



# Reflection on the Current Curriculum Ideology and Politics in Private Undergraduate Colleges in Guangdong Province from the Perspective of Students

Shuangfeng Huang<sup>1</sup>, Huan Fang<sup>1</sup>(✉), and Yanting Zhang<sup>2</sup>

<sup>1</sup> Guangzhou College of Technology and Business, Foshan, China  
huan\_fh@163.com

<sup>2</sup> Guangdong Industry Polytechnic, Guangzhou, China

**Abstract.** Curriculum ideology and politics is an important path for colleges and universities to implement the measures of fostering character and civic virtue. However, over a long term, the pattern of “synergetic education” hasn’t been formed in curriculum ideology and politics. One of the reasons for this is that the implementation path of curriculum ideology and politics still focuses on the levels of teachers and curriculum design, without a mastery of students’ situations and students’ knowledge and action for curriculum ideology and politics. The so-called knowledge and action refers to the process whereby students internalize what they have accepted into their hearts and externalize it into actions when receiving curriculum ideological and political education. For this reason, based on the perspective of students, by using questionnaire survey and literature survey, this study investigated the knowledge and action for curriculum ideology and politics in “curriculum ideology and politics” for students in private undergraduate colleges in Guangdong Province, and believed that school, teacher and student proper were factors affecting students’ knowledge and action for curriculum ideology and politics and adopted these three influence factors to put forward countermeasures, optimize and refine the implementation path of curriculum ideology and politics and promote the formation of the pattern of “synergetic education” in curriculum ideology and politics.

**Keywords:** curriculum ideology and politics · private colleges · perspective of students · implementation path

## 1 Research Background

Since the concept of “curriculum ideology and politics” put forward by Shanghai Municipal Education Commission in 2014 drew high attention across the society, curriculum ideology and politics has been adhering to the important concepts that colleges should foster character and civic virtue and build the soul of education in colleges and universities, been committed to making students confirm their ideals and beliefs and establish

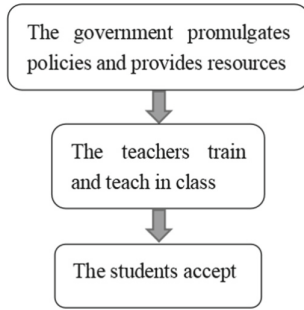
correct outlooks on world, life and values. In 2016, the National Conference on Ideological and Political Work in Colleges and Universities officially incorporated curriculum ideology and politics into documents of the Ministry of Education. Chairman Xi Jinping made important instructions at the conference, requiring that “all kinds of courses should go with ideological and political theory courses in the same direction and form a synergistic effect” [1]. In recent years, to push forward the development of education, advance the construction of curriculum ideology and politics in colleges and universities in an all-round way, and promote the organic bond between ideological and political courses and curriculum ideology and politics, Guangdong is now making great efforts to propel the pilot work of the construction of a system and mechanism of “educating people with the whole staff in the whole course in an all-round way” [2]. However, over a long term, the pattern of “synergetic education” hasn’t been formed in curriculum ideology and politics in Guangdong Province and local cities. There are two reasons for this:

First of all, at the theoretical level, as of 2014, the existing research findings mainly discuss from the connotations of curriculum ideology and politics, the correlation with ideological and political courses, and the integration mode with various specific courses (see Fig. 1), which has provided many guiding opinions for the implementation of curriculum ideology and politics, such as teachers must fully tap elements in curriculum ideology and politics in the teaching process, and blend them into the design of teaching content, teaching process and teaching evaluation (Wang, 2021) [3]. What’s more, the teaching content is combined with historical background and students’ learning interest is inspired using the carrier of information dissemination (Peng, 2020) [4], etc.

