating strategies that address institutional governance, organizational support, and teachers' continuous professional growth.

The Concept of Competence

The Origin of Competence

The concept of competence has undergone significant evolution across disciplines, shifting from a narrow focus on individual traits to a multidimensional, context-dependent construct widely applied in education. This evolution reflects broader theoretical transformations in psychology, organizational studies, and educational research, and provides an essential foundation for understanding professional competence in contemporary educational contexts.

The origin of the competence concept can be traced to the work of David McClelland, who challenged the dominance of intelligence testing in predicting performance. In his seminal article *Testing for Competence Rather Than for Intelligence*, McClelland (1973) argued that traditional intelligence and aptitude tests lacked validity in forecasting real-life success and called for a shift toward assessing competencies that are directly related to effective performance. He emphasized that competence should be understood as underlying characteristics of individuals—such as motives, traits, and skills—that are causally linked to superior outcomes in specific contexts. This marked a critical departure from static and abstract notions of intelligence, laying the groundwork for a more performance-oriented and behavior-based understanding of human capability.

The Conceptualization of Competence

Building on this foundation, Richard Boyatzis further developed the concept by introducing structured competency models in organizational research. In *The Competent Manager*, Boyatzis (1982) conceptualized competencies as clusters of related attributes, including knowledge, skills, motives, and self-image, that enable effective job performance. Importantly, competencies were defined as underlying characteristics that can operate across different situations and predict superior performance outcomes. This work transformed competence from a general concept into a systematic framework for identifying and assessing performance-related attributes, thereby establishing a model-based approach that has been widely adopted in both management and education.

Further refinement of the competence concept was achieved in educational and psychological research, particularly through the influential work of Franz E. Weinert. Weinert (2001) provided a comprehensive and widely accepted definition of competence as a combination of cognitive abilities, motivational orientations, volitional factors, and social readiness that enable individuals to successfully meet complex demands in specific situations. This definition represents a significant theoretical advancement, as it integrates cognitive and non-cognitive dimensions and emphasizes the functional and situational nature of competence. Rather than viewing competence as a fixed attribute, Weinert highlighted its dynamic and context-sensitive character, thereby bridging earlier trait-based and behavioral approaches.

This shift toward contextualization was further reinforced by the OECD's DeSeCo (Definition and Selection of Competencies) project. In *Defining and Selecting Key Competencies* (Rychen & Salganik, 2001) and its subsequent elaboration, *Key Competencies for a Successful Life and a Well-Functioning Society* (Rychen & Salganik, 2003), competence was conceptualized as the ability to meet complex demands by mobilizing psychosocial resources in particular contexts. These works emphasized that competencies are not merely individual possessions but are enacted in real-life situations and shaped by social, cultural, and institutional

conditions. The DeSeCo framework further categorized key competencies into interacting in socially heterogeneous groups, acting autonomously, and using tools interactively, thereby extending the concept to a broader societal and lifelong learning perspective.

Competence in Educational Contexts

Parallel to these developments, the concept of competence was introduced into the field of education, particularly in research on teaching and teacher knowledge. Shulman (1986, 1987) made a seminal contribution by proposing the concept of pedagogical content knowledge (PCK), which integrates subject matter knowledge and pedagogical understanding and highlights that effective teaching requires more than mastery of content or general pedagogical skills, involving the transformation of subject matter into forms accessible to learners. This perspective marked a crucial step in the development of teacher professional competence, highlighting the integrated and context-specific nature of professional knowledge in educational practice.

In summary, the evolution of the competence concept can be understood as a progression from individual traits to structured competency models, and further to integrated and context-dependent capabilities. Early approaches focused on identifying personal characteristics associated with performance, while later frameworks emphasized the complex interplay of cognitive, motivational, and social factors in specific contexts. In contemporary educational research, competence is increasingly viewed as a dynamic and situated construct that is developed through interaction with professional practices and institutional environments. This conceptual evolution provides a critical theoretical basis for examining teachers' research competence, particularly in the context of rapidly changing technological and organizational conditions in the AI age.

Research Competence in Educational Contexts

Concepts and Dimensions of Research Competence

Concept of research competence

In educational research, the concept of research-related abilities has been described using a variety of terms, reflecting diverse analytical orientations and research focuses. Commonly used terms include research literacy, research competence, research capacity, and research ability. Although these terms are sometimes used interchangeably, they do not constitute a unified or standardized conceptual framework. The coexistence of these terms reflects the conceptual diversity of the field. Rather than representing clearly differentiated or hierarchical constructs, they illustrate different perspectives through which research-related abilities are examined in educational contexts.

1. Research literacy

Research literacy was defined from multiple but related perspectives, primarily focusing on individuals' engagement with research in terms of understanding, evaluating, and using research. Several studies conceptualized research literacy as the ability to locate, understand, discuss, and evaluate different types of research, as well as to communicate accurately about them and use research findings for academic and professional purposes (Tinmaz & Sezgin, 2023; Drageset et al., 2025). Other scholars emphasized its role in enabling individuals to judiciously select, interpret, and apply research in practice, including integrating research into teaching and critically appropriating useful knowledge (Jenset & Hatlevik, 2024; Varlık, 2025). Research literacy was also described as a comprehensive competency involving the identification, formulation, and resolution of problems arising in educational research contexts (Jiang & Guo, 2025). In addition, some studies extended the concept to broader professional and contextual engagement, defining it as the ability to interact with and contribute to the collective knowledge of a profession, challenge contextual constraints, and expand pedagogical possibilities (Kostoulas et al., 2025). Furthermore, recent work introduced the notion of digital research literacy, referring to the set of literacy, skills, and capabilities required to

conduct research in increasingly digitalized environments (Fan & Li, 2025). Other definitions incorporated multiple dimensions, including ethical awareness, theoretical knowledge, research skills, and attitudes toward scientific inquiry (Wang et al., 2025).

2. Research Capacity

The term research capacity is defined in the literature with an emphasis on the ability to conduct research and achieve research-related goals, often in relation to both individual and contextual factors. Some studies conceptualized research capacity as the ability of staff to conduct and manage high-quality research and to engage with research across different audiences (Oancea et al., 2021). It was also defined as the ability to conduct high-quality research in a professional field and to achieve research objectives through the application of knowledge, skills, and research experience (Maussumbayev et al., 2022). In addition, research capacity has been described as a complex psycho-pedagogical construct derived from multiple conceptual models, including descriptive, explanatory, and conceptual frameworks (Tyunnikov, 2020).

3. Research Competence

Research competence was defined as a multifaceted construct encompassing various combinations of knowledge, skills, dispositions, and personal attributes related to research activities. Some studies define research competence as the ability to investigate and solve research problems by mastering the stages of research processes, including planning, analysis, and evaluation (Toquero, 2020). Other scholars conceptualized it as the integration of knowledge, skills, and attitudes required to successfully conduct and apply research in educational contexts (Nagymzhanova et al., 2025). Several definitions emphasized its multidimensional nature, including combinations of theoretical preparation, research methodology, data analysis, interpretation of findings, and communication of results (Akhmetova et al., 2025; Wongvorachan et al., 2024; Gutiérrez et al., 2024). It was also described as involving the ability to understand and conduct research, critically evaluate findings, and apply research to improve practice (Matjašič & Vogrinc, 2025). In addition, research competence was characterized as a holistic construct integrating cognitive

and affective-motivational dimensions (Gussen et al., 2025; Schröder et al., 2025), as well as an integrative personal and professional quality combining knowledge, skills, experience, values, and personality traits (Nekrasov et al., 2023; Oliynyk et al., 2024). Some studies further associated research competence with innovation and creativity, emphasizing the ability to generate and implement new ideas and produce original contributions (Xiao & Shen, 2025; Koval et al., 2023; Yerzhanova, 2025). It has also been conceptualized as a structured system of interrelated components, including theoretical, methodological, operational, reflexive, and communicative abilities (Polatuly et al., 2024). Moreover, theoretical frameworks such as the RMRC-K model have defined research competence as a multidimensional construct integrating knowledge, methodological skills, and attitudes required to conduct research (Ciraso-Calí et al., 2022). Among the various terms used in the literature, the present study adopts the term “research competence” because it aligns with the research objective of examining the integrated dimensions of research-related knowledge, skills, and dispositions in educational contexts.

In summary, research competence in this study is defined as a multidimensional professional competence comprising five interrelated dimensions: skills in reviewing the state of research, methodological skills, skills in reflecting on research findings, communication skills, and content knowledge. It refers to the integrated ability to systematically review and critically evaluate literature, plan and conduct research using appropriate methods, reflect on findings from theoretical, methodological, and ethical perspectives, communicate results in line with disciplinary standards, and apply relevant theoretical and methodological knowledge within a specific domain.

Dimensions of Research Competence

Having clarified the conceptual distinctions among research literacy, research capacity, and research competence, it is necessary to further examine how these constructs have been operationalized in existing scholarship. While definitions emphasize their differences in scope and orientation, scholars have also proposed various dimensions and elements that constitute each construct, often reflecting the

particular research traditions and disciplinary contexts in which they were developed. A systematic review of these dimensions not only reveals the multifaceted nature of research engagement but also provides an analytical foundation for identifying the most relevant components to this study. Therefore, the following table synthesizes the major frameworks advanced by scholars, highlighting the key dimensions used to conceptualize and assess research capacity, research competence, and research literacy.

Table 2.1 Dimensions of Research Competence

Researchers	Dimensions									
	Motivation	Skills in Reviewing the State of Research	Methodological Skills	Skills in Reflecting on Research Findings	Reporting Skill	Content Knowledge	Awareness	Attitude	Cognitive Component	Communication Skills
Thiel and Böttcher (2014)	✓	✓	✓			✓				✓
Swank and Lambie (2016)	✓	✓								✓
Böttcher-Oschmann & Thiel (2017)	✓	✓	✓			✓				✓
De Jonge et al. (2026)	✓	✓	✓	✓	✓	✓				✓
Salahuddin & Stupnisky (2025)	✓	✓								✓
Almakrob & Al-Ahdal (2020)	✓	✓	✓							✓
Zhou (2022)						✓	✓			
Jiang & Guo (2025)			✓			✓	✓			
Matjašič and Vogrinc (2025)			✓			✓		✓		

Table 2.1 (Continued)

Researchers	Dimensions										
	Motivation	Skills in Reviewing the State of Research	Methodological Skills	Skills in Reflecting on Research Findings	Reporting Skill	Content Knowledge	Awareness	Attitude	Cognitive Component	Communication Skills	Technical Skills
Toquero (2020)	√								√	√	
Wang et al. (2025)			√			√	√				
Mombekova (2024)	√			√		√			√		
Gussen et al. (2023)	√								√		
Han et al. (2024)			√	√							√
Gussen et al. (2025)	√	√	√	√		√				√	
Salmento et al. (2021)		√	√	√		√				√	
Böttcher-Oschmann (2021)		√	√	√		√				√	
Akhmetova et al. (2025)	√			√					√	√	
Iovu & Bărbuță (2022)		√	√							√	
Polatuly et al. (2024)				√		√				√	
Koval et al. (2023)	√								√		
Ciraso-Calí et al. (2022)		√	√	√		√				√	
Marrs et al. (2022)		√	√	√		√				√	
Total	6	12	16	13	1	10	3	1	5	15	1

Based on table 2.1, the researcher used the criteria to consider the corresponding variables as the framework for this study, by selecting variables with a frequency of 10 or higher, which can be synthesized in 5 dimensions as follows: 1) Skills in reviewing the state of research, 2) Methodological skills, 3) Skills in reflecting on research findings, 4) Communication skills, and 5) Content knowledge.

Skills in reviewing the state of research

Swank and Lambie (2016), Iovu & Bărbuță (2022) described skills in reviewing the state of research, as captured by the domain of research inquiry/literature review, as the competencies involved in engaging with existing literature to inform research, including locating relevant studies, identifying theoretical foundations, recognizing gaps in the literature, and constructing a rationale and framework to guide research inquiry.

De Jonge et al. (2026) suggest that skills in reviewing the state of research refers to the ability of systematically reviewing relevant findings regarding a topic, evaluating the quality of previous relevant publications and identifying research needs.

Salahuddin and Stupnisky (2025) define finding and reviewing literature as the ability to systematically search for, identify, evaluate, and synthesize relevant scholarly literature in order to establish a theoretical and empirical foundation for research.

Almakrob and Al-Ahdal (2020) conceptualize literature handling as largely corresponding to skills in reviewing the state of research, referring to the ability to search for, select, comprehend, and critically evaluate relevant academic literature, and to synthesize existing studies to inform and contextualize one's own research.

Thiel and Böttcher (2014), Böttcher-Oschmann and Thiel (2017), Böttcher-Oschmann (2021), Salmento et al. (2021) define skills in reviewing the state of research as students' ability to systematically search for, select, analyse, and critically evaluate existing research literature in a given field, and to synthesize relevant findings in order to establish a coherent understanding of the current state of knowledge.

In summary, skills in reviewing the state of research in this study refer to the ability to systematically review the state of research and critically evaluate it within a specific domain. It encompasses conducting targeted literature searches, identifying appropriate sources, and synthesizing existing studies to establish a coherent overview of a topic. It further involves identifying research gaps and unaddressed questions, and evaluating the methodological quality of research findings. It also

involves identifying research gaps and unaddressed questions, as well as evaluating the methodological quality of research findings.

Methodological skills

Swank and Lambie (2016), Iovu & Bărbuță (2022) conceptualized methodological skills, as reflected in their domains of qualitative research processes and quantitative research processes, as the competencies required to design and conduct research across methodological paradigms, including formulating research questions, selecting and implementing appropriate data collection procedures, applying analytical techniques, and interpreting research findings within both qualitative and quantitative frameworks.

De Jonge et al. (2026) suggest that methodological skills refers to the ability of investigating the research question in a methodologically controlled and systematic manner, systematically operationalising relevant aspects of the object of research and systematically studying collected information. research needs.

Salahuddin and Stupnisky (2025) conceptualize methodological skills as encompassing planning a study and collecting and analyzing data, referring to the ability to formulate research problems, design appropriate research methodologies, and systematically gather, process, and interpret data using suitable analytical techniques.

Almakrob and Al-Ahdal (2020) conceptualize methodological skills as encompassing research design and data analysis, referring to the ability to formulate research problems, design appropriate research procedures, and systematically collect, analyze, and interpret data using suitable research methods.

Jiang and Guo (2025) conceptualize research skills as largely corresponding to methodological skills, referring to the ability to select research topics, design and conduct research procedures, collect and analyze data, and systematically present research results in an academically appropriate manner.

Matjašič and Vogrinc (2025) conceptualize research skills as largely corresponding to methodological skills, referring to the ability to plan and carry out

research processes, including designing studies, collecting and analyzing data, and applying appropriate research methods in a systematic manner.

Wang et al. (2025) conceptualize research skills as corresponding to methodological skills, referring to teachers' ability to design and conduct research, including formulating research questions, selecting appropriate methods, collecting and analyzing data, and applying research procedures in practice.

Han et al. (2024) conceptualize research design capability and implementation capability as corresponding to methodological skills, referring to the ability to formulate research problems, design appropriate research frameworks, and systematically carry out research procedures, including data collection and the application of research methods in practice.

Gussen et al. (2025) conceptualize methodological skills as the ability to design and carry out research procedures, including formulating research questions, selecting appropriate methods, collecting and analyzing data, and systematically conducting research activities.

Thiel and Böttcher (2014), Böttcher-Oschmann and Thiel (2017), Böttcher-Oschmann (2021), Salmento et al. (2021) define methodological skills as students' ability to plan, design, and conduct research in a methodologically sound manner, including the selection, application, and justification of appropriate research methods and procedures.

In summary, methodological skills in this study refer to the ability to systematically plan and prepare the research process and to select and apply appropriate methods to address specific research questions. It includes formulating research questions or hypotheses, determining relevant data, sources, and materials, and designing and initiating research procedures. It further involves selecting suitable methods, judging their appropriateness, applying diverse research methods, and analyzing quantitative and qualitative data using appropriate analytical tools.

Skills in reflecting on research findings

De Jonge et al. (2026) suggest that skills in reflecting on research findings refers to the ability of being able to reflect on limitations, as well as being able to consider relevant theoretical, ethical and practical implications.

Mombekova (2024) conceptualizes the reflective-evaluative component as the ability to critically reflect on and assess one's research process and outcomes, including evaluating the effectiveness of research methods, interpreting results, and making informed improvements to subsequent research activities.

Han et al. (2024) conceptualize analysis capability as corresponding to skills in reflecting on research findings, referring to the ability to analyze and interpret research data, evaluate results, and draw meaningful conclusions from the research process.

Gussen et al. (2025) characterize reflection as the capacity to critically examine and evaluate research processes and outcomes, including interpreting findings, assessing methodological choices, and making informed judgments about research results.

Akhmetova et al. (2025) define the reflective component as the ability of post-graduate foreign language students to critically analyse and evaluate their own research activities and outcomes, including the interpretation of results, identification of strengths and limitations, and the capacity to make informed adjustments to improve the quality and effectiveness of their research.

Thiel and Böttcher (2014), Böttcher-Oschmann and Thiel (2017), Böttcher-Oschmann (2021), Salmento et al. (2021) define skills in reflecting on research findings as students' ability to critically interpret and evaluate research results, consider their theoretical and methodological implications, and assess their validity, limitations, and relevance in relation to research questions and broader contexts.

Polatuly et al. (2024) define the reflexive component as students' ability to critically analyse and evaluate their own research processes and outcomes, including identifying errors and limitations, assessing the effectiveness of chosen methods, and making informed adjustments to improve subsequent research activities.

In summary, skills in reflecting on research findings in this study refer to the ability to theoretically and methodologically reflect on results, to reflect on scientific and practical research, and to reflect on ethical implications. It includes interpreting research findings, relating them to relevant theories, and critically examining methodological limitations. It further involves reflecting on disciplinary implications and practical applications, as well as considering social and ethical issues in research.

Communication skills

Swank and Lambie (2016), Iovu & Bărbuță (2022) defined communication skills, as represented by the domain of dissemination of research/scholarly writing, as the ability to effectively communicate research outcomes through written and oral forms, including producing scholarly reports, adhering to academic writing conventions, and presenting findings for academic and professional audiences.

De Jonge et al. (2026) proposed that communication skills refer to the skills related to presenting, both oral and written, research findings, in such a way that the study is transparent for the members of the scientific community.

Salahuddin and Stupnisky (2025) conceptualize communication skills as reflected in writing research (protocol/report) and disseminating research findings, referring to the ability to produce structured and academically rigorous research texts and to effectively communicate research outcomes through publications, presentations, and other scholarly dissemination channels.

Toquero (2020) conceptualizes the communicative component as the ability to express and disseminate research ideas and findings and to engage in collaborative and dialogic interaction with peers and stakeholders throughout the action research process.

Mombekova's (2024) transmissive component partially overlaps with communication skills in the present study; however, it primarily emphasizes the pedagogical transmission of research knowledge, whereas communication skills focus more on academic expression and dissemination within scholarly contexts.

Han et al. (2024) conceptualize cooperation and communication capability and presentation capability as corresponding to communication skills, referring to the

ability to collaborate with others in research activities and to effectively present and disseminate research processes and findings in academic contexts.

Gussen et al. (2025) define communication as the ability to present and communicate research processes and findings clearly and appropriately within academic contexts, including structuring arguments and conveying results effectively.

Akhmetova et al. (2025) define the communicative component as the ability of post-graduate foreign language students to present, justify, and disseminate research findings effectively in academic contexts, including written and oral communication, argumentation, and interaction within scholarly communities.

Thiel and Böttcher (2014), Böttcher-Oschmann and Thiel (2017), Böttcher-Oschmann (2021), Salmento et al. (2021) define communication skills as students' ability to present and communicate research processes and findings clearly and appropriately in academic formats, including written and oral forms, while adhering to scholarly standards and conventions.

Polatuly et al. (2024) define the communicative component as students' ability to clearly present, justify, and discuss research ideas, processes, and findings in academic contexts, including engaging in dialogue, defending positions, and adhering to disciplinary communication norms in both written and oral forms.

In summary, communication skills in this study refer to the ability to write academic publications and to present research findings in accordance with disciplinary standards. It includes writing research findings, producing academic publications, preparing research reports and project proposals, and leading and completing research projects. It further involves preparing research outputs for presentation and presenting research at academic venues such as colloquia and conferences.

Content knowledge

De Jonge et al. (2026) suggest that content knowledge encompasses central theoretical models, constructs, methods, and disciplinary standards for presenting research findings.

Zhou (2022) conceptualizes knowledge reserve as the theoretical, methodological, pedagogical, and practice-related knowledge base that supports college teachers' integration of teaching and scientific research, including professional knowledge, educational principles, knowledge in teaching practice, information teaching technology, teaching-scientific research methodology, educational psychology, and knowledge of the generation mechanism of research results.

Jiang and Guo (2025) conceptualize research knowledge as the foundational understanding of educational theories and research principles, including knowledge of pedagogy and educational research that supports the development of research literacy.

Matjašič and Vogrinc (2025) conceptualize research knowledge as the understanding of fundamental research concepts, principles, and procedures, including knowledge of research design, data collection methods, and data analysis approaches that underpin the conduct of educational research.

Wang et al. (2025) conceptualize theoretical literacy as falling within the scope of content knowledge, referring to teachers' understanding of key theories, concepts, and current developments in applied linguistics and educational research, which enables them to interpret research and inform their professional practice.

Gussen et al. (2025) describe knowledge as the understanding of fundamental research concepts, principles, and processes that underpin research activities and support the development of research competence within the cognitive domain.

Gussen et al. (2025) refer to content knowledge as the understanding of subject-specific theories, concepts, and current developments that provide the disciplinary foundation for conducting and interpreting research.

Thiel and Böttcher (2014), Böttcher-Oschmann and Thiel (2017), Böttcher-Oschmann (2021), Salmento et al. (2021) define content knowledge as students' understanding of the central theories, concepts, and current findings within a specific disciplinary field, as well as their familiarity with fundamental research principles and academic knowledge structures.

Polatuly et al. (2024) define the theoretical component as belonging to the content knowledge dimension, referring to students' understanding and mastery of core disciplinary theories, fundamental concepts, and established scientific knowledge that provide the conceptual basis for conducting research.

In summary, content knowledge in this study refers to knowledge of central theories and current findings, central research methods, and communication standards in academic research within the discipline. It includes familiarity with major theories, their historical development, and current research findings, as well as a sound understanding of core research methods. It further involves knowledge of national and international academic publication outlets and standards for academic writing and presentation.

Teachers' Research Competence

Within educational contexts, teachers constitute one of the most important agents through whom research competence is enacted, developed, and transformed into professional practice. Unlike students, whose research competence is often discussed as an academic learning outcome, teachers' research competence is closely connected with professional judgment, pedagogical improvement, knowledge production, and institutional development. Existing studies have examined this construct through related terms such as research competence, research capacity, research capability, and research literacy, reflecting different emphases on skills, developmental potential, institutional conditions, and professional engagement.

Conceptual understandings of teachers' research competence have gradually shifted from skill-based definitions toward broader, multidimensional, and context-sensitive interpretations. Some studies define research competence as a set of abilities aligned with the research process, including literature review, research design, data analysis, academic writing, dissemination, and project management (Nekrasov et al., 2023; Salahuddin & Stupnisky, 2025). Similarly, De Jonge et al. (2026) conceptualize teacher research competence through dimensions such as reviewing the state of research, methodological skills, reflection on findings, communication skills, and content knowledge. By contrast, research literacy studies extend the

construct beyond procedural skills to include the ability to understand, critique, apply, and produce research in professional contexts (Drageset et al., 2025; Evans et al., 2017; Jensen & Hatlevik, 2024; Kostoulas et al., 2025). This conceptual expansion is valuable because it positions teachers not only as consumers of research evidence but also as producers and interpreters of professional knowledge. However, the literature still shows conceptual ambiguity, as research competence, research capacity, and research literacy are sometimes used interchangeably without sufficient theoretical distinction.

Dimensional models of teachers' research competence generally converge on its multidimensional nature, although they differ in the components emphasized. Several studies foreground cognitive and methodological dimensions, such as research knowledge, research design, data collection, data analysis, and reporting (Gümüřok et al., 2024; Han et al., 2025; Katayev et al., 2023; Mombekova, 2024). Other studies argue that research competence also includes affective, motivational, ethical, reflective, and communicative components (Gussen et al., 2023; Gussen et al., 2025; Kazancı Tınmaz & Sezgin, 2023; Wang et al., 2025). For example, Gussen et al. (2023, 2025) distinguish between cognitive and affective-motivational domains, while Wang et al. (2025) identify research awareness, theoretical literacy, research skills, research volition, and ethical literacy. This suggests a growing consensus that teachers' research competence cannot be reduced to methodological technique. At the same time, disagreement remains regarding whether contextual factors, institutional support, and professional identity should be treated as internal dimensions of competence or as external conditions shaping its development.

Research-based teacher education has been widely identified as a major pathway for developing teachers' research competence, especially among pre-service teachers. Studies show that research-oriented courses, research-based learning, master's thesis writing, and structured inquiry tasks can improve teachers' research knowledge, methodological awareness, reflective thinking, and ability to connect theory with practice (Bayrak Özmütlu, 2022; Martinovic & Dabaja, 2023; Matjařić & Vogrinc, 2025a, 2025b; Schröder et al., 2025; Tatto, 2021). Action research

is also frequently emphasized as a practice-based mechanism through which teachers develop inquiry skills, identify classroom problems, collect and analyze data, and transform findings into pedagogical improvement (Pinninti, 2025; Toquero, 2020). However, these studies also reveal that research-based teacher education is not automatically effective. Its influence depends on task design, supervision, infrastructure, workload, and the perceived relevance of research to teaching practice (De Jonge et al., 2026; Drageset et al., 2025; Schröder et al., 2025).

Individual psychological and epistemic factors also play an important role in shaping teachers' research competence. Research motivation, engagement, agency, confidence, self-regulation, and epistemological awareness are repeatedly identified as important mediating or enabling conditions (Heikkilä & Eriksen, 2024; Jiang & Guo, 2025; Matjašič & Vogrinc, 2025a; Varlık, 2025). Jiang and Guo (2025), for instance, show that research engagement mediates the relationship between research motivation and educational research literacy. Heikkilä and Eriksen (2024) further argue that teachers' research literacy requires "polyphonic agency," namely the ability to navigate multiple voices from research evidence, policy expectations, professional experience, and classroom realities. These studies broaden the understanding of research competence from technical ability to professional judgment. Nevertheless, many existing studies remain cross-sectional or perception-based, which limits their ability to explain how motivational and epistemic factors develop over time.

Institutional and systemic conditions constitute another major theme in the literature. A number of studies argue that teachers' research competence is not merely an individual attribute but a structurally mediated capacity shaped by funding, workload, research culture, collaboration, policy support, infrastructure, and organizational networks (Brooks, 2021; Gleeson et al., 2017; Hammad & Al-Ani, 2021; Ives et al., 2023; Oancea et al., 2021; Tarrayo et al., 2020). Brooks (2021) shows that structural changes in teacher education may limit teachers' opportunities to engage in research, while Oancea et al. (2021) argue for a research-rich ecology involving teachers, teacher educators, institutions, and policymakers. Ives et al. (2023) further highlight the role of social capital and collegial networks in supporting research

capacity. These studies are particularly relevant to educational administration because they indicate that enhancing teachers' research competence requires more than individual training; it also requires institutional governance, organizational learning, and sustainable support systems.

Digital and technologically mediated environments have begun to reshape the meaning and requirements of teachers' research competence, although this strand remains underdeveloped. Suyo-Vega et al. (2022) conceptualize digital research competence as the integration of informational competencies, technological capabilities, data management, digital collaboration, and digital citizenship. Katayev et al. (2023) also identify ICT competence as positively related to teachers' research competence. Kuznetsova et al. (2024) show that under wartime conditions, digital technologies become essential tools for sustaining teachers' research engagement and professional development. These studies suggest that contemporary research competence increasingly requires the ability to use digital tools, manage information, and participate in technology-supported knowledge production. However, most existing research discusses ICT or digital competence rather than artificial intelligence specifically, leaving the AI-mediated transformation of research competence insufficiently theorized.

Methodologically, the literature on teachers' research competence is diverse but fragmented. Quantitative studies have contributed to scale development, structural modeling, and the identification of predictive relationships (Han et al., 2025; Hernández-Escorcia et al., 2025; Kazancı Tınmaz & Sezgin, 2023; Nagymzhanova et al., 2025; Yerzhanova et al., 2025; Zhou, 2022). Qualitative studies have provided rich insights into teachers' experiences, perceptions, reflective processes, and professional identity development (Bayrak Özmutlu, 2022; Hoeber, 2023; Jensen & Hatlevik, 2024; Suyo-Vega et al., 2022). Mixed-method, quasi-experimental, and intervention-based studies further examine how specific pedagogical designs influence competence development (Albareda-Tiana et al., 2018; Gussen et al., 2023; Mombekova, 2024; Skakov et al., 2026; Schröder et al., 2025). Conceptual and policy-oriented studies have clarified theoretical and systemic issues (Kostoulas et al., 2025;

Oancea et al., 2021; Tatto, 2021; Tyunnikov, 2020). Despite this methodological richness, the field lacks an integrated research design that connects measurement, developmental mechanisms, institutional conditions, and technological transformation within a coherent framework.

A synthesis of existing studies reveals several areas of consensus and tension. The main consensus is that teachers' research competence is multidimensional, developmental, and closely linked to teaching practice, professional learning, and institutional support (Almakroba & Al-Ahdal, 2020; Hernández-Escorcia et al., 2025; Wang et al., 2025). Another shared view is that research competence should involve both the production and application of research knowledge rather than mere familiarity with research methods (Evans et al., 2017; Kostoulas et al., 2025; Tatto, 2021). However, tensions remain between competence-oriented and literacy-oriented frameworks, between individual-skill and institutional-capacity perspectives, and between cognitive-procedural models and more holistic models including motivation, ethics, agency, and context. In addition, studies such as those by Albareda-Tiana et al. (2018), Skakov et al. (2026), and Varlık (2025) show that research competence interacts with broader competencies such as sustainability competence, scientific reasoning, and problem-solving, but the causal mechanisms among these competencies remain insufficiently clarified.

In summary, existing research has substantially advanced the understanding of teachers' research competence by clarifying its conceptual meanings, dimensional structures, developmental pathways, and contextual constraints. Nevertheless, important gaps remain. Current studies are often concentrated on pre-service teachers, teacher educators, or general faculty groups, while in-service foreign language teachers in higher education have received limited attention. The literature also tends to separate individual competence development from institutional governance and organizational learning conditions. Moreover, although digital competence has begun to appear in recent studies, the role of artificial intelligence in reshaping research competence remains insufficiently explored. Therefore, the present study is positioned to address these gaps by examining foreign language

teachers' research competence at universities in Guangxi as a multidimensional, contextually embedded construct, and by developing strategies for its enhancement from an educational administration perspective in the AI age.

Students' Research Competence

Building on the preceding discussion of teachers' research competence, the literature on students' research competence shifts the analytical focus from professional expertise to developmental trajectories within formal educational settings, while simultaneously revealing comparable structural complexity and contextual embeddedness. Across diverse educational levels and disciplinary contexts, student research competence is consistently conceptualized as a multidimensional construct that integrates cognitive, methodological, motivational, and contextual elements, rather than a simple accumulation of discrete research skills.

Conceptualizations of student research competence demonstrate both convergence and variation across the literature. A widely shared view frames research competence as the ability to engage effectively in the research process, including problem identification, literature review, methodological design, data analysis, and dissemination of findings (Rivera-Gutiérrez et al., 2024; Paucar-Curasma et al., 2025; Iovu & Bărbuță, 2022). This process-oriented understanding is often complemented by broader interpretations that emphasize research competence as an integrative personal and professional quality, incorporating motivation, creativity, and the capacity to generate novel ideas (Oliynyk et al., 2024; Koval et al., 2023). At the doctoral level, research competence is further associated with innovation and original contribution, highlighting its role in knowledge production rather than mere knowledge application (Liu & Shen, 2025). Meanwhile, some studies foreground research literacy as a related but distinct construct, emphasizing the ability to access, evaluate, and use research evidence in professional contexts (Mikulich-Gilbertson et al., 2026; Ewers et al., 2025). Despite variations in terminology, such as research competence, research capacity, scientific research ability, and research literacy, a general consensus is that student research competence encompasses both process-

oriented skills and higher-order cognitive and metacognitive capacities, though disagreements persist over the relative emphasis on performance, disposition, or contextual adaptability.

