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A Study on the Sources of Undergraduate Thesis Topics — A Case Study of Harbin University

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ABSTRACT

This study examines undergraduate thesis topics from the Primary Education program at Harbin University, focusing on the 2023 cohort (156 theses) and 2024 cohort (167 theses), with an emphasis on two primary topic sources: instructor-assigned and student-proposed. Findings reveal that in 2023, instructor-recommended topics accounted for 60.1%, while student-initiated topics made up 39.3%; by 2024, instructor-assigned topics dropped to 18.2%, and student-proposed topics rose sharply to 67.3%, indicating a significant shift toward student autonomy in topic selection. To align with employment orientation and university-community collaboration needs, the study reclassifies topics into three types: employment-aligned, university-community cooperative, and career-development-oriented. It further proposes a three-dimensional optimization pathway—"employment anchoring, collaborative synergy, and academic empowerment"—offering strategic insights for enhancing thesis quality and the employment competitiveness of pre-service teachers.

Keywords: *Primary education major, Graduation thesis, Topic sources, Employment orientation, University-primary school cooperation.*

1. INTRODUCTION

Undergraduate thesis is an important vehicle for assessing the professional competence and research capabilities of prospective teachers. The rationality of topic selection directly affects the independence, originality, and practical value of the thesis. With the deepening of the student-centered educational philosophy and the advancement of basic education reform, the traditional teacher-led topic selection model can no longer adequately meet employment market demands or the development trend of university-local collaboration. As a national first-class program at a local applied undergraduate institution, the primary education major at Harbin University offers a representative case. Research into the sources of thesis topics for this program not only helps teacher candidates systematically review and integrate their four years of professional knowledge and practical experience, thereby constructing a coherent knowledge framework, but also enables supervisors to accurately assess students' actual learning conditions and academic foundations, allowing for targeted guidance. This study thus holds practical significance and reference value for improving thesis quality and refining the talent development system.

2. CURRENT RESEARCH STATUS IN CHINA AND FOREIGN COUNTRIES

Overall, Chinese and foreign research provides a rich theoretical basis and practical experience for undergraduate thesis topic selection, but there are still some deficiencies. Foreign research pays more attention to individuality and practicality, but its adaptability to the Chinese educational context needs to be verified. Domestic research mostly focuses on the analysis of current situation and the proposal of problems, with insufficient research on the deep-seated mechanism and dynamic changes of topic sources, and few discussions on the optimization path of topic selection from the multi-perspectives of skill improvement, employment orientation and university-university cooperation.

3. THEORETICAL BASIS OF THE RESEARCH

3.1 Constructivist Learning Theory

Constructivist learning theory posits that learning is an active process where learners construct knowledge based on their existing cognitive frameworks through interactions with the environment. This theory emphasizes students' central role and autonomous inquiry abilities, providing crucial guidance for undergraduate thesis topic selection. During the topic selection process, prospective teachers should integrate their internship experiences, personal interests, and knowledge reserves to actively identify and pose research questions, rather than passively accepting topics assigned by instructors. Supervisors, in turn, should act as facilitators, helping students clarify their research directions through questioning and inspiration. For instance, if a prospective teacher discovers insufficient reading resources at their base primary school during an internship, they can transform this observation into a thesis topic such as "Research on Strategies for Developing Reading Resources in Rural Primary Schools" under the instructor's guidance, making the research more targeted and practical.

3.2 Career Competency Development Theory

Career competency development theory holds that the formation of an individual's professional abilities is a gradual process that requires progressive enhancement through practical training and systematic cultivation. The core professional competencies for primary education majors include instructional design, classroom management, and home-school communication, among others. Thesis topics should therefore closely align with these core competencies. By selecting topics related to professional skills, prospective teachers can deepen their understanding and application of vocational skills during the research process, better preparing themselves for future employment. For example, a student choosing the topic "Research on Strategies for Cultivating Classroom Rule Awareness in Lower-Grade Primary School Students" can simulate real teaching scenarios during their research, producing outcomes directly applicable to job interviews and effectively enhancing their competitiveness.