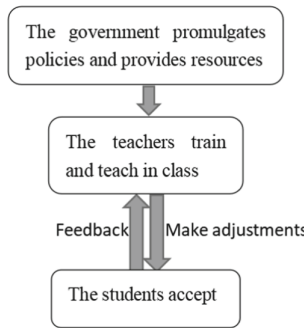
Secondly, at the practical level, the Guiding Compendium for the Construction of Curriculum Ideology and Politics in Colleges and Universities printed and distributed by the Ministry of Education in 2020 (hereinafter referred to as “Compendium”) mentioned that the cultivation effect of talents was the primary criterion of the evaluation system of the construction of curriculum ideology and politics [5]. Through a general survey of the current implementation path of curriculum ideology and politics, it can be found that it is mainly a one-way flow system in which the government promulgates policies, the teachers teach and the students accept, as shown in Fig. 2. The formation of a pattern of synergetic education should be jointly participated in by teachers and students, attach importance to students’ acceptance and practice of curriculum ideology and politics, lay emphasis on students’ feedback and achieve two-way flow and two-way feedback, as shown in Fig. 3. Only in this way can a complete implementation path be formed and offer a steady stream of motive to perfect the implementation path of curriculum ideology and politics.<sup>5</sup>



**Fig. 1.** Status quo of domestic and foreign studies



**Fig. 2.** The Current Implementation Path of Curriculum Ideology and Politics



**Fig. 3.** The Implementation Path of Curriculum Ideology and Politics in the Ideal State

On the whole, under the dual absence of academic research and practical guidance for “students’ acceptance and practice degrees of curriculum ideology and politics”, the implementation effect under curriculum ideology and politics can’t be well embodied in the existing implementation path, and there was no way to know the situation of talent cultivation, which is not conducive to the formation of a pattern of synergetic education.

Therefore, based on the perspective of students, this paper carried out a survey on the acceptance and practice degrees of “curriculum ideology and politics” of students in private undergraduate colleges in Guangdong Province, with a view to provide more train of thought for the implementation path of curriculum ideology and politics, on the basis of existing research results, promote the two-way feedback and two-way flow process of the implementation system and effect evaluation system of curriculum ideology and politics and accelerate the sound development of the construction and implementation path of curriculum ideology and politics.

## 2 Overview of Survey

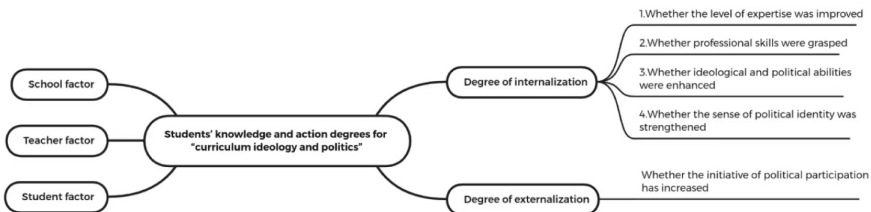
### 2.1 Conceptual Basis

Knowledge is the foundation of action, while action is the embodiment of knowledge. Curriculum ideology and politics forms “knowledge” in internalization and “action” in externalization. As shown in Fig. 4, the author defined “students’ acceptance and practice degrees of curriculum ideology and politics” as “students’ knowledge and action degrees for ‘curriculum ideology and politics’”. Based on the guiding spirit of the Compendium, that is, “to imply values guidance in knowledge transfer and ability training and help students shape a correct outlook on world, life and values” [5], that is, curriculum ideological and political education should be organically combined with professional knowledge, let students form correct values, fulfill the responsibilities and accountabilities to achieve the great rejuvenation of Chinese nation, etc., subdivide “knowledge”, that is, the degree of internalization, into four dimensions, that is, whether the level of expertise was improved, whether professional skills were grasped, whether ideological and political abilities were enhanced and whether the sense of political identity was strengthened, and manifest “action”, that is, the degree of externalization, as one dimension, that is, whether the initiative of political participation was heightened.

