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Strategies for Enhancing Foreign Language Teachers' Research Competence at Universities in Guangxi in the AI Age: An Educational Administration Perspective

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ABSTRACT

This study investigates the research competence of foreign language teachers at public undergraduate universities in Guangxi in the AI age and proposes strategies to enhance it from an educational administration perspective. The study employed an explanatory sequential mixed-methods design. The study collected quantitative data from 313 foreign language teachers across 23 universities through a questionnaire survey, followed by SWOT-based focus group discussions with 15 teachers and expert evaluations by 15 foreign language education specialists. The findings indicate that the overall level of foreign language teachers' research competence was moderate. Among the five dimensions, communication skills ranked highest, followed by skills in reviewing the state of research, while content knowledge ranked lowest. Weaknesses were particularly evident in methodological skills, data analysis, theoretical integration, and disciplinary knowledge. Based on the survey and focus group findings, 28 strategies were formulated across 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. Expert evaluation results demonstrated high levels of suitability and feasibility for the proposed strategies. The study concludes that enhancing foreign language teachers' research competence requires coordinated efforts involving institutional support, organizational learning mechanisms, teacher professional development, and the effective integration of AI technologies. The findings provide practical guidance for educational administrators and contribute to the development of sustainable pathways to strengthen foreign language teachers' research competence in AI-enabled higher education contexts.

Keywords: foreign language teachers; research competence; educational administration; AI; higher education

1. Introduction

High-quality research by university faculty is a key driver of educational innovation, disciplinary advancement, and institutional competitiveness. However, regional disparities, uneven resource allocation, and the rapid development of AI pose new challenges to the cultivation of teachers' research competence.

In the Guangxi Zhuang Autonomous Region in southwest China, foreign language teachers at universities constitute a critical group. They not only bear the core responsibilities of language instruction and cross-cultural communication but also play an essential role in advancing curriculum reform and promoting academic innovation. In the AI era, enhancing the research competence of foreign language teachers at universities in Guangxi is vital for improving teaching quality, research output, and regional academic development, underscoring the need for a systematic investigation of their current competencies.

Teachers' research competence influences both individual professional growth and institutional quality, and is regarded as a core capability for fostering scholarly innovation, interdisciplinary collaboration, and improving educational practice (De Jonge et al., 2026; Drageset et al., 2025). In China, national initiatives such as the "Artificial Intelligence + Education Action Plan" (2026) and "AI+ implementation guidelines" emphasize teachers' AI literacy, the development of intelligent research clusters, and AI-supported teaching, positioning teachers as active participants in AI-driven research while continuously promoting the enhancement of research competence. Specifically, the Action Plan calls for "the integration of intelligent technologies with all educational elements," the "use of AI to empower scientific research," and the establishment of teacher AI literacy standards, accompanied by tiered and targeted training programs. These policy directives provide a strong foundation and theoretical guidance for the present study.

Despite ongoing policy emphasis and educational reforms, foreign language teachers in Guangxi universities still exhibit significant gaps in research competence. Existing professional development, research mentoring, and institutional support programs are largely generic and fail to address the specific needs of foreign language teachers. In particular, coverage of AI integration into research practice is limited, restricting teachers' ability to effectively combine theory, technological tools, and innovative research, and thereby constraining their full research potential.

Although prior literature has explored the concepts, dimensions, and developmental pathways of teacher research competence, gaps remain. Theoretically, most studies adopt psychological or educational perspectives, focusing on individual skills or competence assessment, while systematic analyses applying educational governance and organizational learning theories are scarce, leaving the effects of policy, institutional structures, and organizational culture on competence formation insufficiently examined (Brooks, 2021; Oancea et al., 2021). Empirically, existing research primarily targets pre-service teachers or the general faculty population, with limited systematic investigation of in-service foreign language teachers in Guangxi. Moreover, the role of AI in shaping teachers' research competence has not been fully explored or systematically integrated (Suyo-Vega et al., 2022). Addressing these gaps, this study explores strategies for enhancing foreign language teachers' research competence at Guangxi universities in the AI age from an educational administration

perspective. The study pursues three interrelated objectives: to investigate the current state of foreign language teachers' research competence at universities in Guangxi in the AI age; to formulate strategies to enhance their research competence; and to evaluate the suitability and feasibility of these strategies. In doing so, the study contributes to a deeper understanding of the development of teacher research competence and offers practical implications for educational administration and professional development in the AI era.