The structural modeling of research competence further reflects this dual tendency toward convergence and diversity. The most theoretically grounded framework is the five-dimensional model proposed by Böttcher and Thiel (2018), which includes reviewing the state of research, methodological skills, reflecting on findings, communication skills, and content knowledge. This model has been widely adopted or adapted in subsequent studies (Ciraso-Calí et al., 2022; Böttcher-Oschmann et al., 2021), indicating a growing consensus on core dimensions. At the same time, alternative frameworks extend or reorganize these dimensions to reflect specific contexts. For example, digital research literacy models incorporate elements such as digital awareness, data processing, and tool usage (Fan & Li, 2025), while process-based frameworks align competence development with stages of problem-solving or inquiry (Paucar-Curasma et al., 2025). Other studies propose component-based structures that integrate motivational, cognitive, and communicative elements (Akhmetova et al., 2025; Yarullin et al., 2015), or emphasize meta-cognitive and affective dimensions (Vázquez-Rodríguez, 2024). However, a persistent limitation across the literature is the lack of a universally accepted model, as many studies operationalize competence through task-specific indicators or self-reported measures rather than theoretically robust multidimensional frameworks (Mieg et al., 2024; Lee et al., 2026). This suggests that while the multidimensional nature of research competence is widely recognized, its structural articulation remains context-dependent and theoretically fragmented.

Research on the development of student research competence highlights the interplay between pedagogical design, institutional context, and individual learner characteristics. Pedagogical interventions such as research-based learning, case-based learning, journal clubs, and project-based approaches have been shown to enhance students' research-related skills, confidence, and engagement (Hegde & Karunasagar, 2021; Shukshina et al., 2022; Karabacak et al., 2024; Akhmetova et al., 2025). These

approaches share a common emphasis on authentic research participation, collaborative learning, and guided practice, which enable students to internalize research processes through experience. At the same time, structured curricular integration and longitudinal training are identified as critical conditions for sustained competence development (Ward et al., 2024; Lee et al., 2026; Ciraso-Calí et al., 2022). However, the effectiveness of these pedagogical strategies is often constrained by contextual factors such as limited supervision, insufficient time, and lack of institutional support (Hegde & Karunasagar, 2021; Rubio-Hurtado et al., 2024). This indicates that research competence development cannot be understood solely as a pedagogical issue, but must be situated within broader organizational and curricular ecosystems.

Beyond pedagogical interventions, a growing body of research emphasizes the role of psychological, cognitive, and social factors in shaping student research competence. Motivation, learning engagement, and cognitive flexibility have been identified as key predictors of the development of research competence (Hu et al., 2025; Almutawa et al., 2025). In particular, learning engagement has been shown to mediate the relationship between motivation and research capability, suggesting that competence development depends not only on students' intentions but also on their active involvement in learning processes (Hu et al., 2025). Similarly, cognitive flexibility is associated with reduced perceived research barriers and improved research-related performance (Almutawa et al., 2025). Social and organizational factors, such as supervision quality, mentoring, and peer collaboration, also play a crucial role. For instance, supervision has been found to mediate the relationship between doctoral training conditions and research competence (Liu & Shen, 2025), while peer mentorship and collaborative networks can enhance both competence and research output (Kanmounye et al., 2022). These findings collectively reinforce the view that student research competence is co-constructed through interactions between individual agency and social learning environments.

The increasing integration of digital technologies introduces an additional layer of complexity to research competence development. Digital competence and

research competence are closely interrelated, with digital skills serving as both enabling conditions and integral components of research activity (Mieg et al., 2024; Iovu & Bărbuță, 2022). Technology-enhanced learning environments, such as cloud-based platforms, online training programs, and AI-supported tools, have been shown to facilitate access to information, support collaboration, and enhance research processes (Herasymenko et al., 2024; Samuel et al., 2026; Oliinyk et al., 2023). Moreover, emerging technologies such as artificial intelligence can support research competence development by assisting in information processing, idea generation, and methodological application, although their effectiveness depends on students' metacognitive awareness and critical engagement (Oliinyk et al., 2024; Abdelhalim, 2024). However, the literature also reveals tensions between technological affordances and actual learning outcomes, as digital tools do not automatically translate into competence gains without appropriate pedagogical integration (George-Reyes et al., 2023). This underscores the need to conceptualize research competence in the digital age as a socio-technical construct shaped by both human and technological factors.

Issues related to the assessment and measurement of student research competence remain a persistent challenge. Existing studies employ a wide range of methods, including self-report questionnaires, performance-based assessments, and mixed-method designs, reflecting the complexity of the construct (Böttcher & Thiel, 2018; Mirshahi et al., 2025; Vázquez-Rodríguez, 2024). While validated instruments such as the R-Comp scale provide a foundation for standardized measurement, many studies rely on context-specific or self-developed tools, which limits comparability and generalizability (Fan & Li, 2025; Ward et al., 2024). Furthermore, the predominance of self-assessment approaches raises concerns about the validity of findings, as perceived competence may not accurately reflect actual performance (Iovu & Bărbuță, 2022; George-Reyes et al., 2023). Systematic reviews also highlight challenges related to construct definition, dimensional consistency, and methodological rigor in competence assessment (Vázquez-Rodríguez, 2024). These

issues indicate that the measurement of research competence remains underdeveloped and requires further theoretical and methodological refinement.

In summary, the literature on student research competence reveals a complex and evolving field characterized by conceptual diversity, methodological plurality, and increasing contextual sensitivity. While there is broad agreement that research competence is a multidimensional construct encompassing cognitive, methodological, and affective dimensions, its precise definition, structure, and measurement remain contested. The development of research competence is shaped by the interaction of pedagogical practices, institutional conditions, individual characteristics, and technological environments, highlighting its inherently systemic nature. These insights not only deepen the understanding of research competence in student populations but also provide an important foundation for extending the analysis to other educational actors beyond teachers and students.

Research Competence in Other Educational Roles

Research competence in educational contexts has increasingly been extended beyond the traditionally dominant groups of teachers and students to include a broader range of educational actors, such as academic researchers, community practitioners, institutional leaders, and higher education organizations. Across these studies, research competence is consistently understood as a multidimensional and context-dependent phenomenon shaped by the interaction between individual capabilities and institutional environments, rather than a purely individual attribute.

With regard to the conceptualization of research competence, existing studies present diverse yet overlapping definitions. Some scholars conceptualize research competence primarily as an individual capability composed of knowledge, methodological skills, academic literacy, and critical thinking (Castillo-Martínez & Ramírez-Montoya, 2021; Niemczyk, 2021, 2022). Others extend this perspective by incorporating values, attitudes, intercultural awareness, and ethical responsibility, particularly in global and transnational contexts (Madsen & Adriansen, 2021; Niemczyk, 2022). From a measurement-oriented perspective, Marrs et al. (2022)

provide a structured framework through the validation of the PR-Comp instrument, defining research competence as a multidimensional construct including reviewing, methodological, reflective, communicative, and knowledge-based components. At the same time, Lambrechts and Van Petegem (2016) highlight that existing competence frameworks in higher education often lack holistic integration. Despite these contributions, the literature remains conceptually fragmented, with related terms such as research competence, research capacity, and research literacy used inconsistently across studies (Castillo-Martínez & Ramírez-Montoya, 2021; Mugabo et al., 2015).

In terms of core dimensions and developmental components, research competence in other educational roles is commonly associated with the ability to review and synthesize literature, design and conduct research, interpret and critically reflect on findings, communicate research outcomes, and apply research knowledge in practice (Castillo-Martínez & Ramírez-Montoya, 2021; Marrs et al., 2022; Collins et al., 2023). Beyond technical skills, the literature emphasizes the integration of broader competencies. Niemczyk (2021) identifies the importance of scientific, managerial, and interpersonal competencies, while Kingiri et al. (2024) and Collins et al. (2023) stress the role of academic socialization, mentoring, and network participation in fostering research competence. Similarly, Mugabo et al. (2015) and Balandya et al. (2021) highlight the importance of structured training models and integrated mentoring systems across the research process. Koz and Lokey-Vega (2022) further emphasize communities of practice as key mechanisms for knowledge sharing and situated learning, while Beel et al. (2025) draw attention to structural barriers such as weak research cultures and limited doctoral pipelines. These studies collectively indicate that research competence development involves both individual capabilities and socially mediated learning processes.

Regarding the conditions shaping research competence, a strong consensus holds that it is deeply influenced by contextual and institutional factors. Evidence from faculty development and mentoring programs demonstrates that structured support systems are essential for enhancing research engagement and productivity,

particularly in resource-constrained contexts (Ogunsola et al., 2023; Balandya et al., 2021). Ahmad et al. (2025) further show that contextual support influences research interest through the mediating role of confidence, highlighting the importance of psychological factors in addition to institutional conditions. At the organizational level, Véliz et al. (2023) and Zhan and Marginson (2023) conceptualize research capacity as a multi-level and dynamic process shaped by governance structures, institutional strategies, and organizational ecosystems. Similarly, Collins et al. (2023) and Kingiri et al. (2024) emphasize the role of collaborative networks and community-based engagement. From a broader perspective, global inequalities and power relations are also identified as critical factors influencing research capacity development (Goyes & Skilbrei, 2024; Madsen & Adriansen, 2021). In addition, technological transformation is increasingly shaping research competence. George Reyes and Glasserman Morales (2021) highlight the role of digital and information literacy, while Javed et al. (2025) demonstrate the impact of AI-related investment and innovation capacity at the institutional level. Together, these findings suggest that research competence is socially constructed and structurally conditioned.

With respect to research design, the literature demonstrates considerable methodological diversity. Studies employ systematic reviews (Castillo-Martínez & Ramírez-Montoya, 2021; Mugabo et al., 2015), qualitative research (Niemczyk, 2021), mixed-methods case studies (Collins et al., 2023), program evaluation and design-based approaches (Ogunsola et al., 2023; Balandya et al., 2021), scale validation research (Marrs et al., 2022), policy and institutional analysis (Zhan & Marginson, 2023; Beel et al., 2025), and econometric modeling (Javed et al., 2025). While this methodological diversity enables multi-level analysis, it also results in a lack of comparability and standardization. Many studies rely on context-specific cases or self-reported data, which limits generalizability (Ahmad et al., 2025; Ogunsola et al., 2023). Moreover, although some studies have begun to address digitalization and artificial intelligence, these factors remain insufficiently integrated into comprehensive theoretical frameworks.

In summary, the literature on research competence in other educational roles provides important insights while also revealing several limitations. Although research competence is widely recognized as a multidimensional construct encompassing cognitive, methodological, communicative, and contextual dimensions, existing studies remain fragmented in conceptualization and lack integrated frameworks linking individual competence, organizational conditions, and institutional strategies (Véliz et al., 2023). In addition, research across different educational roles is often disconnected, and foreign language teachers in higher education have received limited attention. Therefore, further research is needed to examine foreign language teachers' research competence within specific institutional contexts, particularly from an educational administration perspective, while also addressing the emerging influence of technological developments.

Strategies for Enhancing Teachers' Research Competence

Research on strategies for enhancing teachers' research competence has received increasing attention in higher education and teacher professional development. Existing studies have examined various approaches to strengthening teachers' capacity to understand, conduct, and communicate research, with particular attention to research training, research-based learning, mentoring, collaborative learning, communities of practice, and institutional support. Although these studies have been conducted in different educational and professional contexts and have used related concepts such as research competence, research capacity, and research engagement, they provide useful evidence concerning how teachers' research competence can be systematically developed.

One line of research has focused on research training and research-based learning as strategies for competence development. Böttcher-Oschmann et al. (2021) investigated the development of research competencies through research-learning projects in teacher education. Their study demonstrated that participation in structured research-learning projects provided opportunities to develop competencies related to reviewing research, methodological skills, communication,

information literacy, and statistical literacy. The findings suggest that research competence can be enhanced when participants are actively involved in authentic research processes rather than receiving research knowledge only through conventional instruction. Similarly, Castillo-Martínez and Ramírez-Montoya (2021), through a systematic literature review, identified academic reading and writing as important components of research competence development and highlighted the role of educational practices that integrate research activities with academic literacy. These studies indicate that structured training combined with active research participation can strengthen multiple dimensions of research competence.

A second line of research has examined mentoring and sustained research guidance. Rather than treating research development as the outcome of isolated workshops, this body of research emphasizes continuous support throughout the research process. Ogunsola et al. (2023) evaluated the BRAINS faculty development model, which integrated research training, mentoring, research implementation, grant support, manuscript development, and professional networking. Their findings showed that sustained mentoring and structured faculty development contributed to the development of research skills and supported participants across different stages of the research process. The study demonstrates that mentoring can function as an important strategy for transforming research knowledge into practical research capability, particularly when it is embedded within a broader and sustained research development program.

Another strand of research has emphasized collaborative learning and communities of practice. Koz and Lokey-Vega (2022) examined an academic community of practice designed to build faculty research capacity. Their study found that a flexible and faculty-driven community could respond to diverse research needs and provide opportunities for knowledge sharing, peer support, and collaborative learning. The findings suggest that research competence development does not necessarily depend exclusively on formal training structures; informal and semi-formal academic communities can also facilitate research development by allowing participants to exchange experience, discuss research challenges, and learn

from colleagues. This perspective supports the use of research groups, peer-learning networks, research seminars, and collaborative research activities as mechanisms for strengthening research competence.

Research in language education has also examined teachers' engagement with and in research as an approach to professional and research development. Borg (2010) distinguished between engagement with research, such as reading and using published studies, and engagement in research through conducting research. His review indicated that both forms of engagement can contribute to teachers' professional development, but also demonstrated that sustained research engagement depends on appropriate knowledge, motivation, opportunities, and institutional conditions. In the Chinese higher education context, Borg and Liu (2013) investigated the research engagement of college English teachers and found that although research was an important component of their professional work, teachers faced various constraints in reading and conducting research. Their findings highlighted the need for appropriate institutional support, research training, and working conditions if teachers are expected to develop sustained engagement in research.

Taken together, previous studies have produced several important findings regarding strategies for enhancing teachers' research competence. First, research competence can be developed through systematic and practice-oriented research training, particularly when teachers have opportunities to apply research knowledge in authentic research activities (Böttcher-Oschmann et al., 2021). Second, mentoring and sustained professional guidance can provide continuous methodological and academic support throughout the research process (Ogunsola et al., 2023). Third, collaborative learning and academic communities can facilitate knowledge sharing, peer feedback, and collective research development (Koz & Lokey-Vega, 2022). Fourth, sustained engagement in academic reading, research practice, academic writing, and scholarly communication contributes to the continuous development of research-related knowledge and skills (Borg, 2010; Castillo-Martínez & Ramírez-Montoya, 2021). Finally, research conducted in higher education indicates that these

strategies are more likely to be effective when supported by appropriate institutional resources and organizational conditions (Borg & Liu, 2013).

Despite these contributions, several limitations remain in the existing literature. First, much of the research examines individual interventions or particular mechanisms, such as research-learning projects, mentoring programs, communities of practice, or research engagement, rather than developing a comprehensive set of strategies that integrates multiple dimensions of research competence. Second, existing studies have been conducted across diverse populations, including pre-service teachers, university faculty, language teachers, and researchers in other professional fields, resulting in limited direct evidence specifically concerning foreign language teachers in universities. Third, although previous studies have demonstrated the value of training, mentoring, collaboration, and institutional support, relatively limited attention has been given to how these strategies can be systematically coordinated from an educational administration perspective, particularly in relation to the respective responsibilities of university administrators and teachers. Fourth, many existing studies focus primarily on research engagement, research capacity, or particular research skills rather than formulating strategies according to a clearly defined multidimensional framework of research competence. Finally, the effectiveness and applicability of research competence enhancement strategies may vary across institutional and regional contexts, while empirical evidence concerning universities in Guangxi remains limited.

In summary, existing research provides an important foundation for understanding how teachers' research competence can be enhanced, but there remains a need for a more systematic and context-sensitive approach. In particular, further research is needed to formulate strategies that address multiple dimensions of foreign language teachers' research competence, integrate institutional and individual responsibilities, and respond to the specific organizational and educational context of universities in Guangxi. Such an approach can extend previous research from examining isolated enhancement mechanisms toward developing a more comprehensive strategy framework for teachers' research competence development.

Context of universities in Guangxi

Overview of Higher Education in Guangxi

Guangxi Zhuang Autonomous Region is located in southern China, bordering the Beibu Gulf to the south and sharing an international boundary with the Socialist Republic of Vietnam. It is adjacent to Guangdong to the east, Hunan to the northeast, Guizhou to the northwest, and Yunnan to the west. As China's only coastal autonomous region for ethnic minorities, Guangxi serves as a key gateway for cooperation with the Association of Southeast Asian Nations (ASEAN) and plays an important role in implementing the Belt and Road Initiative.

Administratively, Guangxi comprises 14 prefecture-level cities, including Nanning, Liuzhou, and Guilin, and possesses a relatively extensive higher education system. At present, there are 93 higher education institutions in the region, including 89 regular higher education institutions and 4 adult higher education institutions. This system encompasses both undergraduate and junior college levels, with a combination of public and private institutions. Among the 89 regular institutions, 41 are undergraduate universities, and 48 are junior colleges. In terms of ownership, 62 public institutions constitute the dominant sector, while 27 private institutions serve as a supplementary component.

Public undergraduate universities represent the core of higher education in Guangxi. A total of 29 such institutions are distributed across 11 prefecture-level cities (see Figure 2.1). Nanning, the capital city, hosts 11 public undergraduate universities, accounting for approximately 40% of the total and forming the primary higher education cluster in the region. Guilin, with 7 institutions, has developed a distinctive higher education hub supported by its cultural and historical prominence. Liuzhou and Baise each have 2 universities, while other cities—including Qinzhou, Yulin, Hechi, Chongzuo, Wuzhou, Hezhou, and Laibin—each host one institution, achieving near-comprehensive geographical coverage of undergraduate education across the region. This spatial distribution not only strengthens the educational influence of key urban centers but also supports local socio-economic development.

higher education system in Guangxi is characterized by diversified institutional types and a clear hierarchical structure.

Selection of Sample Universities

Selection Criteria for Sample Universities

This study focuses on public undergraduate universities in Guangxi. As of 2025, there are 29 such institutions distributed across 11 prefecture-level cities. To ensure both representativeness and feasibility, a stratified random sampling approach was adopted to select sample universities.

Stratified random sampling is a non-probability sampling strategy widely used in qualitative research. It involves defining stratification criteria in advance based on the research objectives and selecting information-rich cases within each stratum. This approach enables the sample to reflect key characteristics of the population across critical dimensions. In this study, three criteria were employed: geographical distribution, institutional type, and institutional level.

First, geographical representativeness was emphasized. Among the 14 prefecture-level cities in Guangxi, 11 host public undergraduate universities, and all these cities were included in the sampling framework to ensure broad spatial coverage across the region.

Second, institutional diversity was taken into account. Public undergraduate universities in Guangxi encompass a wide range of institutional types, including comprehensive, normal, medical, engineering and technology, ethnic, finance and economics, arts, law and public security, agriculture, tourism, and vocational-oriented institutions. The sampling design ensured that all major categories were represented.

Third, variation in the institutional level was considered. The higher education system in Guangxi includes leading research-oriented universities, provincially co-supported universities, regionally administered undergraduate institutions, and vocational undergraduate institutions. The inclusion of universities across different levels allows the sample to capture variations in development status, resource allocation, and institutional missions.

heterogeneity of disciplinary orientations and institutional missions within the higher education system in Guangxi.

In addition, the sample covers multiple institutional levels. It includes leading universities participating in national initiatives such as the “Double First-Class” program, provincially co-supported universities, regionally administered undergraduate institutions, and vocational undergraduate universities. This hierarchical diversity enables the study to account for differences in institutional capacity, resource availability, and development trajectories.

To provide a clearer and more concrete representation of the sample, Table 2.2 presents the list of the 23 selected public undergraduate universities in Guangxi. The table summarizes the names and distribution of the sample institutions, offering an overview of their geographical and institutional coverage.

Table 2.2 Sample Universities in Guangxi

No.	University	Location (Region)	Type	Rationale for Inclusion
1	Guangxi University	Nanning (Central-South Guangxi)	Comprehensive	Leading 211 university; strongest research capacity
2	Guangxi Minzu University	Nanning (Central-South Guangxi)	Ethnic	Ethnic characteristics; international orientation
3	Guangxi Medical University	Nanning (Central-South Guangxi)	Medical	Core Medical University
4	Nanning Normal University	Nanning (Central-South Guangxi)	Normal	Local normal university
5	Guangxi University of Finance and Economics	Nanning (Central-South Guangxi)	Finance & Economics	Distinctive in business and foreign language integration

Table 2.2 (Continued)

No.	University	Location (Region)	Type	Rationale for Inclusion
6	Guangxi Arts University	Nanning (Central-South Guangxi)	Arts	The only arts-focused university in Guangxi
7	Guangxi Normal University	Guilin (Northern Guangxi)	Normal	Prestigious teacher training institution
8	Guilin University of Electronic Technology	Guilin (Northern Guangxi)	Engineering	National “Double First-Class” discipline; representative engineering university
9	Guilin University of Technology	Guilin (Northern Guangxi)	Science & Engineering/Comprehensive	Science & engineering orientation; applied undergraduate institution
10	Guangxi University of Science and Technology	Liuzhou (North-Central Guangxi)	Engineering/Comprehensive	Industrial city representative
11	Beibu Gulf University	Beihai (Southern Coastal Guangxi)	Comprehensive	Coastal university; serves Beibu Gulf economic zone
12	Baise University	Baise (Western Guangxi)	Applied	Revolutionary old base area; border location significance
13	Hechi University	Hechi (Northwestern Guangxi)	Applied	Minority and mountainous region; resource-constrained
14	Yulin Normal University	Yulin (Southeastern Guangxi)	Normal	Traditional teacher-training university in eastern Guangxi

Table 2.2 (Continued)

No.	University	Location (Region)	Type	Rationale for Inclusion
15	Hezhou University	Hezhou (Northeastern Guangxi)	Applied	Underdeveloped eastern region; typical grassroots institution
16	Guangxi University of Chinese Medicine	Nanning (Central-South Guangxi)	Medical	Core Medical University
17	Guangxi Police College	Nanning (Central-South Guangxi)	Police	Public security-focused
18	Guangxi Vocational University of Agriculture	Nanning (Central-South Guangxi)	Vocational	Vocational-focused
19	Guilin University of Aerospace Technology	Guilin (Northern Guangxi)	Aerospace	Aerospace-focused
20	Guilin Tourism University	Guilin (Northern Guangxi)	Tourist	Tourist-focused
21	Guangxi Minzu Normal University	Guilin (Northern Guangxi)	Normal	Local normal university
22	Wuzhou University	Wuzhou (Northeastern Guangxi)	Comprehensive	Underdeveloped eastern region;
23	Guangxi Science & Technology Normal University	Laibin (North-Central Guangxi)	Normal	Local normal university

Overall, the selected sample demonstrates strong representativeness and structural balance across geographical distribution, institutional types, and institutional levels, thereby providing a solid empirical foundation for examining the research competence of foreign language teachers in universities in Guangxi.

Research Environment of Foreign Language Teachers at Universities in Guangxi

Overall, the research environment of foreign language teachers in public undergraduate universities in Guangxi has gradually evolved under the combined influence of national higher education development strategies and regional development demands. It reflects not only a growing emphasis on policy guidance and institutional support, but also the practical constraints arising from regional disparities and disciplinary differences.

At the policy level, China has in recent years consistently promoted the high-quality development of higher education, placing increasing emphasis on research and innovation and on universities' capacity to serve national strategic needs. A series of policy initiatives, such as the “Double First-Class” construction, the reform of classified development in higher education, and the reform of teacher evaluation systems, have strengthened the research orientation of universities and improved research evaluation mechanisms. In this context, Guangxi has also introduced relevant policies to enhance the development of research platforms, support project applications, and attract high-level talent. Moreover, as a frontier region for cooperation with the Association of Southeast Asian Nations (ASEAN), Guangxi has been endowed with an important role in international exchange under the Belt and Road Initiative. This positioning provides policy support and strategic direction for foreign language teachers to engage in cross-cultural studies, area and country studies, and translation research.

In terms of institutional and resource support, public undergraduate universities in Guangxi have generally established evaluation systems centered on research projects, academic publications, and research outputs. Research performance has increasingly become a key criterion for promotion and professional

development. Some universities provide support through internal research funding, assistance in applying for provincial and ministerial-level projects, the development of research platforms, and the promotion of international collaboration. However, significant disparities remain across institutions in terms of resource allocation, platform capacity, and access to international academic networks, with high-quality resources concentrated in a limited number of leading universities.

From a strengths and opportunities perspective, Guangxi's unique geographical location offers important advantages for foreign language teachers' research activities. Its proximity to ASEAN countries creates substantial demand and opportunities for development in area studies, intercultural communication research, and multilingual studies. At the same time, the deepening of China-ASEAN cooperation has led to growing needs in language services, translation practice, and international communication, thereby expanding opportunities for applied research in foreign language disciplines. In addition, the advancement of digital technologies and artificial intelligence has broadened access to research resources and academic communication channels, providing new tools to support the development of teachers' research competence.

Despite these favorable conditions, the research environment also faces multiple constraints. From a disciplinary perspective, foreign language programs at many universities are often positioned as service-oriented or marginal, resulting in relatively limited access to institutional resources and lower academic status. Heavy teaching workloads are another common challenge, as foreign language teachers are often responsible for a large number of foundational courses, which significantly limits the time and energy available for research. Furthermore, in terms of research competence, some teachers demonstrate limitations in applying research methods, academic writing, and international publication, which, in turn, affect the quality and impact of research outputs. Additionally, the region's overall research competence remains comparatively modest, with insufficient development of high-level research teams and academic communities. Limited opportunities for academic exchange further constrain the enhancement of research competence.

In conclusion, the research environment of foreign language teachers in public undergraduate universities in Guangxi is characterized by the coexistence of strengthened policy support, distinctive regional advantages, uneven resource distribution, and constraints on the development of competence. While national strategies and regional development needs have created new opportunities, continuous improvements in institutional support, resource allocation, and capacity building remain necessary. This context provides an important basis for the subsequent analysis of the current state of teachers' research competence and the development of strategies to enhance it.

Related Research

Having established the contextual background of universities in Guangxi, the discussion now turns to an examination of existing research related to university foreign language teachers' research capacity. While the institutional context provides the structural and policy framework, it is the accumulated body of scholarship that reveals the actual status, challenges, and development trajectories of teachers' research engagement. Reviewing these studies is therefore essential for situating the present dissertation within the broader academic landscape, identifying unresolved issues, and clarifying the research gaps that this study aims to address. Accordingly, the following section synthesizes previous research on the research capacity of university foreign language teachers, as well as closely related investigations, in order to provide a solid foundation for the subsequent analysis.

Hammad and Al-Ani (2020) explored the perspectives of faculty members at a national university in Oman regarding challenges and opportunities in building educational research capacity. The study aimed to identify institutional, organizational, and individual factors that influence faculty research competence and to provide recommendations for enhancing research capacity within the university. A qualitative design was employed, involving semi-structured interviews with 25 faculty members across multiple departments. The findings revealed challenges such as limited research experience, inadequate institutional support, and balancing teaching

and research responsibilities, while also highlighting opportunities through professional development programs, mentorship, and collaborative networks. The study concluded that developing research capacity requires coordinated institutional policies and targeted faculty support initiatives to strengthen research competence in higher education.

Toquero (2020) examined the research competence and research difficulties of pre-service teachers engaging in action research within real-world classroom settings. The study aimed to identify the core components of research competence in practice and to explore the challenges encountered during research activities. A mixed-method design was employed, adapting the model of Yarullin et al. (2015), combining surveys with reflective reports from 75 pre-service teachers participating in action research projects. The findings revealed four core dimensions—cognitive, motivational-goal, communicative, and active-operational components—and highlighted common difficulties related to research planning, data collection, and collaboration. The study concluded that practical engagement in action research enhances research competence, but pre-service teachers require structured support to overcome methodological and communicative challenges.

Brooks (2021) examined how initial teacher education programs cultivate research capacity among pre-service teachers. The study aimed to identify trends, challenges, and best practices in fostering research engagement. A mixed-method approach was employed, including surveys of teacher education programs, interviews with faculty, and analysis of curriculum documents. The findings highlighted variability in the emphasis on methodological training, collaborative research opportunities, and the integration of research into teaching practice. The study concluded that sustained support and programmatic structures are essential to build research capacity in teacher education contexts.

Oancea et al. (2021) investigated institutional strategies and programmatic approaches for enhancing research capacity among teacher educators and pre-service teachers. The study aimed to examine effective models for embedding research skill development into teacher education. A qualitative multiple case study

design was used, involving interviews, document analysis, and observations across four teacher education institutions. The findings identified key factors for success, including mentorship, collaborative research projects, structured methodological training, and reflection opportunities. The study concluded that embedding these elements into teacher education programs systematically enhances research competence for both pre-service and practicing teachers.

Tatto (2021) investigated the contribution of teacher education programs to the development of research capacity in practicing and pre-service teachers. The study aimed to identify core elements of teacher education that support research competence development. A mixed-methods approach was employed, including surveys, interviews, and analysis of program documentation across multiple teacher education institutions. The findings revealed that structured training in research methodology, collaborative projects, and mentorship are critical for building research skills and knowledge. The study concluded that teacher education programs play a pivotal role in enhancing both the theoretical understanding and practical abilities necessary for effective research engagement.

Bayrak Özmutlu (2022) investigated pre-service teachers' perspectives on a research-based teacher education program to understand how such pedagogical approaches influence the development of research competence. The study aimed to explore participants' experiences in integrating research activities with teaching preparation and their perceived development of research skills. A basic qualitative research design was adopted, involving open-ended interviews with 110 pre-service teachers enrolled in the program. The findings indicated that research-based teacher education positively contributed to the participants' understanding of research processes, critical thinking, and reflective practice, while also highlighting challenges in balancing theoretical knowledge with practical application. The study concluded that structured research-oriented pedagogical interventions can effectively enhance pre-service teachers' research competence, although sustained support and guidance are necessary to consolidate these skills.

Suyo-Vega et al. (2022) examined university teachers' self-perception of digital research competencies within the context of Peruvian higher education. The study aimed to explore how university faculty perceive their ability to integrate digital tools and methodologies into research practice and to identify gaps between self-perceived competence and actual practice. A qualitative exploratory design was employed, using in-depth interviews with faculty members combined with classroom observations to triangulate perceived and demonstrated competencies. The findings revealed that while faculty members generally rated themselves as competent in digital research tasks, there were notable gaps in effectively integrating digital tools into research workflows and teaching practice. The study concluded that professional development and institutional support are crucial for enhancing digital research competence and ensuring alignment between perception and performance.

Gussen (2023) examined interventions designed to strengthen research competence among pre-service teachers. The study aimed to evaluate the effectiveness of structured training, mentorship, and practical research tasks in fostering methodological and reflective research skills. A quasi-experimental design was employed, including pre- and post-intervention assessments, reflective journals, and teacher interviews with participants in multiple teacher education programs. The findings revealed notable improvements in participants' ability to plan studies, conduct research, analyze data, and critically reflect on findings, with additional gains in collaborative research and communication skills. The study concluded that targeted, scaffolded support effectively enhances pre-service teachers' research competence and readiness for professional practice.

Katayev et al. (2023) examined how teachers' research competencies, scientific process skills, and ICT use are interrelated in educational practice. The study aimed to assess the levels of these competencies and identify factors influencing their development. A mixed-method design was employed, including surveys and practical assessments with a sample of in-service teachers. The findings revealed that higher proficiency in ICT use correlates with stronger scientific process skills and research competence, and that gaps exist in applying these skills to

authentic research tasks. The study concluded that targeted professional development focusing on both research methods and digital competencies is necessary to enhance teachers' research performance and instructional integration.

Tinmaz (2023) examined the construction and validation of a scale designed to measure teachers' research literacy. The study aimed to identify the core dimensions of research literacy and to develop a reliable instrument for assessment in educational contexts. A mixed-method design was employed, including literature review, expert consultations, and survey testing with in-service teachers. The findings revealed five primary dimensions, knowledge, methodological skills, reflection, communication, and content knowledge, with strong psychometric properties. The study concluded that the scale provides a robust tool for assessing research literacy and can inform targeted professional development interventions for teachers.

Heikkilä and Eriksen (2024) explored the role of polyphonic agency as a precondition for developing teachers' research literacy. The study aimed to understand how teachers' ability to navigate multiple perspectives, negotiate meanings, and participate in collaborative knowledge construction supports research literacy development. A qualitative case study approach was employed, including in-depth interviews and document analysis with five in-service teachers engaged in research activities. The findings revealed that polyphonic agency facilitates reflective and critical engagement with research processes, enhances collaborative learning, and strengthens teachers' capacity to integrate research into practice. The study concluded that fostering polyphonic agency is crucial for supporting research literacy among teachers, highlighting the social and collaborative dimensions of research competence.

Kuznetsova et al. (2024) investigated the realities of developing research competence among teachers-philologists in wartime contexts. The study aimed to identify the challenges, strategies, and adaptations that teachers employ to maintain and develop research competence under extreme circumstances. A qualitative descriptive design was used, including semi-structured interviews and document analysis with teachers engaged in philological research. The findings highlighted

significant obstacles such as limited access to resources, disruption of institutional support, and psychological stress, yet also identified adaptive strategies including remote collaboration, self-directed learning, and community support. The study concluded that contextual factors profoundly affect research competence development and emphasized the importance of resilience and flexible strategies in maintaining research activity under crisis conditions.

