

# Exploration and Practice of "Scientific and Technical Literature Search" Course Based on "Curriculum Civics" Teaching

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**Abstract.** Scientific and technical literature is the most basic and important manifestation of scientific and technical knowledge, and is a source of scientific and technical intelligence. Curriculum Civics, which combines professional courses with Civics education, is an important initiative to establish moral education and stimulate students' family sentiments, thus cultivating all-round applied talents. In order to enable students to quickly retrieve the required scientific and technical literature; to understand its types and the ways to retrieve it in order to quickly obtain the required scientific and technical literature. By combining multimedia teaching resources on campus with rich Internet teaching, we will keep abreast of the times, expand our horizons, stimulate students' interest in learning, develop various abilities, and be able to properly keep the moral bottom line and be a moral and talented person.

**Keywords:** Civic elements; scientific and technical literature; literature search.

## 1. Introduction to Scientific and Technical Literature Search

Scientific and technical literature search is a kind of information retrieval method with literature as the search object. With the development of science and technology, scientific and technical literature has increased dramatically, and how to retrieve the required literature has become a practical problem in front of everyone. How to find the required literature from the vast amount of literature for reference is a matter of urgency. Ability, knowledge and quality are the three important aspects of talent training, and quality is in the "core" position. In order to really play the role of enlightenment and guide students to establish the correct outlook on life and values, the element of curriculum thinking politics is added. In the process of teaching professional knowledge, "Curriculum Civics" is combined with ideological education to guide students to realize the importance and value of learning, so as to form the internal drive to work hard, and thus greatly improve the teaching effect of professional courses. Nowadays, the case teaching method is used to integrate political theory courses, comprehensive literacy courses and professional courses to form a new system of university thinking and political science courses and play the role of hidden courses.

## 2. Ways to explore the elements of Civics

The excavation of the ideological element is not only "integrating" the ideological element in the courses taught or simply "embedding" the ideological element in the professional courses, but also "excavating" the "ideological element" in the professional courses taught in depth. The "integration theory" and the "nurturing element" are the "political elements" that are apparent in the courses taught and in students' lives. The "integration theory" and "embedding theory" are to a large extent equivalent to the "thinking political patch". "It is not possible to educate students to make political references and draw on them in professional courses or after the courses are over. How to accurately "excavate" the original "political thinking elements" in the professional courses, so that they can be applied to students, so that our students can learn to take the profession as the basis and raise issues related to the profession from the profession, so as to achieve political thinking education, that is to say, teachers can In other words, teachers can achieve the goal of value leadership while imparting knowledge to students. This has a positive effect on improving students' ideological and political literacy as well as their overall quality. The literature search is to let the text speak, and to achieve the goal of "establishing morality and educating people without any sound". For the current powerful

network resources, when teachers sort out and excavate the elements of Civic and Political Science, they should combine their professional skills with network behaviors and pay attention to the teaching effect, so as to reach the hearts of the people and not to separate them; let the course content be taught according to the material, be appropriate to the time and care about the current affairs, so as to achieve the organic integration of knowledge transfer and value leading, and put the current political affairs and hot spots throughout the teaching process, so that students can gradually form cultural confidence and be a good youth of the new era who cares about national politics. In the course of "Science and Technology Literature Search", the students choose the search terms for the current development of China, such as Huawei 5G, the ZTE incident, Meng Wanzhou's detention, the Sino-US trade dispute, the new pneumonia epidemic, etc., and take the family sentiment as the entry point, focus on cultivating students' scientific thinking ability, enhance students' ability to realize the Chinese dream and strengthen their professionalism. dream, strengthen their professionalism, combine students' personal development with social development and national development, and enhance students' responsibility and commitment to serve the country with science and technology.

### 3. Ways to Integrate Civic Elements with Course Content

The case study method is used to integrate the Civic and Political elements with the course content, and under the guidance of the course teaching objectives, the teaching content of the course "Scientific and Technical Literature Search" is optimized and sorted out, and "social responsibility, national sentiment, the spirit of the rule of law, cultural confidence, and humanistic literacy" is integrated into the teaching activities and content. The course content is optimized and sorted out, and "social responsibility, national sentiment, rule of law, cultural confidence and humanistic literacy" are integrated into the teaching activities and contents, and students are guided to transform the knowledge and skills learned into internal literacy and morality. The case teaching method is a specific teaching method that, under the guidance of teachers, organizes students to investigate, read, think, analyze, discuss and communicate with each other through case studies to teach them methods or reasons for analyzing and solving problems, thus improving their ability to analyze and solve problems and deepening their understanding of basic principles and concepts.