2. Research Methodology

2.1 Research design

This study employed an explanatory sequential mixed-methods design, first collecting quantitative survey data and subsequently conducting focus group discussions to gain in-depth insights into teachers' research competence at universities in Guangxi in the AI age. The study was conducted in four interrelated phases.

Prior to the full-scale survey, the questionnaire was pilot-tested with 30 foreign language teachers from public undergraduate universities in Guangxi. The pilot test demonstrated high internal consistency (Cronbach's alpha = 0.96), and expert review confirmed the clarity, relevance, and appropriateness of each item. This process ensured that the instrument was reliable and suitable for assessing the target population. Following the successful pilot, a questionnaire was administered to foreign language teachers at 23 public undergraduate universities in Guangxi. The survey aimed to provide a comprehensive overview of the current state of teachers' research competence, operationalized across multiple dimensions, including literature review skills, methodological abilities, reflective capacity, communication proficiency, and disciplinary knowledge.

The second phase involved online focus group discussions with 15 foreign language teachers from the 23 sampled universities, organized into three groups. Guided by a SWOT framework, the discussions explored the strengths, weaknesses, opportunities, and threats associated with foreign language teachers' research competence in the AI age. Participants further discussed potential solutions and strategic measures for overcoming identified weaknesses and threats while leveraging existing strengths and opportunities. The qualitative findings not only complemented the survey results but also served as an important foundation for developing strategies to enhance foreign language teachers' research competence.

In the third phase, the strategies formulated from the survey findings and SWOT-based focus group discussions were evaluated by experts. Fifteen experts in foreign language education from the sample universities in Guangxi were invited to assess the suitability and feasibility of the proposed strategies for enhancing foreign language teachers' research competence in the AI age. The expert evaluation served as a validation process, providing evidence regarding the appropriateness, practicality, and potential effectiveness of the strategies before their final refinement.

2.2 Measurements

The survey instrument was adapted from the PR-Comp instrument (Marrs et al., 2022). Minor modifications included splitting a dual-meaning item into two, merging two overlapping items, and adding one context-specific item. The final questionnaire comprised 37 items across five dimensions: skills in reviewing the state of research (5 items), methodological skills (10 items), skills in reflecting

on research findings (7 items), communication skills (7 items), and content knowledge (8 items). Reliability and validity were initially confirmed through the pilot test (Cronbach's alpha = 0.96) and expert review.

2.3 Population and the Sample Group

2.3.1 Population

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

2.3.2 The Sample Group in the Questionnaire Survey

The sample comprised 313 foreign language teachers drawn from 23 public undergraduate universities in Guangxi. The sample size was determined based on the Krejcie and Morgan sampling table. Participants were selected using a combination of stratified purposive sampling and simple random sampling.

2.3.3 Sample Strategy in the Questionnaire Survey

The study focused on public undergraduate universities in Guangxi to ensure both representativeness and feasibility. As of 2025, 29 public undergraduate universities were distributed across 11 prefecture-level cities. A stratified purposive sampling approach was adopted to select 23 universities, aiming to capture information-rich cases reflective of university diversity.

Strata were defined by three criteria: geographical distribution, type, and university level. In terms of geography, all 11 cities hosting public undergraduate universities were included, with larger proportions selected from major educational centers such as Nanning and Guilin, and one representative university from each remaining city to maintain regional balance. Regarding university type, the sample encompassed comprehensive, normal, medical, engineering and technology, ethnic, finance and economics, arts, law and public security, agriculture, tourism, and vocational-oriented universities, ensuring representation of disciplinary heterogeneity. University-level stratification included leading research-oriented universities, provincially co-supported universities, regionally administered undergraduate universities, and vocational undergraduate universities, reflecting variations in institutional capacity, resource allocation, and development trajectories.

2.3.4 Informants of the Focus Group Discussions

The key informants of the focus group were 15 foreign language teachers selected 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, such as participating in research projects or publishing academic papers.