Mombekova (2024) examined the development of research competence among pre-service foreign language teachers within the framework of higher education modernization. The study aimed to identify the cognitive, motivational-personal, behavioral, constructive-designing, transmissive, and reflective-evaluative components of research competence. A survey-based quantitative design was employed, including structured questionnaires administered to students enrolled in teacher education programs at multiple universities. The findings indicated that all six dimensions contributed significantly to overall research competence, with cognitive and reflective-evaluative dimensions showing the strongest influence on research performance. The study concluded that comprehensive teacher education programs integrating these dimensions are essential for preparing future foreign language teachers to conduct high-quality research.

Jiang and Guo (2025) investigated how research motivation influences the development of educational research literacy in pre-service teachers. The study aimed to identify the relationship between intrinsic and extrinsic motivation and research knowledge, skills, and attitudes. A large-scale survey design was employed, including questionnaires assessing motivation, research knowledge, research skills, and research attitudes among over 400 pre-service teachers. The findings indicated that higher levels of research motivation significantly predicted stronger research skills and knowledge, while also promoting positive attitudes toward research engagement. The study concluded that fostering research motivation is essential for effective development of methodological and cognitive competencies among pre-service teachers.

Kostoulas et al. (2025) explored the construction of a research literacy framework for language teachers in teacher education programs. The study aimed to identify key competencies that language teachers require to engage effectively in research-informed practice. A qualitative multi-case study design was adopted, involving document analysis, interviews with teacher educators, and focus groups with pre-service language teachers. The findings highlighted a framework consisting of knowledge, methodological skills, communication, ethical understanding, and reflective abilities as essential components of research literacy. The study concluded that teacher education programs should systematically integrate these dimensions to strengthen research literacy among language teachers.

Matjašič and Vogrinc (2025) investigated the development of perceived and actual research competence among pre-service teachers within a research-based teacher education program. The study aimed to examine the alignment and discrepancy between teachers' self-assessed competence and objectively measured competence, and to evaluate how research-based interventions influence competence development over time. A longitudinal quasi-experimental design was employed, including pre- and post-tests, combining self-report questionnaires with objective knowledge assessments. The findings indicated that both perceived and actual research competence improved significantly after participation in the program, though perceived competence increased more rapidly than actual competence, suggesting that pre-service teachers may overestimate their abilities. The study concluded that research-based teacher education can effectively enhance research competence, but careful monitoring of self-perception versus actual performance is necessary to ensure accurate skill development.

Pinninti (2025) examined how action research projects contribute to the development of research competencies among English language teachers. The study aimed to evaluate teachers' acquisition of research skills and reflective abilities through participation in a structured action research cycle. A qualitative exploratory action research design was employed, including classroom observations, teacher journals, and semi-structured interviews with participants. The findings indicated that

teachers improved their methodological skills, data collection and analysis abilities, and reflective capacities, while also encountering challenges related to research planning and time management. The study concluded that action research serves as an effective vehicle for developing research competencies in a practical, context-based manner.

Salahuddin and Stupnisky (2025) conducted a systematic literature review to examine the core components, distinctions, and measures of university faculty research competence. The study aimed to synthesize existing empirical and conceptual literature to identify key dimensions of faculty research competence and to evaluate how these dimensions have been operationalized and measured across studies. Using a systematic review methodology, the authors analyzed 84 publications spanning multiple disciplines, coding for research activities, skill areas, and assessment methods. The findings identified six core components: finding and reviewing literature, planning a study, collecting and analyzing data, writing research (protocol/report), disseminating research findings, and managing research projects. The study concluded that research competence is a multidimensional construct and highlighted the need for consistent operational definitions and robust measurement tools to advance empirical research in higher education contexts.

Schröder et al. (2025) examined how e-learning-supported research-based interventions influence the development of research competence among student teachers. The study aimed to evaluate the effects of digital and blended learning environments on cognitive, methodological, and reflective research skills. A longitudinal mixed-method design was employed, combining pre- and post-intervention surveys with interviews and analysis of student research assignments. The findings indicated significant improvements in students' ability to conduct literature reviews, design research, analyze data, and engage in reflective evaluation. The study concluded that e-learning-supported interventions provide an effective framework for systematically developing research competencies over time.

Varlık (2025) examined the interplay between research literacy, socio-scientific reasoning, and problem-solving competencies among in-service science teachers. The

study aimed to explore how research literacy supports teachers' analytical and reasoning abilities in complex educational contexts. A mixed-methods design was employed, including surveys, performance-based assessments, and semi-structured interviews with science teachers across several schools. The findings indicated that teachers with higher research literacy demonstrated stronger problem-solving skills and more sophisticated socio-scientific reasoning, while gaps were identified in applying research skills to real classroom challenges. The study concluded that targeted professional development focusing on research literacy can enhance cognitive and analytical competencies in science education.

Wang et al.(2025) investigated the development of research literacy among English language teachers enrolled in a master's TESOL program at a British university. The study aimed to explore how immersion in research-based learning environments contributes to teachers' research literacy. A multi-case qualitative design was employed, including interviews, observations, and analysis of teacher research projects. The findings identified five key dimensions, practice-based research awareness, theoretical literacy, research skills, research volition, and ethical literacy, critical for fostering research literacy. The study concluded that structured exposure to research tasks, combined with reflection and mentoring, effectively enhances teachers' research literacy, particularly in an international higher education context.

Yerzhanova et al. (2025) investigated the development of research competence among pre-service special education teachers in a structured training program. The study aimed to explore how intervention programs contribute to cognitive, methodological, and reflective research skills. A longitudinal mixed-method approach was adopted, including surveys, reflective journals, and performance assessments of research tasks. The findings indicated significant gains in participants' ability to design studies, analyze data, and critically reflect on research findings, alongside improved integration of content knowledge into research practice. The study concluded that structured interventions tailored to special education contexts effectively enhance research competence.

Skakov (2026) investigated the pedagogical strategies and methodological training necessary to develop research competencies among pre-service physics teachers. The study aimed to identify core competencies and effective teaching approaches for fostering research skills in the physics education context. A mixed-method longitudinal design was employed, including surveys, laboratory assignments, and interviews with teacher trainees over multiple semesters. The findings indicated that structured laboratory experiences, combined with explicit methodological instruction and guided reflection, significantly improved students' research design, data analysis, and reflective capabilities. The study concluded that integrating scientific and methodological foundations into physics teacher education is crucial for developing robust research competencies.

In conclusion, the empirical studies reviewed indicate that structured research-based interventions, action research projects, and professional development programs can enhance teachers' research competence, improving methodological skills, reflective abilities, communication, and content knowledge. However, many studies rely heavily on self-reports and short-term designs, limiting understanding of sustained competence development. Contextual factors such as institutional support, regional differences, and disciplinary characteristics are often underexplored, and the integration of research competence into teaching practice remains insufficiently examined. These gaps highlight the need for a detailed, context-sensitive investigation of foreign language teachers' research competence at universities in Guangxi. The present study addresses this need by examining five core dimensions, skills in reviewing the state of research, methodological skills, skills in reflecting on research findings, communication skills, and content knowledge, to identify current strengths, challenges, and opportunities for development. This framework provides the basis for designing targeted strategies to enhance research competence, aligned with local educational contexts and contemporary organizational and governance perspectives. The following chapter presents the research methodology, detailing the design, participants, instruments, and procedures used to systematically investigate these dimensions.

Chapter 3

Research Methodology

Building upon the theoretical insights and empirical findings reviewed in the previous chapter, the present study now turns to its methodological design. To address the research questions systematically and rigorously, the study is organized into the following three distinct phases:

1. Phase 1: The objective of this phase was to examine the current situation of foreign language teachers' research competence at universities in Guangxi.
2. Phase 2: The objective of this phase was to provide strategies to enhance foreign language teachers' research competence at universities in Guangxi.
3. Phase 3: The objective of this phase was to evaluate the suitability and feasibility of the strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Phase 1: The objective of this phase was to examine the current situation of foreign language teachers' research competence at universities in Guangxi.

The Population

The population of this study comprised 1,716 foreign language teachers from 23 public undergraduate universities in Guangxi.

The Sample Group

The study involved 313 foreign language teachers representing 23 public undergraduate universities across Guangxi. The number of participants was established by consulting the sample size table developed by Krejcie and Morgan. A multistage sampling method was employed, beginning with stratified purposive sampling to select the target universities, followed by simple random sampling to select individual teachers within each university.

The Sample Strategy

Selection of Sample Universities

To ensure both representativeness and feasibility, this study focused on public undergraduate universities in Guangxi. As of 2025, there are 29 such institutions distributed across 11 prefecture-level cities. A stratified purposive sampling approach was adopted to select the sample universities, ensuring that the chosen institutions were information-rich and reflective of the diversity within the population. Stratified purposive sampling involves defining strata based on key criteria and then selecting representative cases within each stratum. In this study, three stratification criteria were applied: geographical distribution, institutional type, and institutional level.

Geographical distribution: Among the 14 prefecture-level cities in Guangxi, 11 host public undergraduate universities. All 11 cities were included in the sampling framework to ensure broad spatial coverage. A larger proportion of universities were selected from major educational centers such as Nanning and Guilin, while one representative institution was included from each of the remaining cities to maintain regional balance.

Institutional type: Public undergraduate universities in Guangxi encompass a wide range of types, including comprehensive, normal, medical, engineering and technology, ethnic, finance and economics, arts, law and public security, agriculture, tourism, and vocational-oriented institutions. The sampling design ensured that all major categories were represented, capturing the heterogeneity of disciplinary orientations.

Institutional level: The higher education system in Guangxi includes leading research-oriented universities, provincially co-supported universities, regionally administered undergraduate institutions, and vocational undergraduate universities. Including universities across different levels allows the sample to reflect variations in institutional capacity, resource allocation, and development trajectories.

Based on these criteria, a total of 23 public undergraduate universities were selected as the final research sample. The selected universities are distributed across

all 11 cities hosting public undergraduate institutions, ensuring comprehensive geographical coverage, and include diverse institutional types and levels.

Questionnaire Distribution

After the 23 sample universities were identified, the questionnaire was distributed via the “Wenjuanxing” platform. To facilitate access to the target participants, the questionnaires were initially sent to the foreign language department heads or personal contacts at each sampled university, who then either disseminated them to faculty members through departmental groups or forwarded them to colleagues. This approach ensured timely access to the target participants while maintaining the representativeness of the selected sample universities.

To ensure that the selected cases not only reflect the diversity of public undergraduate universities in Guangxi but also provide statistically meaningful data, the sample size for each university was calculated using the Krejcie and Morgan (1970) table. The allocation across universities, as shown in Table 3.1, illustrates both the representativeness and feasibility of the sampling design.

Table 3.1 Table of the Sample Distribution

No	The name of the university	Population	Sample group
University 1	Guangxi University	93	17
University 2	Guangxi Minzu University	156	29
University 3	Guangxi Medical University	46	8
University 4	Nanning Normal University	79	14
University 5	Guangxi University of Finance and Economics	55	10
University 6	Guangxi Arts University	23	4
University 7	Guangxi Normal University	162	30
University 8	Guilin University of Electronic Technology	95	17
University 9	Guilin University of Technology	103	19

Table 3.1 (Continued)

No	The name of the university	Population	Sample group
University 10	Guangxi University of Science and Technology	66	12
University 11	Beibu Gulf University	88	16
University 12	Yulin Normal University	63	12
University 13	Baise University	52	9
University 14	Hechi University	53	10
University 15	Hezhou University	72	13
University 16	Guangxi University of Chinese Medicine	33	6
University 17	Guangxi Police College	32	6
University 18	Guangxi Vocational University of Agriculture	52	9
University 19	Guilin University of Aerospace Technology	65	12
University 20	Guilin Tourism University	122	22
University 21	Guangxi Minzu Normal University	74	14
University 22	Wuzhou University	68	12
University 23	Guangxi Science & Technology Normal University	64	12
Total		1716	313

In Table 3.1, a total of 23 public undergraduate universities in Guangxi are presented as the research sample: 1) Guangxi University, 2) Guangxi Minzu University, 3) Guangxi Medical University, 4) Nanning Normal University, 5) Guangxi University of Finance and Economics, 6) Guangxi Arts University, 7) Guangxi Normal University, 8) Guilin University of Electronic Technology, 9) Guilin University of Technology, 10) Guangxi University of Science and Technology, 11) Beibu Gulf University, 12) Yulin Normal University, 13) Baise University, 14) Hechi University, 15) Hezhou University, 16) Guangxi University of Chinese Medicine, 17) Guangxi Police College, 18) Guangxi

Vocational University of Agriculture, 19) Guilin University of Aerospace Technology, 20) Guilin Tourism University, 21) Guangxi Minzu Normal University, 22) Wuzhou University, and 23) Guangxi Science & Technology Normal University. The sample size for each university was determined using the Krejcie and Morgan (1970) table and proportionally allocated based on the population of foreign language teachers at each university, as shown in the table.

Research Instruments

Questionnaire

The instrument used to collect data for the first research objective was a questionnaire developed based on five dimensions of research competence: 1) Skills in reviewing the state of research, 2) Methodological skills, 3) Skills in reflecting on research findings, 4) Communication skills, and 5) Content knowledge.

The questionnaire consisted of three parts.

Part 1: Survey about the demographic information of the respondents, including university affiliation, gender, age, educational level, academic title, graduate supervisor status, and years of work experience.

Part 2: Survey about the current situation of foreign language teachers' research competence at universities in Guangxi.

This section of the questionnaire was structured around five dimensions of research competence. Specifically, "Skills in reviewing the state of research" includes 5 items, "Methodological skills" consists of 10 items, "Skills in reflecting on research findings" contains 7 items, "Communication skills" includes 7 items, and "Content knowledge" comprises 8 items.

A five-point Likert scale was used to assess teachers' research competence, with response categories defined as follows:

- 5 = highest level of research competence
- 4 = high level of research competence
- 3 = moderate level of research competence
- 2 = low level of research competence
- 1 = lowest level of research competence

For the interpretation of mean scores, the following criteria are adopted based on commonly used conventions in Likert-scale research (see Likert, 1932):

4.50–5.00, indicating the highest level

3.50–4.49, indicating a high level

2.50–3.49, indicating a moderate level

1.50–2.49, indicating a low level

1.00–1.49, indicating the lowest level

Part 3: SWOT analysis of foreign language teachers' research competence at universities in Guangxi. This section was designed to examine the strengths, weaknesses, opportunities, and threats related to teachers' research competence. Respondents were invited to evaluate and reflect on internal factors (strengths and weaknesses) as well as external conditions (opportunities and threats) influencing their research competence. The findings from this section were intended to provide supplementary evidence to support the development of targeted strategies in the subsequent phase of the study.

The process of Questionnaire Development

The questionnaire was developed following a systematic procedure, as outlined below:

Step 1: Relevant literature, including documents, concepts, theories, and empirical studies related to foreign language teachers' research competence in universities, was reviewed and analyzed.

Step 2: Based on the literature review, the questionnaire was designed to assess the current status of foreign language teachers' research competence in universities in Guangxi. The draft questionnaire was submitted to thesis advisors for review, and their feedback was incorporated into subsequent revisions.

Step 3: Five experts examined the questionnaire items for their alignment with the intended research objectives, with their judgments quantified through the Index of Item-Objective Congruence (IOC). The questionnaire's IOC value was 0.8-1.00, indicating satisfactory content validity.

Step 4: The questionnaire was revised in response to the experts' suggestions.

Step 5: The questionnaire was administered to 30 foreign language teachers from public undergraduate universities in Guangxi as a pilot test at the beginning of February 2026. The instrument's internal consistency was assessed using Cronbach's alpha, yielding 0.974, indicating a high level of reliability.

Step 6: The finalized questionnaire was administered via the online platform "Wenjuanxing" to 313 foreign language teachers at 23 public undergraduate universities in Guangxi between mid-February and mid-April 2026.

Data Collection

Data for this phase were collected through the questionnaire survey following the procedures outlined below:

Step 1: An official approval letter was obtained from the Graduate School of Bansomdejchaopraya Rajabhat University to facilitate data collection from 313 foreign language teachers at public undergraduate universities in Guangxi.

Step 2: The questionnaires were administered to 313 foreign language teachers, and all questionnaires were returned upon completion, resulting in a 100% response rate. All returned questionnaires were checked for completeness before data analysis.

Data Analysis

Questionnaire responses were processed with Software package, and the results were summarized by calculating the mean and standard deviation. The specific analytical procedures are presented below:

Step 1: Respondents' demographic characteristics were analyzed using frequencies and percentages. The variables included university affiliation, gender, age, educational level, academic title, graduate supervisor status, and years of work experience.

Step 2: Descriptive statistics, including means and standard deviations, were used to analyze the five dimensions of foreign language teachers' research competence in public undergraduate universities in Guangxi. The dimensions included 1) Skills in reviewing the state of research, 2) Methodological skills, 3) Skills in reflecting on research findings, 4) Communication skills, and 5) Content knowledge.

Step 3: The data obtained from the SWOT analysis were analyzed using qualitative content analysis. Responses were systematically categorized into four domains: strengths, weaknesses, opportunities, and threats, reflecting both internal factors and external conditions influencing foreign language teachers' research competence. The results of this analysis were used to identify key issues and to support the development of targeted strategies in the subsequent phase of the study.

Phase 2: The objective of this phase was to provide strategies to enhance foreign language teachers' research competence at universities in Guangxi.

Population

The population of this study comprised 1,716 foreign language teachers from 23 public undergraduate universities in Guangxi. The key informants of the focus group were 15 foreign language teachers selected from 15 public undergraduate universities in Guangxi. They were purposively selected based on the following criteria: (1) holding a master's degree or above; (2) having at least ten years of teaching experience in public undergraduate universities in Guangxi; and (3) having experience in academic research, such as participating in research projects or publishing academic papers.

Research Instruments

Focus Group Form

The instrument used to collect data for the second research objective, namely, to develop strategies for enhancing foreign language teachers' research competence at universities in Guangxi, was a focus group form. This instrument was developed based on the findings of the first phase, which examined the current situation of teachers' research competence across five dimensions: (1) Skills in reviewing the state of research, (2) Methodological skills, (3) Skills in reflecting on research findings, (4) Communication skills, and (5) Content knowledge.

The focus group form consisted of two parts:

Part 1: Demographic information of the participants, including name, educational background, academic title, degree, years of teaching experience, as well as the time and location of the interview.

Part 2: Questions focusing on strategies for enhancing foreign language teachers' research competence in universities in Guangxi, structured around the five dimensions: 1) Skills in reviewing the state of research, 2) Methodological skills, 3) Skills in reflecting on research findings, 4) Communication skills, and 5) Content knowledge.

The process of conducting the focus group discussion

Step 1: The results of the questionnaire survey on the current status of foreign language teachers' research competence at universities in Guangxi were systematically summarized and analyzed. Based on the identified conditions across five dimensions, namely (1) Skills in reviewing the state of research, (2) Methodological skills, (3) Skills in reflecting on research findings, (4) Communication skills, and (5) Content knowledge, an outline of strategies for enhancing foreign language teachers' research competence was developed.

Step 2: The informants were divided into three groups, and each group held an online focus group discussion.

Step 3: In each discussion, the purpose of the focus group discussion was introduced. The outline of strategies for enhancing teachers' research competence at universities in Guangxi was presented to the informants.

Step 3: Informants were invited to share their suggestions on the outline of strategies for enhancing teachers' research competence at universities in Guangxi.

Step 4: During the focus group discussions, relevant information and data were systematically recorded for subsequent analysis.

Data Collection

Data for the second research phase were collected through focus group discussions following the procedures outlined below:

Step 1: Demographic information about the participants was collected, including names, educational backgrounds, academic titles, degrees, years of teaching experience, and the time and location of the focus group discussions.

Step 2: Participants' suggestions on the outline of strategies for enhancing teachers' research competence were collected using focus group forms.

Step 3: The collected data were organized and synthesized to refine the preliminary outline of strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Data Analysis

Qualitative content analysis was applied to interpret the information obtained through the focus group discussions. Based on this analysis, the preliminary outline of strategies derived from the questionnaire findings was further refined and elaborated into a comprehensive set of strategies to enhance foreign language teachers' research competence at universities in Guangxi.

Phase 3: The objective of this phase was to evaluate the suitability and feasibility of the strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Expert Group

Fifteen foreign language experts from public undergraduate universities in Guangxi were invited to evaluate the suitability and feasibility of the strategies developed in Phase 2 for enhancing foreign language teachers' research competence. The experts were purposively selected based on the following criteria: (1) having at least 10 years of experience in foreign language teaching in public undergraduate universities in Guangxi; (2) holding the academic title of associate professor or above or possessing a doctoral degree; and (3) having substantial experience in academic research, including leading and completing provincial-level or higher research projects, or publishing papers in recognized academic journals.

Research Instruments

Evaluation Form

To collect data for the third research objective, an evaluation form was developed based on the strategies formulated in Phase 2. These strategies were structured around five dimensions of research competence: (1) Skills in reviewing the state of research, (2) Methodological skills, (3) Skills in reflecting on research findings, (4) Communication skills, and (5) Content knowledge.

The evaluation form consisted of two parts:

Part 1: Demographic information of the experts, including name, academic title, degree, and related background information.

Part 2: Evaluation of the suitability and feasibility of the strategies developed in Phase 2 for enhancing foreign language teachers' research competence at universities in Guangxi.

A five-point Likert scale was used to assess the suitability and feasibility of the strategies developed in Phase 2 for enhancing foreign language teachers' research competence at universities in Guangxi, with response categories defined as follows:

5 = the highest level of the suitability and feasibility of the strategies

4 = high level of the suitability and feasibility of the strategies

3 = moderate level of the suitability and feasibility of the strategies

2 = low level of the suitability and feasibility of the strategies

1 = the lowest level of the suitability and feasibility of the strategies

For the interpretation of mean scores, the following criteria were adopted based on commonly used conventions in Likert-scale research (see Likert, 1932):

4.50–5.00, indicating the highest level

3.50–4.49, indicating a high level

2.50–3.49, indicating a moderate level

1.50–2.49, indicating a low level

1.00–1.49, indicating the lowest level

The process of conducting the Evaluation

Step 1: The data obtained from the focus group discussions were systematically analyzed and synthesized to refine the preliminary outline of strategies for enhancing foreign language teachers' research competence at universities in Guangxi. Based on the refined strategies, an evaluation form was developed to assess their suitability and feasibility.

Step 2: The evaluation form was distributed to 15 experts from public undergraduate universities in Guangxi. The experts were invited to evaluate and rate the refined strategies for their suitability and feasibility. The completed evaluation forms were then collected and compiled for subsequent analysis.

Data Collection

Data for this phase were collected from the expert evaluation process in accordance with the established procedures, as outlined below:

Step 1: Demographic information about the experts participating in the evaluation was collected, including name, academic title, educational level, and relevant background.

Step 2: Experts' responses to the Evaluation Form for Suitability and Feasibility were collected after the evaluation process.

Step 3: To sort out and summarize the evaluation results of each expert and present them in tabular form.

Data Analysis

The 15 experts' evaluations were statistically summarized by computing the mean and standard deviation for each item. These results were used to determine the suitability and feasibility of the proposed strategies for enhancing foreign language teachers' research competence at universities in Guangxi. The interpretation of mean scores followed the predefined criteria based on the five-point Likert scale.

To provide a clearer overview of the research design and implementation process, Figure 3.1 presents the overall research procedure adopted in this study. It illustrates the three sequential phases of the explanatory sequential mixed-methods design, including the quantitative survey, qualitative focus group discussions, and

expert evaluation, as well as the integration of findings leading to the development and validation of strategies for enhancing foreign language teachers' research competence.

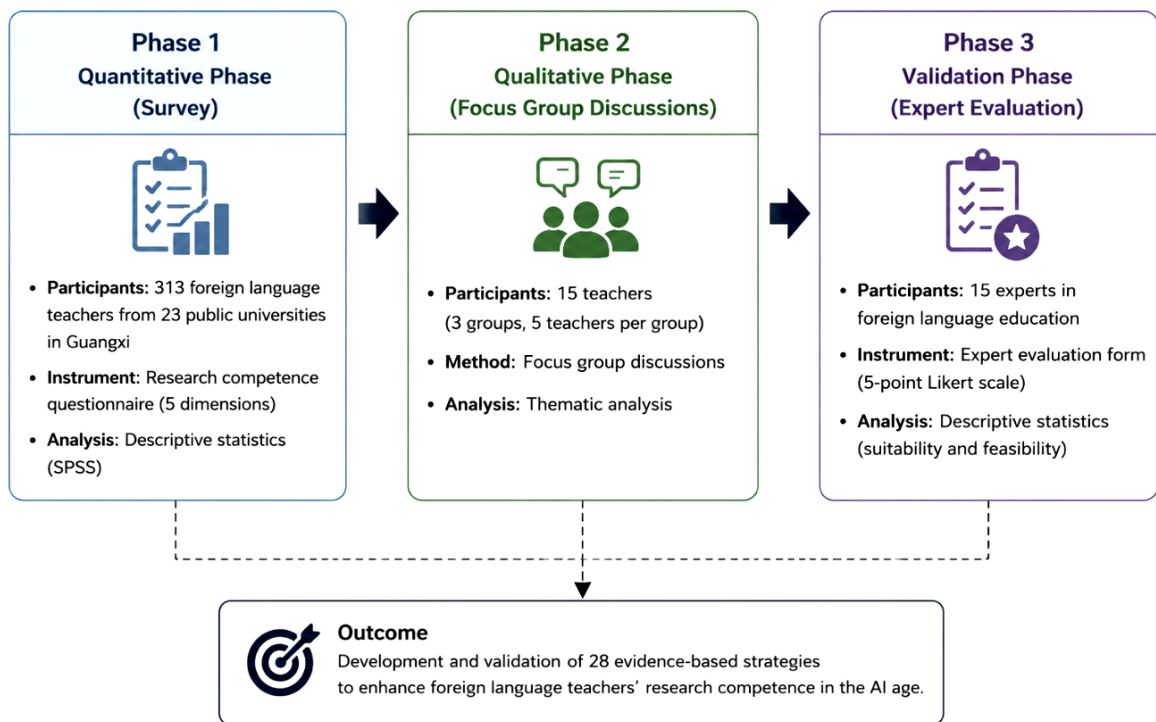


Figure 3.1 Overall Research Procedure of the Study

Chapter 4

Results of Analysis

Chapter 4 presents the results of the data analysis conducted in this study. This research aimed to investigate strategies for enhancing foreign language teachers' research competence at universities in Guangxi. Specifically, the objectives of this study were: (1) to examine the current situation of foreign language teachers' research competence at universities in Guangxi; (2) to formulate strategies for enhancing foreign language teachers' research competence; and (3) to evaluate the suitability and feasibility of the proposed strategies.

The results of the data analysis are organized and presented in the following sections:

1. Symbols and abbreviations
2. Presentation of data analysis
3. Results of data analysis

The details are presented as follows.

Symbols and abbreviations

- | | | |
|-----------|-----------|--------------------|
| N | refers to | the population |
| n | refers to | the sample group |
| $\bar{x}$ | refers to | the mean |
| S.D. | refers to | standard deviation |

Presentation of Data Analysis

The data analysis in this study is organized into three parts, each corresponding to a specific research objective.

Part 1 presents the analysis of the questionnaire concerning the current situation of foreign language teachers' research competence at universities in

Guangxi. The mean and standard deviation are calculated to summarize the data. Specifically:

1. The respondents' demographic information, including university affiliation, gender, age, educational level, academic title, graduate supervisor status, and years of work experience, was presented using frequency and percentage.
2. Teachers' research competence was statistically summarized by calculating the mean and standard deviation of their questionnaire responses.
3. SWOT analysis was conducted to further interpret the findings regarding strengths, weaknesses, opportunities, and threats.

Part 2 presents an analysis of the focus group discussions on the outline of strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Part 3 presents the analysis of the evaluation of the suitability and feasibility of the proposed strategies for enhancing foreign language teachers' research competence. The data are analyzed using mean and standard deviation.

Results of Data Analysis

The results of the data analysis are organized into the following three parts, each corresponding to a research objective.

Part 1: Analysis of the questionnaire concerning the current situation of foreign language teachers' research competence at universities in Guangxi.

- 1. Analysis of the demographic characteristics of the respondents, including university affiliation, gender, age, educational level, academic title, graduate supervisor status, and years of work experience, presented using frequency and percentage, as shown in Table 4.1.**

The analysis of respondents' demographic characteristics is essential to interpreting the study findings. By providing a comprehensive overview of the sample structure, this analysis ensures the representativeness and credibility of the data, thereby enhancing the validity of subsequent statistical analyses. Furthermore, understanding the demographic distribution of the respondents facilitates a more

nuanced interpretation of foreign language teachers' research competence, as variations in individual and institutional characteristics may influence research engagement and competence development.

The inclusion of variables such as university affiliation, gender, age, educational level, academic title, graduate supervisor status, and years of work experience is grounded in their established relevance in educational and organizational research. These factors are commonly associated with differences in access to research resources, professional development opportunities, academic responsibilities, and institutional expectations. As such, they provide important contextual information for analyzing disparities in research competence and for informing the development of targeted and context-sensitive enhancement strategies.

Table 4.1 provides a detailed breakdown of the respondents' demographic profile.

Table 4.1 Frequency and percentage of respondents

Demographic information		Frequency	Percentage
University	GuangXi University	17	5.43
	Guangxi Minzu University	29	9.27
	Guangxi Medical University	8	2.56
	Nanning Normal University	14	4.47
	Guangxi University of Finance and Economics	10	3.19
	Guangxi Arts University	4	1.28
	Guangxi Normal University	30	9.58
	Guilin University of Electronic Technology	17	5.43
	Guilin University of Technology	19	6.07

Table 4.1 (Continued)

Demographic information		Frequency	Percentage
	Guangxi University of Science and Technology	12	3.83
	Beibu Gulf UniversityYulin Normal University	16	5.11
	Baise University	12	3.83
		9	2.88
	Hechi University	10	3.19
	Hezhou University	13	4.15
	Guangxi University of Chinese Medicine	6	1.92
	Guangxi Police College	6	1.92
	Guangxi Vocational University of Agriculture	9	2.88
	Guilin University of Aerospace Technology	12	3.83
	Guilin Tourism University	22	7.03
	Guangxi Minzu Normal University	14	4.47
	Wuzhou University	12	3.83
	Guangxi Science & Technology Normal University	12	3.83
	Total	23	100.00
Gender	Male	88	28.12
	Female	225	71.88
	Total	313	100.00
Age	20 to 25	0	0.00
	26 to 30	22	7.03
	31 to 35	49	15.65
	36 to 40	71	22.68
	41 to 45	87	27.80

Table 4.1 (Continued)

Demographic information		Frequency	Percentage
	46 to 50	50	15.97
	51 to 55	22	7.03
	56 to 60	12	3.83
	Total	313	100.00
Education Level	Bachelor's degree	21	6.71
	Master's degree	195	62.30
	Doctoral degree	94	30.03
	Postdoc	3	0.96
	Total	313	100.00
Academic Title	no title	3	0.96
	Teaching assistant	14	4.47
	Lecturer	155	49.52
	Associate professor	116	37.06
	Professor	25	7.99
	Total	313	100.00
Graduate Supervisor Status	no title	226	72.20
	Master's Supervisor	87	27.80
	Total	313	100.00
Length of work experiences	within 5 years	36	11.50
	5 to 10 years	60	19.17
	11 to 15 years	78	24.92
	16 to 20 years	65	20.77
	More than 20 years	74	23.64
	Total	313	100.00

According to Table 4.1, the distribution of respondents' schools shows that the survey included 23 public undergraduate universities in Guangxi. Male respondents accounted for 28.12% (88 people), and female respondents accounted for 71.88% (225 people), indicating that the majority of respondents were female. The age distribution among the respondents was: 22 people accounted for 7.03% between 26-30 years old, 49 people accounted for 15.65% are between 31-35 years old, 71 people accounted for 22.68% are between 36-40 years old, 87 people accounted for 27.80% are between 41-45 years old, 50 people accounted for 15.97% are between 46-50 years old, 22 people accounted for 7.03% are between 51-55 years old, and 12 people accounted for 3.83% are between 56-60 years old. The largest age group was 41-45 years old, accounting for 27.80% of respondents. In terms of educational background, 21 people (6.71%) hold a bachelor's degree, 195 people (62.30%) hold a master's degree, 94 people (30.03%) hold a doctoral degree, and 3 people (0.96%) are postdocs. Most respondents held a master's degree (62.30%). The professional titles of respondents are as follows: 3 people have no title, 14 people, accounting for 4.47%, are teaching assistants, 155 people, accounting for 49.52%, are lecturers, 116 people, accounting for 37.06%, are associate professors, and 25 people, accounting for 7.99%, are professors. The largest group by professional title was lecturers (49.52%). Regarding the "Graduate Supervisor Status", 226 respondents, accounting for 72.2%, are not master's supervisors, while 87 respondents, accounting for 27.8%, are master's supervisors. There are no respondents who are PhD Supervisors, representing 0%. The majority of respondents were not master's supervisors (72.2%). In terms of work experience length, the respondents were distributed across five categories. Specifically, 36 respondents (11.50%) had less than 5 years of experience, 60 respondents (19.17%) had 5–10 years, 78 respondents (24.92%) had 11–15 years, 65 respondents (20.77%) had 16–20 years, and 74 respondents (23.64%) had more than 20 years of experience. The largest group consisted of respondents with 11–15 years of work experience, accounting for 24.92% of the total sample, indicating that a substantial portion of the sample has moderate professional experience.