3.3 Career Competency Development Theory

University-primary school collaboration theory emphasizes collaborative education between higher education institutions and local primary schools, aiming to achieve precise alignment between talent cultivation and social needs through resource sharing and complementary advantages. In thesis topic selection, such collaboration provides prospective teachers with authentic teaching contexts and research issues, making topics more practical and targeted. Joint supervision by university instructors and frontline primary school teachers ensures both the academic rigor of topics and their responsiveness to practical needs, helping improve the quality and application value of undergraduate theses. For example, through a collaborative project on "Mental Health Intervention for Left-Behind Children" between a university and a primary school, prospective teachers can collect real data, propose feasible strategies, and directly apply their research results to school practices, while accumulating valuable practical experience for their future careers.

4. RESEARCH PROCESS

4.1 Sources Classification Criteria for Research Topics

This study uses 323 valid undergraduate thesis samples from Harbin University's primary education, including 156 from 2023 and 167 from 2024, covering research directions such as Chinese language, mathematics, and integrated subjects. The data is authentic and reliable. Based on documents like the Harbin University Undergraduate Thesis Management Measures, a theoretical framework for classification is established.(“Table 1”)

Table 1. Classification criteria

Category	Definition and Criteria
Instructor-Assigned Topics	Topic selection is directly provided by the instructor, usually aligned with their research projects, teaching topics, or research direction, and students have lower autonomy as they simply accept and execute the assigned topic.
Student-Proposed Topics	Topic selection is independently proposed by students based on teaching practicum, personal interests, or reading accumulation, and finalized upon instructor approval, reflecting strong autonomy.

4.2 Distribution and Trend Analysis of Topic Sources

4.2.1 Overall Distribution Data of Topic Sources

Compare the quantity and proportion changes in faculty-assigned and student-proposed topics between the 2023 and 2024 undergraduate thesis cohorts at Harbin University, and analyze the underlying trend drivers.(“Table 2”)

Table 2. Data of topic sources

Topic Sources	2023 Cohort	Percentage	2024 Cohort	Percentage
Instructor-Assigned Topics	94	60.1%	30	18.2%
Student-Proposed Topics	61	39.3%	112	67.3%
Source Not Clearly Stated	1	0.6%	25	14.5%
Total	156	—	167	—

4.2.2 Trend Interpretation

4.2.2.1 The Proportion of Student-proposed Topics Has Risen Significantly

Increased from 39.3% in the 2023 cohort to 67.3% in the 2024 cohort, indicating a significant enhancement in students' autonomy and initiative in topic selection. Representative topics such as "Research on Game-Based Mathematics Homework Design for Lower Grades Under the 'Double Reduction' Policy" and "An Analysis of the Impact of Picture Book Reading on Emotional Regulation in Elementary School Students" reflect students’ active observation and critical thinking about real-world educational issues. This shift is closely tied to Harbin University’s recent student-centered educational reforms, which have strengthened students’ research capabilities through dedicated topic guidance courses and increased opportunities for undergraduate research project participation.

4.2.2.2 The Proportion of Faculty-assigned Topics Has Significantly Declined

Decreased from 60.1% to 18.2%, indicating that universities are gradually reducing "directive" topic assignment to avoid insufficient research motivation caused by students' lack of interest. However, some research-oriented faculty members still follow this approach, and attention should be paid to the alignment with students' individual needs. For instance, certain instructors divide their own research projects into subtopics for students, which ensures academic rigor but may disconnect from students' personal interests and career development goals.

4.2.2.3 The Proportion of Topics Without Clearly Specified Sources Has Increased

Increased from 0.6% to 14.5%, which may be related to frequent teacher-student interactions during the topic selection process, makes it difficult to clearly define the source. This trend reflects a shift in current topic selection models—from a "dualistic" approach toward "multi-party

collaboration"—where the boundaries between teachers and students in the topic formulation process are becoming increasingly blurred.