2.3.5 Expert Group

Fifteen foreign language experts from the sampled universities in Guangxi were invited to evaluate the suitability and feasibility of the strategies developed in Phase two 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.

2.4 Data Collection

The questionnaire was disseminated via the online platform "Wenjuanxing" from mid-February to mid-April 2026. The researchers first contacted foreign language department heads or personal contacts at each university, who then distributed the survey to faculty members through departmental groups or forwarded it to colleagues, ensuring timely access while maintaining sample representativeness. A total of 336 questionnaires were returned, of which 23 were excluded due to incompleteness or invalid responses, leaving 313 valid questionnaires. Quantitative data were collected through a questionnaire administered to foreign language teachers from the sampled universities. Negatively phrased items were reverse-coded prior to analysis.

Qualitative data were collected through three online focus group discussions. Fifteen participants were divided into three groups, and researchers documented discussion data in detailed written notes for subsequent analysis.

For the third phase, evaluation data were collected from 15 experts in foreign language education from public undergraduate universities in Guangxi. The experts completed an evaluation form developed from the strategies formulated in the previous phase. Using a five-point Likert scale, the evaluation form assessed the suitability and feasibility of the proposed strategies. The completed evaluation forms provided quantitative data to assess and refine the proposed strategies.

3. Research Results

3.1 Personal information of the respondents

As shown in Table 1, female teachers predominated (71.88%), males comprised 28.1%. The largest age group was 41–45 years (27.80%). Most held a master's degree (62.30%), followed by doctoral degrees (30.03%). Lecturers were the largest professional group (49.52%), followed by associate professors (37.06%) and professors (7.99%). Most respondents were not master's supervisors (72.20%). Work experience was evenly distributed, with the largest segment in the 11–15 years range (24.92%).

Table 1: Frequency and percentage of respondents

	Personal information	Frequency	Percentage
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
	46 to 50	50	15.97
	51 to 55	22	7.03
	56 to 60	12	3.83
	61 years old and above	0	0.00

	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
	PhD Supervisor	0	0.00
	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**

3.2 The current state of foreign language teachers' Research Competence at universities in Guangxi

As shown in Table 2, the overall research competence of foreign language teachers at universities in Guangxi was moderate (M = 3.37). Communication skills were highest (M = 3.83), followed by skills in reviewing the state of research (M = 3.57), with content knowledge lowest (M = 3.04). Item-level analysis highlighted strengths in literature review and project leadership, whereas methodological application and content knowledge were relative weaknesses.

Table 2: Mean and standard deviation of the five dimensions of foreign language teachers' research competence at universities in Guangxi

	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**	

Skills in Reviewing the State of Research:

This dimension comprised five items. The highest-rated item was "You know how to conduct a targeted search of the state of research on a specific topic" (M = 4.12), followed by "You are able to systematically review the state of research regarding a specific topic" (M = 3.56). The lowest-rated item was "You are able to evaluate the methodological quality of research findings well" (M = 3.30), indicating that evaluating research methods remains a relative weakness within this dimension.

Methodological Skills:

Among the ten items in this dimension, the highest mean was observed for "You are able to plan a research study" (M = 3.99), followed by "You find it difficult to formulate specific research questions/hypotheses" (M = 3.73). The lowest-scoring item was "You are able to use appropriate analytical tools to analyze data" (M = 1.87), suggesting that practical data analysis skills represent a notable challenge for the respondents.

Skills in Reflecting on Research Findings:

For the seven items in this dimension, the highest-rated was "You are able to take a stand on social and ethical issues of research in your discipline" (M = 3.69), followed by "You are able to critically reflect on methodological limitations of your own research findings" (M = 3.42). The lowest-rated item was "You are able to adequately relate your research findings to key theories in the subject area" (M = 3.17), highlighting a relative gap in connecting research outcomes to theoretical frameworks.

Communication Skills:

Among the seven items assessing communication skills, the highest mean was "You are able to lead research projects and successfully complete them" (M = 4.03), followed by "You are able to write a publication in accordance with the standards of your discipline" (M = 3.87). The lowest-scoring item was "You are able to present your research at a scientific meeting in accordance with current standards in your discipline" (M = 3.66), indicating a moderate proficiency in academic dissemination.