### 2.2 The Design Idea and Retrieval of Questionnaires

From the perspective of students’ perceived effect of curriculum ideology and politics, taking students from private undergraduate colleges in Guangdong Province as the respondents, the author proceeded from three influence factors, i.e., school, teacher and student proper, to design corresponding survey items that reflected the implementation effect of curriculum ideology and politics, and investigated the implementation of curriculum ideology and politics in private undergraduate colleges in Guangdong Province by issuing questionnaires, centered on 5 dimensions mentioned above (whether the level of expertise was improved, whether professional skills were grasped, whether ideological and political abilities were enhanced, whether the sense of political identity was strengthened and whether the initiative of political participation has increased.)

The questionnaires were distributed through WeChat, QQ and Xiaohongshu, and 429 questionnaires were retrieved, of which 307 were valid, with an effective recovery rate of about 72%. There were 118 boys and 189 girls participating in the questionnaire survey,



**Fig. 4.** Influence Factors and Results of Students’ Knowledge and Action Degrees for “Curriculum Ideology and Politics”

with a male-female ratio of 1:1.6. In data analysis, valid data were analyzed by SPSS 23.0, the reliability and validity was tested for items in the questionnaire. Cronbach’s  $\alpha$  was 0.949, greater than 0.8. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.870, greater than 0.8, and the P value of Bartlett’s sphericity test was 0.000, indicating good reliability and validity.

### 3 Collation and Analysis of Survey Results

#### 3.1 The Influence of School and Teacher Factors on Students’ “KnowLedge and Action” in Curriculum Ideology and Politics

##### 1) Status quo of curriculum ideology and politics in schools.

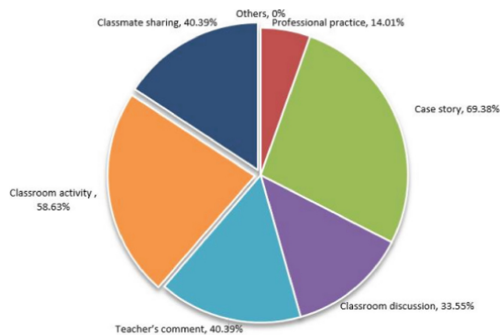
A survey was carried out on whether the school would launch activities related to elements in curriculum ideology and politics (values, ideal and belief, ethnic spirit, history and culture, etc.) showed that the mean in the assignment interval of [0,100] was 66.84, and at a better-than-average level.

##### 2) Status quo of teachers’ application of curriculum ideology and politics in professional courses.

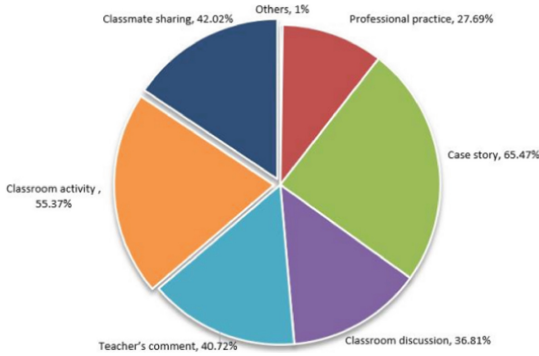
The survey results showed that the mean in the assignment interval of [0,100] for teachers’ fusion of elements in curriculum ideology and politics in professional classroom was 65.38, and at a better-than-average level.

The teaching forms in which teachers fused elements in curriculum ideology and politics in professional classroom are shown in Fig. 5, the fusion mode of “case story” was mostly frequently used, accounting for up to 69.38%, followed by classroom activities, accounting for 58.63%, “classmate sharing” and “teacher’s comment” tied for the third, accounting for 40.39%, while classroom discussion and professional practice accounted for 33.55% and 14.01% respectively.

At the same time, a survey was conducted on students’ wishes for teaching forms in which teachers fused elements in curriculum ideology and politics and the results are



**Fig. 5.** The Proportion of Teaching Form in which Teachers Fused Elements in Curriculum Ideology and Politics



**Fig. 6.** The Proportion of Students' Wishes for Teaching Forms in which Teachers Fused Elements in Curriculum Ideology and Politics

shown in Fig. 6. Students held that teachers' fusion of elements in curriculum ideology and politics into professional courses in the form of "case story" was the most effective for them, which was consistent with the frequency ranking of teachers' fusion mode. It was worth noting that compared with the fusion frequency of teachers, the option "professional practice" grew by 13.68% and nearly doubled.

