

Research on the Construction Path of Curriculum Ideological and Political Education for Postgraduates in Border Universities: Taking the Course “Literature Retrieval, Scientific Paper Writing and Intellectual Property” as an Example

Yajun Zhang*, Xiaobing He, Ping Ma, Tao Zhang

School of Software, Xinjiang University, Urumqi 830091, Xinjiang, China

**Author to whom correspondence should be addressed.*

Copyright: © 2025 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: Under the background of “Double First-Class” construction and the innovation-driven development strategy, Xinjiang University, facing the mission of postgraduate education in border universities, has carried out curriculum ideological and political reform with the course “Literature Retrieval, Scientific Paper Writing and Intellectual Property” as the carrier. By constructing a four-dimensional education system of “knowledge foundation → ability advancement → thinking breakthrough → value sublimation,” adopting a dual-track teaching model of “professional knowledge + ideological and political cases,” implementing mixed teaching and diversified evaluation, ideological and political elements such as national security awareness, legal thinking, and family and country feelings organically into professional teaching. This course explores and forms the path and implementation method of curriculum ideological and political construction for postgraduates in border universities, realizes the integration of knowledge transmission and value guidance, enhances learning effectiveness, and provides a reference for curriculum ideological and political construction in border universities.

Keywords: Curriculum, ideological and political education; Ideological and political education in border areas; Postgraduate courses; Literature retrieval

Online publication: September 26, 2025

1. Introduction

Under the background of “Double First-Class” construction and the innovation-driven development strategy, postgraduate education in border universities shoulders the dual mission of serving national strategic needs and forging a strong sense of community for the Chinese nation. Compared with developed areas in the east, postgraduate education in border universities needs to strengthen the localized education function of curriculum ideological and political education. The State Council’s “Opinions on Strengthening and Improving Ideological and Political Work in Colleges and Universities

Under the New Situation”^[1] clearly proposes that “it is necessary to strengthen the main channel role of classroom teaching in education, so that various courses and ideological and political theory courses go hand in hand”. For border universities such as Xinjiang University, the construction of curriculum ideological and political education is not only an inevitable requirement for implementing the fundamental task of moral education but also a strategic measure to maintain border stability, promote national unity, and serve national energy security and the construction of the “Belt and Road”. It is of far-reaching significance for cultivating high-level talents with family and country feelings, rooted in the border, and responsible for national rejuvenation^[2].

The course “Literature Retrieval, Scientific Paper Writing and Intellectual Property” is a core compulsory course in the postgraduate scientific research ability training system. As a hub connecting professional knowledge learning and academic practice, this course not only undertakes the important task of cultivating postgraduates’ basic abilities, such as literature acquisition, academic expression, and protection of innovative achievements but also is a key carrier for implementing the fundamental task of moral education^[3]. By systematically teaching the use norms of Chinese and foreign databases, academic paper writing ethics, and intellectual property protection rules, the course naturally embeds ideological and political genes such as national security education, legal thinking cultivation, and family and country feelings shaping. In the special context of border universities, the construction of curriculum, ideological and political education is even more necessary. Under the background of improving the quality and efficiency of postgraduate education, how to break through the limitation of limited class hours, explore the implementation path and specific methods of curriculum ideological and political education through the organic integration of knowledge transmission and value guidance, tap the implicit ideological and political elements in the course, strengthen its penetration function and expansion value in ideological and political education, and improve teaching effectiveness have become the core issues to be broken through in the curriculum ideological and political reform of information retrieval and paper writing courses.

2. Current situation of curriculum, ideological and political construction in literature retrieval and paper writing courses

At present, the construction of curriculum ideological and political education in literature retrieval and paper writing courses has formed a systematic integration mechanism. Through the dual parallel of academic standard education and the cultivation of scientists’ spirit, elements such as academic ethics and intellectual property protection are deeply embedded in curriculum design. Border universities mostly integrate scientific research cases into the background of multi-ethnic cultural coexistence into teaching to strengthen the awareness of national unity.

Based on the practical exploration of curriculum ideological and political construction in literature retrieval and paper writing courses in many universities^[4-8] and the authors’ teaching experience, there are still the following problems in the current implementation process of curriculum ideological and political education: superficial integration of elements, about 45% of courses only carry out “labeled” ideological and political implantation through scattered cases (such as academic misconduct incidents), lacking the whole-process value mapping from literature retrieval to paper publication; the disconnect between teachers’ education ability, only 30% of science and engineering teachers can systematically explore high-level ideological and political themes such as “self-reliance and self-improvement in science and technology” and “a community with a shared future for mankind”, and some teachers have insufficient understanding of emerging issues such as intellectual property disputes and data sovereignty; unbalanced regional development, eastern universities focus on the cultivation of international academic discourse power (such as the expression of cultural confidence in English paper writing), while border universities focus on ideological security, but the sharing of high-quality curriculum resources is insufficient, and the cross-regional collaborative education mechanism is not yet mature. In addition, the weak practical link is a prominent problem. Some courses combine literature reading and writing training due to limited class hours, resulting in students’ insufficient recall rate and logical analysis ability.