2. Analysis of the questionnaire data on teachers' research competence at universities in Guangxi.

Questionnaire responses provided the basis for assessing the current situation of foreign language teachers' research competence at universities in Guangxi. In alignment with the conceptual framework of this study, teachers' research competence is operationalized across five key dimensions: 1) skills in reviewing the state of research, 2) methodological skills, 3) skills in reflecting on research findings, 4) communication skills, and 5) content knowledge. These dimensions collectively capture the multidimensional nature of research competence, encompassing the abilities required to engage with existing scholarship, design and conduct research, critically interpret findings, disseminate results, and demonstrate domain-specific expertise.

To provide a more comprehensive and fine-grained assessment of research competence, the data are analyzed at both the dimension and item levels using means and standard deviations. Specifically, mean scores are calculated for each of the five dimensions and for each individual questionnaire item within those dimensions, while standard deviations indicate the extent of variability among respondents. This dual-level analysis not only reflects the overall patterns of research competence but also reveals variations in specific dimensions of research competence, thereby enabling the identification of both strengths and areas for improvement.

Table 4.2 summarizes the findings.

Table 4.2 Mean and standard deviation of the five dimensions of foreign language teachers' research competence at universities in Guangxi

(n = 313)

Foreign language teachers' research competence at universities in Guangxi		$\bar{x}$	S.D.	level	order
1	Skills in reviewing the state of research	3.57	0.60	high	2
2	Methodological skills	3.07	0.60	medium	4
3	Skills in reflecting on research findings	3.35	0.52	medium	3
4	Communication skills	3.83	0.51	high	1
5	Content knowledge	3.04	0.61	medium	5
Total		3.37		medium	

According to Table 4.2, the data showed that the overall level of foreign language teachers' research competence at universities in Guangxi was medium ($\bar{x}$ =3.37). Among the five dimensions, the highest mean was communication skills ($\bar{x}$ =3.83), followed by skills in reviewing the state of research ($\bar{x}$ =3.57), and the lowest was content knowledge ($\bar{x}$ =3.04).

Table 4.3 Mean and standard deviation of “skills in reviewing the state of research” of foreign language teachers’ research competence at universities in Guangxi (n = 313)

	Skills in reviewing the state of research	$\bar{x}$	S.D.	level	order
1	You know how to conduct a targeted search of the state of research on a specific topic.	4.12	0.62	high	1
2	You know where to target a search of the state of research on a specific topic.	3.51	0.81	high	3
3	You are able to systematically review the state of research regarding a specific topic.	3.56	0.83	high	2
4	Based on the state of research, you are able to identify gaps/unaddressed questions for further research.	3.37	0.70	medium	4
5	You are able to evaluate the methodological quality of research findings well.	3.30	0.73	medium	5
Total		3.57	0.60	medium	

According to Table 4.3, the current situation of foreign language teachers’ research competence at universities in Guangxi, in terms of skills in reviewing the state of research, was at a high level ($\bar{x}$ =3.57). Among the 5 items, the highest mean was “foreign language teachers know how to conduct a targeted search of the state of research on a specific topic.” ($\bar{x}$ =4.12), followed by “foreign language teachers are able to systematically review the state of research regarding a specific topic” ($\bar{x}$ =3.56), and the lowest mean was “foreign language teachers are able to evaluate the methodological quality of research findings well” ($\bar{x}$ =3.30).

Table 4.4 Mean and standard deviation of “methodological skills” of foreign language teachers’ research competence at universities in Guangxi

(n = 313)

	Methodological skills	$\bar{x}$	S.D.	level	order
1	You find it difficult to formulate specific research questions/hypotheses.	3.73	0.78	high	2
2	You are able to decide which data/sources/materials I need to address your research question.	3.45	0.68	medium	4
3	You are able to plan a research study.	3.99	0.66	high	1
4	You find it difficult to start/initiate each step of the research process.	3.70	0.75	high	3
5	You find it easy to decide which methods you need to use to address a specific research question.	2.99	0.83	medium	7
6	You are good at judging which method is inappropriate to answer a specific research question.	3.03	0.79	medium	6
7	You are able to apply different research methods appropriate to your research question.	3.29	0.76	medium	5
8	You are able to confidently analyze quantitative data.	2.27	1.11	low	8
9	You are able to confidently analyze qualitative data.	2.25	1.10	low	9
10	You are able to use appropriate analytical tools to analyze data.	1.87	0.97	low	10
Total		3.07	0.60	medium	

According to Table 4.4, the current situation of foreign language teachers' research competence at universities in Guangxi, in terms of methodological skills, was at a medium level ($\bar{x}$ =3.07). Among the 10 questions, the highest mean was "foreign language teachers are able to plan a research study" ($\bar{x}$ =3.99), followed by "foreign language teachers find it difficult to formulate specific research questions/hypotheses" ($\bar{x}$ =3.73), and the lowest mean was "foreign language teachers are able to use appropriate analytical tools to analyze data" ($\bar{x}$ =1.87).

Table 4.5 Mean and standard deviation of "skills in reflecting on research findings" of foreign language teachers' research competence at universities in Guangxi
(n = 313)

	Skills in reflecting on research findings	$\bar{x}$	S.D.	level	order
1	You are able to adequately interpret your research findings.	3.35	0.77	medium	4
2	You are able to adequately relate your research findings to key theories in the subject area.	3.17	0.79	medium	7
3	You are able to critically reflect on methodological limitations of your own research findings.	3.42	0.75	medium	2
4	You are able to reflect on the implications of your own research findings in your discipline.	3.36	0.62	medium	3
5	You are able to discuss your research findings with regard to their potential applications.	3.29	0.62	medium	5
6	You are able to critically reflect on the social and ethical implications of your research.	3.20	0.59	medium	6
7	You are able to take a stand on social and ethical issues of research in your discipline.	3.69	0.63	high	1
Total		3.35	0.52	medium	

According to Table 4.5, the current situation of foreign language teachers' research competence at universities in Guangxi, in terms of skills in reflecting on research findings, was at a medium level ($\bar{x}$ =3.35). Among the 7 questions, the highest mean was "foreign language teachers are able to take a stand on social and ethical issues of research in your discipline" ($\bar{x}$ =3.69), followed by "foreign language teachers are able to critically reflect on methodological limitations of your own research findings" ($\bar{x}$ =3.42), and the lowest mean was "foreign language teachers are able to adequately relate your research findings to key theories in the subject area" ($\bar{x}$ =3.17).

Table 4.6 Mean and standard deviation of "communication skills" of foreign language teachers' research competence at universities in Guangxi

(n = 313)

	Communication skills	$\bar{x}$	S.D.	level	order
1	You are able to write up research findings in accordance with the current conventions in your discipline.	3.75	0.59	high	6
2	You are able to write a publication in accordance with the standards of your discipline.	3.87	0.54	high	2
3	You find it difficult to write a report that meets the standards of academic writing.	3.86	0.63	high	3
4	You are capable of writing research project proposals that meet the standards of this discipline.	3.78	0.65	high	5
5	You are able to lead research projects and successfully complete them.	4.03	0.74	high	1
6	You are able to prepare research findings for a presentation at a research colloquium.	3.83	0.62	high	4
7	You are able to present your research at a scientific meeting in accordance with current standards in your discipline.	3.66	0.68	high	7
Total		3.83	0.51	high	

According to Table 4.6, the current situation of foreign language teachers' research competence at universities in Guangxi, in terms of communication skills, was at a high level ($\bar{x}$ =3.83). Among the 7 questions, the highest mean was "foreign language teachers are able to lead research projects and successfully complete them" ($\bar{x}$ =4.03), followed by "foreign language teachers are able to write a publication in accordance with the standards of your discipline" ($\bar{x}$ =3.87), and the lowest mean was "foreign language teachers are able to present your research at a scientific meeting in accordance with current standards in your discipline" ($\bar{x}$ =3.66).

Table 4.7 Mean and standard deviation of "content knowledge" of foreign language teachers' research competence at universities in Guangxi

(n = 313)

	Content knowledge	$\bar{x}$	S.D.	level	order
1	You have a good overview of the main (current) research findings in your discipline.	2.88	0.93	medium	6
2	You are informed about the main (current) theories in your discipline.	3.13	0.77	medium	5
3	You are informed about the historical development of theories in your discipline.	3.14	0.66	medium	4
4	You have a sound knowledge of the main research methods in your discipline.	2.77	0.96	medium	7
5	You are informed about the most important national academic publication outlets in your discipline.	3.37	0.67	medium	2
6	You are informed about the most important international academic publication outlets in your discipline.	2.26	1.09	low	8
7	You are informed about the standards for academic publications that apply in your discipline.	3.44	0.72	medium	1

Table 4.7 (Continued)

(n = 313)					
	Content knowledge	$\bar{x}$	S.D.	level	order
8	You are informed about the standards that apply to the presentation of research findings at conferences and meetings in your subject area.	3.35	0.75	medium	3
Total		3.04	0.61	medium	

According to Table 4.7, the current situation of foreign language teachers' research competence at universities in Guangxi, in terms of content knowledge, was at a medium level ($\bar{x}$ =3.04). Among the 8 questions, the highest mean was "foreign language teachers are informed about the standards for academic publications that apply in your discipline" ($\bar{x}$ =3.44), followed by "foreign language teachers are informed about the most important national academic publication outlets in your discipline" ($\bar{x}$ =3.37), and the lowest mean was "foreign language teachers have a sound knowledge of the main research methods in your discipline" ($\bar{x}$ =2.77).

3. SWOT analysis

The SWOT analysis in this study is based on the third part of the questionnaire, which consisted of open-ended questions inviting respondents to provide their perspectives on the strengths and weaknesses associated with foreign language teachers' research competence and on the opportunities and threats arising from the broader environment. The participants' responses were systematically organized, categorized, and synthesized to capture the key themes emerging from their perspectives. This analysis aims to integrate respondents' experiential insights with quantitative findings, thereby providing a contextualized, evidence-based foundation for the preliminary formulation of strategies to enhance foreign language teachers' research competence at universities in Guangxi. The results of the SWOT analysis are presented in Table 4.8.

Table 4.8 SWOT Analysis

	Helpful in reaching goals	Harmful to achieving goals
	Strengths	Weaknesses
Inside Factors	1. In a number of universities in Guangxi, research promotion has been increasingly institutionalized through the establishment of governance mechanisms, including performance appraisal systems, research funding schemes, and promotion criteria. These arrangements provide a structured policy environment that supports teachers' engagement in research activities and the development of research competence. 2. Universities have progressively enhanced access to research-related resources, such as academic databases, digital libraries, and research management platforms. These resources offer essential support for literature review, data collection, and academic writing, thereby facilitating teachers' participation in research.	1. In many universities, professional development related to research competence remains fragmented and insufficiently sustained, with limited provision of discipline-specific training tailored to foreign language teachers. This constrains the systematic development of methodological skills and research capacity. 2. Research-related activities, such as structured mentoring systems, sustained academic communities, and coordinated research support mechanisms, are not yet fully established in some institutions. This limits opportunities for collaborative learning and continuous competence development. 3. Foreign language teachers often face intensive teaching responsibilities and various administrative tasks, resulting in limited time and cognitive resources for sustained

Table 4.8 (Continued)

Helpful in reaching goals	Harmful to achieving goals
Strengths	Weaknesses
3. Within some universities, internal academic exchange mechanisms have been gradually developed, including research teams, teacher workshops, academic seminars, and invited lectures by external scholars. These platforms promote peer interaction, knowledge sharing, and collaborative inquiry, contributing to the development of methodological skills and academic communication. 4. Universities occasionally provide opportunities for teachers to participate in external academic activities, such as attending conferences, engaging in professional training programs, and conducting inter-university exchanges. These experiences broaden academic horizons and enhance awareness of current research trends and standards.	engagement in research activities and competence development. 4. Due to their predominantly humanities-based educational backgrounds, many foreign language teachers demonstrate relatively limited proficiency in quantitative and data-driven research methods. This constrains their ability to design and conduct rigorous studies empirically. 5. Beyond methodological challenges, some teachers exhibit limitations in critically evaluating research findings and engaging in academic writing and scholarly communication, which affects the overall quality and impact of their research outputs. 6. Although AI tools are increasingly available, many teachers tend to use them at a basic operational level, without effectively integrating them into the research process, such as in

Table 4.8 (Continued)

Helpful in reaching goals	Harmful to achieving goals
Strengths	Weaknesses
5. Foreign language teachers demonstrate a growing recognition of the importance of research for career advancement, professional identity, and academic promotion. This awareness serves as a key motivational driver for sustained engagement in research and competence development. 6. Most foreign language teachers possess postgraduate qualifications and a foundational knowledge base in linguistics, translation, or applied linguistics. This disciplinary background provides a solid basis for the development of research competence, particularly in the domain of content knowledge 7. An increasing number of teachers have begun to incorporate AI tools into their research practices, particularly in areas such as literature search, translation, and academic writing	literature synthesis, data analysis, or academic writing 7. Some teachers experience difficulties in assessing the accuracy, reliability, and academic validity of AI-generated outputs, and may lack sufficient awareness of ethical considerations in AI-assisted research. This poses potential risks to research quality and academic integrity.

Table 4.8 (Continued)

	Helpful in reaching goals	Harmful to achieving goals
	Strengths	Weaknesses
	support. This technological integration enhances research efficiency and provides new avenues for developing research competence.	
	Opportunity	Threat
Outside Factors	1. The rapid advancement of artificial intelligence technologies has significantly reshaped research processes, offering powerful support for literature review, data analysis, academic writing, and cross-language research. These developments create new opportunities for enhancing multiple dimensions of research competence, particularly in methodological skills, literature review, and academic communication.	1. Performance-based evaluation systems and publication requirements may exert increasing pressure on teachers, encouraging a focus on short-term outputs and quantitative indicators rather than the sustained development of research competence. This may also lead to a tendency to pursue popular or “trending” research topics at the expense of originality and long-term academic growth.
	2. National and regional policies increasingly emphasize innovation, digitalization, and the enhancement of research capacity in higher education. These policy orientations provide both institutional	2. Disparities among universities in terms of access to high-quality academic databases, advanced AI tools, and professional development opportunities may result in uneven conditions for research competence

Table 4.8 (Continued)

Helpful in reaching goals	Harmful to achieving goals
Opportunity	Threat
frameworks and financial support for improving teachers' research competence.	development, thereby widening gaps among teachers and institutions.
3. In recent years, disciplinary experts and academic organizations have actively promoted the development of research communities in the field of foreign languages at the national level. These communities provide platforms for knowledge exchange, collaborative learning, and academic engagement, offering valuable opportunities for foreign language teachers in Guangxi to enhance their research competence.	3. The rapid integration of AI technologies into research practices introduces potential risks, including over-reliance on automated tools, reduced critical engagement with research materials, and challenges related to academic integrity. These risks may negatively affect the quality and credibility of research outputs.
4. Guangxi's strategic position in China-ASEAN cooperation creates favorable conditions for international research collaboration, cross-cultural academic exchange, and the diversification of research topics. These opportunities contribute to the development of	4. The growing emphasis on high-quality publications in international journals has raised the threshold for research competence, particularly in terms of methodological rigor and academic writing. This creates additional challenges for foreign language teachers striving to meet evolving academic standards.
	5. Research funds for liberal arts are very limited, and most universities are reluctant to purchase advanced equipment

Table 4.8 (Continued)

Helpful in reaching goals	Harmful to achieving goals
Opportunity	Threat
academic communication skills and broaden research engagement.	for liberal arts research (because it is too expensive).

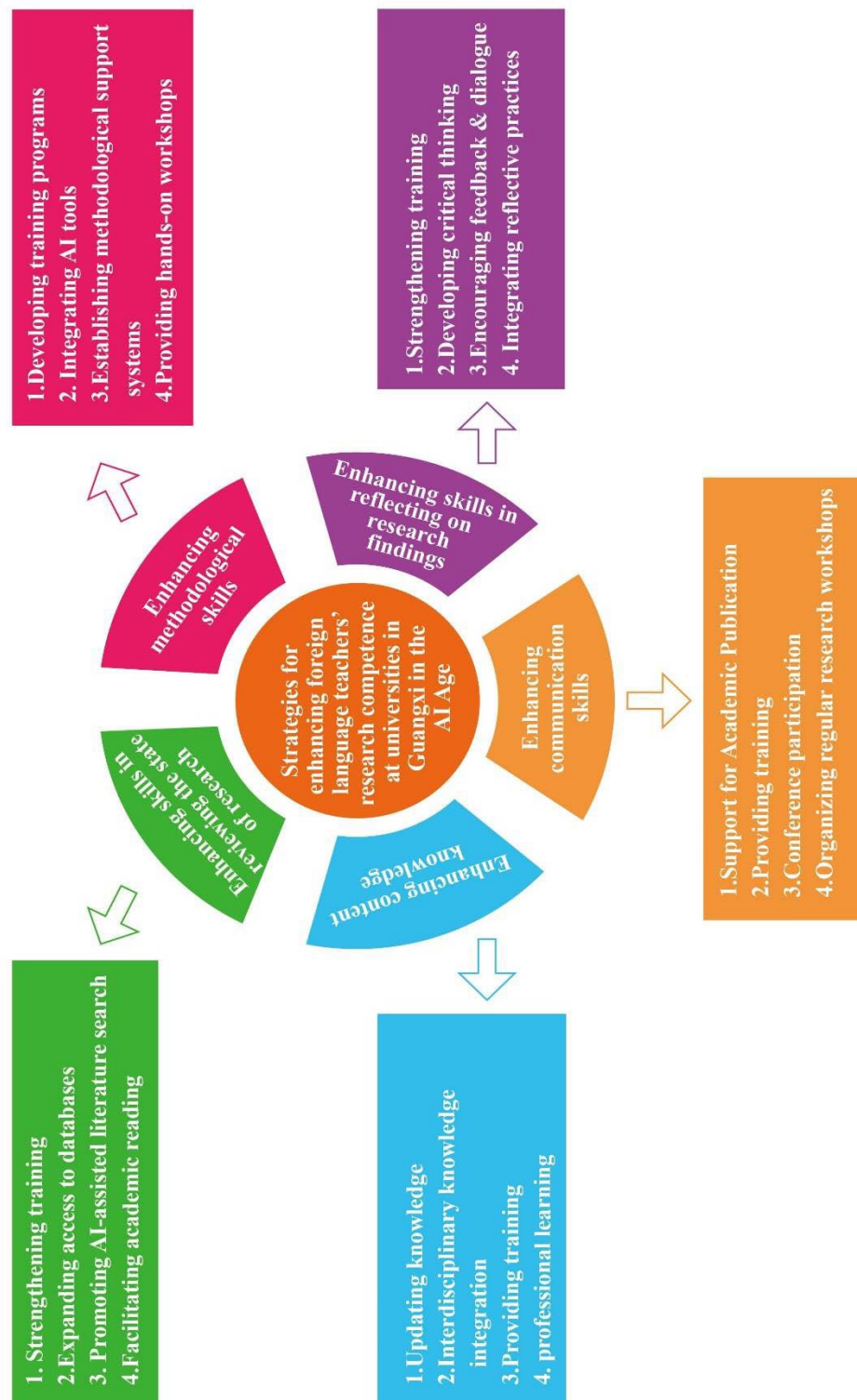
Based on the mean and variance of the five dimensions from the questionnaire survey, as well as the results of the SWOT analysis, a preliminary outline of strategies to enhance foreign language teachers' research competence at universities in Guangxi is presented below:

Table 4.9 Outline of strategies for enhancing foreign language teachers' research competence at universities in Guangxi

Outline of strategies	
Enhancing skills in reviewing the state of research	1. Strengthening systematic literature review training. 2. Expanding access to high-quality academic databases. 3. Promoting AI-assisted literature search and synthesis. 4. Facilitating participation in academic reading groups.
Enhancing methodological skills	1. Developing systematic research methodology training programs. 2. Integrating AI tools into research design and data analysis. 3. Establishing discipline-specific methodological support systems. 4. Providing hands-on workshops on research design and data analysis.

Table 4.9 (Continued)

Outline of strategies	
Enhancing skills in reflecting on research findings	1. Strengthening theoretical and methodological reflection training. 2. Developing critical thinking in interpreting research results. 3. Encouraging peer feedback and reflective academic dialogue. 4. Integrating reflective practices into research activities.
Enhancing communication skills	1. Enhancing Institutional Support for High-Quality Academic Publication. 2. Providing systematic training and workshops on academic writing 3. Promoting participation in academic conferences and seminars. 4. Organizing regular research workshops on academic writing
Enhancing content knowledge	1. Updating knowledge of key theories and current research developments. 2. Promoting interdisciplinary knowledge integration. 3. Providing training in disciplinary knowledge. 4. Encouraging continuous professional learning and knowledge updating



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of strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

The analysis of the focus group discussions aims to further develop and refine the outline of strategies for enhancing foreign language teachers' research competence at universities in Guangxi. This phase builds upon the findings of the questionnaire survey, which identified the current situation of teachers' research competence across five dimensions: skills in reviewing the state of research, methodological skills, skills in reflecting on research findings, communication skills, and content knowledge. A total of 15 key informants were purposively selected from 23 public undergraduate universities in Guangxi based on their academic qualifications, extensive teaching experience, and research engagement. They were divided into three groups, and each group held an online focus group discussion on the outline of strategies for enhancing teachers' research competence at universities in Guangxi. The informants were invited to share their suggestions. Their insights provide in-depth, experience-based perspectives that complement the quantitative results obtained in the first phase.

The data were collected using focus group forms and organized and synthesized to refine the preliminary outline of strategies for enhancing foreign language teachers' research competence at universities in Guangxi. The results of the focus group discussions are presented in Table 4.10.

Table 4.10 Strategies for enhancing foreign

Strategies	
Enhancing skills in reviewing the state of research	1. Establishing institutionalized mechanisms for literature resource support by increasing investment in humanities-oriented academic databases, digital platforms, and corpora. 2. Strengthening inter-university resource-sharing mechanisms to facilitate broader access to high-quality academic materials. 3. Developing structured and discipline-specific training programs that guide foreign language teachers in conducting systematic literature review, including search strategies, source evaluation, and synthesis of research findings, etc. 4. Encouraging foreign language teachers' use of AI tools in literature search and synthesis while establishing clear guidelines to ensure their appropriate and ethical use. 5. Promoting the formation of academic reading communities and collaborative learning groups, where foreign language teachers can engage in regular discussions and shared interpretation of research literature. 6. Encouraging foreign language teachers to engage in self-directed academic reading and continuous knowledge updating as part of their professional development.
Enhancing methodological skills	1. Establishing a systematic and sustained methodological training system aligned with the research characteristics of foreign language studies, in order to provide long-term support for the development of teachers' methodological competence. 2. Organizing AI methodology innovation workshops and promoting the integration of AI tools into research design and data analysis in foreign language research, particularly in areas such as corpus analysis, text processing, and translation studies.

Table 4.10 (Continued)

	Strategies
	3. Strengthening mentoring systems and research supervision structures to provide ongoing guidance and support for foreign language teachers' methodological development. 4. Facilitating collaborative research and peer learning opportunities to encourage the sharing of methodological knowledge and practices among foreign language teachers. 5. Encouraging foreign language teachers to engage in self-initiated methodological learning as part of their professional development.
Enhancing skills in reflecting on research findings	1. Embedding reflective requirements into research evaluation and project completion processes, such as incorporating dedicated reflection sections in project reports and final presentations. 2. Establishing peer feedback mechanisms and academic dialogue platforms—such as regular research seminars, manuscript review sessions, and peer critique workshops—to support post-research reflective practices following manuscript publication and project completion. These practices should focus on the interpretation of research findings, their connections to relevant theories, methodological limitations, as well as the research's academic significance, potential value, and social impact. 3. Combining traditional tools, such as reflective journals and research memos, with AI tools to analyze research processes and outcomes, thereby supporting teachers in conducting more systematic and scientific reflection and enhancing their critical analysis skills. 4. Encouraging foreign language teachers to develop self-

Table 4.10 (Continued)

	Strategies
	reflection and critical thinking as integral components of their research practice.
Enhancing communication skills	1. Optimizing evaluation mechanisms to place greater emphasis on research quality, originality, and academic contribution rather than solely on the number of publications. 2. Enhancing institutional support for the publication of high-quality research by foreign language teachers, including financial assistance and policy-based incentives. Eligibility criteria for such support should be appropriately calibrated to ensure accessibility, encourage broader participation, and maintain academic standards. 3. Strengthening institutional support for foreign language teachers' participation in high-level academic conferences by providing financial assistance, formal policy support, and dedicated time allowances. 4. Providing continuous and systematic training and workshops on academic writing and publication for foreign language teachers, accompanied by sustained feedback and guidance from mentors throughout the process. 5. Organizing regular internal research workshops and experience-sharing sessions on academic writing and publication for foreign language teachers, inviting experienced scholars with strong publication records in high-quality international journals to share practical insights and strategies. 6. Promoting foreign language teachers' participation in high-quality academic exchange and collaboration, including national and international conferences, academic seminars, and collaborative research activities.

Table 4.10 (Continued)

Strategies	
	7. Encouraging foreign language teachers to engage continuously with high-quality academic literature and to develop sustained practices of academic writing and manuscript submission throughout the academic year. 8. Encouraging foreign language teachers' collaborative publication and co-authorship practices to promote knowledge sharing and mutual learning among teachers
Enhancing content knowledge	1. Establishing multi-channel mechanisms for continuously updating disciplinary knowledge, such as academic briefings, thematic seminars, and information platforms, while utilizing AI to push updates on research frontiers in real time, and providing personalized learning and knowledge expansion plans that automatically recommend courses, readings, and research projects according to teachers' interests and research directions. 2. Promoting interdisciplinary integration to encourage foreign language teachers to engage in cross-disciplinary research with related fields such as education, communication studies, and data science, which can broaden their theoretical perspectives and enrich research approaches. 3. Facilitating teachers' participation in external academic communities and knowledge networks, both nationally and internationally, to enhance exposure to diverse research perspectives and disciplinary developments. 4. Promoting internal knowledge sharing and dissemination within institutions through research groups, seminars, and academic forums, enabling the transfer and localization of newly acquired knowledge.

Table 4.10 (Continued)

Strategies
5. Encouraging foreign language teachers to engage in self-directed professional learning and knowledge expansion through continuous reading, course participation, and independent study.

Based on the detailed content of Table 4.10, the researcher has distilled the key terms for the corresponding strategies of the five dimensions of foreign language teachers' research competence and created a refined version of the Structure Diagram of Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi, as shown in Figure 4.2.



Figure 4.2 Structure diagram of strategies for enhancing foreign language teachers' research competence at universities in Guangxi