Professional practice was an important reflection of the combination of theory and practice. By participating in professional practice, students can understand the society in advance, deepen knowledge of the society, enhance adaptability to society and improve practical ability. Hence, professional practice was not only applicable to technical and hands-on courses, but also one of the important teaching forms to launch curriculum ideology and politics. College teachers rarely fuse curriculum ideology and politics into their professional practice.

**3) Analysis of the Influence of School and Teacher Factors on Ideological and Political Education on Students' Knowledge and Action.**

a) *Analysis of 5-point Likert scale.*

The students' acceptance and practice of curriculum ideology and politics was analyzed, based on the criterion of "knowledge and action degrees", 5 items were boiled down to two dimensions, that is, internalization degree and externalization degree, as described above in the theoretical basis of questionnaire design. Scores were assigned according to 5-point Likert scale, 1-5 meant strongly disagree, disagree, generally agree, agree and strongly agree respectively.

Table 1 showed that after receiving curriculum ideological and political education, students' self-evaluation for the internalization and externalization degree of curriculum ideology and politics fluctuated around 3.8, and the means were similar and at a better-than-average level.

b) *Correlation analysis.*

The analysis results are shown in Table 2. There was a significant positive correlation between the school's efforts to launch curriculum ideology and politics and

**Table 1.** The degree of knowledge and action of students after integrating into the curriculum ideological and political studies

Dimension	Whether to improve/strengthened	Mean
Degree of internalization	the level of expertise	3.76
	professional skills	3.77
	ideological and political abilities	3.89
	the sense of political identity	3.92
Degree of externalization	the initiative of political participation	3.86
Overall level		3.84

teachers' fusion of curriculum ideology and politics. Taking whether students' political literacy-ideological and political abilities was enhanced as an example, the more activities of curriculum ideology and politics were held by the school, the greater efforts they made, the higher knowledge and action degrees for curriculum ideology and politics students had. By the same token, if teachers can apply curriculum elements properly when fusing them, students' level of expertise, professional skills, ideological and political abilities and sense of political identity would also be promoted.

Generally speaking, there was a significant positive correlation between school and teacher factors and students' knowledge and action degrees for curriculum ideology and politics. Under the vigorous publicity of the government and relevant departments, the promotion of the construction of curriculum ideology and politics by the school and teachers was at a better-than-average level, but it was still far from enough for achieving the goal of "fostering character and civic virtue";

In terms of teachers' teaching, there were some discrepancy between teachers' fusion mode and students' actual needs. Education should be oriented to students and respect their perceptions and needs, instead of indoctrinating blindly according to the stereotype. This not only failed to realize the desired effect of curriculum ideology and politics, but also affected students' learning of professional courses. Accordingly, the teaching forms in which teachers fused curriculum ideology and politics were yet to be improved.

### 3.2 The Influence of Student Factor on Students' Knowledge and Action for Curriculum Ideology and Politics

#### 1) Status quo of students' cognition of curriculum ideology and politics.

In order to test whether there was discrepancy within respondents, and boys and girls were separated in the analysis. 1, 2 and 3 were established to indicate cognizant, heard of but incognizant and didn't hear of and incognizant respectively. The results are shown in the following Table 3.

From the survey results, the mean of boys' cognition degree of curriculum ideology and politics was 1.78, while the mean of girls' cognition degree of curriculum ideology

**Table 2.** Correlation between School and Teacher Factors and Students’ Ability

	The school held activities related to elements of curriculum ideology and politics.	Teachers’ fusion of the elements of curriculum ideology and politics into professional classroom	Professional quality - improvement of ideological and political abilities
The school held activities related to elements of curriculum ideology and politics	1		
Teachers’ fusion of the elements of curriculum ideology and politics into professional classroom	.703**	1	
Professional quality - improvement of ideological and political abilities	.367**	.481**	1