3. Necessity of carrying out the curriculum ideological and political construction of the course “Literature Retrieval, Scientific Paper Writing and Intellectual Property” for postgraduates

The Ministry of Education’s “Guidelines for the Construction of Curriculum Ideological and Political Education in Colleges and Universities”^[9] clearly points out that it is necessary to “strengthen the education of scientific and technological ethics and academic norms, and cultivate postgraduates’ rigorous and realistic scientific spirit and academic morality”. This requirement points out the direction for the construction of curriculum, ideological and political education for engineering postgraduates. The course “Literature Retrieval, Scientific Paper Writing and Intellectual Property” is a core compulsory course in the postgraduate scientific research ability training system, and its course nature determines its dual functions in knowledge transmission and value guidance^[10]. From the knowledge dimension, the course covers core contents such as literature retrieval strategies, academic writing norms, and intellectual property protection rules, and is a basic tool course for postgraduates to master scientific research methodologies and improve academic innovation ability; from the value dimension, the course naturally contains rich ideological and political education resources: literature retrieval teaching can strengthen national security awareness (such as the compliance of the use of Chinese and foreign databases), academic writing training can cultivate academic integrity (such as citation norms and authorship ethics), and intellectual property practice can cultivate the feelings of serving the country through science and technology (such as patent layout and technical standard competition)^[11]. These contents are highly consistent with the fundamental task of “moral education” in postgraduate education. Especially in the special context of border universities, the construction of curriculum, ideological and political education is more necessary and urgent.

4. Implementation strategies of curriculum ideological and political education for the course “Literature Retrieval, Scientific Paper Writing and Intellectual Property” for postgraduates

4.1. Construct a “Four-dimensional integrated” ideological and political education system

Based on Xinjiang University’s school-running orientation of “rooted in the border and serving the country,” the course deeply integrates ideological and political goals with professional goals. By sorting out three main lines: academic ethics in literature retrieval, academic norms in scientific paper writing, and legal awareness in intellectual property protection, a four-dimensional integrated education framework of “knowledge foundation → ability advancement → thinking breakthrough → value sublimation” is constructed.

- (1) Knowledge dimension: Be able to correctly use strategies such as Boolean logic operators and truncation retrieval to complete precise retrieval in Chinese and foreign databases such as IEEE and Web of Science; be familiar with the installation and use of literature management tools such as EndNote and NoteExpress to realize efficient classification, deduplication and format conversion of literature; be able to analyze the relationship between literature retrieval strategies and scientific research innovation, and identify the core retrieval characteristics of different disciplinary fields.
- (2) Ability dimension: Be able to independently complete Chinese and foreign literature retrieval reports, including retrieval formula construction, result analysis and literature screening; be able to standardize the writing of scientific papers in accordance with APA/GB/T format requirements, reasonably cite literature and avoid plagiarism risks; be able to analyze intellectual property dispute cases and propose legal response strategies.
- (3) Thinking dimension: Be able to evaluate the quality and authority of literature, identify pseudoscientific information and avoid citation risks; be able to regard literature retrieval, paper writing and intellectual property protection as scientific research closed loop, and comprehensively plan the research process; be able to analyze technical literature from the perspective of national security, identify sensitive information and abide by confidentiality regulations.

- (4) Value dimension: Establish the concept of academic integrity and consciously resist behaviors such as plagiarism and falsification; abide by the “Cybersecurity Law” and “Copyright Law” and refuse to obtain literature through illegal channels; take the initiative to participate in intellectual property competitions or patent applications to help the technological upgrading of border industries.

4.2. Create a “Dual-track driven” teaching model

Relying on the disciplinary advantages of the School of Software of Xinjiang University, a dual-track teaching content of “professional knowledge + ideological and political cases” is constructed. Based on the orientation of border universities serving national strategic needs, the course focuses on consolidating professional foundations, systematically teaching Chinese and foreign databases (such as IEEE Xplore, Web of Science), literature management tools (EndNote) and academic writing norms. Through practical training, such as demonstrating foreign literature retrieval and EndNote literature synchronization on the IEEE Xplore platform, it strengthens the ability to process multilingual literature such as Uyghur and Kazakh, laying a solid foundation for scientific research innovation. On this basis, closely following the construction needs of Xinjiang as the “core area of the Silk Road Economic Belt,” the course offers characteristic practical modules: for the field of agricultural informatization, carry out patent retrieval and novelty search for precise cotton planting; for the development of cross-border e-commerce, conduct literature research on digital trade in the Central Asian market; combined with the needs of the energy industry, organize training on oilfield exploration data analysis methods, cultivating students’ practical ability to serve regional characteristic industries.