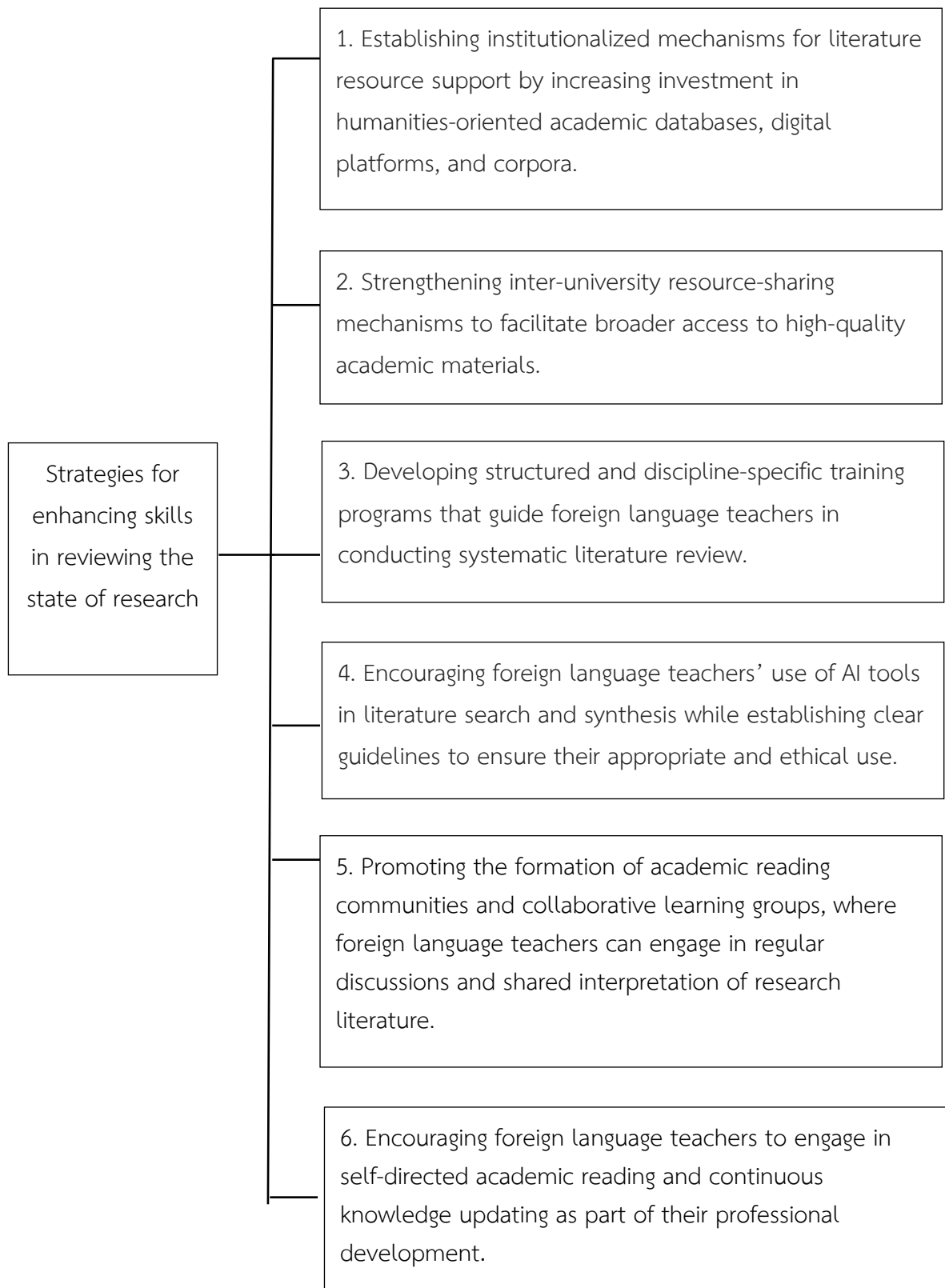


Figure 4.3 Strategies for enhancing skills in reviewing the state of research

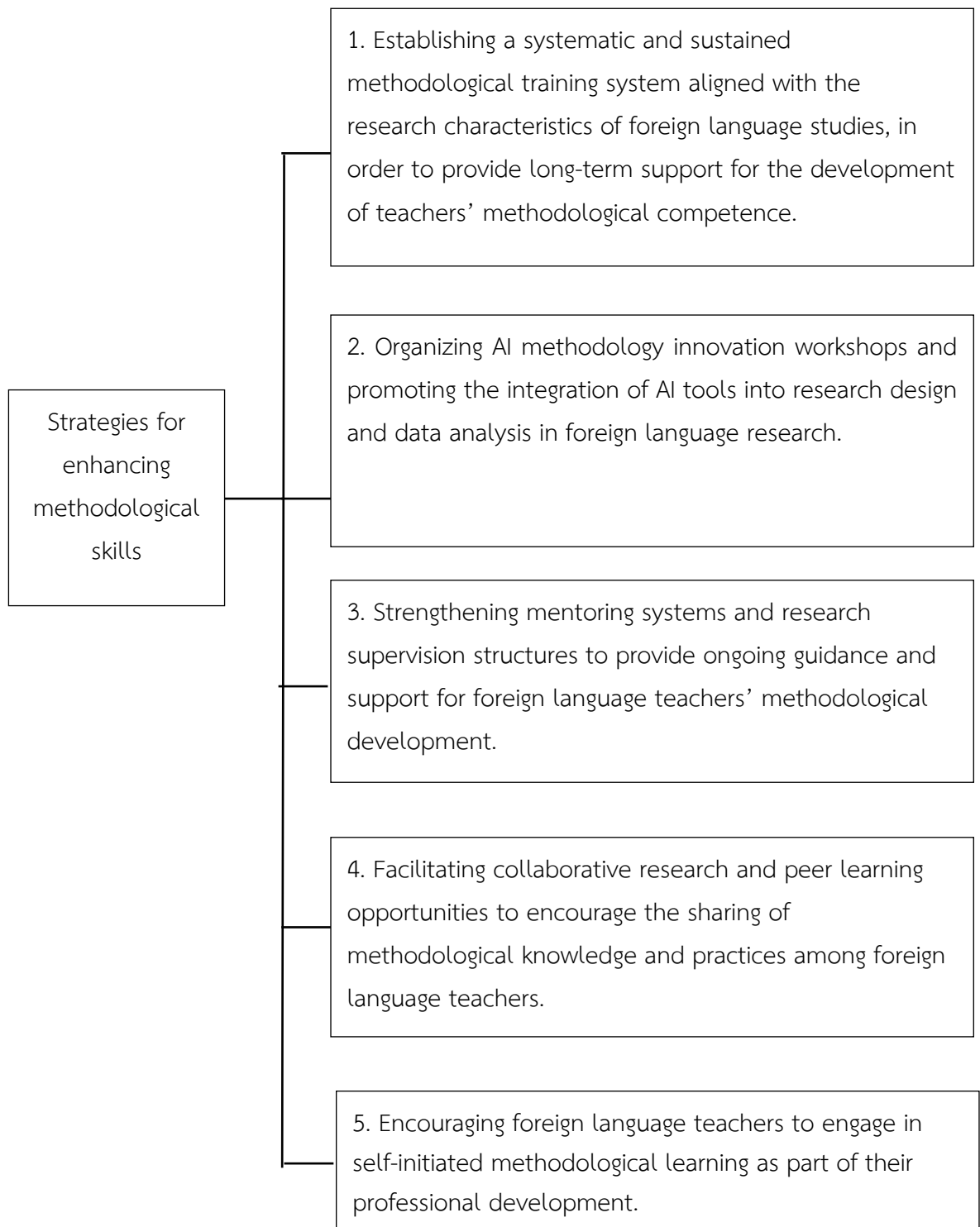


Figure 4.4 Strategies for enhancing methodological skills

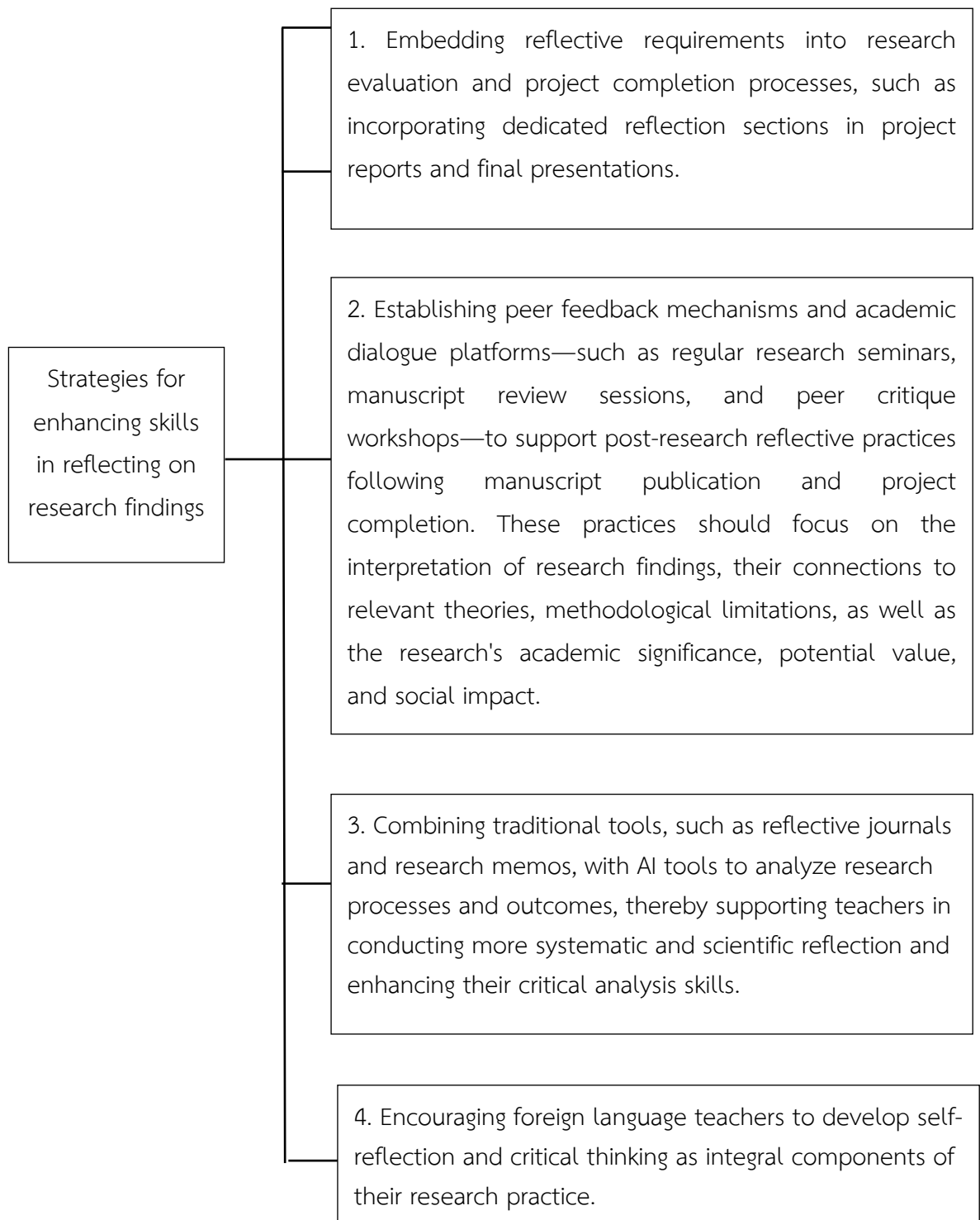


Figure 4.5 Strategies for enhancing skills in reflecting on research findings

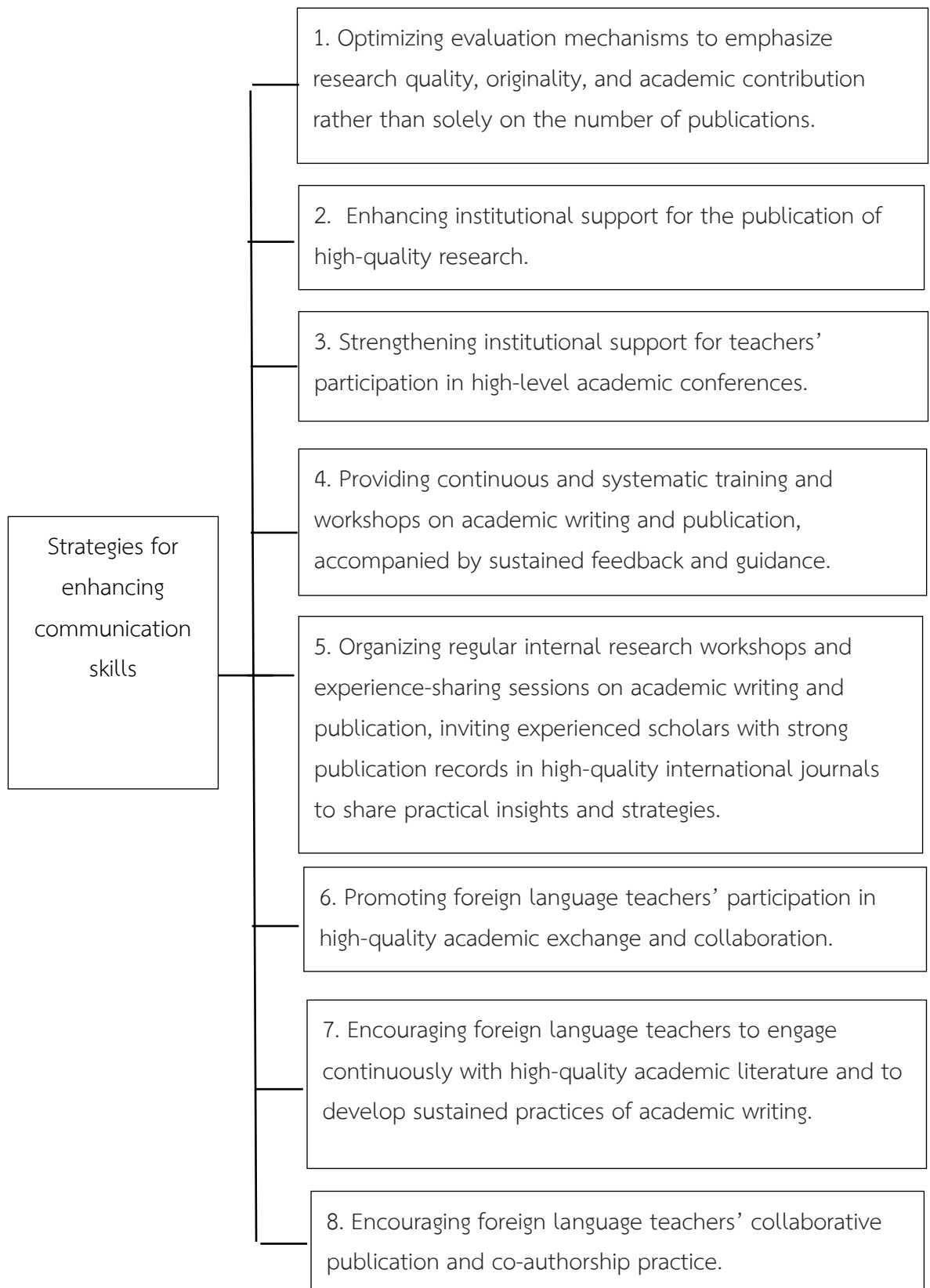


Figure 4.6 Strategies for enhancing communication skills

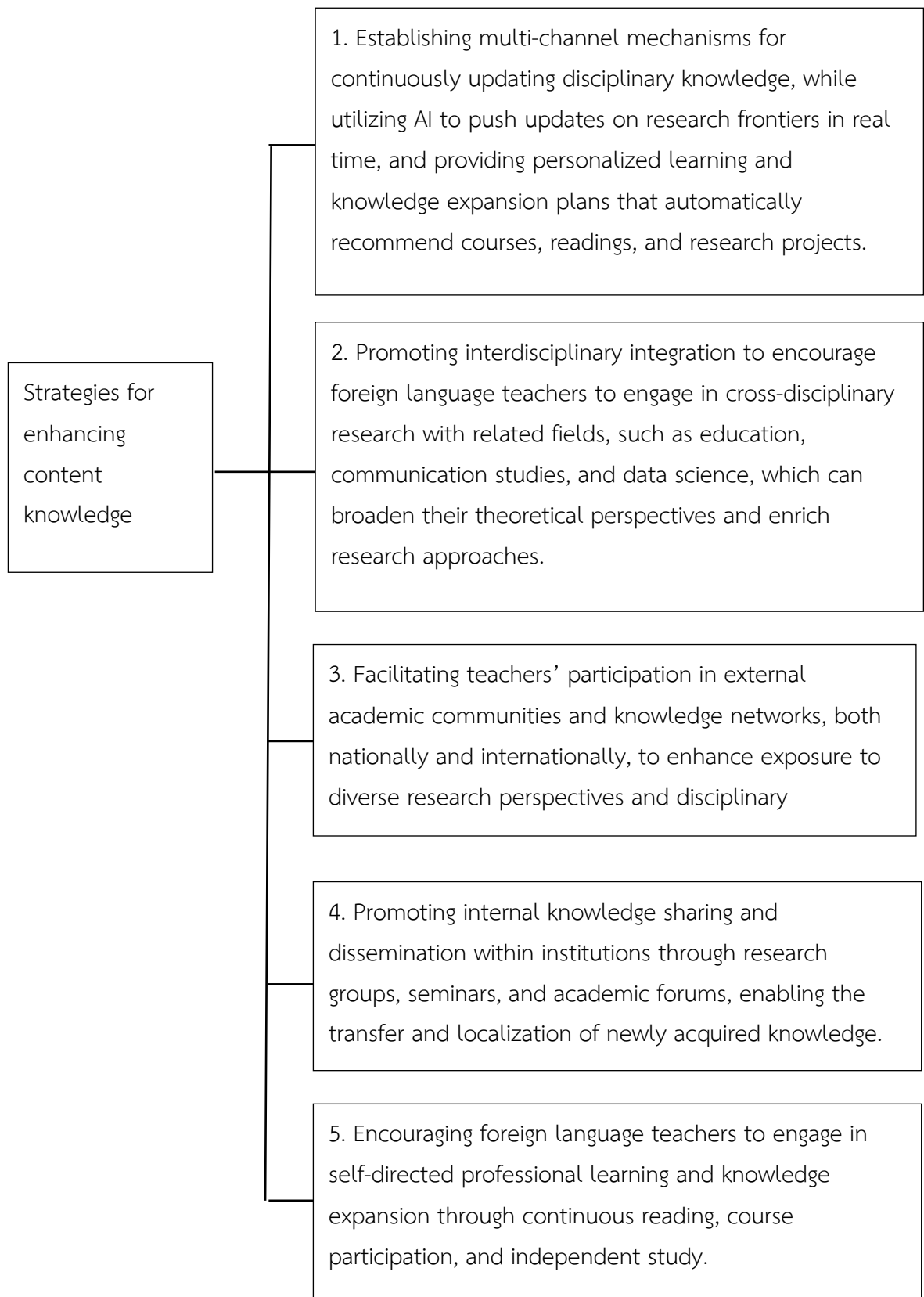


Figure 4.7 Strategies for enhancing content knowledge

Part 3: The analysis results of the evaluation of the suitability and feasibility of the proposed strategies for enhancing foreign language teachers' research competence, presented in terms of mean and standard deviation.

The analysis of the evaluation results aims to assess the suitability and feasibility of the strategies for enhancing foreign language teachers' research competence at universities in Guangxi. This phase builds upon the refined strategies developed through the focus group discussions in Phase 2. To ensure the credibility and rigor of the evaluation, 15 experts in foreign language education from public undergraduate universities in Guangxi were purposively selected based on their extensive teaching experience, high academic qualifications, and substantial research achievements. Their expert judgments provide authoritative and professional validation of the proposed strategies.

The data were collected using an evaluation form developed on the basis of the refined strategies, structured around the five dimensions of research competence: skills in reviewing the state of research, methodological skills, skills in reflecting on research findings, communication skills, and content knowledge. A five-point Likert scale was used to evaluate the suitability and feasibility of each strategy. The collected data were analyzed using mean and standard deviation, and the interpretation of mean scores followed predefined criteria. This analytical approach enables a systematic assessment of the overall effectiveness and practicality of the proposed strategies. The results of the evaluation are presented in Tables 4.11–4.16.

Table 4.11 Mean and standard deviation of the suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi

(N = 15)

Elements of strategies		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
1	Skills in reviewing the state of research	4.38	0.23	high	4.61	0.20	highest
2	Methodological skills	4.52	0.18	highest	4.56	0.23	highest
3	Skills in reflecting on research findings	4.35	0.35	high	4.50	0.34	highest
4	Communication skills	4.38	0.23	high	4.56	0.26	highest
5	Content knowledge	4.55	0.28	highest	4.59	0.35	highest
Total		4.43	0.27	high	4.56	0.28	highest

According to Table 4.11, the data showed that the suitability of the strategies for enhancing foreign language teachers' research competence at universities in Guangxi in 5 aspects was at a high level ($\bar{x}$ =4.43), which means the strategies for enhancing foreign language teachers' research competence at universities in Guangxi are suitable. Among the five dimensions, the highest suitability was content knowledge ($\bar{x}$ = 4.55), followed by methodological skills ($\bar{x}$ =4.52), and the lowest was Skills in reflecting on research findings ($\bar{x}$ =4.35).

The data showed that the feasibility of the strategies for enhancing foreign language teachers' research competence at universities in Guangxi in 5 aspects was at a highest level ($\bar{x}$ =4.56), which means the strategies for enhancing foreign language teachers' research competence at universities in Guangxi are feasible. Among the five dimensions, the highest feasibility was skills in reviewing the state of research ($\bar{x}$ =4.61), followed by content knowledge ($\bar{x}$ =4.59), and the lowest feasibility was skills in reflecting on research findings ($\bar{x}$ =4.50).

Table 4.12 Mean and standard deviation of the evaluation of the suitability and feasibility of strategies in skills in reviewing the state of research

(N = 15)

Strategies for enhancing skills in reviewing the state of research		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
1	Establishing institutionalized mechanisms for literature resource support by increasing investment in humanities-oriented academic databases, digital platforms, and corpora.	4.13	0.52	high	4.80	0.41	highest
2	Strengthening inter-university resource-sharing mechanisms to facilitate broader access to high-quality academic materials.	4.27	0.46	high	4.60	0.51	highest
3	Developing structured and discipline-specific training programs that guide foreign language teachers in conducting systematic literature review, including search strategies, source evaluation, and synthesis of research findings, etc.	4.20	0.56	high	4.60	0.51	highest
4	Encouraging foreign language teachers' use of AI tools in literature search and synthesis while establishing clear guidelines to ensure their appropriate and ethical use.	4.60	0.51	highest	4.60	0.51	highest

Table 4.12 (Continued)

(N = 15)

Strategies for enhancing skills in reviewing the state of research		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
5	Promoting the formation of academic reading communities and collaborative learning groups, where foreign language teachers can engage in regular discussions and shared interpretation of research literature.	4.67	0.49	highest	4.40	0.63	high
6	Encouraging foreign language teachers to engage in self-directed academic reading and continuous knowledge updating as part of their professional development.	4.40	0.51	high	4.67	0.49	highest
Total		4.38	0.23	high	4.61	0.20	highest

According to Table 4.12, the suitability of 6 strategies for enhancing skills in reviewing the state of research at the high level ($\bar{x}$ =4.38). Among the 6 strategies, the highest suitability was "Promoting the formation of academic reading communities and collaborative learning groups, where foreign language teachers can engage in regular discussions and shared interpretation of research literature" ($\bar{x}$ =4.67), followed by "Encouraging foreign language teachers' use of AI tools in literature search and synthesis while establishing clear guidelines to ensure their appropriate and ethical use." ($\bar{x}$ =4.60), and the lowest suitability was "Establishing institutionalized mechanisms for literature resource support by increasing investment in humanities-oriented academic databases, digital platforms, and corpora" ($\bar{x}$ =4.13).

The feasibility of 6 strategies for enhancing skills in reviewing the state of research was at the high level ($\bar{x}$ =4.35). Among the 6 strategies, the highest feasibility

was "Establishing institutionalized mechanisms for literature resource support by increasing investment in humanities-oriented academic databases, digital platforms, and corpora" ($\bar{x}$ =4.80), followed by "Encouraging foreign language teachers to engage in self-directed academic reading and continuous knowledge updating as part of their professional development" ($\bar{x}$ =4.67), and the lowest feasibility was "Promoting the formation of academic reading communities and collaborative learning groups, where foreign language teachers can engage in regular discussions and shared interpretation of research literature" ($\bar{x}$ =4.40).

Table 4.13 Mean and standard deviation of the evaluation of the suitability and feasibility of strategies in methodological skills

(N = 15)

Strategies for enhancing methodological skills		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
1	Establishing a systematic and sustained methodological training system aligned with the research characteristics of foreign language studies, in order to provide long-term support for the development of teachers' methodological competence.	4.60	0.51	highest	4.53	0.52	highest
2	Organizing AI methodology innovation workshops and promoting the integration of AI tools into research design and data analysis in foreign language research, particularly in areas such as corpus analysis, text processing, and translation studies.	4.53	0.52	highest	4.60	0.51	highest

Table 4.13 (Continued)

(N = 15)

Strategies for enhancing methodological skills		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
3	Strengthening mentoring systems and research supervision structures to provide ongoing guidance and support for foreign language teachers' methodological development.	4.33	0.49	high	4.53	0.52	highest
4	Facilitating collaborative research and peer learning opportunities to encourage the sharing of methodological knowledge and practices among foreign language teachers.	4.47	0.52	high	4.67	0.49	highest
5	Encouraging foreign language teachers to engage in self-initiated methodological learning as part of their professional development.	4.67	0.49	highest	4.47	0.52	High
Total		4.52	0.18	highest	4.56	0.23	highest

According to Table 4.13, the suitability of the 5 strategies for enhancing methodological skills was at the highest level ($\bar{x}$ =4.52). Among the 5 strategies, the highest suitability was "Encouraging foreign language teachers to engage in self-initiated methodological learning as part of their professional development" ($\bar{x}$ =4.67), followed by "Establishing a systematic and sustained methodological training system aligned with the research characteristics of foreign language studies, in order to provide long-term support for the development of teachers' methodological competence." ($\bar{x}$ =4.60), and the lowest suitability was "Strengthening mentoring

systems and research supervision structures to provide ongoing guidance and support for foreign language teachers' methodological development" ($\bar{x}$ =4.33).

The feasibility of 5 strategies for enhancing methodological skills was at the highest level ($\bar{x}$ =4.56). Among the 5 strategies, the highest feasibility was "Facilitating collaborative research and peer learning opportunities to encourage the sharing of methodological knowledge and practices among foreign language teachers" ($\bar{x}$ =4.67), followed by "Organizing AI methodology innovation workshops and promoting the integration of AI tools into research design and data analysis in foreign language research, particularly in areas such as corpus analysis, text processing, and translation studies" ($\bar{x}$ =4.60), and the lowest feasibility was "Encouraging foreign language teachers to engage in self-initiated methodological learning as part of their professional development." ($\bar{x}$ =4.47).

Table 4.14 Mean and standard deviation of the evaluation of the suitability and feasibility of strategies in skills in reflecting on research findings

(N = 15)

Strategies for enhancing skills in reflecting on research findings		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
1	Embedding reflective requirements into research evaluation and project completion processes, such as incorporating dedicated reflection sections in project reports and final presentations.	4.27	0.59	high	4.33	0.72	high
2	Establishing peer feedback mechanisms and academic dialogue platforms, such as regular research seminars, manuscript review sessions, and peer critique workshops, to support post-research reflective	4.27	0.59	high	4.53	0.52	highest

Table 4.14 (Continued)

(N = 15)

Strategies for enhancing skills in reflecting on research findings		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
	practices following manuscript publication and project completion. These practices should focus on the interpretation of research findings, their connections to relevant theories, methodological limitations, as well as the research's academic significance, potential value, and social impact						
3	Combining traditional tools, such as reflective journals and research memos, with AI tools to analyze research processes and outcomes, thereby supporting teachers in conducting more systematic and scientific reflection and enhancing their critical analysis skills.	4.40	0.51	high	4.33	0.72	high
4	Encouraging foreign language teachers to develop self-reflection and critical thinking as integral components of their research practice.	4.47	0.52	high	4.80	0.41	highest
Total		4.35	0.35	high	4.50	0.34	highest

According to Table 4.14, the suitability of 4 strategies for enhancing skills in reflecting on research findings was at a high level ($\bar{x}=4.35$). Among the 4 strategies, the highest suitability was “Encouraging foreign language teachers to develop self-reflection and critical thinking as integral components of their research practice” ($\bar{x}=4.47$), followed by “Combining traditional tools, such as reflective journals and research memos, with AI tools to analyze research processes and outcomes, thereby supporting teachers in conducting more systematic and scientific reflection and enhancing their critical analysis skills” ($\bar{x}=4.40$), and the lowest suitability was “Embedding reflective requirements into research evaluation and project completion processes, such as incorporating dedicated reflection sections in project reports and final presentations” and “Establishing peer feedback mechanisms and academic dialogue platforms, such as regular research seminars, manuscript review sessions, and peer critique workshops—to support post-research reflective practices following manuscript publication and project completion. These practices should focus on the interpretation of research findings, their connections to relevant theories, methodological limitations, as well as the research's academic significance, potential value, and social impact” ($\bar{x}=4.27$).

The feasibility of 4 strategies for enhancing skills in reflecting on research findings was at the highest level ($\bar{x}=4.50$). Among the 4 strategies, the highest feasibility was “Encouraging foreign language teachers to develop self-reflection and critical thinking as integral components of their research practice” ($\bar{x}=4.80$), followed by “Establishing peer feedback mechanisms and academic dialogue platforms, such as regular research seminars, manuscript review sessions, and peer critique workshops, to support post-research reflective practices following manuscript publication and project completion. These practices should focus on the interpretation of research findings, their connections to relevant theories, methodological limitations, as well as the research's academic significance, potential value, and social impact” ($\bar{x}=4.53$), and the lowest feasibility was “Embedding reflective requirements into research evaluation and project completion processes, such as incorporating dedicated reflection sections in project reports and final

presentations” and “Combining traditional tools, such as reflective journals and research memos, with AI tools to analyze research processes and outcomes, thereby supporting teachers in conducting more systematic and scientific reflection and enhancing their critical analysis skills” ($\bar{x}$ =4.33).

Table 4.15 Mean and standard deviation of the evaluation of the suitability and feasibility of strategies in communication skills

(N = 15)

Strategies for enhancing communication skills		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
1	Optimizing evaluation mechanisms to place greater emphasis on research quality, originality, and academic contribution rather than solely on the number of publications.	4.33	0.49	high	4.60	0.51	highest
2	Enhancing institutional support for the publication of high-quality research by foreign language teachers, including financial assistance and policy-based incentives. Eligibility criteria for such support should be appropriately calibrated to ensure accessibility, encourage broader participation, and maintain academic standards.	4.40	0.51	high	4.63	0.52	highest

Table 4.15 (Continued)

(N = 15)

Strategies for enhancing communication skills		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
3	Strengthening institutional support for foreign language teachers' participation in high-level academic conferences by providing financial assistance, formal policy support, and dedicated time allowances.	4.40	0.51	high	4.53	0.52	highest
4	Providing continuous and systematic training and workshops on academic writing and publication for foreign language teachers, accompanied by sustained feedback and guidance from mentors throughout the process.	4.27	0.46	high	4.33	0.49	high
5	Organizing regular internal research workshops and experience-sharing sessions on academic writing and publication for foreign language teachers, inviting experienced scholars with strong publication records in high-quality international journals to share practical insights and strategies.	4.53	0.52	highest	4.60	0.51	highest
6	Promoting foreign language teachers' participation in high-quality academic exchange and collaboration, including national and	4.47	0.52	high	4.60	0.51	highest

Table 4.15 (Continued)

(N = 15)

Strategies for enhancing communication skills		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
international conferences, academic seminars, and collaborative research activities.							
7	Encouraging foreign language teachers to engage continuously with high-quality academic literature and to develop sustained practices of academic writing and manuscript submission throughout the academic year.	4.40	0.51	high	4.67	0.62	highest
8	Encouraging foreign language teachers' collaborative publication and co-authorship practices to promote knowledge sharing and mutual learning.	4.27	0.46	high	4.60	0.63	highest
Total		4.38	0.23	high	4.56	0.26	highest

According to Table 4.15, the suitability of 8 strategies for enhancing communication skills was at a high level ($\bar{x}$ =4.38). Among the 8 strategies, the highest suitability was “Organizing regular internal research workshops and experience-sharing sessions on academic writing and publication for foreign language teachers, inviting experienced scholars with strong publication records in high-quality international journals to share practical insights and strategies.” ($\bar{x}$ =4.53), followed by “Promoting foreign language teachers’ participation in high-quality academic exchange and collaboration, including national and international conferences, academic seminars, and collaborative research activities.” ($\bar{x}$ =4.47), and the lowest

suitability was “Providing continuous and systematic training and workshops on academic writing and publication for foreign language teachers, accompanied by sustained feedback and guidance from mentors throughout the process” and “Encouraging foreign language teachers’ collaborative publication and co-authorship practices to promote knowledge sharing and mutual learning” ($\bar{x}$ =4.27).

The feasibility of 8 strategies for enhancing communication skills was at the highest level ($\bar{x}$ =4.56). Among the 8 strategies, the highest feasibility was “Encouraging foreign language teachers to engage continuously with high-quality academic literature and to develop sustained practices of academic writing and manuscript submission throughout the academic year” ($\bar{x}$ =4.67), followed by “Enhancing institutional support for the publication of high-quality research by foreign language teachers, including financial assistance and policy-based incentives. Eligibility criteria for such support should be appropriately calibrated to ensure accessibility, encourage broader participation, and maintain academic standards” ($\bar{x}$ =4.63), and the lowest feasibility was “Providing continuous and systematic training and workshops on academic writing and publication for foreign language teachers, accompanied by sustained feedback and guidance from mentors throughout the process” ($\bar{x}$ =4.33).

Table 4.16 Mean and standard deviation of the evaluation of the suitability and feasibility of strategies in content knowledge

(N = 15)

Strategies for enhancing content knowledge		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
1	Establishing multi-channel mechanisms for continuously updating disciplinary knowledge, while utilizing AI to push updates on research frontiers in real time, and providing personalized learning and knowledge expansion plans.	4.47	0.52	high	4.60	0.51	highest
2	Promoting interdisciplinary integration to encourage foreign language teachers to engage in cross-disciplinary research with related fields such as education, communication studies, and data science, which can broaden their theoretical perspectives and enrich research approaches.	4.53	0.52	highest	4.46	0.74	high
3	Facilitating teachers' participation in external academic communities and knowledge networks, both nationally and internationally, to enhance exposure to diverse research perspectives and disciplinary developments.	4.60	0.51	highest	4.61	0.51	highest

Table 4.16 (Continued)

(N = 15)

Strategies for enhancing content knowledge		Suitability			Feasibility		
		$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
4	Promoting internal knowledge sharing and dissemination within institutions through research groups, seminars, and academic forums, enabling the transfer and localization of newly acquired knowledge.	4.61	0.51	highest	4.47	0.64	high
5	Encouraging foreign language teachers to engage in self-directed professional learning and knowledge expansion through continuous reading, course participation, and independent study.	4.53	0.52	highest	4.80	0.41	highest
Total		4.55	0.28	highest	4.59	0.35	highest

According to Table 4.16, the suitability of 5 strategies for content knowledge was at the highest level ($\bar{x}$ =4.55). Among the 5 strategies, the highest suitability was “Promoting internal knowledge sharing and dissemination within institutions through research groups, seminars, and academic forums, enabling the transfer and localization of newly acquired knowledge.” ($\bar{x}$ =4.61), followed by “Facilitating teachers’ participation in external academic communities and knowledge networks, both nationally and internationally, to enhance exposure to diverse research perspectives and disciplinary developments” ($\bar{x}$ =4.60), and the lowest suitability was found in “Establishing multi-channel mechanisms for continuously updating disciplinary knowledge, while utilizing AI to push updates on research frontiers in real

time, and providing personalized learning and knowledge expansion plans.” ($\bar{x}$ =4.47).

The feasibility of 7 strategies in content knowledge was at the highest level ($\bar{x}$ =4.59). Among the 5 strategies, the highest feasibility was “Encouraging foreign language teachers to engage in self-directed professional learning and knowledge expansion through continuous reading, course participation, and independent study” ($\bar{x}$ =4.80), followed by “Facilitating teachers’ participation in external academic communities and knowledge networks, both nationally and internationally, to enhance exposure to diverse research perspectives and disciplinary developments”. ($\bar{x}$ =4.61), and the lowest feasibility was “Promoting interdisciplinary integration to encourage foreign language teachers to engage in cross-disciplinary research with related fields such as education, communication studies, and data science, which can broaden their theoretical perspectives and enrich research approaches.” ($\bar{x}$ =4.46).

Chapter 5

Conclusion Discussion and Recommendations

The first four chapters of this study examined the current status of foreign language teachers' research competence at universities in Guangxi in the AI age, formulated strategies for enhancing such competence, and evaluated the suitability and feasibility of the proposed strategies. An explanatory sequential mixed-methods design was employed. Questionnaire data were collected from 313 foreign language teachers across 23 public undergraduate universities in Guangxi, followed by focus group discussions with 15 foreign language teachers and expert evaluations conducted by 15 specialists from public undergraduate universities in Guangxi. The study focused on five dimensions of research competence: skills in reviewing the state of research, methodological skills, skills in reflecting on research findings, communication skills, and content knowledge. Based on the findings presented in the previous chapters, this chapter summarizes the major conclusions, discusses the key findings, and offers relevant recommendations.

Conclusion

The objectives of this study were to develop strategies for enhancing foreign language teachers' research competence at universities in Guangxi in the AI age. The researcher summarized the findings in three parts as follows:

Part 1: To analyze the current situation of foreign language teachers' research competence at universities in Guangxi in the AI age.

Part 2: To formulate strategies for enhancing foreign language teachers' research competence at universities in Guangxi in the AI age.

Part 3: To evaluate the suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi in the AI age.

Part 1: To analyze the current situation of foreign language teachers' research competence at universities in Guangxi.

The research findings indicate that the overall level of foreign language teachers' research competence at universities in Guangxi is at a medium level. The average values from the questionnaire survey indicate that communication skills have the highest average score, followed by skills in reviewing the state of research, while content knowledge has the lowest. The following section will specifically discuss the results for each dimension.

1. Communication skill

The dimension "Communication skills" has the highest average score among the five dimensions. It includes seven items in the questionnaire, with the item "You are able to lead research projects and successfully complete them" having the highest average score, followed by "You are able to write a publication in accordance with the standards of your discipline." The lowest average score was for the item "You are able to present your research at a scientific meeting in accordance with current standards in your discipline".

2. Skills in reviewing the state of research

The dimension "Skills in reviewing the state of research" ranks second in average score among the five dimensions. This dimension includes five items in the questionnaire, with the item "You know how to conduct a targeted search of the state of research on a specific topic" having the highest average score, followed by "You are able to systematically review the state of research regarding a specific topic." The lowest average score was for the item "You are able to evaluate the methodological quality of research findings well."