#### 3.1 Selection of cases

Ideological and political education in literature retrieval courses is not a rigid adaptation of the contents of university Civics classes.

Rather, they should collect teaching cases in a targeted way according to the characteristics of their courses and according to the teaching objectives. The selection of cases is very important in building a library of ideological and political education cases for literature search courses. When collecting cases, attention should be paid to whether they have the characteristics of typicality, timeliness and systematization.

1. Typicality. The case study method is a method in which the teacher leads students to analyze representative cases so as to draw generalizations

The method of conclusion, so the more typical the selected cases are, the more profound the revealed laws can be, and the more prominent the universal significance and demonstration significance of the cases can be. The ideological and political education cases selected for the literature retrieval courses in colleges and universities should have distinctive themes, be close to students' thoughts and life reality, and can be elaborated and displayed through words, pictures or videos, etc. Avoid choosing cases with blurred background, unclear pulse and boring, etc.

2. Timeliness. With the progress of science and technology and the development of the times, when teachers teach literature search classes, they intentionally do not

Intentionally are driving students to seek new knowledge, new technology and new methods. Therefore, the ideological and political education cases chosen for the literature retrieval courses in

colleges and universities should strive to be novel, preferably new in real life, which can greatly attract students' interest and effectively activate the classroom while spreading knowledge.

3. Systematic. Building an ideological and political education case base for literature retrieval courses in colleges and universities requires an outline of the course

Conducting a holistic consideration and integrated guidance. According to the elements of ideological and political education that can be integrated into the literature retrieval courses in colleges and universities that are sorted out, the cases are collected on a one-to-one basis, so that the whole case base is subordinated to the syllabus of the course in general, taking into account the receptiveness of students' learning and the convenience of teachers' teaching.

### 3.2 Components of the case

The case collection process needs to be written in a uniform format that is easy to read and use for both teachers and students.

Generally speaking, a complete case contains at least the following five parts: 1. title of the case: describe the main content of the case in as few words as possible, or use questions or exclamations etc. to attract students' attention; 2. introduction of the case: describe the background, subject, and events of the case, etc., requiring the content to be true and detailed, with the help of tools such as news and encyclopedias; 3. role of the case. 4. the applicable teaching scenario of the case: point out the specific chapter or knowledge point in the literature search course where the case is used; 5. teaching suggestions: point out the strategies and methods of using the case in the teaching process, the 6. relevant material attachments, adding relevant videos, pictures, reports, links, etc. according to the needs of personalized teaching, so that teachers can trace the roots and check the background of the case in detail.

## 4. Example of a case-base construction program

Table 1 The case of Zhai Tianlin, a famous actor and "post-doctoral student of Peking University", who did not know about the incident on the Internet

Case Title	Zhai Tianlin didn't know about the Zhiwang incident
Ideological and political	Information Legal Ethics Education
Case Introduction	On January 31, 2019, Zhai Tianlin showed a postdoctoral acceptance letter from the Guanghua School of Management of Peking University. In the same year, on February 8, Zhai Tianlin said that he did not know what the knowledge network was when answering questions from netizens in a live broadcast, which then triggered a hot debate on the Internet. After investigation, it was confirmed that there was academic misconduct in the thesis published by Zhai Tianlin during his doctoral studies, and subsequently the Beijing Film Academy revoked Zhai Tianlin's doctoral degree and cancelled Chen Bo's postgraduate supervision qualification.
Case Role	Guide students to comply with the law and recognize the importance of information ethics

Applicable teaching	Used when talking about thesis writing and academic ethics
Teaching suggestion	Show related videos and organize teaching and discussion steps for students
Related Material Attachment	Baidu.com: Zhai Tianlin "academic door" <a href="https://baike.baidu.com/item/%E7%BF%9F%E5%A4%A9%E4%B8%B4%E5%AD%A6%E6%9C%AF%E9%97%A8/23283897?fromtitle=%E7%BF%9F%E5%A4%A9%E4%B8%B4%E4%BA%8B%E4%BB%B6&amp;fromid=23284582&amp;fr=aladdin">https://baike.baidu.com/item/%E7%BF%9F%E5%A4%A9%E4%B8%B4%E5%AD%A6%E6%9C%AF%E9%97%A8/23283897?fromtitle=%E7%BF%9F%E5%A4%A9%E4%B8%B4%E4%BA%8B%E4%BB%B6&amp;fromid=23284582&amp;fr=aladdin</a>