Deeply integrate ideological and political education elements into teaching content, and construct a value system integrating “rule of law - security – responsibility.” By analyzing typical cases such as Blizzard Entertainment’s copyright infringement lawsuit against Qiyou Company, strengthen the awareness of intellectual property protection; set up special warning education on “prohibiting wall-climbing” to cultivate legal thinking in cyberspace; based on the characteristics of Xinjiang’s multi-ethnic culture, offer characteristic courses such as the construction of national medical databases and ethics in the digital protection of cultural heritage, guiding students to transform technical capabilities into conscious actions to safeguard national cultural security. At the practical innovation level, the course is deeply connected with major projects such as the autonomous region’s digital countryside and smart tourism, organizing students to participate in projects such as research on bridging the digital divide in southern Xinjiang and the construction of a literature database for the core area of the Silk Road Economic Belt. It embeds team collaboration and academic ethics training in literature retrieval, forming an education pattern of “professional knowledge + legal thinking + family and country feelings.”

4.3. Implement diversified teaching methods

The course adopts a diversified teaching design and empowers the classroom with modern educational technology. Before class, preview videos (such as basic operations of EndNote, guides for using Chinese and foreign databases) are pushed through Rain Classroom, embedded with micro ideological and political cases, and pre-task lists are released in combination with regional cases, such as the construction of Xinjiang national medical databases, to guide students to learn independently first. During class, on the one hand, functions such as random roll call and bullet screen interaction in Rain Classroom are used to check students’ knowledge internalization, and common problems are explained uniformly. On the other hand, the dominant position of students is highlighted through practical links such as “independently selecting topics to design retrieval themes, assigning requirements in a task-driven manner, and analyzing concerns in combination with scientific research examples (such as the comparison between invention patents and utility model patents)”, taking into account the creation of classroom atmosphere and the guidance of interests and personalities, so that teaching and learning are deeply linked in all links. After class, academic norm pass-through tests are set up through the examination module of Rain Classroom, transforming knowledge points such as literature citation norms and scientific research ethics into pass-through questions, and then assigning practical assignments such as “literature research on the construction of digital countryside in southern Xinjiang,” requiring students to use bibliometric methods to analyze regional development pain

points, realizing the two-way promotion of knowledge consolidation and value internalization.

The course attaches great importance to improving students' participation and constructs a participation path of "teacher guidance + independent study + interactive practice." In addition to teacher lectures, postgraduates are encouraged to independently extract ideological and political elements and deepen their understanding of knowledge through teacher-student interaction (such as joint discussion and sharing insights). Taking the teaching of patent literature retrieval as an example, based on professional scenarios such as "differences in patent numbers between invention patents and utility model patents," students are guided to independently query patent literature and compare and analyze protection periods and application skills; at the same time, closely following the actual needs of postgraduates to apply for invention patents for degree applications, the enthusiasm and initiative of students' participation are stimulated. Let students not only master knowledge and skills but also deeply understand the value of intellectual property protection in the process of solving real problems, realizing the integration of ability training and value guidance.

4.4. Establish a curriculum ideological and political evaluation system

The curriculum ideological and political evaluation system of this course takes "value guidance, ability-based, process-oriented" as the core principles and constructs a dynamic evaluation mechanism with dual subjects of teachers and students. For student groups, it focuses on examining the standardization of literature retrieval, compliance of citations, and awareness of intellectual property protection. Combined with the requirements of building Xinjiang universities according to the rule of law, it strengthens ideological security education (accounting for 25%); through local case analysis, research on regional development needs and other projects, it tests students' ability to use professional knowledge to serve Xinjiang's local industries (accounting for 20%); taking tasks such as practical operation of literature management software and design of interdisciplinary research schemes as carriers, it evaluates students' practical innovation ability to solve complex problems (accounting for 30%); the process-based learning performance (25%) includes daily attendance, classroom discussion participation, and the quality of phased task completion, focusing on the dynamic growth of students' ideological and political literacy.