3. Skills in reflecting on research findings

The dimension "skills in reflecting on research findings" ranks third in average score among the five dimensions. This dimension includes seven items in the questionnaire, with the item "You are able to take a stand on social and ethical issues of research in your discipline" having the highest average score, followed by "You are able to critically reflect on methodological limitations of your own research

findings" The lowest average score was for the item "You are able to adequately relate your research findings to key theories in the subject area".

4. Methodological skills

The dimension "methodological skills" ranks fourth in average score among the five dimensions. This dimension includes ten items in the questionnaire, with the item "You are able to plan a research study" having the highest average score, followed by "You find it difficult to formulate specific research questions/hypotheses." The lowest average score was for the item "You are able to use appropriate analytical tools to analyze data".

5. Content knowledge

The dimension "Content knowledge" has the lowest average score among the five dimensions. This dimension includes eight items in the questionnaire, with the item "You are informed about the standards for academic publications that apply in your discipline" having the highest average score, followed by "You are informed about the most important national academic publication outlets in your discipline." The lowest average score was for the item "You are informed about the most important international academic publication outlets in your discipline".

Part 2: To formulate strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

"Strategies for enhancing foreign language teachers' research competence at universities in Guangxi have been proposed for all five dimensions, totaling 28 strategies. There are 6 strategies for enhancing skills in reviewing the state of research, 5 for enhancing methodological skills, 4 for enhancing skills in reflecting on research findings, 8 for enhancing communication skills, and 5 for enhancing content knowledge.

1. The strategies for enhancing skills in reviewing the state of research consist of the following six specific measures:

1) Establishing institutionalized mechanisms for literature resource support by increasing investment in humanities-oriented academic databases, digital platforms, and corpora.

2) Strengthening inter-university resource-sharing mechanisms to facilitate broader access to high-quality academic materials.

3) Developing structured and discipline-specific training programs that guide foreign language teachers in conducting systematic literature review, including search strategies, source evaluation, and synthesis of research findings, etc.

4) Encouraging foreign language teachers' use of AI tools in literature search and synthesis while establishing clear guidelines to ensure their appropriate and ethical use.

5) Promoting the formation of academic reading communities and collaborative learning groups, where foreign language teachers can engage in regular discussions and shared interpretation of research literature.

6) Encouraging foreign language teachers to engage in self-directed academic reading and continuous knowledge updating as part of their professional development.

In summary, the strategies for enhancing skills in reviewing the state of research can be classified into institutional-level strategies for university administrators and individual-level strategies for foreign language teachers. Strategies 1–5 primarily address the responsibilities of university administrators, emphasizing institutional support through literature resource provision, inter-university resource sharing, structured training, guidance on the appropriate and ethical use of AI tools, and the development of academic reading communities and collaborative learning mechanisms. Strategy 6 focuses on the responsibility of foreign language teachers themselves, emphasizing self-directed academic reading and continuous knowledge updating. This classification indicates that enhancing teachers' skills in reviewing the state of research requires both institutional support and individual professional engagement, with university administrators creating enabling conditions and teachers taking active responsibility for their continuous research competence development.

2. The strategies for enhancing methodological skills consist of the following five specific measures:

1) Establishing a systematic and sustained methodological training system aligned with the research characteristics of foreign language studies, in order to provide long-term support for the development of teachers' methodological competence.

2) Organizing AI methodology innovation workshops and promoting the integration of AI tools into research design and data analysis in foreign language research, particularly in areas such as corpus analysis, text processing, and translation studies.

3) Strengthening mentoring systems and research supervision structures to provide ongoing guidance and support for foreign language teachers' methodological development.

4) Facilitating collaborative research and peer learning opportunities to encourage the sharing of methodological knowledge and practices among foreign language teachers.

5) Encouraging foreign language teachers to engage in self-initiated methodological learning as part of their professional development.

In summary, the strategies for enhancing methodological skills can be classified into institutional-level strategies for university administrators and individual-level strategies for foreign language teachers. Strategies 1–4 primarily address the responsibilities of university administrators, focusing on the establishment of systematic methodological training, the organization of AI methodology innovation workshops, the strengthening of mentoring and research supervision systems, and the facilitation of collaborative research and peer learning opportunities. Strategy 5 focuses on the responsibility of foreign language teachers themselves, emphasizing self-initiated methodological learning as an essential component of their professional development. This classification demonstrates that the enhancement of methodological skills depends on the combination of systematic institutional support and teachers' active professional learning, with universities providing sustained

training, guidance, and collaborative opportunities while teachers take initiative in continuously developing and updating their methodological competence.

3. The strategies for enhancing skills in reflecting on research findings consist of the following four specific measures:

1) Embedding reflective requirements into research evaluation and project completion processes, such as incorporating dedicated reflection sections in project reports and final presentations.

2) Establishing peer feedback mechanisms and academic dialogue platforms—such as regular research seminars, manuscript review sessions, and peer critique workshops—to support post-research reflective practices following manuscript publication and project completion. These practices should focus on the interpretation of research findings, their connections to relevant theories, methodological limitations, as well as the research's academic significance, potential value, and social impact.

3) Combining traditional tools, such as reflective journals and research memos, with AI tools to analyze research processes and outcomes, thereby supporting teachers in conducting more systematic and scientific reflection and enhancing their critical analysis skills.

4) Encouraging foreign language teachers to develop self-reflection and critical thinking as integral components of their research practice.

In summary, the strategies for enhancing skills in reflecting on research findings can be classified into institutional-level strategies for university administrators and individual-level strategies for foreign language teachers. Strategies 1–3 primarily address the responsibilities of university administrators, focusing on embedding reflective requirements into research evaluation processes, establishing peer feedback and academic dialogue mechanisms, and supporting the integration of traditional and AI-assisted tools into systematic reflective practices. Strategy 4 focuses on the responsibility of foreign language teachers themselves, emphasizing the development of self-reflection and critical thinking as integral components of their research practice. This classification indicates that enhancing reflective skills requires

both institutional mechanisms that promote and support systematic reflection and teachers' active engagement in reflective practice, thereby enabling teachers to critically examine research findings, theoretical connections, methodological limitations, and the broader academic and social significance of their research.

4. The strategies for enhancing communication skills consist of the following eight specific measures:

1) Optimizing evaluation mechanisms to place greater emphasis on research quality, originality, and academic contribution rather than solely on the number of publications.

2) Enhancing institutional support for the publication of high-quality research by foreign language teachers, including financial assistance and policy-based incentives. Eligibility criteria for such support should be appropriately calibrated to ensure accessibility, encourage broader participation, and maintain academic standards.

3) Strengthening institutional support for foreign language teachers' participation in high-level academic conferences by providing financial assistance, formal policy support, and dedicated time allowances.

4) Providing continuous and systematic training and workshops on academic writing and publication for foreign language teachers, accompanied by sustained feedback and guidance from mentors throughout the process.

5) Organizing regular internal research workshops and experience-sharing sessions on academic writing and publication for foreign language teachers, inviting experienced scholars with strong publication records in high-quality international journals to share practical insights and strategies.

6) Promoting foreign language teachers' participation in high-quality academic exchange and collaboration, including national and international conferences, academic seminars, and collaborative research activities.

7) Encouraging foreign language teachers to engage continuously with high-quality academic literature and to develop sustained practices of academic writing and manuscript submission throughout the academic year.

8) Encouraging foreign language teachers' collaborative publication and co-authorship practices to promote knowledge sharing and mutual learning among teachers.

In summary, the strategies for enhancing communication skills can be classified into institutional-level strategies for university administrators and individual-level strategies for foreign language teachers. Strategies 1–6 primarily address the responsibilities of university administrators, focusing on optimizing research evaluation mechanisms, strengthening financial and policy support for high-quality publication and conference participation, providing systematic training and mentoring in academic writing and publication, organizing internal research workshops and experience-sharing activities, and creating opportunities for high-quality academic exchange and collaboration. Strategies 7–8 primarily address the responsibilities of foreign language teachers, emphasizing continuous engagement with high-quality academic literature, sustained academic writing and manuscript submission, and active participation in collaborative publication and co-authorship. This classification demonstrates that enhancing communication skills requires the combined efforts of institutional support and teachers' sustained academic engagement, with universities creating supportive policies, resources, training, and academic exchange opportunities, while teachers actively develop their academic writing, publication, and collaborative communication practices.

5. The strategies for enhancing content knowledge consist of the following five specific measures:

1) Establishing multi-channel mechanisms for continuously updating disciplinary knowledge, such as academic briefings, thematic seminars, and information platforms, while utilizing AI to push updates on research frontiers in real time, and providing personalized learning and knowledge expansion plans that automatically recommend courses, readings, and research projects according to teachers' interests and research directions.

2) Promoting interdisciplinary integration to encourage foreign language teachers to engage in cross-disciplinary research with related fields such as

education, communication studies, and data science, which can broaden their theoretical perspectives and enrich research approaches.

3) Facilitating teachers' participation in external academic communities and knowledge networks, both nationally and internationally, to enhance exposure to diverse research perspectives and disciplinary developments.

4) Promoting internal knowledge sharing and dissemination within institutions through research groups, seminars, and academic forums, enabling the transfer and localization of newly acquired knowledge.

5) Encouraging foreign language teachers to engage in self-directed professional learning and knowledge expansion through continuous reading, course participation, and independent study.

In summary, the strategies for enhancing content knowledge can be classified into institutional-level strategies for university administrators and individual-level strategies for foreign language teachers. Strategies 1–4 primarily address the responsibilities of university administrators, focusing on establishing mechanisms for continuous disciplinary knowledge updating, promoting interdisciplinary research and integration, facilitating teachers' participation in external academic communities and knowledge networks, and promoting internal knowledge sharing and dissemination. Strategy 5 primarily addresses the responsibility of foreign language teachers themselves, emphasizing self-directed professional learning and continuous knowledge expansion through academic reading, course participation, and independent study. This classification demonstrates that enhancing content knowledge requires the integration of institutional facilitation and teachers' continuous professional learning, with universities providing access to updated disciplinary knowledge, interdisciplinary and external academic networks, and internal knowledge-sharing mechanisms, while teachers take active responsibility for continuously expanding and updating their disciplinary and research-related knowledge.

Part 3: To evaluate the suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

The suitability and feasibility of strategies for improving the effectiveness of Sino-Foreign cooperative education across 5 elements were at a high or very high level, with values between 4.00 and 5.00, indicating that the strategies for improving the effectiveness of Sino-Foreign cooperative education in Guangxi universities are suitable and feasible.

1. Enhancing skills in reviewing the state of research

All 5 strategies have both suitability and feasibility values at either the highest or high levels. The strategy with the highest suitability and feasibility is "Enhancing administrators' cross-cultural communication abilities, enabling effective communication, understanding, collaboration, and problem-solving with foreign educational institutions during the Sino-Foreign cooperative education process.", followed by "Strengthening administrators' professional qualifications by enhancing their in-depth understanding of management theories, skills, and tools, as well as their professional knowledge and experience in their respective industry or field." , while the lowest suitability and feasibility is found in "Enhancing team building among administrators by cultivating or attracting education management personnel with professional backgrounds, cross-cultural communication skills, and international perspectives, thereby enhancing the overall leadership capabilities and qualities of the administrative team."

2. Enhancing methodological skills

The Suitability and Feasibility of 8 strategies for improving management Institutions and standards are both at the highest and high levels, respectively. The strategy with the highest suitability and feasibility is "Clearly defining the responsibilities and powers of management at all levels, departments, faculties, and positions, detailing the main responsibilities and scope of work for each position, to ensure clear responsibilities and reasonable division of labor," followed by "Establishing standardized work procedures and processes to ensure orderly work

and controllable quality. This includes operational processes, approval processes, supervision and inspection processes, etc., detailed to specific operational links.", while the lowest suitability and feasibility is found in "Developing unified teaching standards to ensure the standardization of teaching quality and content. This includes requirements for curriculum design, teaching methods, evaluation standards, etc., to ensure that teaching meets certain levels and requirements."

3. Enhancing skills in reflecting on research findings

The Suitability and Feasibility of 8 strategies for enhancing management systems and standards are both at the highest and high levels, respectively. The strategy with the highest suitability and feasibility is "Optimize the talent cultivation model, break the original fixed N+N years of domestic and foreign study duration regulations, provide students with more flexible learning paths and choices, integrate domestic and foreign teaching and academic management, and enable students to complete personalized academic programs according to their own situations." , followed by "Optimize the teacher recruitment model by increasing the introduction of "bilingual and bicultural" talents, establishing a development system for Chinese teachers, and enhancing teaching quality and the internationalization of the school.", while the lowest suitability and feasibility is found in "Optimize the quality monitoring model by establishing specialized evaluation institutions, improving the school's own quality monitoring and evaluation mechanism, and mobilizing social forces to participate together".

4. Enhancing communication skills

The Suitability and Feasibility of 8 strategies for improving goal Management and performance evaluation are both at the highest and high levels, respectively. The strategy with the highest suitability and feasibility is "Implement a comprehensive performance evaluation system to assess the achievement of goals in Sino-Foreign cooperative education. By establishing clear assessment indicators and evaluation standards, objectively evaluate project execution and motivate and guide team members' performance.", followed by "Adjust and optimize work plans and objectives promptly based on evaluation results and project progress. Flexibly adjust

work strategies and measures, establish a rapid response mechanism to address issues and challenges promptly, ensuring the smooth achievement of project goals.", while the lowest suitability and feasibility is found in "Improve the incentive mechanism, providing rewards corresponding to whether employees or organizations achieve expected goals, linked to performance evaluations, to motivate employees to consciously improve their personal qualities and work efficiency, and enhance team awareness."

5. Enhancing content knowledge

The Suitability and Feasibility of 7 strategies for enhancing management systems and standards are both at the highest and high levels, respectively. The strategy with the highest suitability and feasibility is "Enhance the team's common values and sense of mission, fostering a culture of unity, progress, and mutual development." , followed by "Advocate for an open and inclusive work atmosphere, fostering mutual understanding, respect, and trust, while the lowest suitability and feasibility is found in "Strengthen cultural integration mechanisms and activities to promote integration and communication between different cultures."

Discussion

The purpose of this study was to develop strategies to enhance foreign language teachers' research competence at universities in Guangxi. The researcher summarized the results of the study into three parts as follows:

Part 1: To analyze the current situation of foreign language teachers' research competence at universities in Guangxi.

Part 2: To formulate strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Part 3: To evaluate the suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Part 1: To analyze the current situation of foreign language teachers' research competence at universities in Guangxi.

Based on the results of this study, the overall level of foreign language teachers' research competence at universities in Guangxi is considered to be medium. The questionnaire survey indicates that communication skills have the highest average score, followed by skills in reviewing the state of research, reflecting on research findings, and methodological skills, while content knowledge has the lowest average score. In this context, strategies to enhance foreign language teachers' research competence in Guangxi should be developed, taking into account all five dimensions. These five dimensions include: 1) skills in reviewing the state of research, 2) methodological skills, 3) skills in reflecting on research findings, 4) communication skills, and 5) content knowledge. Thiel and Böttcher (2014), Böttcher-Oschmann and Thiel (2017), Böttcher-Oschmann (2021), Salmento et al. (2021), and Ciraso-Cali et al. (2022) argued that research competence is composed of these five dimensions. Therefore, when formulating strategies to enhance the research competence of foreign language teachers, it is essential to take into account the development of all five dimensions.

1. Skills in reviewing the state of research

Among the five dimensions, “Skills in reviewing the state of research” ranks second in terms of average score, falling within the “high” level. This indicates that foreign language teachers in universities in Guangxi perform relatively well in this dimension of research competence. Skills in reviewing the state of research are crucial for academic research, as they involve not only systematically reviewing existing research but also critically analyzing the findings in a given field (Böttcher-Oschmann, 2021). This ability helps researchers stay up to date with the latest academic trends, identify research gaps, and lay a solid theoretical foundation for their own studies.

Among the five measurement items under this dimension, the item with the highest average score is: “You know how to conduct a targeted search of the state of research on a specific topic.” This high score indicates that foreign language teachers

in Guangxi generally possess strong literature-searching skills and can efficiently locate relevant research articles on their own topics. This is a fundamental skill for academic research and the first step in conducting in-depth studies and discovering new problems.

However, the item with the lowest average score is: “You are able to evaluate the methodological quality of research findings well.” This lower score suggests that, while teachers are proficient in literature searching, they still face difficulties in evaluating the methodological quality of research findings. This issue may stem from an insufficient understanding of research methodologies or a lack of practical experience. As Thiel and Böttcher (2014) pointed out, research competence is not only about summarizing existing research but also critically analyzing the validity and reliability of research methods. Therefore, improving teachers’ ability to evaluate research methodology is essential for enhancing overall research competence.

This analysis shows that, while foreign language teachers in Guangxi already possess a certain level of proficiency in “skills in reviewing the state of research,” there is still a need to strengthen their ability to evaluate research methods. To address this, future strategies could focus on regular academic training and seminars to help teachers improve their critical thinking skills and their ability to recognize and evaluate research methods.

2. Methodological skills

According to the questionnaire results, the average score for “Methodological skills” is moderate, ranking second-to-last among the five dimensions. This indicates that foreign language teachers at universities in Guangxi perform relatively poorly on this dimension. Methodological skills are crucial for academic research, as they involve applying scientific methods such as research design, data collection, and analysis (Böttcher-Oschmann & Thiel, 2017). Effective research methods enhance rigor and credibility, which is why methodological skills should be considered a core component of improving research competence.

Among the items in this dimension, the highest-scoring item is “You are able to plan a research study,” with an average score of 3.99, which falls within the “high” level. This suggests that teachers have a certain level of competency in research design. Planning research is fundamental to academic studies, as it helps researchers clearly define research questions, set objectives, and choose appropriate methods. Proper research planning not only improves efficiency but also ensures the scientific nature and effectiveness of the study.

However, the three lowest-ranked items have average scores below 2.5, which indicates a low level of competence in these areas. These items are: “You are able to confidently analyze quantitative data,” “You are able to confidently analyze qualitative data,” and “You are able to use appropriate analytical tools to analyze data.” The item with the lowest average score is “You are able to use appropriate analytical tools to analyze data,” with an average of only 1.87. This low score indicates that teachers have relatively weak capabilities in data analysis, particularly in confidently applying quantitative and qualitative tools. This issue may stem from insufficient training in these areas or from a lack of proficiency with relevant statistical software and analytical tools, making it difficult for teachers to apply them effectively in practice.

As Thiel and Böttcher (2014) pointed out, methodological skills involve not only research design but also the ability to analyze and interpret data. As research demands continue to rise, it is essential for teachers to continuously improve their methodological competencies. To enhance teachers’ methodological skills, universities and relevant institutions should provide more training opportunities, especially in using data analysis software and statistical methods, to help teachers overcome difficulties in analyzing quantitative and qualitative data.

In conclusion, foreign language teachers at universities in Guangxi exhibit poor methodological skills, particularly in data analysis and the use of analytical tools. Therefore, improving teachers’ skills in this area, especially their data analysis capabilities, will significantly enhance their overall research competence.

3. Skills in reflecting on research findings

“Skills in reflecting on research findings” is an essential dimension of academic research competence. It requires researchers not only to summarize their findings comprehensively but also to critically reflect on the social, ethical, and theoretical implications of their research (Salmento et al., 2021). This ability helps ensure that research is conducted within an ethical framework, contributing to the broader development of academic knowledge. According to the results of this study, the average score for "skills in reflecting on research findings" is moderate, indicating that foreign language teachers at universities in Guangxi still have room to improve in this area.

Among the items in this dimension, the item with the highest average score is: “You are able to take a stand on social and ethical issues of research in your discipline.” This high score reflects that teachers are highly concerned with social and ethical issues in their research fields and can maintain a clear stance on these matters. As research ethics and social responsibility increasingly become focal points in academia, taking a clear position on the social and ethical implications of one's research has become a key marker of an excellent researcher (Böttcher-Oschmann, 2021). This ability reflects teachers' sense of responsibility in academic research and helps ensure that their work aligns with ethical standards and avoids potential ethical conflicts.

However, the lowest scoring item is: “You are able to adequately relate your research findings to key theories in the subject area.” This low score suggests that teachers have difficulty connecting their research findings to core theories in their discipline. This may be due to insufficient mastery of theoretical frameworks or a lack of ability to integrate research findings with existing theoretical systems. The existence of this issue could limit the research's theoretical depth and academic contribution.

According to Thiel and Böttcher (2014), reflective skills are not merely about summarizing research findings; they also involve evaluating the significance and impact of research in terms of social, ethical, and theoretical considerations.

Therefore, it is crucial to enhance teachers' reflective skills, particularly in linking research findings to key theories in their discipline. To address this, universities and research institutions should provide more training in integrating theoretical frameworks with research findings and encourage teachers to incorporate critical reflection into their research, thereby enhancing their overall academic competence.

In conclusion, foreign language teachers at universities in Guangxi demonstrate certain strengths in the dimension of “reflecting on research findings,” particularly in their reflection on social and ethical issues. However, there is significant room for improvement in how research findings are linked to core theories in their respective subject areas. To address this, future strategies could include academic training, research discussions, and case studies to help teachers deepen their critical reflection, especially in integrating theory and practice.

4. Communication skill

Communication skills are an indispensable dimension of academic research. They encompass academic writing, the presentation of research findings, and effective communication and collaboration with research teams and other members of the academic community (Salmento et al., 2021). Strong communication skills help facilitate the dissemination of research, promote academic collaboration, and support researchers in presenting their findings at academic conferences and writing research papers that adhere to academic conventions. Therefore, enhancing teachers' communication skills is crucial for the comprehensive development of research competence.

According to the results of this study, the average score for “Communication Skills” was 3.83, the highest among the five dimensions, indicating a high level of competence. This suggests that foreign language teachers at universities in Guangxi perform well in this area. Specifically, the highest-rated item was: “You are able to lead research projects and successfully complete them.” This higher score reflects that teachers possess strong organizational and leadership skills in research projects, enabling them to effectively plan and drive the implementation of research

initiatives. This capability positively impacts teachers' leadership and influence in academic research.

However, the two lowest-scoring items were: “You are able to write up research findings in accordance with the current conventions in your discipline” and “You are able to present your research at a scientific meeting in accordance with current standards in your discipline.” While these items still received scores above 3.5, indicating a certain level of competence, they also highlight areas that need improvement. In particular, being able to write research papers does not necessarily mean publishing them in high-quality journals. High-quality publication requires not only innovative, academically valuable research but also the ability to write and present it in accordance with the specific requirements of academic journals. Therefore, while foreign language teachers at universities in Guangxi possess a solid foundation in writing articles and presenting research, further enhancing their ability to publish articles in high-quality academic journals remains a key factor in improving their overall research competence.

These results also suggest that while teachers can complete basic academic writing and presentations, challenges remain in higher-level academic dissemination and communication. According to Böttcher-Oschmann (2021), academic communication is not merely about information transfer; it is also an essential avenue for knowledge sharing and academic interaction. Therefore, enhancing teachers' academic writing skills and improving their performance at international academic conferences will help them integrate more effectively into the global academic community and increase the impact of their research.

In conclusion, foreign language teachers at universities in Guangxi perform well in the dimension of “Communication Skills,” especially in leading research projects and completing research tasks. However, despite strong foundational skills in academic writing and presentations, there is still room for improvement in reaching higher academic levels. To address this, future strategies could focus on providing more writing training, academic exchange opportunities, and cross-disciplinary

collaboration to help teachers improve their academic communication skills, particularly in publishing high-quality research outcomes.

5. Content knowledge

Content knowledge is a fundamental dimension of academic research, as it reflects the depth of a researcher's understanding in their specific field. It encompasses not only the theoretical knowledge but also the ability to apply research methods relevant to that discipline (Ciraso-Calí et al., 2022). Strong content knowledge is critical for identifying gaps in existing research, formulating research questions, and ensuring that the methods and interpretations used in studies are grounded in the relevant field of study. It serves as the foundation for producing high-quality, impactful research, allowing researchers to engage meaningfully with both existing theories and new ideas.

In this study, the average score for “Content Knowledge” was 3.04, the lowest among the five dimensions and indicating a moderate level. This indicates that foreign language teachers at universities in Guangxi have room for improvement in this area. Specifically, the lowest-scoring items were: “You have a good overview of the main (current) research findings in your discipline,” “You have a sound knowledge of the main research methods in your discipline,” and “You are informed about the most important international academic publication outlets in your discipline.” The lowest average score was for “You are informed about the most important international academic publication outlets in your discipline,” at 2.26, indicating a “low” level of competence in this area.

The low score in the item about being informed about international academic publication outlets suggests that many teachers may not be up to date with the most significant journals and conferences in their fields. This could limit their ability to publish in high-impact journals or engage in international academic discourse, which is essential for expanding their academic reputation. As pointed out by Ciraso-Calí et al. (2022), a researcher’s familiarity with key journals and publishing platforms is crucial for effectively disseminating their work and ensuring it reaches a broad, relevant audience.

Moreover, despite teachers demonstrating adequate knowledge of core theories and research methods, the relatively low scores in these areas imply that many may not be fully equipped to engage with cutting-edge research or apply advanced research methods in their own work. This gap in content knowledge could be addressed by increasing opportunities for teachers to engage with international academic networks, stay current with new research, and deepen their understanding of advanced research methods.

In conclusion, while foreign language teachers at universities in Guangxi have a solid foundation in content knowledge, particularly in theoretical frameworks and methods, significant gaps remain in their understanding of current research findings and international academic publication outlets. Addressing these gaps through targeted professional development, such as attending international conferences and engaging in global academic collaborations, could help enhance their overall research competence and academic visibility.

Part 2: To formulate strategies for enhancing foreign language teachers' research competence at universities in Guangxi.

Based on the results of the questionnaire survey and structured interviews, this study has proposed a total of 28 strategies corresponding to the five dimensions of foreign language teachers' research competence in universities in Guangxi. Specifically, six strategies were developed for the first dimension "skills in reviewing the state of research"; five strategies for the second dimension "methodological skills"; four strategies for the third dimension "skills in reflecting on research findings"; eight strategies for the fourth dimension "communication skills"; and five strategies for the fifth dimension "content knowledge". The formulation of these strategies also takes into consideration the broader context of the AI age, as advances in AI are increasingly influencing research practices, methodological approaches, knowledge acquisition, and scholarly communication in higher education. Accordingly, the proposed strategies, where appropriate, incorporate relevant AI-supported approaches and practices to ensure that the development of

foreign language teachers' research competence remains responsive to contemporary changes in academic research. The following sections provide a detailed discussion of the strategies developed for each dimension.

1. Skills in reviewing the state of research

The strategies for enhancing skills in reviewing the state of research consist of the following six measures: 1) Establishing institutionalized literature support mechanisms; 2) Strengthening inter-university resource-sharing mechanisms; 3) Developing training programs for literature review; 4) Encouraging ethical AI use in literature search; 5) Promoting academic reading communities and collaboration; 6) Encouraging self-directed academic reading and updating.

Strategies for enhancing foreign language teachers' skills in reviewing the state of research should address individual competencies, organizational mechanisms, and institutional support to achieve a multi-level, systematic improvement in research capacity. From the perspective of Organizational Learning Theory, teacher development relies on the systematic interaction of experience, tasks, and tools within the organizational context. Huber (1991) posits that organizational learning encompasses the processes of knowledge creation, retention, and transfer, with knowledge embedded in individuals, routines, tools, and organizational culture. This suggests that universities can enhance teachers' abilities in literature searching and synthesis by providing structured training, collaborative platforms, and shared knowledge repositories, thereby converting individual experience into organizational knowledge capital. Argote and Miron-Spektor (2011) further highlight that organizational learning depends on the interaction between experience and context; both the active context and latent context facilitate knowledge transformation and tacit knowledge accumulation. This framework provides guidance for designing teacher training programs, academic reading communities, and self-directed learning mechanisms to foster research skills.

Moreover, the concept of learning organizations emphasizes the complementary roles of formal and informal learning in fostering an organizational learning culture (Laubengaier, Wiggers, & Powell, 2025). Formal learning refers to

structured training and workshops providing systematic knowledge input, while informal learning occurs in daily practice through peer interaction, problem-solving, reflection, and experiential activities. This dual approach corresponds to strategies 3, 5, and 6, whereby structured training, reading communities, and autonomous study enhance teachers' competencies in literature evaluation, synthesis, and critical appraisal, while embedding learning within the organizational system.

In addition, Mohammad, Sag˘san, and Sxesxen (2024) emphasize the mediating role of individual resilience and work engagement in the relationship between learning organizations and innovation. Applied to higher education, this suggests that teacher research development requires not only access to knowledge and skill-building opportunities but also organizational support and incentives to foster motivation, engagement, and sustained effort. By integrating these mechanisms, individual learning can be converted into collective organizational knowledge, enhancing the overall research culture and capacity within the university context.

Regarding technological support, Li, Turner, and Liu (2025) highlight the utility of artificial intelligence tools in managing distributed information and knowledge operations, while stressing the need for institutional supervision and ethical guidelines to ensure responsible use. Applied to literature review skills, AI-assisted tools can improve efficiency in search and synthesis, provided that governance structures maintain academic rigor and critical evaluation standards. Brunila and Nehring (2023) further argue that precision education governance, leveraging cross-institutional networks, technological platforms, and behavioral sciences, enables individualized and evidence-based capacity development, offering both institutional support and an optimized learning environment for teachers' research activities.

In summary, the six proposed strategies form an integrated framework encompassing institutional support, organizational learning mechanisms, and individual professional development. Institutionalized literature resources and inter-university sharing mechanisms (strategies 1 and 2) ensure access to high-quality academic materials; structured training programs, academic reading communities, and

self-directed learning (strategies 3, 5, and 6) facilitate knowledge accumulation, transfer, and internalization; and AI-assisted literature search (strategy 4) enhances efficiency while maintaining ethical and academic standards. This multi-dimensional intervention provides both theoretical and practical guidance for systematically and sustainably improving teachers' skills in reviewing the state of research.

Methodological skills

The strategies for enhancing skills in reviewing the state of research consist of the following five measures: 1) Establishing a systematic and sustained methodological training system aligned with the research characteristics of foreign language studies; 2) Organizing AI methodology innovation workshops and promoting the integration of AI tools into research design and data analysis in foreign language research; 3) Strengthening mentoring systems and research supervision structures; 4) Facilitating collaborative research and peer learning opportunities; 5) Encouraging foreign language teachers to engage in self-initiated methodological learning.

Enhancing methodological skills among foreign language teachers requires a multi-dimensional approach that integrates individual competency development, organizational mechanisms, institutional support, and technological facilitation. From the perspective of Organizational Learning Theory, the development of methodological skills depends on systematic experience accumulation, task execution, and effective use of tools. Huber (1991) suggests that organizational learning encompasses the creation, retention, and transfer of knowledge, which can be embedded in individuals, tasks, tools, and organizational culture. This provides a theoretical foundation for structured training programs and the establishment of collaborative knowledge repositories, enabling teachers to internalize and apply methodological knowledge effectively. Argote and Miron-Spektor (2011) further emphasize that organizational learning relies on the interaction between experience and context; structured training, guided practice, and collaborative activities allow teachers to transform explicit and tacit knowledge into transferable methodological skills.

Systematic and sustained methodological training (Strategy 1) and mentoring and supervision structures (Strategy 3) facilitate the long-term development of methodological competence by providing structured curricula and personalized feedback. These mechanisms help teachers gradually build independent judgment in research design, data analysis, and methodological decision-making, while translating individual experiences into organizational knowledge capital (Laubengaier, Wiggers, & Powell, 2025; Mohammad, Sagsan, & Sxesxen, 2024).

Regarding technological integration, AI methodology innovation workshops and the incorporation of AI tools (Strategy 2) enhance teachers' capacity to conduct corpus analysis, text processing, and translation research. Schneider (2024) highlights that the combination of technology and organizational learning accelerates skill internalization and experience accumulation, while Li, Turner, and Liu (2025) underscore the importance of institutional oversight and ethical guidelines to ensure responsible and effective use of AI in research. Gallagher, Evans, and Sarpong-Duah (2024) further indicate that decentralized, contextually grounded digital governance provides both resources and institutional support, enabling technology-assisted methodological learning to be sustainable and adaptable to diverse educational contexts.

Collaborative research and peer learning opportunities (Strategy 4), along with self-initiated methodological learning (Strategy 5), promote the formation of methodological knowledge networks and organizational learning cycles. Mohammad et al. (2024) point out that collaboration combined with individual resilience enhances innovation and problem-solving capabilities, while Laubengaier et al. (2025) highlight that the integration of formal and informal learning supports both individual and organizational-level skill development.

In summary, these five strategies collectively create an integrated framework for developing methodological skills among foreign language teachers. Systematic training and mentoring ensure structured, long-term skill acquisition; AI tools and innovation workshops provide technological support and practical engagement; collaborative research and self-directed learning enhance application, reflection, and

innovation. This multi-layered and systematic approach offers both theoretical grounding and practical pathways for the sustainable development of teachers' methodological competence.