\*\* . The correlation was significant at the level of 0.01 (two-tailed)

**Table 3.** Students’ Knowledge and Action Degrees for Curriculum Ideology and Politics

Gender	Question	Number	Min	Max	Mean	SD
Male	Before reading the questionnaire, do you understand “curriculum ideology and politics”?	118	1	3	1.78	.775
Female		189	1	3	1.71	.688

and politics was 1.71, both of which were within the interval of [cognizant, heard of but incognizant] and close to “heard of but incognizant. The results of our work showed no significant difference in terms of gender. Students’ cognition degree of curriculum



ideology and politics was better-than-average, and nearly half of the students were well-versed in curriculum ideology and politics.

## 2) Analysis of the Influence of Student Factor on Students' Knowledge and Action for Curriculum Ideology and Politics.

The analysis results showed that students believed that two factors were the most influential, that is, "students ignored ideological and political knowledge" and "students didn't understand curriculum ideology and politics", accounting for 69.06% and 60.26% respectively. Students' ignorance of ideological and political knowledge can be traced back to the ideological and political course in the last five years or even farther. In the long-term practice of ideological and political education, most teachers had become accustomed to the teaching mode of indoctrination and didactics, and taken students as the object of education, that is, passive knowledge recipients. Consequently, students became averse to ideological and political theory courses, and lost interest in ideological and political content. Owing to the rigor and standardization of ideology and politics, compared with other public courses or professional courses, ideological and political courses were less intriguing and also less demanding for comprehension than sciences. Generally speaking, they can get corresponding scores simply by writing relevant keywords in the exam. So many students learned ideological and political knowledge with a fluke mind, and it was very common that they did other homework and read extracurricular books in ideological and political courses, thereby forming a vicious circle.

Ideological and political courses were key courses that put "fostering character and civic virtue" into reality and a starting point to realize the organic bond of ideological and political courses and curriculum ideology and politics (Zhang, 2016). Under the impact of curriculum nature and teachers' teaching mode, however, cohorts of students gradually ignored ideological and political knowledge, which became an important issue hindering the combination of ideological and political courses and curriculum ideological and political courses [6].

## 4 How to Deepen the Design of Implementation Path of Curriculum Ideology and Politics from the Perspective of Students

Our study was a research based on the perspective of students. According to students' perception, five dimensions of students' knowledge and action for curriculum ideology and politics were proposed as mentioned above, and then the current implementation in private colleges in Guangdong was explored, to seek factors affecting the implementation effect of curriculum ideology and politics. The results indicated that school, teacher and student were all factors that affected the effective implementation of curriculum ideology and politics, students' internalization and externalization degrees of curriculum ideology and politics were closely related to three aspects, i.e., school, teacher and student. In an effort to promote students' internalization and externalization degrees of curriculum ideology and politics, we should respect students' thinking, pay attention to students' feedback and perfect the implementation path of curriculum ideology and politics, as shown in Fig. 1–2. Adjustments can be made from the following three aspects:

#### 4.1 In Terms of School

Private colleges in Guangdong took the development of application-oriented higher education as strategic emphasis, and the cultivation of application-oriented<sup>1</sup> talents as the school-running philosophy [7]. As mentioned earlier, students posited that professional practice was an effective approach for knowledge and action for curriculum ideology and politics. This not only enriched the launch mode of curriculum ideology and politics and satisfied students' need to apply curriculum ideology and politics to professional practice, but also conformed to the school-running philosophy of "cultivating application-oriented talents". So far, professional practice is offered in all kinds of colleges and universities in Guangdong, but there is no matching effect on the student side. Whether it was because there existed formalism and dogmatism during the professional practice in colleges and universities, or because the implementation process of teachers was problematic remained to be examined.

Furthermore, since the launch of activities related to curriculum ideology and politics by schools was significantly positively correlated with students' knowledge and action for curriculum ideology and politics, schools should hold more activities related to curriculum ideology and politics, such as knowledge contests, organizing students to visit history museums and carry out activities to popularize legal knowledge, etc. Students needed a good learning environment and atmosphere when accepting curriculum ideology and politics.