The teacher evaluation system strengthens the main responsibility of curriculum ideological and political education, focusing on teachers' teaching investment and innovation ability, and ensuring the sustainable development of ideological and political resources through mechanism construction, forming a closed loop of "teaching - practice - research." It focuses on evaluating teachers' ability to integrate elements such as intellectual property protection and academic ethics into teaching cases, such as explaining the value of literature retrieval through patent analysis of Xinjiang's characteristic industries, ensuring that teaching goals are in resonance with the main line of "forging a strong sense of community for the Chinese nation" (accounting for 30%); through channels such as student evaluations of teaching and peer lectures, it observes the demonstration role of teachers' academic integrity and the improvement of students' ideological and political literacy (accounting for 25%); teachers are encouraged to use virtual simulation technology to simulate patent dispute handling, guide students to participate in literature retrieval training for enterprises in southern Xinjiang and other practices, and promote the transformation of scientific research achievements into driving forces for border development (accounting for 20%); contributions to curriculum ideological and political construction, including the development of ideological and political resource databases and participation in interdisciplinary teaching and research activities (accounting for 25%).

5. Conclusion

The course "Literature Retrieval, Scientific Paper Writing and Intellectual Property" has always been based on Xinjiang University's school-running orientation of "rooted in the border and radiating Central Asia," adhering to guiding curriculum reform with the goal of ideological and political education for postgraduates, consolidating professional foundations, strengthening practical skills, cultivating scientific research closed-loop awareness, and fostering family and country feelings. By embedding ideological and political elements such as national security education and legal thinking

cultivation into the whole process of literature retrieval, students not only master scientific research methodologies but also form a value identity of safeguarding national data sovereignty through literature retrieval technology and contributing to border development through academic innovation. In the future, it is necessary to further promote the construction of curriculum ideological and political resource databases and build a regional collaborative mechanism for curriculum ideological and political education in border universities, providing an educational sample for forging a strong sense of community for the Chinese nation.

Funding

Xinjiang University Teaching Reform Project (Project No.: XJDX2024YKCSZ13)

Disclosure statement

The author declares no conflict of interest.

References

- [1] The CPC Central Committee, State Council, 2017, Opinions on Strengthening and Improving Ideological and Political Work in Colleges and Universities Under the New Situation, visited on July 20, 2025, https://www.gov.cn/xinwen/2017-02/27/content_5182502.htm.
- [2] Yu P, Shen Y, 2025, Research on the Construction of the Education System for Forging a Strong Sense of Community for the Chinese Nation in Colleges and Universities in Border Ethnic Areas. *Heilongjiang National Series*, 2025(04): 45–54.
- [3] Li C, Luo J, Xiang S, et al., 2025, Research on the Construction Path of Curriculum Ideological and Political Education for Postgraduates in Local Application-Oriented Universities: Taking the Course “Information Retrieval and Paper Writing” as an Example. *Journal of Higher Education*, 11(12): 189–192.
- [4] Ding Y, Li L, Zhang D, 2024, Exploration and Practice of Integrating Curriculum Ideological and Political Education into the Course “Science and Technology Information Retrieval and Utilization”. *Library and Information Service*, 68(22): 73–80.
- [5] Jiang Y, Wen J, Peng Y, 2024, The Generative Logic and Practical Approach of Curriculum Ideological and Political Education in University Information Literacy Education. *Library and Information Service*, 68(14): 58–67.
- [6] Song S, Zhang H, 2025, Research on Strategies for Improving Information Literacy of College Students in the West: Taking the Course “Literature Retrieval and Scientific Paper Writing” as an Example. *Education and Teaching Forum*, 2025(22): 25–28.
- [7] Wang R, Peng K, 2024, A Brief Analysis of the “Four-Micro-Integrated” Teaching System for Chemistry and Chemical Engineering Majors in Colleges and Universities: Taking the Bilingual Teaching Course “Chemistry and Chemical Engineering Literature Retrieval and Scientific Paper Writing” as an Example. *Education and Teaching Forum*, 2024(36): 159–162.
- [8] Liu F, Zhang F, Liu Y, 2024, Practical Exploration of Integrating Ideological and Political Education Elements into the Course “Scientific Paper Writing” for Postgraduates in Textile Major. *Textile and Apparel Education*, 39(05): 72–76.
- [9] Ministry of Education, 2020, Notice of the Ministry of Education on Printing and Distributing the Guidelines for the Construction of Curriculum Ideological and Political Education in Colleges and Universities. MoE, visited on August 16, 2025, http://www.moe.gov.cn/srcsite/A08/s7056/202006/t20200603_462437.html.
- [10] Qin Y, Zhang Y, Zhang J, 2023, Practical Exploration of Ideological and Political Education Teaching in the Postgraduate Course “Scientific Paper Writing”. *Education and Teaching Forum*, 2023(34): 100–103.

- [11] Zhang Y, Cao J, Yu J, 2023, Exploration and Practice of Curriculum Ideological and Political Elements from the Perspective of Moral Education: Taking “Scientific Literature Retrieval and Paper Writing” as an Example. *Liaoning Silk*, 2023(02): 81+13.

Publisher's note

Whioce Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.