Content Knowledge:

This dimension consisted of eight items. The highest-rated item was "You are informed about the standards for academic publications that apply in your discipline" (M = 3.44), followed by "You are informed about the most important national academic publication outlets in your discipline" (M = 3.37). The lowest-rated item was "You have a sound knowledge of the main research methods in your discipline" (M = 2.77), suggesting that familiarity with research methods represents the most pronounced area for improvement across all dimensions.

3.3 The results from the focus group discussions

Based on the analysis of the focus group discussions, 28 strategies were identified to enhance foreign language teachers' research competence at public undergraduate universities in Guangxi. These strategies were organized according to the five dimensions of research competence, which are described in the following sections.

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.

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.

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, and 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.

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.

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.

3.4 Results from the evaluation of the adaptability and feasibility of foreign language teachers' research competence at universities in Guangxi

As shown in Table 3, the suitability of the strategies for enhancing foreign language teachers' research competence at universities in Guangxi was high ($\bar{x}$ = 4.43), indicating that the strategies 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 date showed that the feasibility of the strategies for enhancing foreign language teachers' research competence at universities in Guangxi in the AI Age in 5 aspects was at a highest level ($\bar{x}$= 4.56), indicating the strategies 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 3 The suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi

	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**

4. Discussion

4.1 The current state of foreign language teachers' research competence at universities in Guangxi

The findings indicate that the overall research competence of foreign language teachers at universities in Guangxi in the AI age is moderate, with communication skills scoring highest, followed by skills in reviewing the state of research, reflecting on research findings, and methodological skills, while content knowledge was the lowest-rated dimension. Foreign language teachers demonstrate strengths in literature searching and academic communication, as evidenced by their ability to conduct targeted searches and lead research projects. However, deficits are evident in evaluating methodological quality, analyzing quantitative and qualitative data, and linking research findings to theoretical frameworks, reflecting a gap between practical execution and methodological rigor. The particularly low scores in content knowledge, including awareness of key research methods and international publication outlets, suggest that teachers may face challenges in engaging with current academic trends and high-impact journals. These findings are consistent with prior studies indicating that foreign language teachers often possess foundational competencies but require targeted development in analytical, reflective, and discipline-specific knowledge to achieve higher research performance (Thiel & Böttcher, 2014; Salmento et al., 2021). Therefore, comprehensive professional development strategies should address these multidimensional gaps to strengthen methodological expertise, critical reflection, and content mastery, thereby enabling teachers to conduct rigorous, theory-informed, and globally relevant research.

4.2 Strategies for enhancing foreign language teachers' research competence at universities in Guangxi in the AI age

Based on the findings from the questionnaire survey and SWOT-based focus group discussions, this study formulated 28 strategies to enhance foreign language teachers' research

competence at universities in Guangxi. These strategies were organized around the five dimensions of research competence. The proposed strategies emphasize the coordinated development of individual competencies, organizational learning mechanisms, institutional support systems, and AI-enabled research practices, reflecting the multidimensional nature of research competence.

For skills in reviewing the state of research, the strategies focus on strengthening support for literature resources, inter-university resource sharing, structured training, academic reading communities, self-directed learning, and the ethical use of AI-assisted literature search tools. These measures are grounded in Organizational Learning Theory, which highlights the importance of knowledge creation, transfer, and retention within organizations and underscores the role of structured institutional support in converting individual expertise into collective capacity (Argote & Miron-Spektor, 2011). To enhance methodological skills, strategies emphasize systematic methodological training, AI-supported research workshops, mentoring systems, collaborative research, and continuous self-learning, thereby directly addressing teachers' weaknesses in research design, data analysis, and methodological rigor (Li et al., 2025). Strategies for strengthening reflective skills include embedding reflection into research evaluation processes, establishing peer feedback mechanisms, integrating AI-assisted reflective tools, and cultivating critical thinking to improve teachers' ability to link findings to theoretical frameworks. Communication skills are supported through enhanced research evaluation systems, academic writing training, publication support, conference participation, and collaborative publishing practices, consistent with Educational Management and Teacher Professional Development perspectives (Bayrak Özmutlu, 2022; Jenset & Hatlevik, 2024). Finally, strategies for enhancing content knowledge emphasize interdisciplinary collaboration, continuous professional learning, knowledge-sharing networks, and participation in national and international scholarly communities, ensuring that teachers can maintain up-to-date expertise and engage with cutting-edge research (Matjašič & Vogrinc, 2025). Collectively, these strategies form a comprehensive, theoretically grounded, and practically feasible framework that addresses both individual and institutional factors, providing sustainable pathways for systematically enhancing foreign language teachers' research competence in the AI age.