## 5. Reconstructing teaching content with Civic Affairs as the main focus

Combining the traditional teaching mode and online learning model, we reform the teaching mode of literature retrieval course by introducing flipped classroom, online courses, micro lessons and other Internet technologies, through mixed teaching between online and offline, focusing on the dual cultivation of students' retrieval skills and analytical thinking, actively playing the guiding and leading role of online resources, enhancing their ability of independent learning and innovative ability, and building Under the environment of "Internet+", the teaching model of the literature retrieval course is a combination of "learning"-based practical teaching and online lectures, which can improve the learning effect. In order to improve the teaching quality and effectiveness of literature retrieval courses and enhance the core literacy level and lifelong independent learning ability of college students.

① Main points of instruction: the specialized knowledge content of the course.

② Catholic integration point: the part of classroom teaching in which the content of professional knowledge can be organically integrated with the content of catholicism.

(iii) Lecture format and teaching methods: descriptions such as classroom discussions, information-based teaching, assessment methods, etc.

④ Expected teaching effectiveness: describe the specific effectiveness corresponding to the educational objectives of the course, which is observable, assessable, and as far as possible

Giving students a sense of access

Table 1 Teaching

Teaching points	Thinking content integration point	The lecture format is the same as Teaching Method	Expected Teaching Effectiveness
1 Introduction: Basic knowledge of literature search, search principles and process	Search: In the midst of the epidemic, the dedication of people from all walks of life	Class Discussion	Responsibility: In times of national crisis, it is the great family sentiment of these retrograde heroes, regardless of gains and losses, willing to dedication to the spirit of our country is strong

2	Network information resource retrieval: Internet information retrieval; the basic working process and basic working principle of search engine	Search: Comparison of prices and treatment costs of new crown detection reagents in the United States, China, Korea and other countries	Class Discussion	Patriotism: students' sense of attachment to the motherland, their sense of belonging, identity, honor and dignity to their homeland, nation and culture
3	Chinese network information resources search: China Knowledge Network, Vipshop, Wanfang and other data platforms literature search and results management	Search: Comparison of Chinese and foreign testing capabilities for new crowns in the United States, Canada, and China	Class Discussion	Love for the Party: a more perfect socialist system with Chinese characteristics, the Communist Party of China The ruling base is stronger and people have more trust in the Communist Party
4	Electronic book system: digital library query system search, Chinese and foreign language library search methods	Search: Why is there a US-China trade war? What about our industrial system?	Informative Teaching	Idealism: Help students to establish a vision and belief, and strive and work hard for this vision, so that they can make their lives more valuable
5	Special literature search: dissertations, standard literature, patent literature, conference papers and other special literature search methods	Search: 5G standards battle, why Huawei is being suppressed by the US Number of patents worldwide in recent years	Informative Teaching	The spirit of research: self-sufficiency is the basis of a strong country, with the spirit of research, the courage and spirit to face the problem, through unremitting efforts to solve the problem

## 6. Practice Research

We divided the students in the 20th grade pharmacy class of Jiangxi University of Science and Technology into two groups: the control group was the first group and the second experimental group was the second group. Before starting the study, we investigated the information-based teaching and group discussion of the science and technology literature retrieval course based on "Curriculum Civics" in recent years. Finally, the two groups took final exams, did practical exercises, and filled out satisfaction surveys by anonymous means. As one of the final results of this study, the students were given a final exam, a practical exercise, and a satisfaction survey.

The course of scientific and technical literature retrieval is based on the premise of "online and offline hybrid teaching mode" to improve students' comprehensive quality and learning ability as well as practical ability. A survey was conducted on the internship performance of the 20th grade undergraduate students of Jiangxi University of Science and Technology (Figure 1), and the results of the survey provided an important basis for teaching innovation.

As can be seen from Figure 1, the professional internship scores of undergraduate students are mainly concentrated between 70-80, with only ten percent of students scoring between 90 and 100. In addition there are still 20.4% of them with scores below 70. Based on the results of this survey, we

know that the traditional teaching model is still flawed and no longer appropriate for teaching today's students. A new step of teaching innovation is needed.

