Hindawi

Retraction

Retracted: Mining and Evaluation of Teaching Civics Courses Based on Apriori-TIDS Algorithm

Journal of Sensors

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] H. Yang, "Mining and Evaluation of Teaching Civics Courses Based on Apriori-TIDS Algorithm," *Journal of Sensors*, vol. 2021, Article ID 5956429, 10 pages, 2021.

Research Article

Mining and Evaluation of Teaching Civics Courses Based on Apriori-TIDS Algorithm

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The thinking course is an innovative move to implement the fundamental task of moral education and realize the whole process of education and all-round education in universities. The Apriori-TIDS algorithm proposed in this paper adopts the TID list of transaction identifiers to calculate the support count and generate the frequent item set of the Hou option set, and the whole frequency set generation process only needs to scan the transaction database once, which greatly improves the operation efficiency of the mining algorithm. The course is based on the three focus points of ideological and political education, such as "matters, times, and situations", to explore the elements of ideological and political education hidden in the course, and to give the principles and criteria for evaluating the effectiveness of ideological and political teaching in the course, in order to make the professional degree course become the main channel to lead the ideological and political education of postgraduate courses and improve the effectiveness of the course in educating people.

1. Introduction

In July 2020, the first conference on postgraduate education in China was held, which made important arrangements for the reform and innovation of postgraduate education in our country in the new era [1]. In September 2020, proposing to further improve the ideological and political education system, Xi Jinping's socialism with Chinese characteristics in the new era thought into the teaching materials was promoted, into the classroom and into the mind, and to comprehensively improve the level of ideological and political education of postgraduates [2].

At present, degree course of information master students includes public degree courses and professional degree courses, and the credits of professional degree course are generally about 2/3 of the total credits of degree course, which has a large proportion [3]. Moreover, professional degree courses are the core and basic contents of the professional work that graduate students can engage in after graduation. Therefore, professional degree courses are a very important part of the curriculum of master's degree students, and only by integrating as many elements of political

education as possible in professional degree course can we realize the situation of comprehensive political education for people [4]. In addition, professional degree course of information graduate students contains rich elements and resources for thinking and political education, which has high feasibility in the actual education and teaching process. In this paper, based on the characteristics of the professional degree courses of information master students, we will focus on the three points of "events, times, and situations" [5], dig deeper into the elements of Civics Education hidden in them, make the professional degree courses become the main channel to lead the Civics Education of graduate students, and gradually cultivate the patriotism and social responsibility of graduate students.

The focus of teaching civics course is to explore the explicit and implicit civics education elements embedded in the course content and to combine them with subject knowledge. It should be said that any course contains rich elements of thinking and political education, and how to reasonably and effectively explore these elements is an important issue in the implementation of thinking and political teaching [6]. This requires the teachers of professional

degree courses to be good at discovering and identifying the resources of the political thinking hidden in them on the basis of fully mastering the content and system of subject knowledge and integrating and linking them with classroom teaching, experimental practice, and other teaching links, so as to realize the effective unification of knowledge transfer and all-round education goals. Information graduate degree course has their own characteristics, and the characteristics of the time are more prominent, so they can focus on the three points of "events, time, and situations" when the elements of the course's political thinking education [7].

The so-called "things" mainly emphasize the objective existence of things, that is, the objective existence of Civics Education elements in the postgraduate professional degree courses, and the postgraduate professional Civics Education courses must explore the philosophical ideas and Civics Education elements embedded in the course contents [8]. For example, the philosophical relationship between the most basic binary in digital communication and the ancient Chinese Yin-Yang Bagua and I Ching, the moving stories of Academician Deng Zhong-Han, the chief director of the "Starlight China Core Project", and Academician Wu De-Xin, an expert in integrated circuits [9], one of the greatest scientists in the 20th century, Shannon, who "one man built the world," Shannon's story of "a man who built a discipline." The "transformation" of the teaching of the civics course is to implant the philosophical ideas and civics elements implied in the stories into the minds of students in a silent way, and to infect and shape them through objective and concrete examples [10]. The points of "things" should carry the facets of teaching purpose and should be interlinked with the contents and knowledge points of professional course, so as to achieve the watery blend between reasoning and statement.