#### 4.2 In Terms of Teachers

The word "instruction" (教学) should combine "teaching" and "learning", that is, teachers taught, students learned and gave feedbacks. According to the feedbacks, teachers readjusted their teaching content, so that "instruction" can be formed and "teaching and learning can reinforce each other". If teachers still taught to themselves according to the outmoded method, students were only passive recipients of knowledge, their hearts were not touched and their emotions were impervious. No matter how many ideological and political elements teachers used, students not only found it difficult to form a new cognitive meaning and impossible to change their mindset that was originally resistant to ideology and politics (Hong, Yuan, 2022) but also probably continued to deteriorate [8]. The so-called "colleges" were to study enigmatic knowledge. The purpose of students' learning was not to learn knowledge points themselves, but to learn the thinking and ability in order to solve problems. Students expected that teachers can stand on the height of textbook and fully mobilize students' inner drive and interest through diversified teaching forms and contents, instead of "repeating what the book said".

At the same time, the survey results also demonstrated that students also wished that teachers can fuse curriculum ideology and politics through interesting and vivid teaching forms, such as case story, classroom activities and classmate sharing. Students can not only learn professional knowledge and skills well in vivid and interesting teaching forms, but also well receive curriculum ideological and political education. This was probably

---

<sup>1</sup> Application-oriented talents refer to a type of talents who can apply professional theoretical knowledge and skills to the process of professional practice.

more conducive to promoting students' internalization and externalization degrees of curriculum ideology and politics.

### 4.3 In Terms of Students

As an important carrier of the cultivation effect of talents in curriculum ideology and politics, students should correct their attitude, re-understand ideology and politics, change the despised and indifferent thoughts all along, take ideological and political courses seriously, understand ideological and political content, and lay a foundation for further acceptance and practice of curriculum ideology and politics. In addition, students' feedback is also very important, as shown in Fig. 3. In practical teaching, there may be a certain gap between teachers' expectations and students' reactions. Students' feedback was an important step to boost the implementation path of curriculum ideology and politics to approach perfection. Only when students communicated more with teachers can teachers understand students' real perception and needs, and then adjust in accordance with the feedback content. Only in this way can the effect that "teaching and learning reinforced each other" be reflected, and the curriculum ideology and politics path in an ideal state be achieved.

## 5 Conclusion and Prospect

Based on the perspective of students, by taking "valuing students' perception and conducting more in-depth survey and discussion from students' actual feelings and acceptance degree" (Chen, Ma, Dou, et al., 2021) as the entry point [9], this paper investigated the implementation of curriculum ideology and politics in private undergraduate colleges in Guangdong Province, presented the concept of students' knowledge and action for curriculum ideology and politics for the first time, that is, students' internalization and externalization degrees of curriculum ideology and politics and found problems existing in the implementation process of curriculum ideology and politics in private undergraduate colleges in Guangdong. The promotion of curriculum ideology and politics by colleges and universities can't work as well as it should on the student side. There were differences between teachers' fusion mode of curriculum ideology and politics and the way students expected to be taught. Students' ignorance of ideological and political knowledge impeded the organic bond between ideological and political courses and curriculum ideology and politics. After paying full attention to students' perception of curriculum ideology and politics and lay emphasis on students' knowledge and action for curriculum ideology and politics, corresponding countermeasures were put forward according to students' expectations: the problem that the promotion of the construction of curriculum ideology and politics by colleges and universities was not equal to the effect received needed further research. Teachers were student-oriented, valued students' perception and adjusted the teaching mode. Students proper changed their stereotyped impression of curriculum ideology and politics. From the government to schools, teachers and students, each link in the implementation path of curriculum ideology and politics should not be ignored, and attention should be especially paid to students' knowledge and action degrees for curriculum ideology and politics. Students'

feedback is an important assurance for the two-way flow of the implementation path of curriculum ideology and politics, and plays an important role in refining the implementation path of curriculum ideology and politics. From the perspective of students, our study lays a theoretical foundation and practical foundation for the two-way flow of the implementation path of curriculum ideology and politics, and offers more insights into the promotion of the sound development of curriculum ideology and politics.