4.3 Problems in Topic Source Selection

4.3.1 Insufficient Depth in Employment-Adapted Topic Selection

Some students oversimplify their topics into “job-hunting skill summaries”, such as *Research on Common Interview Questions and Answer Strategies for Primary School Teachers*, lacking theoretical grounding and practical validation, thus failing to genuinely enhance professional competence. Additionally, some topics are overly broad, such as *Research on Classroom Management Strategies in Primary Schools*, without integration of specific subjects or grade levels, resulting in research outcomes that lack focus and practical applicability.

4.3.2 The Synergy of University-Primary School Collaborative Topic Selection Needs to Be Enhanced

Some university-primary school collaborative topics remain at the stage of “university-proposed, primary school-assisted”, with insufficient involvement from frontline teachers, leading to a disconnect between research outcomes and practical needs. A key example is when university researchers propose topics, such as *Research on the Development of Primary School Science Curricula Based on Core Competencies*, without fully understanding real classroom conditions, resulting in studies that are difficult to implement in practice. This highlights the need for deeper co-design and mutual input to ensure relevance and applicability.

4.3.3 Insufficient Innovation in Career Development-oriented Topic Selection

Some students blindly follow trending topics such as "Double Reduction" or "AI in Education" without deep reflection or innovative perspectives, leading to severe topic homogenization. A notable example is that in the 2024 cohort, 12 theses focused on "*AI-assisted teaching*", yet most merely offered descriptive overviews and theoretical analysis, lacking practical innovation and real-world application value. This trend reflects a broader challenge in balancing relevance with originality, and highlights the need for more critical, context-specific inquiry.

4.4 Practical Classification and Value Analysis of Topic Sources

From the perspectives of facilitating normal university students' employment and promoting collaborative school-running between universities and primary schools, the sources of topic selection are reconstructed into the following three categories:

4.4.1 Targeting Core Job Requirements

This type of topic directly aligns with the core competency requirements of primary school teacher positions, focusing on key skills such as teaching, management, and communication. It prepares students for real-world classroom demands by emphasizing practical skill application. Key features include: Direct relevance to job-specific competencies, ensuring research supports actual teaching responsibilities. Integration of simulated teaching experience, allowing students to replicate authentic classroom scenarios. Production of tangible outcomes, such as lesson plans or instructional strategies, that enhance interview performance.

Examples include: *Research on Strategies for Smooth Transition between Kindergarten and Primary School , Study on Tiered Homework Design for Primary School Chinese Language under the Double Reduction Policy, Investigation into Contextual Teaching Techniques in Primary School English Simulations.*

This approach not only strengthens professional readiness but also increases employment competitiveness through practice-grounded research.

4.4.2 Building a Bridge for Collaborative Education

It is necessary to address research topics that leverage the collaboration platform between universities and primary schools, transforming real teaching challenges into research projects. This approach not only serves primary education practice but also promotes precise alignment between talent development in higher education and the needs of basic education. Sample topics include "*Optimizing After-School Program Curricula Under the ‘Double Reduction’ Policy*", "*Designing Mental Health Intervention Programs for Left-Behind Children*", and "*Developing Primary Science Curricula Based on Project-Based Learning*". Research outcomes provide actionable

improvement strategies for primary schools, while enabling normal students to gain practical experience through solving authentic problems, some students with outstanding performance have even been directly hired by partner schools.

4.4.3 Empowering Long-term Professional Growth

There is a must to address research topics that focus on cutting-edge trends in education and the professional development needs of teachers, fostering students research awareness and innovation capability, and laying the foundation for their future roles as research-oriented educators or educational leaders. Sample topics include "*A Study on the Application of AI-Assisted Instruction in Elementary Mathematics Classrooms*", "*Designing Integrated and Practical Mathematics Curricula Under the Guidance of Core Competencies*" and "*Interdisciplinary Integration of Chinese and Art Teaching*". These topics require strong literature review and logical analysis skills, preparing students for advanced academic research.