4.3 The suitability and feasibility of strategies for enhancing foreign language teachers' research competence at universities in Guangxi in the AI age

The expert evaluation results indicate that the proposed strategies for enhancing foreign language teachers' research competence at universities in Guangxi in the AI age demonstrate high levels of both suitability and feasibility. Across the five dimensions of research competence, all strategies received mean scores above 4.00, suggesting strong expert consensus regarding their relevance and practical applicability. This finding supports the view that the enhancement of teachers' research competence requires coordinated efforts at the individual, organizational, and institutional levels rather than isolated interventions (Zhang, 2025).

Several highly rated strategies further illustrate the practical value of the proposed framework. For example, promoting academic reading communities and collaborative learning groups received the highest suitability rating among the strategies for reviewing the state of research, highlighting the importance of collaborative academic engagement in developing research competence. This finding is consistent with previous studies emphasizing that research competence develops through sustained

participation in research-oriented learning environments and scholarly dialogue (Böttcher-Oschmann et al., 2021). Likewise, collaborative research and peer learning were regarded as highly feasible for enhancing methodological skills, reflecting the important role of peer interaction and shared inquiry in methodological development (Polatuly et al., 2024). In addition, self-reflection and critical thinking were identified as both highly suitable and feasible for strengthening reflective skills, supporting earlier arguments that reflective inquiry is a core component of research competence (Thiel & Böttcher, 2014).

Overall, the expert evaluation confirms that the proposed strategies are not only theoretically grounded but also practically implementable within the higher education context of Guangxi. Their strong suitability and feasibility provide empirical support for their adoption in efforts to enhance foreign language teachers' research competence in the AI age.

5. Conclusion

This study investigated the research competence of foreign language teachers at public undergraduate universities in Guangxi in the AI age and proposed evidence-based strategies to enhance their research competence from an educational administration perspective. By integrating survey data, SWOT-based focus group discussions, and expert evaluations, the study provides a comprehensive understanding of individual and institutional factors affecting research competence. The findings highlight that, while teachers demonstrate strengths in communication and literature review skills, significant gaps remain in methodological proficiency, content knowledge, and the ability to connect research findings with theoretical frameworks. Based on these insights, the study developed multi-level strategies—including institutionalized policy support, cross-institutional and interdisciplinary collaboration, professional learning and autonomous development, and AI-enabled research practices—to address identified weaknesses and foster sustainable enhancement of research competence. The study contributes to the literature by operationalizing teacher research competence in the AI age and offers practical guidance for administrators to optimize resource allocation, policy formulation, and professional development initiatives in AI-mediated educational contexts.

Despite its methodological rigor, this study has several limitations. First, the focus on 23 public undergraduate universities in Guangxi may limit the generalizability of the findings to other regions or educational contexts. Second, reliance on self-reported survey data could introduce response bias, potentially overestimating or underestimating teachers' actual competence. Third, although the sequential mixed-methods design provided complementary qualitative and quantitative insights, the integration of SWOT analysis and strategy formulation involved subjective interpretation by the researchers, which may influence the comprehensiveness of identified strategies.

Future research could expand the sample to include a broader range of universities and geographic regions, employ longitudinal designs to examine changes in teachers' research competence over time, and incorporate objective performance indicators to complement self-reported data. Additionally, as AI technologies continue to evolve, subsequent studies should assess the effectiveness, adaptability, and sustainability of AI-enabled strategies across diverse educational contexts, thereby refining evidence-based approaches to enhance foreign language teachers' research competence in higher education.