2. Skills in reflecting on research findings

The strategies for enhancing skills in reviewing the state of research consist of the following six measures: 1) Embedding reflective requirements into research evaluation and project completion processes; 2) Establishing peer feedback mechanisms, academic dialogue platforms, and peer critique workshops to support post-research reflective practices following manuscript publication and project completion; 3) Combining traditional tools with AI tools to analyze research processes and outcomes, thereby supporting teachers in conducting more systematic and scientific reflection and enhancing their critical analysis skills; 4) Encouraging foreign language teachers to develop self-reflection and critical thinking.

Enhancing foreign language teachers' skills in reflecting on research findings requires a multi-dimensional approach that integrates individual critical thinking, organizational mechanisms, technological support, and institutional governance. From the perspective of Organizational Learning Theory, reflection constitutes a critical component of knowledge cycles, enabling the transformation of individual experience into both explicit and tacit organizational knowledge (Huber, 1991). Teachers can consolidate methodological and theoretical insights gained through research projects by engaging in systematic reflection, which also contributes to the accumulation of shared knowledge at the organizational level (Argote & Miron-Spektor, 2011).

Embedding reflective requirements into research evaluation and project completion processes (Strategy 1) institutionalizes reflective practices by providing formal opportunities for teachers to articulate their reflections in project reports, final presentations, or manuscript sections. This ensures that reflection is not incidental but an integral part of the research lifecycle (Laubengaier, Wiggers, & Powell, 2025). In addition, establishing peer feedback mechanisms and academic dialogue platforms (Strategy 2), such as regular research seminars, manuscript review sessions, and peer

critique workshops, allows teachers to gain multi-perspective feedback. Such platforms facilitate a deeper understanding of research results, recognition of methodological limitations, theoretical connections, and evaluation of academic significance, potential value, and social impact (Mohammad, Sag̃san, & Sxesxen, 2024). These strategies simultaneously promote individual reflection and the development of an organizational culture of collaborative learning.

Technological support further enhances reflective practices. Combining traditional reflective tools, such as research journals and memos, with artificial intelligence tools (Strategy 3) allows teachers to systematically analyze research processes and outcomes. Schneider (2024) demonstrates that integrating technology with organizational learning accelerates skill internalization and experience accumulation, while Li, Turner, and Liu (2025) emphasize that institutionalized supervision and ethical guidelines are critical to ensuring responsible AI-assisted reflection. AI tools facilitate efficient data organization, comparative analysis of results, and pattern identification, thereby supporting higher-order critical reflection and methodological evaluation.

Finally, fostering self-reflection and critical thinking (Strategy 4) is central to teacher professional development. Such proactive reflection enhances teachers' ability to critically interpret research findings, assess methodological strengths and weaknesses, and continuously improve research practices. Gallagher, Evans, and Sarpong-Duah (2024) note that decentralized and horizontalized educational governance provides institutional and environmental support for teachers' autonomous reflective practices, embedding critical reflection as a core component of professional research practice.

In summary, these four strategies form an integrated framework for enhancing teachers' skills in reflecting on research findings. Embedding reflection into project evaluation and peer feedback platforms provides formal and informal channels for reflection; combining traditional tools with AI enhances systematic and scientific analysis; and cultivating self-reflection and critical thinking ensures continuous improvement in research practice. Collectively, these multi-dimensional interventions

offer both theoretical and practical pathways for the sustainable development of teachers' reflective research skills.

3. Communication skill

The strategies for enhancing skills in reviewing the state of research consist of the following six measures: 1) Optimizing evaluation mechanisms to place greater emphasis on research quality, originality, and academic contribution rather than solely on the number of publications. 2) Enhancing institutional support for the publication of high-quality research, including financial assistance and policy-based incentives. Eligibility criteria for such support should be appropriately calibrated to ensure accessibility, encourage broader participation, and maintain academic standards. 3) Strengthening institutional support for foreign language teachers' participation in high-level academic conferences by providing financial assistance, formal policy support, and dedicated time allowances. 4) Providing continuous and systematic training and workshops on academic writing and publication, accompanied by sustained feedback and guidance from mentors throughout the process. 5) Organizing regular internal research workshops and experience-sharing sessions on academic writing and publication, inviting experienced scholars with strong publication records in high-quality international journals to share practical insights and strategies. 6) Promoting foreign language teachers' participation in high-quality academic exchange and collaboration, including national and international conferences, academic seminars, and collaborative research activities. 7) Encouraging foreign language teachers to engage continuously with high-quality academic literature and to develop sustained practices of academic writing; 8) Encouraging foreign language teachers' collaborative publication and co-authorship practices to promote knowledge sharing and mutual learning among teachers.

Enhancing communication skills among foreign language teachers is a critical component of research capacity development, encompassing academic writing, publication, and engagement in scholarly discourse. From the perspective of Educational Management Theory, teachers' research engagement and publication activities are directly influenced by institutional policies, governance structures, and

administrative practices (Bayrak Özmütlu, 2022; Brooks, 2021). Optimizing research evaluation mechanisms (Strategy 1) ensures that emphasis is placed on research quality, originality, and academic contribution rather than the mere quantity of publications. Enhancing institutional support for publication (Strategy 2) and providing financial, policy, and time allowances for participation in high-level academic conferences (Strategies 3 and 6) create systemic conditions that enable teachers to actively engage in high-quality scholarly communication.

From the Theory of Teacher Professional Development perspective, developing teachers' academic writing and publication skills is a long-term, structured professional process (Jenset & Hatlevik, 2024; Martinovic & Dabaja, 2023; Evans, Waring, & Christodoulou, 2017). Systematic training and workshops (Strategy 4), internal research workshops and experience-sharing sessions (Strategy 5), ongoing engagement with high-quality literature and manuscript preparation (Strategy 7), and collaborative publication practices (Strategy 8) all rely on professional development mechanisms that integrate mentorship, peer collaboration, and reflective practice. These strategies support teachers in adopting a researcher-teacher identity, enabling them to actively produce knowledge, develop publication competence, and synthesize theory and practice in their scholarly work.

In addition, from an Educational Governance perspective, institutional arrangements and governance structures play a pivotal role in facilitating teacher engagement in scholarly communication (Brooks, 2021; Matjašič & Vogrinc, 2025). Governance ensures that teachers have access to resources, structured support, and collaborative networks, which are critical for participation in domestic and international conferences, collaborative research, and co-authorship. Decentralized and horizontal governance structures further allow teachers greater autonomy in managing their research communication, ensuring that these activities are sustainable and contextually relevant.

Research-Based Teacher Education (RBTE) also provides a practical platform for integrating research engagement into teacher preparation and professional practice (Bayrak Özmütlu, 2022; Matjašič & Vogrinc, 2025). RBTE approaches

emphasize that teachers are both consumers and producers of research, providing opportunities to develop academic writing skills, engage in scholarly debates, and contribute to knowledge creation. These experiences support Strategies 4, 5, and 7, enabling teachers to cultivate ongoing academic writing habits and participate effectively in the global scholarly community.

In summary, these eight strategies form a comprehensive framework for enhancing foreign language teachers' communication skills. Optimized evaluation mechanisms and institutional support ensure quality and resources, structured training and experience-sharing develop professional competencies, while collaborative publication and active engagement in high-level academic exchanges foster practical application and continuous improvement. This multi-dimensional and integrated approach provides both theoretical grounding and practical pathways for sustainable development of teachers' scholarly communication skills.

4. Content knowledge

The strategies for enhancing content knowledge consist of the following six measures:

Enhancing content knowledge among foreign language teachers is a critical component of overall research competence, requiring coordinated efforts across institutional support, organizational mechanisms, cross-disciplinary collaboration, academic networking, and teacher self-directed learning. From the perspective of Educational Management Theory, the continuous updating of disciplinary knowledge relies on multi-channel mechanisms and institutional support (Bayrak Özmutlu, 2022; Brooks, 2021). Academic briefings, thematic seminars, information platforms, and AI-driven updates (Strategy 1) enable teachers to access the latest developments in their fields in real time and to follow personalized learning plans tailored to their research interests. Institutional policies and governance structures ensure that these updates are accessible, systematic, and effectively integrated into professional practice.

From the perspective of Teacher Professional Development Theory, the expansion of disciplinary knowledge is enhanced through structured professional

development programs, mentoring, and cross-disciplinary engagement (Jenset & Hatlevik, 2024; Martinovic & Dabaja, 2023; Evans, Waring, & Christodoulou, 2017). Interdisciplinary integration (Strategy 2) encourages teachers to engage with related fields such as education, communication studies, and data science, broadening theoretical perspectives and enriching methodological approaches. Internal knowledge-sharing initiatives, including research groups, seminars, and academic forums (Strategy 4), allow teachers to transfer and localize newly acquired knowledge, creating an organizational culture of continuous learning and collaborative knowledge dissemination (Bayrak Özmutlu, 2022; Jenset & Hatlevik, 2024; Martinovic & Dabaja, 2023).

From an Educational Governance perspective, participation in national and international academic communities and knowledge networks (Strategy 3) depends on governance structures that provide resources, access, and coordination mechanisms (Brooks, 2021; Matjašič & Vogrinc, 2025). Effective governance ensures that teachers can connect with diverse research perspectives, engage in cross-institutional collaborations, and expand disciplinary knowledge in a sustainable and systematized manner.

Research-Based Teacher Education (RBTE) approaches further support content knowledge enhancement by integrating research and practice, allowing teachers to engage in authentic research experiences while systematically building disciplinary expertise (Bayrak Özmutlu, 2022; Matjašič & Vogrinc, 2025; Evans, Waring, & Christodoulou, 2017). Teachers' participation in continuous reading, courses, and independent study (Strategy 5) is reinforced within this research-oriented framework, promoting long-term professional learning and knowledge expansion.

In summary, these five strategies form an integrated framework for enhancing foreign language teachers' content knowledge. Multi-channel knowledge updates and AI-assisted personalization (Strategy 1), interdisciplinary integration (Strategy 2), engagement in external academic communities (Strategy 3), internal knowledge sharing (Strategy 4), and self-directed professional learning (Strategy 5) collectively foster continuous knowledge expansion and theoretical enrichment. This multi-level

and systematized approach provides both theoretical grounding and practical pathways for sustainable development of teachers' content knowledge.

Part 3: To evaluate the suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi

Through statistical analysis of the suitability and feasibility data of strategies for enhancing foreign language teachers' research competence at universities in Guangxi, it is found that the strategies have relatively high suitability and feasibility. The suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in 5 elements were at a high level or the highest level, with the values between 4.00 and 5.00, which means the strategies for enhancing foreign language teachers' research competence at universities in Guangxi are suitable and feasible. Zhang (2025) pointed out that only through a concerted effort by all stakeholders, policy support from universities and education authorities, and the continuous professional development of individual teachers can universities truly enhance the research capabilities of university foreign language instructors, thereby strengthening the university foreign language faculty and achieving high-quality development in university foreign language education.

1. Skills in reviewing the state of research

Among the six strategies for enhancing skills in reviewing the state of research, the strategy with the highest suitability score was "Promoting the formation of academic reading communities and collaborative learning groups, where foreign language teachers can engage in regular discussions and shared interpretation of research literature". This finding indicates that the experts highly recognized the importance of collaborative academic learning in enhancing teachers' abilities to review, interpret, and critically understand research literature. Academic reading communities and collaborative learning groups provide teachers with opportunities to exchange academic perspectives, discuss research findings collectively, and deepen their understanding of disciplinary knowledge through continuous scholarly

interaction. This result is consistent with previous studies emphasizing the importance of collaborative and research-oriented learning environments in the development of research competence. Böttcher-Oschmann et al. (2021) argued that research competence development requires structured and sustained research-learning support, and that research-oriented learning environments can effectively promote teachers' and students' engagement with research processes. Similarly, Salmento et al. (2021) highlighted that research competence is closely associated with scientific thinking, critical understanding, and engagement with research literature. Their study further emphasized that collaborative discussion and interpretation of academic knowledge can support the development of more sophisticated scientific understanding and research-related thinking skills. In addition, research competence development should not be confined to isolated research tasks or individual activities, but should instead be promoted through continuous and transversal academic engagement. In this regard, academic reading communities and collaborative learning groups can provide a sustainable academic environment in which foreign language teachers are able to continuously update their knowledge, broaden their academic perspectives, and strengthen their critical awareness of research literature.

Among the six strategies for enhancing skills in reviewing the state of research, the strategy with the highest feasibility score was "Establishing institutionalized mechanisms for literature resource support by increasing investment in humanities-oriented academic databases, digital platforms, and corpora". This finding indicates that the experts considered this strategy highly practical and achievable within the current context of universities in Guangxi. Adequate access to academic databases, digital platforms, and corpora is an important prerequisite for conducting systematic literature review and academic inquiry, particularly in the field of foreign language studies, where access to international literature and linguistic resources is essential for understanding current research developments and disciplinary trends. From the perspective of Governance Theory, the establishment of institutionalized literature resource support mechanisms reflects the important role of universities in providing

policy support, financial investment, and infrastructure guarantees for teachers' research activities. Institutional support through stable funding and resource allocation can reduce barriers to academic research and create a more supportive research environment for teachers. This is consistent with the argument of Ciraso-Cali et al. (2022), who emphasized that institutional conditions and resource availability significantly influence the development of research competence in educational contexts. In addition, Organizational Learning Theory suggests that organizational learning depends heavily on the accessibility and circulation of knowledge resources within institutions. Academic databases, digital platforms, and corpora function not only as information repositories but also as important infrastructures for knowledge acquisition and knowledge sharing. Through enhanced access to diversified academic resources, teachers are able to continuously update their disciplinary knowledge and broaden their academic perspectives. Previous studies have similarly highlighted the importance of academic resource support in enhancing research competence. Salmento et al. (2021) pointed out that adequate research resources and supportive academic environments are essential conditions for sustaining teachers' research engagement and the development of competence. Therefore, increasing investment in humanities-oriented academic databases and digital platforms is not only feasible under current higher education development policies but also beneficial for promoting the long-term development of foreign language teachers' research competence.

2. Methodological skills

Among the five strategies for enhancing methodological skills, the strategy with the highest suitability score was "Encouraging foreign language teachers to engage in self-initiated methodological learning as part of their professional development". This finding suggests that the experts highly valued teachers' autonomous engagement in methodological learning as an important approach to improving research competence. In the AI age, research methodologies and analytical technologies are developing rapidly, requiring teachers to continuously update their methodological knowledge and research skills. Compared with passive participation

in short-term training activities, self-initiated methodological learning enables teachers to develop more sustainable and individualized pathways for methodological growth according to their research interests and disciplinary needs. This result is consistent with previous studies that emphasize the importance of independent methodological development for research competence. Swank and Lambie (2016) pointed out that methodological competence involves not only understanding research procedures but also the ability to appropriately apply qualitative and quantitative research processes in actual research contexts. Their study further emphasized that researchers need continuous engagement with methodological learning and research practice in order to strengthen their research competence. Similarly, Polatuly et al. (2024) argued that the development of research competence requires learners to actively participate in inquiry processes, methodological exploration, and problem-solving activities, rather than relying solely on externally transmitted knowledge. Their study highlighted that sustained self-directed engagement with research methods can significantly enhance researchers' analytical thinking and methodological adaptability. In this regard, self-initiated methodological learning can help foreign language teachers continuously strengthen their understanding of research methods, improve methodological flexibility, and enhance their ability to conduct independent research. Continuous engagement with methodological inquiry and research practice can further support the sustainable development of research competence in higher education contexts.

Among the five strategies for enhancing methodological skills, the strategy with the highest feasibility score was "Facilitating collaborative research and peer learning opportunities to encourage the sharing of methodological knowledge and practices among foreign language teachers". This finding suggests that the experts considered collaborative research and peer learning to be highly practical and achievable approaches for improving methodological competence in universities in Guangxi. Compared with resource-intensive formal training programs, collaborative academic interaction among colleagues can be more easily integrated into teachers' daily research activities and professional communication. This result is supported by

previous studies that emphasize the importance of collaborative inquiry and peer interaction in the development of research competence. Swank and Lambie (2016) pointed out that methodological competence involves not only understanding research processes but also developing the practical ability to apply research methods through engagement in research and experience. Collaborative research activities provide opportunities for teachers to discuss methodological problems, exchange research experiences, and learn from different research practices in authentic academic contexts. Such collaborative interaction can help teachers gradually strengthen their confidence and competence in conducting research. Similarly, Polatuly et al. (2024) emphasized that the development of research competence is closely related to active participation, collaborative problem-solving, and methodological practice. Their study highlighted that collaborative learning environments can promote deeper methodological understanding and improve researchers' ability to apply research methods flexibly in different research situations. In the context of foreign language education, peer learning opportunities can further encourage teachers to share disciplinary research experiences, discuss methodological challenges, and collectively improve their research capabilities. In addition, Böttcher-Oschmann et al. (2021) argued that the development of research competence should be embedded in research-oriented learning environments characterized by interaction, participation, and collaborative academic engagement. In this regard, facilitating collaborative research and peer learning opportunities can contribute to the establishment of a more supportive and sustainable academic learning culture within universities. Therefore, the experts considered this strategy highly feasible for enhancing methodological skills among foreign language teachers at universities in Guangxi.

3. Skills in reflecting on research findings

Among the four strategies for enhancing skills in reflecting on research findings, the strategy with the highest suitability score was "Encouraging foreign language teachers to develop self-reflection and critical thinking as integral components of their research practice". This finding indicates that the experts highly

recognized the importance of reflective awareness and critical thinking in the development of research competence. Research competence is not only associated with the acquisition of research knowledge and methodological skills, but also with the ability to critically examine research processes, evaluate research findings, and reflect on the theoretical and practical implications of research outcomes. This result is consistent with previous studies emphasizing the role of reflective and critical thinking in research competence development. Thiel and Böttcher (2014) pointed out that research competence involves the ability to critically interpret research findings, reflect on research processes, and make evidence-based judgments within academic contexts. Their study further emphasized that reflective thinking is an important component of scientific reasoning and contributes to the development of a more sophisticated research understanding. Similarly, Böttcher-Oschmann and Thiel (2017) argued that research competence should include not only technical research skills but also reflective engagement with scientific knowledge and research evidence. They noted that the ability to critically evaluate research outcomes and theoretical assumptions is essential for developing deeper scientific understanding and improving research quality. In addition, Ciraso-Calí et al. (2022) emphasized that the development of research competence requires critical, reflective, and analytical engagement with research knowledge. Their study highlighted that reflective thinking enables researchers to connect research findings with broader theoretical frameworks and practical contexts, thereby strengthening the meaningful interpretation of research outcomes. In the context of foreign language education, encouraging teachers to develop self-reflection and critical thinking can help them move beyond descriptive or experience-based research approaches and gradually cultivate more analytical and theoretically grounded research practices. Therefore, the experts considered this strategy highly suitable for enhancing foreign language teachers' skills in reflecting on research findings at universities in Guangxi.

Among the four strategies for enhancing skills in reflecting on research findings, the strategy with the highest feasibility score was “Encouraging foreign language teachers to develop self-reflection and critical thinking as integral

components of their research practice”. This finding indicates that the experts considered the cultivation of reflective thinking and critical awareness to be highly feasible within the current academic context of universities in Guangxi. Compared with strategies requiring extensive institutional investment or structural reform, reflective practice can be gradually integrated into teachers’ everyday research activities, including literature interpretation, research discussion, classroom inquiry, and manuscript revision. Therefore, this strategy is more likely to be implemented continuously within existing professional development practices. This result is supported by previous studies that emphasize the importance of reflective inquiry and research-oriented thinking in teacher education and in the development of research competence. Bayrak Özmutlu (2022) pointed out that research-based teacher education aims to cultivate reflective and autonomous teachers who are capable of analyzing their own professional practices, rationalizing their decisions, and critically examining educational phenomena. The study further emphasized that reflective thinking, analytical inquiry, and collaborative discussion are important elements in developing teachers’ research competencies and scientific understanding. In particular, the author highlighted that research-based teacher education encourages teachers to become “reflective practitioners” who can continuously observe, analyze, and improve their professional practices. Similarly, Varlık (2025) emphasized that research literacy requires teachers not only to access scientific knowledge but also to critically evaluate and meaningfully apply research evidence in professional contexts. The study further argued that reflective reasoning and analytical thinking play important roles in helping teachers understand complex educational issues and make informed academic judgments. In addition, Hoeber (2023) stressed that continuous self-reflection and ongoing learning are essential for improving research literacy. The author argued that researchers should continually rethink and critically examine their own research assumptions, analytical processes, and interpretations to improve the quality and rigor of research practice. In the context of foreign language education, encouraging teachers to develop self-reflection and critical thinking can help them critically evaluate their own research

processes, interpret research findings more rigorously, and gradually strengthen the theoretical depth and analytical quality of their research practices. Therefore, the experts considered this strategy highly feasible for enhancing foreign language teachers' skills in reflecting on research findings at universities in Guangxi.

4. Communication skill

Among the eight strategies for enhancing communication skills, the strategy with the highest suitability was “Organizing regular internal research workshops and experience-sharing sessions on academic writing and publication for foreign language teachers, inviting experienced scholars with strong publication records in high-quality international journals to share practical insights and strategies.” This finding indicates that the experts highly recognized the importance of academic communication, peer learning, and publication-oriented professional support in improving foreign language teachers’ research competence. Compared with abstract theoretical training, practical workshops and experience-sharing activities can provide teachers with more direct, contextualized, and discipline-relevant guidance for academic writing and publication. This result is supported by previous studies emphasizing the importance of integrating research engagement, collaborative learning, and professional dialogue into teachers’ professional development. Evans, Waring, and Christodoulou (2017) pointed out that teachers’ research literacy should not be viewed as an externally imposed activity or isolated research task, but as an integral part of professional practice that is developed through continuous engagement with research, collaboration, and critical discussion. Their study further emphasized that collaborative professional learning activities, including discussion, mentoring, and shared interpretation of research knowledge, are important for helping teachers connect research with professional practice. In this regard, organizing internal workshops and experience-sharing sessions can provide foreign language teachers with valuable opportunities to learn practical publication strategies, improve academic writing abilities, and strengthen scholarly communication competence. Similarly, Oancea et al. (2021) emphasized that research capacity-building in teacher education should involve collaborative professional development, networking

opportunities, mentoring support, and sustained research-rich academic cultures. Their study highlighted that activities such as research workshops, mentoring relationships, collaborative research groups, and academic networking can effectively enhance researchers' research engagement and publication capacity. This suggests that inviting experienced scholars with successful international publication records to share practical experiences may help foreign language teachers better understand academic publication standards, improve their research writing strategies, and enhance their confidence in participating in international academic communication. In addition, Matjašič and Vogrinc (2025) emphasized that the development of research competence requires practical engagement in authentic research activities and collaborative, research-based learning environments. Their study further pointed out that active participation in research-oriented learning activities can help teachers improve their ability to critically interpret research knowledge and communicate research findings effectively. In the context of foreign language education, regular academic writing workshops and publication-sharing activities may therefore help teachers gradually improve their academic expression, publication competence, and international scholarly communication abilities. Therefore, the experts considered this strategy highly suitable because it combines practical academic guidance, collaborative learning, and research-oriented professional development, all of which are closely aligned with the actual professional needs of foreign language teachers at universities in Guangxi.

Among the 8 strategies for enhancing communication skills, the strategy with the highest feasibility score was "Encouraging foreign language teachers to engage continuously with high-quality academic literature and to develop sustained practices of academic writing and manuscript submission throughout the academic year." This finding suggests that the experts regarded the development of long-term academic reading and writing habits as a highly practical and sustainable approach to improving communication skills among foreign language teachers. Unlike short-term academic training activities, continuous engagement in scholarly reading and writing can become part of teachers' regular professional routines and gradually strengthen

their academic communication competence. This result is supported by previous studies emphasizing the importance of research-based professional practice and continuous scholarly engagement in teacher development. Matjašič and Vogrinc (2025) pointed out that active participation in research-oriented learning activities contributes significantly to the development of research competence, particularly in critical interpretation of research knowledge and communication of research findings. Their study further emphasized that practical engagement with research activities over time helps learners develop more realistic and sustainable research competence. In this regard, maintaining regular academic reading and manuscript writing practices throughout the academic year can provide foreign language teachers with continuous opportunities to improve their academic expression and scholarly writing ability. In addition, Oancea et al. (2021) emphasized that sustainable research capacity-building depends on establishing “research-rich” professional cultures characterized by ongoing scholarly participation, networking, and engagement with academic knowledge. Their study highlighted that long-term academic engagement and professional interaction are important conditions for strengthening research professionalism and publication capacity. This suggests that encouraging foreign language teachers to continuously engage with high-quality academic literature and sustain academic writing practices may help them gradually internalize academic discourse conventions and improve their ability to participate in scholarly communication. Furthermore, Bayrak Özmütlu (2022) argued that research-based professional learning encourages teachers to become reflective and autonomous practitioners who continuously examine and improve their professional practices through inquiry and academic engagement. In the context of foreign language education, sustained academic reading and manuscript writing practices can therefore support teachers in developing stronger academic awareness, improving their ability to communicate research ideas clearly, and gradually enhancing their confidence in participating in international academic publication and scholarly exchange. Therefore, the experts considered this strategy highly feasible because it can be implemented progressively through teachers’ everyday academic participation and self-directed

professional learning, while also supporting the long-term development of academic communication competence among foreign language teachers at universities in Guangxi.

5. Content knowledge

Among the 5 strategies for content knowledge, the highest suitability was “Promoting internal knowledge sharing and dissemination within institutions through research groups, seminars, and academic forums, enabling the transfer and localization of newly acquired knowledge.” This finding indicates that the experts highly recognized the importance of collaborative academic exchange and institutional knowledge-sharing mechanisms in strengthening foreign language teachers’ disciplinary knowledge and research competence. In the context of rapidly changing academic knowledge and increasing interdisciplinary integration in the AI age, individual learning alone may not be sufficient to support sustainable professional development. Research groups, seminars, and academic forums can therefore provide important platforms for academic dialogue, collective learning, and the dissemination of new research knowledge within institutions. This result is supported by previous studies that emphasize the role of collaborative and research-rich academic cultures in the development of research competence. Oancea et al. (2021) argued that research capacity-building should extend beyond individual skill development and should involve collaborative professional cultures, networking opportunities, and sustained academic interaction across institutional contexts. Their study further emphasized that collaborative academic environments facilitate knowledge exchange and contribute to the development of long-term research engagement and professional learning. Similarly, Matjašič and Vogrinc (2025) pointed out that research competence develops more effectively when learners actively participate in research-based learning environments characterized by discussion, collaboration, and engagement with authentic research activities. Their study highlighted that collaborative academic participation can strengthen teachers’ understanding of research knowledge and improve their ability to apply and communicate disciplinary knowledge in professional contexts. In the context of

foreign language education, promoting internal knowledge sharing through seminars, research groups, and academic forums may therefore help teachers continuously update disciplinary knowledge, localize newly acquired academic knowledge, and gradually strengthen their academic literacy and research competence. Therefore, the experts considered this strategy highly suitable because it integrates collaborative professional learning, academic interaction, and institutional knowledge dissemination, all of which are closely aligned with the practical professional development needs of foreign language teachers at universities in Guangxi.

Among the five strategies for content knowledge, the strategy with the highest feasibility score was “Encouraging foreign language teachers to engage in self-directed professional learning and knowledge expansion through continuous reading, course participation, and independent study.” This finding indicates that the experts considered self-directed professional learning highly feasible for enhancing foreign language teachers’ disciplinary knowledge at universities in Guangxi. Compared with strategies requiring substantial institutional restructuring or external resource support, self-directed learning can be implemented more flexibly through teachers’ everyday academic engagement and long-term professional development practices. This result is supported by previous studies emphasizing the importance of continuous learning, independent inquiry, and reflective professional development in strengthening research competence and professional knowledge. Martinovic and Dabaja (2023) pointed out that engaging teachers in research-related learning activities can help them develop critical thinking, inquiry abilities, reflective awareness, and research-related skills. Their study further emphasized that active participation in research and independent inquiry contributes to teachers’ professional growth and helps them connect theoretical knowledge with educational practice. In this regard, continuous reading, course participation, and independent study may provide foreign language teachers with sustainable opportunities to update disciplinary knowledge and strengthen academic literacy. Similarly, Yerzhanova et al. (2025) emphasized that the development of research competence requires continuous professional development, analytical thinking, and the ability to critically evaluate educational

practices and research knowledge. Their study further argued that the integration of research-oriented learning activities and independent learning practices contributes significantly to the development of reflective and evidence-based professional competence. This suggests that encouraging foreign language teachers to engage in self-directed professional learning may help them gradually strengthen disciplinary understanding, improve their research awareness, and maintain continuous academic growth in the AI age. In addition, Salahuddin and Stupnisky (2025) identified reviewing literature, planning research, collecting and analyzing data, writing research, and disseminating findings as important components of faculty research competence. Their systematic review further highlighted that faculty research competence is closely associated with continuous engagement in scholarly learning and research-related activities. Therefore, encouraging foreign language teachers to maintain self-directed learning habits through continuous academic reading and independent study can provide important support for the long-term development of content knowledge and research competence.

Recommendations

Implications

1. Skills in reviewing the state of research. In terms of skills in reviewing the state of research, the survey results show that the lowest score is “You are able to evaluate the methodological quality of research findings well”. This finding indicates that although foreign language teachers are generally able to search for and collect relevant literature, many still encounter difficulties in critically evaluating the rigor, validity, and appropriateness of research methodologies adopted in previous studies. In particular, some teachers may lack sufficient understanding of research design, sampling procedures, data collection techniques, statistical analysis, and methodological limitations, which restricts their ability to distinguish between high-quality and low-quality research. This situation may further affect the depth of the literature review, the identification of meaningful research gaps, and the overall quality of their own research practices. It also reflects the insufficient provision of

systematic methodological training and academic guidance within universities. To address this issue, several implications can be proposed.

1) Universities should strengthen methodological training programs for foreign language teachers, particularly in research design, data analysis, and critical evaluation of empirical studies.

2) Academic workshops and research seminars focusing on methodological critique and journal article analysis should be organized regularly to enhance teachers' critical reading abilities..

3) Third, interdisciplinary collaboration with experts in education, statistics, and research methodology should be encouraged to provide teachers with broader methodological support and consultation opportunities.

4) Fourth, universities should promote peer-learning communities and collaborative reading groups in which teachers can jointly discuss and evaluate the methodological strengths and weaknesses of published studies.

5) Fifth, AI-assisted research tools and digital platforms may also be introduced to support literature analysis and methodological evaluation, while simultaneously providing guidance on the ethical and appropriate use of such technologies.

2. Methodological skills.

In terms of methodological skills, the survey results show that the lowest score is “You are able to use appropriate analytical tools to analyze data”. This finding suggests that many foreign language teachers still experience considerable difficulties in selecting and applying suitable analytical tools for processing and interpreting research data. In particular, teachers may lack sufficient knowledge and operational competence in using quantitative and qualitative data analysis software, such as SPSS, NVivo, or AI-assisted analytical platforms. Some teachers may also have a limited understanding of the relationships between research questions, research design, data types, and corresponding analytical methods, resulting in inappropriate or superficial data analysis practices. This weakness not only affects the scientific rigor and credibility of research findings but may also reduce teachers' confidence and

motivation in conducting empirical research. The result further reflects the insufficient integration of methodological training, digital research literacy, and practical data-analysis experience within current professional development systems. To address this issue, several implications can be proposed.

1) Universities should provide systematic and practice-oriented training programs on quantitative and qualitative data analysis, including the use of commonly adopted research software and digital analytical tools.

2) Hands-on workshops and project-based training activities should be organized regularly to help teachers apply analytical techniques in authentic research contexts rather than merely learning theoretical concepts.

3) Universities should strengthen technical support services by establishing research support centers or methodological consultation teams that can provide individualized guidance on data analysis.

4) Universities should strengthen technical support services by establishing research support centers or methodological consultation teams that can provide individualized guidance on data analysis.

5) Universities should actively encourage the appropriate use of AI-assisted data analysis tools and intelligent research platforms while simultaneously strengthening teachers' awareness of research ethics, data reliability, and responsible technology use.

3. Skills in reflecting on research findings.

In terms of skills in reflecting on research findings, the survey results show that the lowest score is "You are able to adequately relate your research findings to key theories in the subject area." This finding indicates that many foreign language teachers still experience difficulties in establishing meaningful connections between empirical research findings and relevant theoretical frameworks within their disciplines. Although some teachers may be able to conduct research and report findings, they may lack sufficient theoretical awareness and interpretive ability to explain research results from broader conceptual and disciplinary perspectives. As a result, research discussions may remain descriptive rather than analytical, limiting the

theoretical depth, academic contribution, and scholarly value of their studies. This situation also reflects the relatively weak integration between theoretical learning and research practice in current teacher professional development and research training. To address this issue, several implications can be proposed.

1) Universities should strengthen theoretical training and academic reading activities to enhance foreign language teachers' understanding of major theories, conceptual frameworks, and current academic debates within their disciplines.

2) Academic seminars and reflective dialogue activities focusing on theory–practice integration should be organized regularly to guide teachers in interpreting research findings through theoretical perspectives.