There is still a long way to go to build the path of curriculum ideology and politics. The dimension of knowledge and action degrees stated in this paper still has much room to exploit. The author will be dedicated to exploring a complete set of dimensions for students' "internalization" and "externalization" of curriculum ideology and politics, reflecting the implementation effect of curriculum ideology and politics more accurately, groping a new teaching model for curriculum ideology and politics on this basis, with a view to improve the implementation effect of curriculum ideology and politics and meet the national requirements for improving talent training in an all-round way.

**Acknowledgement.** [\*] This paper is the achievement of the education and teaching reform project of Guangdong Industry Polytechnic in 2022, titled "On the Intelligent Financial Management Talent Training Mode in the Era of Big Data" (JG202222) and Offline First-class Courses of "Management" Course of Guangzhou College of Technology and Business (GYYL202206).

## References

1. At the National Conference on Ideological and Political Work in Colleges and Universities, Xi Jinping emphasized running ideological and political work through the whole process of education and teaching and inaugurating a new landscape of the development of higher education in China [N]. *People's Daily*, 2016–12–09 (001).
2. Education Department of Guangdong Province. The promotion meeting of "educating people with the whole staff in the whole course in an all-round way" in colleges and universities in the whole province, a.k.a., the reform of curriculum ideology and politics was convened [Z]. Guangdong: Education Department of Guangdong Province, 2021
3. Wang Xiaoyan. Exploring the teaching design to fuse "curriculum ideology and politics" into college English classroom [C]// *Proceedings of Labor Security Research Conference (IX)*. [Publisher is unknown], 2021:104–105+101. <https://doi.org/10.26914/c.cnkihy.2021.018882>.
4. Peng Peng. Research on Higher Mathematics Teaching Based on Internet Plus Curriculum Politics Thought [J]. *International Journal of Education and Economics*, 2020, 3(1).
5. The Ministry of Education. Notice of the Ministry of Education on Printing and Distributing the Guiding Compendium for the Construction of Curriculum Ideology and Politics in Colleges and Universities (JG [2020] No.3) [EB/OL]. (May 28, 2020) [Dec 1, 2020]. [http://www.gov.cn/zhengce/zhengceku/2020-06/06/content\\_5517606.htm](http://www.gov.cn/zhengce/zhengceku/2020-06/06/content_5517606.htm).
6. Zhang Shuo. Running ideological and political work through the whole process of education and teaching and inaugurating a new landscape of the development of higher education in China [N]. *People's Daily*, Dec 9, 2016 (001). <https://doi.org/10.28655/n.cnki.nrmrb.2016.000517>.
7. The proportion of enrolled students in private colleges and universities in Guangdong exceeded 1/3 of that of the whole province: how can application-oriented education exert force? [https://static.nfapp.southcn.com/content/201811/25/c1695615.html?colID=3829&tdsourcetag=s\\_pcqq\\_aiomsg](https://static.nfapp.southcn.com/content/201811/25/c1695615.html?colID=3829&tdsourcetag=s_pcqq_aiomsg)

8. Hong Zaoqing, Yuan Shengli. Curriculum reform and teaching quality in colleges and uni-versities based on curriculum ideological and political construction [J/OL].Journal of Higher Education Manage-ment,2022(01):1–9[2022–04–01]. <https://doi.org/10.13316/j.cnki.jhem.20211224.004>.
9. Chen Xiongying, Ma Liping, Dou Xingli,et al. Implementation Effect of “Ideological and Political Education through All Curricula” in Colleges and Universities Based on Students’ Perception: An Analysis of Classroom Teaching [J]. Journal of Beijing Union University (Humanities and Social Sciences), 2021, 35(02): 40-46. <https://doi.org/10.16255/j.cnki.lxbz.2021.02.007>.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