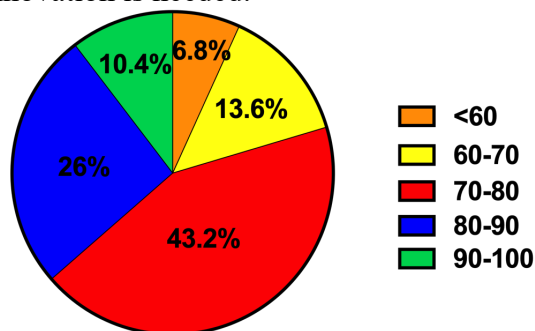


Figure 1. Statistics of undergraduate students' professional internship performance

One year later, this method was applied to the School of Pharmacy of Jiangxi University of Science and Technology to evaluate the teaching of the "Civics" based scientific and technical literature retrieval course, which has a great advantage compared with the traditional method.

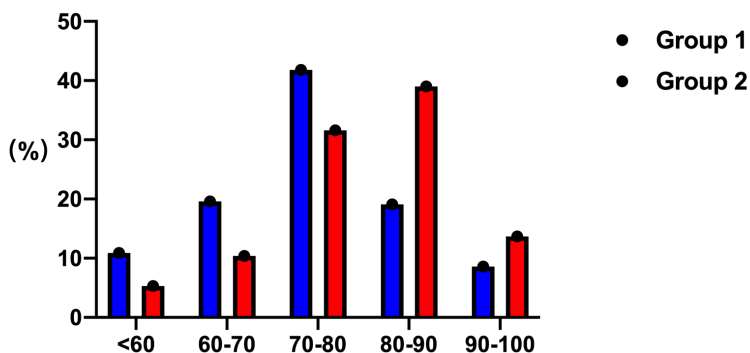


Figure 2. final score statistics for both groups

From the final tally of the score results in Figure 2, we can find that the score results of the second group are significantly better than the score results of the first group. It can be seen from the graph that after applying the new teaching method, the students' scores were mainly in the range of 80-90, and only a very small number of students scored less than 60. On the contrary, in the first group, the scores were mainly in the range of 70-80, and 10.9% of the students scored less than 60. In conclusion, the teaching reform based on the element of "Civics" has greater advantages than the traditional teaching method.

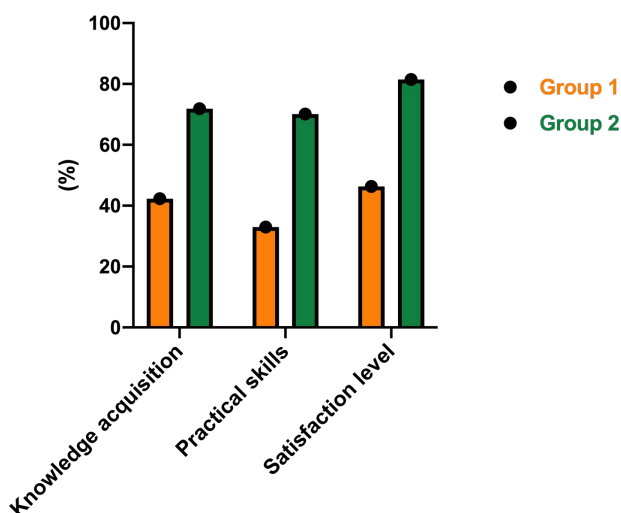


Figure 3. Combined statistics of the two groups of students

From Figure 3, it can be seen that the second group of students who applied the new teaching method in terms of knowledge acquisition, practical ability, and satisfaction all showed significant improvement compared to the first group of students. Most importantly, the students' practical ability has improved deeply.

We also gave feedback on the students' subsequent practical applications and found that the second group of students had a stronger knowledge base and were relatively proficient in practice, while the first group forgot their knowledge more quickly and were relatively less capable of performing chaos in practice.

## 7. Conclusion

Through the integration of "Civic and Political elements", such as team consciousness, family sentiment, innovation and craftsmanship, and ecological and environmental protection consciousness, into the whole teaching process, we can achieve the deep integration of knowledge transfer, value guidance and quality improvement in the classroom, and achieve the effect of cultivating people and character. The course is designed to achieve the effect of educating people and cultivating character.

The university will further improve the problems in traditional teaching methods. We will make full use of the Internet, course platforms, practice bases to solve the difficulties in understanding the integration of previous course Civics and professional teaching knowledge points with more innovative and vivid contents, and provide more opportunities for interactive teaching and learning of teachers and students.

## Acknowledgements

This work was financially supported by the Education and Teaching Reform Project of Jiangxi Science & Technology Normal University (XJJG-20-61-59 and JGYB-19-100-92)

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