3) Mentoring mechanisms involving experienced researchers and academic experts should be established to support teachers in improving their theoretical interpretation and reflective research abilities.

4) Universities should encourage teachers to engage in continuous academic reflection after completing research projects or publishing papers, particularly regarding the theoretical implications, academic significance, and disciplinary contributions of their findings.

4. Communication skills.

In terms of communication skills, the survey results show that the lowest score is “You are able to present your research at a scientific meeting in accordance with current standards in your discipline”. This finding suggests that many foreign language teachers still lack sufficient experience and confidence in presenting research findings in formal academic settings. In particular, some teachers may be unfamiliar with the conventions, discourse styles, and presentation requirements of academic conferences, especially international scientific meetings. Limitations in academic English proficiency, presentation skills, and scholarly communication strategies may also affect their ability to effectively communicate research ideas and engage in academic dialogue. This situation may further restrict teachers' academic visibility, participation in scholarly communities, and opportunities for academic

collaboration and professional development. To address this issue, several implications can be proposed.

1) Universities should organize training programs and simulation workshops on academic presentation skills, conference communication strategies, and disciplinary academic discourse to improve teachers' scholarly communication competence.

2) Universities should provide more institutional support and funding opportunities for teachers to participate in national and international academic conferences, thereby increasing their exposure to academic communication practices and disciplinary standards.

3) Academic communities and peer-support mechanisms should be strengthened to encourage teachers to engage in regular academic sharing, conference rehearsal activities, and collaborative scholarly communication practices.

5. Content knowledge. In terms of content knowledge, the survey results show that the lowest score is “You have a sound knowledge of the main research methods in your discipline”. This finding indicates that many foreign language teachers still lack a systematic and comprehensive understanding of the major research methods commonly used within their disciplinary fields. Although some teachers may possess basic research experience, their knowledge of methodological paradigms, disciplinary research traditions, and emerging research approaches remains relatively limited. In particular, teachers may be unfamiliar with recent developments in interdisciplinary research methods, mixed-methods research, corpus-based research, or AI-supported research approaches that are increasingly important in contemporary foreign language studies. This weakness may restrict teachers' ability to select appropriate research approaches, design rigorous studies, and engage effectively with current academic developments in the discipline. The result also reflects the insufficient connection between disciplinary development, methodological innovation, and teacher professional learning in universities. To address this issue, several implications can be proposed.

1) Universities should strengthen discipline-specific methodological training and continuously update training content in accordance with recent developments in foreign language research and AI-supported research practices.

2) Universities should strengthen discipline-specific methodological training and continuously update training content in accordance with recent developments in foreign language research and AI-supported research practices.

3) Universities should encourage foreign language teachers to participate in collaborative and interdisciplinary research projects, thereby promoting the integration of methodological knowledge, disciplinary knowledge, and innovative research practices.

Future Researches

Although this study has explored strategies for enhancing foreign language teachers' research competence at universities in Guangxi from an educational administration perspective, several limitations still exist. Due to constraints related to research scope, sample coverage, and research design, some aspects of foreign language teachers' research competence could not be examined in greater depth. In addition, as artificial intelligence technologies and higher education reforms continue to evolve rapidly, the development of teachers' research competence will remain a dynamic, ongoing issue. Therefore, further studies are still needed to enrich and extend the findings of the present research in the following aspects:

1) Future research may further expand the research scope by including a wider range of universities and educational contexts beyond Guangxi. Comparative studies across different regions, institutional types, or disciplinary backgrounds could provide a more comprehensive understanding of the similarities and differences in the development of teachers' research competence across various higher education contexts. In particular, comparative investigations between developed and less-developed regions, or between foreign language teachers and teachers from other disciplines, may contribute to a deeper understanding of the contextual and institutional influences on research competence.

2) Future studies may also adopt longitudinal research designs to examine the dynamic development of foreign language teachers' research competence over time. Since teachers' research competence is influenced by multiple factors, including institutional policies, professional development opportunities, technological changes, and individual learning experiences, longitudinal investigations may yield richer insights into the developmental trajectories, challenges, and sustainability of competence enhancement. Such studies could further evaluate the long-term effectiveness of the enhancement strategies and educational administration mechanisms proposed in this study.

3) Future research may further explore the role of artificial intelligence and emerging digital technologies in enhancing teachers' research competence. As AI technologies continue to transform academic research paradigms, more empirical studies are needed to investigate how AI-assisted tools influence literature review, data analysis, academic writing, research collaboration, and reflective research practices. At the same time, future studies should also pay greater attention to research ethics, digital literacy, data security, and the responsible use of AI in academic research and teacher professional development.

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Appendices

Appendix A
List of Specialists and Letters of Specialists Invitation
for IOC Verification

List of Specialists and Letters of Specialists Invitation for IOC Verification

Serial number	Name	Work place
1	Professor Dr. Liang Yanhua	Guangxi University
2	Professor Dr.Liu Xueqin	Guangxi Minzu University
3	Professor Dr.Huang Xin	Nanning Normal University
4	Professor Dr.Fang Bao	Guangxi University of Chinese Medicine
5	Professor Dr.Li Chen	Guangxi Normal University



Ref.No. MHESI 0643.14/ 844

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20 December 2025

RE: Invitation to validate research instrument

Dear Professor Dr. Liang Yanhua, Guangxi University

Mrs.Wen Yingxi is a graduate student in Doctor of Philosophy Program in Educational Administration of Bansomdejchaopraya Rajabhat University. She is undertaking research entitle "Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi in the AI age: An Educational Administration Perspective"

The thesis adversity committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. Would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Sincerely,

(Assistant Professor Dr.Tanaput Chanchaen)
Vice Dean Acting for of Dean of Graduate School

Bansomdejchaopraya Rajabhat University

Tel.+662-473-7000

www.bsru.ac.th

E-mail: grad@bsru.ac.th



Ref.No. MHESI 0643.14/ 824

Bansomdejchaopraya Rajabhat University
1061 Itsaraphap Hiranruchi
Thonburi Bangkok 10600

20 December 2025

RE: Invitation to validate research instrument

Dear Professor Dr. Liu Xueqin, Guangxi Minzu University

Mrs.Wen Yingxi is a graduate student in Doctor of Philosophy Program in Educational Administration of Bansomdejchaopraya Rajabhat University. She is undertaking research entitle "Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi in the AI age: An Educational Administration Perspective"

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With your expertise, we would like to ask your permission to validate the attached research instrument. Would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Sincerely,

(Assistant Professor Dr.Tanaput Chancharoen)

Vice Dean Acting for of Dean of Graduate School

Bansomdejchaopraya Rajabhat University

Tel.+662-473-7000

www.bsru.ac.th

E-mail: grad@bsru.ac.th



Ref.No. MHESI 0643.14/ 825

Bansomdejchaopraya Rajabhat University
1061 Itsaraphap Hiranruchi
Thonburi Bangkok 10600

20 December 2025

RE: Invitation to validate research instrument

Dear Professor Dr. Huang Xin, Nanning Normal University

Mrs.Wen Yingxi is a graduate student in Doctor of Philosophy Program in Educational Administration of Bansomdejchaopraya Rajabhat University. She is undertaking research entitle "Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi in the AI age: An Educational Administration Perspective"

The thesis adversity committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. Would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Sincerely,

(Assistant Professor Dr.Tanaput Chanchaoen)
Vice Dean Acting for of Dean of Graduate School

Bansomdejchaopraya Rajabhat University

Tel.+662-473-7000

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E-mail: grad@bsru.ac.th



Ref.No. MHESI 0643.14/ 826

Bansomdejchaopraya Rajabhat University
1061 Itsaraphap Hiranruchi
Thonburi Bangkok 10600

20 December 2025

RE: Invitation to validate research instrument

Dear Professor Dr. Li Chen, Guangxi Normal University

Mrs.Wen Yingxi is a graduate student in Doctor of Philosophy Program in Educational Administration of Bansomdejchaopraya Rajabhat University. She is undertaking research entitle "Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi in the AI age: An Educational Administration Perspective"

The thesis adversity committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. Would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Sincerely,

(Assistant Professor Dr.Tanaput Chanchaen)
Vice Dean Acting for of Dean of Graduate School

Bansomdejchaopraya Rajabhat University

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Ref.No. MHESI 0643.14/ 827

Bansomdejchaopraya Rajabhat University
1061 Itsaraphap Hiranruchi
Thonburi Bangkok 10600

20 December 2025

RE: Invitation to validate research instrument

Dear Professor Dr. Fang Bao, Guangxi University of Chinese Medicine

Mrs.Wen Yingxi is a graduate student in Doctor of Philosophy Program in Educational Administration of Bansomdejchaopraya Rajabhat University. She is undertaking research entitle "Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi in the AI age: An Educational Administration Perspective"

The thesis adversity committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. Would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Sincerely,

(Assistant Professor Dr.Tanaput Chanchaoren)
Vice Dean Acting for of Dean of Graduate School

Bansomdejchaopraya Rajabhat University

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Appendix B

Official Letter



Ref.No. MHESI 0643.14/ 828

Bansomdejchaopraya Rajabhat University
1061 Itsaraphap Hiranruchi
Thonburi Bangkok 10600

20 December 2025

RE: Request for Data Collection and Interview

Dear Sir or Madam

Mrs.Wen Yingxi is a graduate student in Doctor of Philosophy Program in Educational Administration of Bansomdejchaopraya Rajabhat University. She is undertaking research entitle "Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi in the AI age: An Educational Administration Perspective"

The thesis adversity committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research. List of universities and colleges according to the attached document.

With your expertise, we would like to request to collect the data to be used in the research. Would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Sincerely,

(Assistant Professor Dr.Tanaput Chanchaen)

Vice Dean Acting for of Dean of Graduate School

Bansomdejchaopraya Rajabhat University

Tel.+662-473-7000

www.bsru.ac.th

E-mail: grad@bsru.ac.th

List of Universities for Data Collection and Interview

No	University / College
1.	Guangxi University
2.	Guangxi Minzu University
3.	Guangxi Medical University
4.	Nanning Normal University
5.	Guangxi University of Finance and Economics
6.	Guangxi Arts University
7.	Guangxi Normal University
8.	Guilin University of Electronic Technology
9.	Guilin University of Technology
10.	Guangxi University of Science and Technology
11.	Beibu Gulf University
12.	Baise University
13.	Hechi University
14.	Yulin Normal University
15.	Hezhou University

Sincerely,



(Assistant Professor Dr.Tanaput Chanchaoen)
Vice Dean Acting for of Dean of Graduate School



Ref.No. MHESI 0643.14/829

Bansomdejchaopraya Rajabhat University
1061 Itsaraphap Hiranruchi
Thonburi Bangkok 10600

20 December 2025

RE: Invitation to evaluate the Strategies

Dear Sir or Madam

Mrs.Wen Yingxi is a graduate student in the Doctor of Philosophy Program in Educational Administration of Bansomdejchaopraya Rajabhat University. She is undertaking research entitled "Strategies for Enhancing Foreign Language Teachers' Research Capacity at Universities in Guangxi: Educational Administration Perspective."

The thesis advisory committee has recognized your expertise in this field and believes that your valuable recommendations would greatly contribute to the improvement of this research. Therefore, we would like to kindly request your assistance in evaluating the attached strategies. Your expert review and suggestions would be highly appreciated.

We would like to take this opportunity to express our sincere gratitude and appreciation for your time, support, and valuable contribution to this research.

Sincerely yours,

(Assistant Professor Dr.Tanaput Chanchaen)
Vice Dean, Acting Dean of the Graduate School

Bansomdejchaopraya Rajabhat University

Tel.+662-473-7000

www.bsru.ac.th

E-mail: grad@bsru.ac.th

List of Experts to Evaluate the Strategies

No	List of Experts	University / College
1.	Professor Dr. Yuan Zhuoxi	Guangxi University
2.	Associate Professor Dr. He Yunyan	Guangxi Minzu University
3.	Professor Dr. Lan Lan	Guangxi Medical University
4.	Associate Professor Dr. Tan Wei	Guangxi University of Science and Technology
5.	Professor Yao Benbiao	Nanning Normal University
6.	Associate Professor Dr. Xiang Keshu	Guangxi Medical University
7.	Professor Chen Xiangliu	Guilin University of Electronic Technology
8.	Professor Mo Minyin	Guangxi Arts University
9.	Associate Professor Wei Yunhui	Guilin University of Technology
10.	Associate Professor Dr. Chen Yu	Yulin Normal University
11.	Associate Professor Li Dan	Guangxi Medical University
12.	Associate Professor Dr. Zhou Zhaoxing	Guangxi University of Science and Technology
13.	Associate Professor Zeng Wenhua	Guilin University of Technology
14.	Associate Professor Yan Honglan	Baise University
15.	Associate Professor Wu Feng	Hezhou University

Sincerely yours,



(Assistant Professor Dr. Tanaput Chancharoen)

Vice Dean, Acting Dean of the Graduate School

Appendix C

Research Instrument

1. Research Questionnaire

Questionnaire on Strategies for Enhancing Foreign Language Teachers' Research Competence in Universities in Guangxi

Instructions:

Thank you very much for taking the time to participate in this survey.

This questionnaire is designed to investigate the current status of foreign language teachers' research competence at universities in Guangxi. The purpose is to gain an in-depth understanding of the current state of research competence, thereby providing empirical data for subsequent studies on strategies to enhance research competence. The survey is conducted anonymously. Please respond to each item based on your current situation by ticking (✓) the appropriate option. All information collected will be used solely for academic research purposes and will be kept strictly confidential. Please feel assured that your responses will remain anonymous and secure.

Thank you again for your valuable cooperation and support.

Part 1: General information of the respondents

Instructions: Please tick (✓) the option that best reflects your situation.

1. Affiliation

- ☐ Guangxi University
- ☐ GuangXi Minzu University
- ☐ Guangxi Medical University
- ☐ Nanning Normal University
- ☐ Guangxi University of Finance and Economics
- ☐ Guangxi Arts University
- ☐ Guangxi Normal University
- ☐ Guilin University of Electronic Technology
- ☐ Guilin University of Technology
- ☐ Guangxi University of Science and Technology
- ☐ Beibu Gulf University
- ☐ Yulin Normal University
- ☐ Baise University
- ☐ Hezhou University
- ☐ Guangxi University of Chinese Medicine
- ☐ Guangxi Police College
- ☐ Guangxi Vocational University of Agriculture
- ☐ Guilin University of Aerospace Technology
- ☐ Guilin Tourism University
- ☐ Guangxi Minzu Normal University
- ☐ Wuzhou University
- ☐ Guangxi Science & Technology Normal University

2. Gender

- ☐ Male
- ☐ Female

3. Age

- ☐ 20 to 25
- ☐ 26 to 30
- ☐ 31 to 35
- ☐ 36 to 40
- ☐ 41 to 45
- ☐ 46 to 50
- ☐ 51 to 55
- ☐ 56 to 60
- ☐ 61 years old and above

4. Education level

- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctoral degree
- ☐ Postdoc

5. Academic title

- ☐ no title
- ☐ Teaching Assistant
- ☐ Lecturer
- ☐ Associate Professor
- ☐ Professor

6. Graduate supervisor status

- ☐ no title
- ☐ Master's Supervisor
- ☐ PhD Supervisor

7. length of work experience

- ☐ within 5 years
- ☐ 5 to 10 years
- ☐ 11 to 15 years
- ☐ 16 to 20 years
- ☐ More than 20 years

Part 2: Questionnaire

Instructions: The questionnaire uses a five-point Likert scale to measure participants' level of agreement with each statement. Please select the option that best reflects your opinion. The options are as follows:

- 5. Strongly agree
- 4. Agree
- 3. Neither agree nor disagree
- 2. Disagree
- 1. Strongly disagree

NO.	The name of the dependent variable	Level				
		5	4	3	2	1
1. Skills in reviewing the state of research						
1	You know how to conduct a targeted search of the state of research on a specific topic.					
2	You know where to target a search of the state of research on a specific topic.					
3	You are able to systematically review the state of research regarding a specific topic.					
4	Based on the state of research, you are able to identify gaps/unaddressed questions for further research.					
5	You are able to evaluate the methodological quality of research findings well.					
2. Methodological skills						
1	(R) You find it difficult to formulate specific research questions/hypotheses.					
2	You are able to decide which data/sources/materials I need to address your research question.					
3	You are able to plan a research study.					
4	(R)You find it difficult to start/initiate each step of the					

	research process.					
5	You find it easy to decide which methods you need to use to address a specific research question.					
6	You are good at judging which method is inappropriate to answer a specific research question.					
7	You are able to apply different research methods appropriate to your research question.					
8	You are able to confidently analyze quantitative data.					
9	You are able to confidently analyze qualitative data.					
10	You are able to use appropriate analytical tools to analyze data.					
3. Skills in reflecting on research findings						
1	You are able to adequately interpret your research findings.					
2	You are able to adequately relate your research findings to key theories in the subject area.					
3	You are able to critically reflect on methodological limitations of your own research findings.					
4	You are able to reflect on the implications of your own research findings in your discipline.					
5	You are able to discuss your research findings with regard to their potential applications.					
6	You are able to critically reflect on the social and ethical implications of your research.					
7	You are able to take a stand on social and ethical issues of research in your discipline.					
4. Communication skills						
1	You are able to write up research findings in accordance with the current conventions in your discipline.					
2	You are able to write a publication in accordance with the standards of your discipline.					
3	(R) You find it difficult to write a report that meets the					

	standards of academic writing.					
4	You are capable of writing research project proposals that meet the standards of this discipline.					
5	You are able to lead research projects and successfully complete them.					
6	You are able to prepare research findings for a presentation at a research colloquium.					
7	You are able to present your research at a scientific meeting in accordance with current standards in your discipline.					
5. Content knowledge						
1	You have a good overview of the main (current) research findings in your discipline.					
2	You are informed about the main (current) theories in your discipline.					
3	You are informed about the historical development of theories in your discipline.					
4	You have a sound knowledge of the main research methods in your discipline.					
5	You are informed about the most important national academic publication outlets in your discipline.					
6	You are informed about the most important international academic publication outlets in your discipline.					
7	You are informed about the standards for academic publications that apply in your discipline.					
8	You are informed about the standards that apply to the presentation of research findings at conferences and meetings in your subject area.					

Part 3: SWOT Analysis

Instructions: Based on your understanding and experience, please conduct a SWOT analysis of foreign language teachers' research competence at universities in Guangxi. Please write your responses in the spaces provided below.

Strengths (S): What are the current strengths that support foreign language teachers' research competence?

Weaknesses (W): What are the current weaknesses or limitations affecting foreign language teachers' research competence?

Opportunities (O): What external opportunities (e.g., AI technologies, educational policies, institutional support, research collaboration, funding, or professional development) could help enhance foreign language teachers' research competence?

Threats (T): What external challenges or threats (e.g., technological changes, policy pressures, limited resources, increasing research demands, or competition) may hinder the development of foreign language teachers' research competence?

There are no right or wrong answers. Please provide your honest opinions based on your own experiences and observations. You may list as many points as you consider relevant.

1. Strengths

.....

.....

2. Weaknesses

.....

.....

3. Opportunities

.....

.....

4. Threats

.....

.....

2. Focus Group Discussion

Research Title: Strategies for Enhancing Foreign Language Teachers'
Research Competence in Universities in Guangxi

Part1: Informants in Focus Group Discussion

Group 1

Informant (NO.)	Education level	Discussion time	Affiliation	Length of work experience (years)
1	Master's degree	April 16, 2026, 7:00 p.m. GMT +8	GuangXi University	35
2	Doctoral degree	April 16, 2026, 7:00 p.m. GMT +8	Guangxi Minzu University	15
3	Master's degree	April 16, 2026, 7:00 p.m. GMT +8	Guangxi Medical University	12
4	Master's degree	April 16, 2026, 7:00 p.m. GMT +8	Guangxi Normal University	16
5	Master's degree	April 16, 2026, 7:00 p.m. GMT +8	Nanning Normal University	26

Group 2

Informant (NO.)	Education level	Discussion time	Affiliation	Length of work experience (years)
1	Doctoral degree	April 18, 2026, 10:00 a.m. GMT +8	Guangxi University of Science and Technology	25
2	Master's degree	April 18, 2026, 10:00 a.m. GMT +8	Guangxi University of Chinese Medicine	22
3	Master's degree	April 18, 2026, 10:00 a.m. GMT +8	Guilin University of Aerospace Technology	20
4	Master's degree	April 18, 2026, 10:00 a.m. GMT +8	Guilin University of Electronic Technology	16
5	Master's degree	April 18, 2026, 10:00 a.m. GMT +8	Guilin University of Technology	21

Group 3

Informant (NO.)	Education level	Discussion time	Affiliation	Length of work experience (years)
1	Doctoral degree	April 23, 2026, 7:00 p.m. GMT +8	Guangxi University	23
2	Doctoral degree	April 23, 2026, 7:00 p.m. GMT +8	Guangxi Minzu University	13
3	Master's degree	April 23, 2026, 7:00 p.m. GMT +8	Guangxi Medical University	15
4	Master's degree	April 23, 2026, 7:00 p.m. GMT +8	Nanning Normal University	22
5	Master's degree	April 23, 2026, 7:00 p.m. GMT +8	Guangxi Arts University	20

Part 2: Summary of suggestions from the focus group discussion

1. Enhancing skills in reviewing the state of research

Modifications:

1) Literature resource support was expanded from simply expanding access to high-quality academic databases to establishing institutionalized literature resource support mechanisms, including investment in humanities-oriented databases, digital platforms, and corpora.

2) Systematic literature review training was refined into structured, discipline-specific training programs, specifying key training contents such as search strategies, source evaluation, and research synthesis.

3) AI-assisted literature search was strengthened by adding the requirement for ethical guidelines to ensure the appropriate and responsible use of AI tools.

4) Academic reading groups were upgraded into academic reading communities and collaborative learning groups, emphasizing regular discussion, collaborative interpretation, and shared learning.

Additions:

1) Added inter-university resource-sharing mechanisms to broaden access to high-quality academic literature.

2) Added self-directed academic reading and continuous knowledge updating as an important component of teachers' professional development.

2. Enhancing methodological skills

Modifications:

1) Research methodology training was expanded into a systematic and sustained methodological training system, emphasizing long-term support and alignment with the characteristics of foreign language research.

2) AI integration became much more discipline-specific by highlighting applications in corpus analysis, text processing, and translation studies.

3) The original proposal of hands-on workshops was transformed into broader AI methodology innovation workshops, emphasizing innovation rather than only

practical training.

4) The original discipline-specific methodological support system was made more concrete by specifying institutional mechanisms for continuous methodological guidance.

Additions:

1) Added mentoring systems and research supervision structures to provide ongoing methodological guidance.

2) Added collaborative research and peer learning opportunities to facilitate methodological knowledge sharing.

3) Added self-initiated methodological learning as an element of continuous professional development.

3. Enhancing skills in reflecting on research findings

Modifications:

1) Reflection training was transformed into embedding reflective requirements into research evaluation and project completion, making reflection an institutional requirement rather than only a training activity.

2) Peer feedback and academic dialogue became much more structured through mechanisms such as research seminars, manuscript review sessions, and peer critique workshops.

3) Reflection was broadened to include analysis of: interpretation of findings, theoretical connections, methodological limitations, academic significance, potential value, and social impact.

4) The original emphasis on critical thinking was incorporated into self-reflection as an integral component of research practice.

Additions:

1) Added the combined use of traditional reflective tools (reflective journals and research memos) together with AI tools to support systematic reflection and critical analysis.

2) Added institutional requirements linking reflection to project reports and final presentations.

4. Enhancing communication skills

Modifications:

1) Institutional support for publication was greatly expanded by specifying: financial assistance, policy incentives, and appropriately calibrated eligibility criteria.

2) Academic writing training became continuous and systematic, accompanied by sustained mentoring throughout the publication process.

3) Participation in conferences was strengthened by explicitly providing: financial support, policy support, and dedicated time allowances.

4) Research workshops became more practice-oriented by inviting experienced scholars with successful publication records to share practical strategies.

Additions:

1) Added optimization of research evaluation mechanisms, emphasizing research quality, originality, and academic contribution rather than publication quantity.

2) Added encouragement for continuous engagement with high-quality literature and year-round academic writing and manuscript submission.

3) Added promotion of collaborative publication and co-authorship to facilitate knowledge sharing and mutual learning.

5. Enhancing content knowledge

Modifications:

1) Updating disciplinary knowledge was expanded into a comprehensive multi-channel knowledge updating mechanism, including: academic briefings, thematic seminars, information platforms, AI-powered real-time research updates, and personalized learning plans.

2) Interdisciplinary knowledge integration became more specific by identifying collaboration with education, communication studies, and data science.

3) Continuous professional learning was elaborated into continuous reading, course participation, and independent study.

Additions

1) Added participation in national and international academic communities

and knowledge networks.

2) Added internal knowledge sharing mechanisms, including research groups, seminars, and academic forums, to facilitate knowledge transfer and localization.

3) Added AI-supported personalized learning recommendations, automatically recommending courses, readings, and research projects based on teachers' research interests.

Overall contributions of the focus group

Compared with the preliminary outline, the focus group made the following overall improvements:

1) Greater specificity: Broad recommendations were transformed into concrete, actionable strategies.

2) Greater institutional orientation: Many strategies now specify institutional mechanisms, policies, funding, mentoring systems, and evaluation reforms.

3) Greater AI integration: AI is no longer mentioned only as a tool but is incorporated together with ethical guidelines, personalized learning, and research applications.

4) Greater emphasis on collaboration: New strategies promote inter-university cooperation, peer learning, collaborative research, knowledge sharing, and co-authorship.

5) Greater sustainability: Many one-time activities in the outline were revised into continuous, systematic, long-term mechanisms for professional development.

6) Greater contextualization: The strategies were tailored specifically to foreign language teachers and their disciplinary characteristics rather than remaining generic recommendations.

3. Evaluation Form

Research Title: Strategies for enhancing foreign language teachers' research competence at universities in Guangxi

Part 1: List of evaluation experts:

No.	Expert	Education background	Length of Work Experience (years)	University
1	Expert 1	Doctoral degree	28	GuangXi University
2	Expert 2	Doctoral degree	20	Guangxi Minzu University
3	Expert 3	Doctoral degree	21	Guangxi Medical University
4	Expert 4	Doctoral degree	20	Guangxi University of Science and Technology
5	Expert 5	Master's degree	35	Nanning Normal University
6	Expert 6	Doctoral degree	12	Guangxi Medical University
7	Expert 7	Master's degree	30	Guilin University of Electronic Technology
8	Expert 8	Master's degree	18	Guangxi Arts University
9	Expert 9	Master's degree	29	Guilin University of Technology
10	Expert 10	Doctoral degree	15	Yulin Normal University
11	Expert 11	Master's degree	28	Guangxi Medical University
12	Expert 12	Doctoral degree	22	Guangxi University of Science and Technology
13	Expert 13	Master's degree	19	Guilin University of Technology
14	Expert 14	Master's degree	31	Baise University
15	Expert 15	Master's degree	15	Hezhou University

Part 2: Evaluation form

[illegible]

Appendix D

The Results of the Quality Analysis of Research Instruments

No.	foreign language teachers' research competence	experts					IOC	Validity
		1	2	3	4	5		
	Skills in reviewing the state of research							
1	You know how to conduct a targeted search of the state of research on a specific topic.	1	1	1	1	1	1.00	valid
2	You know where to target a search of the state of research on a specific topic.	1	1	1	1	0	0.8	valid
3	You are able to systematically review the state of research regarding a specific topic.	1	1	1	1	1	1.00	valid
4	Based on the state of research, you are able to identify gaps/unaddressed questions for further research.	1	1	1	1	1	1.00	valid
5	You are able to evaluate methodological quality of research findings well.	1	1	1	1	1	1.00	valid
	Methodological skills							
1	You find it difficult to formulate specific research questions/hypotheses.	1	1	1	1	1	1.00	valid
2	You are able to decide which data/sources/materials I need to address your research question.	1	1	1	1	1	1.00	valid
3	You are able to plan a research study.	1	1	1	1	1	1.00	valid
4	You find it difficult to start/initiate each step of the research process.	1	1	1	1	0	0.8	valid
5	You find it easy to decide which methods you need to use to address a specific research question.	1	1	1	1	1	1.00	valid
6	You are good at judging which method is inappropriate to answer a specific research question.	1	1	1	1	0	0.8	Valid
	Methodological skills							

No.	foreign language teachers' research competence	experts					IOC	Validity
		1	2	3	4	5		
7	You are able to apply different research methods appropriate to your research question.	0	1	1	1	1	0.8	valid
8	You are able to confidently analyze quantitative data.	1	1	1	1	1	1.00	valid
9	You are able to confidently analyze qualitative data.	1	1	1	1	1	1.00	valid
10	You are able to use appropriate analytical tools to analyze data.	1	1	1	1	1	1.00	valid
	Skills in reflecting on research findings							
1	You are able to adequately interpret your research findings.	1	1	1	1	1	1.00	valid
2	You are able to adequately relate your research findings to key theories in the subject area.	1	1	1	1	1	1.00	valid
3	You are able to critically reflect on methodological limitations of your own research findings.	1	1	1	1	1	1.00	valid
4	You are able to reflect on the implications of your own research findings in your discipline.	1	1	1	1	1	1.00	valid
5	You can discuss your research findings with regard to their potential applications.	1	1	1	1	1	1.00	valid
6	You are able to critically reflect on the social and ethical implications of your research.	0	1	1	1	1	0.8	valid
7	You are able to take a stand on social and ethical issues of research in your discipline.	1	1	1	1	1	1	Valid
	Communication skills							
1	You are able to write up research findings in accordance with the current conventions in	1	1	1	1	1	1.00	valid

No.	foreign language teachers' research competence	experts					IOC	Validity
		1	2	3	4	5		
	your discipline.							
2	You are able to write a publication in accordance with the standards of your discipline.	1	0	1	1	1	0.8	valid
3	You find it difficult to write a report that meets the standards of academic writing.	1	1	1	1	1	1.00	valid
4	You are able to use appropriate analytical tools to analyze data.	1	1	1	1	1	1.00	valid
5	You are able to lead research projects and successfully complete them.	1	0	1	1	1	0.8	valid
6	You are able to prepare research findings for a presentation at a research colloquium.	1	1	1	1	1	1	valid
7	You are able to present your research at a scientific meeting in accordance with current standards in your discipline.	1	1	1	1	1	1	valid
	Content knowledge							
1	You have a good overview of the main (current) research findings in your discipline.	1	1	1	1	1	1.00	valid
2	You are informed about the main (current) theories in your discipline.	1	1	1	1	1	1.00	valid
3	You are informed about the historical development of theories in your discipline.	1	0	1	1	1	0.8	valid
4	You have a sound knowledge of the main research methods in your discipline.	1	1	1	1	1	1.00	valid
	Content knowledge							
5	You are informed about the most important national academic publication outlets in your discipline.	1	1	1	1	1	1.00	valid

No.	foreign language teachers' research competence	experts					IOC	Validity
		1	2	3	4	5		
6	You are informed about the most important international academic publication outlets in your discipline.	1	1	1	1	1	1.00	valid
7	You are informed about the standards for academic publications that apply in your discipline.	1	1	1	1	1	1.00	valid
8	You are informed about the standards that apply to the presentation of research findings at conferences and meetings in your subject area.	1	1	0	1	1	0.8	valid

Reliability analysis of research instruments

To ensure the reliability and validity of the data collected via the questionnaire, the researcher conducted reliability and validity analyses using SPSS. questionnaire

1. Reliability Analysis

Simplified Format of Cronbach's Reliability Analysis		
Number of Items	Sample Size	Cronbach's Alpha Coefficient
37	30	0.974

From the table above, the reliability coefficient is 0.974, which is greater than 0.9, indicating that the reliability of the research data is high. Regarding the " α coefficient with deleted items," the reliability coefficient does not significantly increase when any item is deleted. Therefore, the items should not be deleted. Regarding the "CITC value," all analyzed items have CITC values above 0.4, indicating a good correlation among the items and a good reliability level. In summary, the reliability coefficient of the research data is higher than 0.9, indicating high data reliability and suitability for further analysis.

Appendix E

Certificate of English



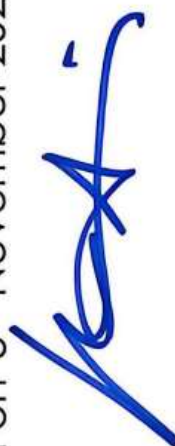
This is to certify that

Mrs. Wen Yingxi

Achieved BSRU English Proficiency Test (BSRU-TEP) level

C2

Given on 3rd November 2023



(Assistant Professor Dr Kulsirin Aphiratvoradej)

Director

Appendix F

The Document for Acceptance Research



Researcher Profile

Name-Surname: Wen Yingxi
Birthday: Jan 13, 1975
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Educational background:

- Doctor of Philosophy Program in Educational Administration, Bansomdejchaopraya Rajabhat University, in 2023
- Master of Literature, Guangxi University, in 2010
- Bachelor of Literature, Guangxi University of Science and Technology, in 2003

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