4.5 Optimizing Strategy Recommendations

From the perspectives of facilitating normal university students' employment and promoting collaborative school-running between universities and primary schools, the sources of topic selection are reconstructed into the following three categories:

4.5.1 Building an "Employment-anchored" Topic Guidance System

4.5.1.1 Developing a Topic Repository-oriented Toward Professional Competency Development

It is necessary to collaborate with primary school principals and teaching research departments to develop standardized topic modules focusing on core competencies emphasized in teacher recruitment, such as instructional design, classroom management, and home-school communication. Examples include *Research on Optimizing Instructional Design Based on Teacher Qualification Interviews and Case Analysis* and *Coping Strategies for Homeroom Teacher Work*. The topic repository should be updated regularly, with adjustments to topic directions made in line with educational policies and employment market demands.

4.5.1.2 Implementing a "Job-seeking and Research" Dual-Mentor System

There is a must to collaborate with primary school principals and teaching research departments to develop standardized topic modules focusing on core competencies emphasized in teacher recruitment, such as instructional design, classroom management, and home-school communication. Examples include *Research on Optimizing Instructional Design Based on Teacher Qualification Interviews and Case Analysis* and *Coping Strategies for Homeroom Teacher Work*. The topic repository should be updated regularly, with adjustments to topic directions made in line with educational policies and employment market demands.

4.5.2 Deepening the "University-Primary School Collaboration" Topic Cooperation Mechanism

4.5.2.1 Establishing a "Joint Problem-Solving and Shared Outcomes" Model

Researchers hold joint "teaching problem seminars" with partner primary schools each semester to collaboratively identify research topics, such as *Research on Mental Health of Left-Behind Children in Primary Schools*. Research outcomes will be directly applied to school practices and serve as the basis for evaluating normal students' practicum performance. Universities should provide primary school frontline teachers with research guidance and training to enhance their capacity to participate in topic supervision.

4.5.2.2 Establishing a "University-Primary School Collaboration Topic Special Fund"

Teachers assign students both a university academic mentor and a primary school frontline mentor: the academic mentor provides guidance on research methodology, while the frontline mentor offers job-seeking scenario simulations and professional competency assessments. The “dual-mentor team” jointly participates in topic supervision, ensuring research topics meet academic standards while aligning with employment needs.

4.5.3 Building an "Academic-empowerment" Topic Advancement Pathway

4.5.3.1 Offering a Series of "Topic Advancement" Courses

Schools can offer the courses "Employment-Oriented Topic Design", "University-Local Collaborative Research Methods", and "Academic Frontier Topic Exploration" sequentially starting from the junior year, guiding students to select appropriate research topics based on their individual development stages. The courses should adopt case-based teaching, group discussions, and other interactive methods to enhance students' topic selection capabilities and foster innovation.

4.5.3.2 Establishing a Dynamic Topic Adjustment Mechanism

Teachers allow students to adjust their topic types during the research process based on personal interests and needs, such as shifting from employment-oriented to academic exploration-focused topics, providing personalized development space. Instructors should regularly communicate with students to understand research progress and evolving needs, offering timely guidance and support.

5. CONCLUSION

This study systematically analyzes the distribution characteristics and evolving trends of topic sources based on graduation theses from the Primary Education program at Harbin University for the 2023 and 2024 cohorts, revealing a significant increase in student-proposed topics and a notable decline in faculty-assigned topics, indicating a clear shift of topic autonomy toward students. By integrating employment orientation and university-local collaboration needs, the topics are reclassified into three types: employment-adaptive, university-local collaborative, and career-development-oriented, uncovering the distinct practical value of each category. Despite enhanced student autonomy, challenges such as insufficient topic depth and lack of innovation persist. To address these, future efforts should focus on institutional guidance, faculty empowerment, and student engagement to build a more open, diverse, and practice-oriented topic ecosystem, fully realizing the core educational value of graduation theses. Follow-up research could adopt interview methods to explore students' psychological experiences and research engagement across the three topic types, or compare topic mechanisms across institutions to provide richer evidence for policy refinement.

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