References

Argote, L. (2011). Organizational learning research: Past, present and future. Management Learning, 42(4), 439–446.

Bayrak Özmutlu, E. (2022). Views of pre-service teachers on the research-based teacher education approach. Tuning Journal for Higher Education, 10(1), 113–153. https://doi.org/10.18543/tjhe.2199

Brooks, S. (2021). Research capacity in initial teacher education: Trends in joining the "village". Journal of Teacher Education, 72(4), 345–360. https://doi.org/10.1177/00224871211012345

Böttcher-Oschmann, F., Groß Ophoff, J., and Thiel, F. (2021). Preparing teacher training students for evidence-based practice promoting students' research competencies in research-learning projects. Front. Educ. 6:642107. doi: 10.3389/ feduc.2021.642107

De Jonge, S., Tack, H., Opdecam, E., Vanderlinde, R., & Haerens, L. (2026). From thesis to teacher: Research competencies of flemish student teachers in research-based teacher education. Research Papers in Education, 1 ~ 26. https://doi.org/10.1080/02671522.2026.2638251

Drageset, O. G., Sæther, K.-A., & Ell, F. (2025). Developing research literacy in teacher education. Journal of Education for Teaching, 51(1), 188 ~ 201. https://doi.org/10.1080/02607476.2024.2447578

Jenset, I. S., & Hatlevik, I. K. R. (2024). From development work to research publication: A case of Norwegian teacher educators developing research literacy. Teaching Education, 35(4), 387–401. https://doi.org/10.1080/10476210.2023.2298197

Li, X., Turner, D. A., & Liu, B. (2025). AI as sub-symbolic systems: Understanding the role of AI in higher education governance. Education Sciences, 15(7), 866.

Matjašič, M., & Vogrinc, J. (2025). Supporting the development of the perceived and actual research competence of pre-service teachers. Education Sciences, 15(6), 652. https://doi.org/10.3390/educsci15060652

Marrs, S. A., Quesada-Pallarès, C., Nicolai, K. D., Severson-Irby, E. A., & Martínez-Fernández, J. R. (2022). Measuring perceived research competence of junior researchers. Frontiers in Psychology, 13, 834843. https://doi.org/10.3389/fpsyg.2022.834843

Oancea, A., Fancourt, N., Robson, J., Thompson, I., Childs, A., & Nuseibeh, N. (2021). Research capacity-building in teacher education. Oxford Review of Education, 47(1), 98–119. https://doi.org/10.1080/03054985.2020.1842184

Polatuly, S., Ramankulov, S., Usembayeva, I., Kazakhbayeva, D., Shektibayev, N., Kurbanbekov, B., &

Salmento, H., Murtonen, M., & Kiley, M. (2021). Understanding teacher education students' research competence through their conceptions of theory. Frontiers in Education, 6, 763803. https://doi.org/10.3389/feduc.2021.763803

Suyo-Vega, J. A., Meneses-La-Riva, M. E., Fernández-Bedoya, V. H., Ocupa-Cabrera, H. G., Alvarado-Suyo, S. A., Da Costa Polonia, A., Miotto, A. I., & Gago-Chávez, J. D. J. S. (2022). University teachers' self-perception of digital research competencies. A qualitative study conducted in peru. Frontiers in Education, 7, 1004967. https://doi.org/10.3389/feduc.2022.1004967

Thiel, F., and Böttcher, F. (2014). "Modellierung fächerübergreifender Forschungskompetenzen. Das RMKR-W-Modell als Grundlage der Planung und Evaluation von Formaten forschungsorientierter Lehre," in Neues Handbuch Hochschullehre. Lehren und Lernen effizient gestalten. [Teil] I. Evaluation. Fachbereichs- /Studiengangsevaluation, eds B. Berendt, A. Fleischmann, J. Wildt, N. Schaper, and B. Szczyrba (Berlin: Raabe), 109–124.

Zhang Hong, (2025). The Current Situation and Improvement Suggestions of Research Literacy of Foreign Language Teachers in Chinese Universities: A Large-scale Survey.Foreign Language Education in China, 8(1), 55 ~ 69