The so-called "time" refers to the advancement of time and the development of the era. The postgraduate professional degree course of Civics Science focuses on the changes of the era, so it must follow the development of social progress and grasp the reality of life, summarize the frontier and hot issues in the curriculum that students are most interested in, and talk through the progress of information technology and the development of disciplines and specialties for the country and society [11, 12]. The history of the development of communication technology, for example, is a history of the development of the country and society. For example, the history of the development of communication technology is a history of the development and progress of China's information industry, highlighting the great achievements made by China since the founding of New China, especially since the reform and opening up. By telling the story of the development of the information industry of the motherland to the postgraduates with the content of the course, they can experience the historical achievements of reform and opening up, strengthen the four self-confidence, and enhance the national pride of young students, so as to further stimulate the patriotism enthusiasm and enterprising spirit of study of the postgraduates [13, 14].

In the past decades, the rapid development of computer hardware has led to the upgrading of powerful computer mainframes, data collection devices, and storage media, while greatly promoting the development of databases and the information industry, making a large amount of data and information stored in the transaction management, information retrieval, and data analysis. However, most database systems are still limited to transactional database operations, i.e., simple entry, query, modification, and statistics [15]. The amount of information people obtains through these operations is only a part of the information contained in the whole database, but more importantly, the potential information hidden behind the data, which has important reference value in the decision-making process, cannot be discovered. Decision makers make decisions not on the basis of information-rich data in databases, but often on the basis of decision makers' intuition, because decision makers lack the tools to extract valuable knowledge from massive data. Therefore, there is an urgent need for effective information analysis tools to help mine the "mineral deposits" contained in the "data mountain" and refine them into useful knowledge [16].

2. Improvement of Apriori Algorithm

2.1. Introduction of Apriori-TIDS Algorithm. In this paper, we propose a new algorithm—Apriori-TIDs (transaction identifier set) algorithm—to improve the Apriori algorithm [17], which requires repeated scanning of the original database. First, the transaction database is scanned, and the transaction identifier TID containing each item set is recorded at the same time to generate a marquis set C_1. C_1 is structured as (Item_set, Support_count Support, Transaction_Identifier_list Tid_silt). Then, the set of items whose support count is lower than the minimum support appendix is removed from C. Then, the set of item sets in C_1 is the frequent 1 item set L_1.

L_{k-1} is concatenated with L_{k-1} to generate C_k. The transaction identifier list of C_k is equal to the intersection of two L_{k-1} transaction identifier lists that generated it. Counting the number of TIDs in the list of transaction identifiers corresponding to the set of items in C_k gives the count of each set of items in C_k.

2.2. Example of Apriori-Tlns Algorithm. Let a transaction database be as shown in Table 1. Let the minimum support count be 2, i.e., min_sup = 29/ = 22%.

(1) Scan the database to generate, as shown in Table 2

(2) According to C_1 determining L_1, as shown in Table 3

(3) Concatenate L_1 to generate C_2. After each new item set is generated, the Tid _list of the set is generated and counted. If the count is less than min_ sup, the set is removed from C_2; otherwise, the set is kept

Generate C_2, as shown in Table 4.

Table 1: Transaction Database.

TID	List of IDS
T100	I1, I5
T200	I4
T30	I2, I3
T400	I1, I2, I4
T500	I1, I3
T60	I2
T700	I1, I3
800	I1, I2, I3
T900	I1, I2, I3

Table 2: Marquee l a set collection C_1.

Item set	Support count	Transaction list
I1	6	T100, T400, T500
I2	7	T100, T200, T300, T800, T900
I3	5	T300, T500, T600, T700, T800, T900
I4	3	T20
I5	2	T100, T800

Table 3: Frequent 1 item set L_1.

Item set	Support count
I1	6
I2	7
I3	6
I4	2
I5	2

Table 4: Margin 2 a collection C_2.

Item set	Support count	Transaction list
I1, I2	4	T100, T0, T900
I1, I3	3	T500, T700, T800, T900
I1, I5	2	T100
I2, I3	3	T300, T600, T900
I2, I4	2	T2400
I2, I5	1	T100800

(4) Generated L_2, as shown in Table 5

(5) Generate C_3

According to the Apriori property, {I,J3,15},{I2,I3,I4}, {12,3,J5}, and {12,4,5} are pruned.
The generated C_3, as shown in Table 6.

(6) Generate L_3, as shown in Table 7

Table 5: Frequent 2 item set L_2.

Item set	Support count
I1, I2	4
I1, I3	4
I1, I5	2
II, I5	4
I2, I3	4
I2, I4	2
I2, I5	2

Table 6: Margin 3 a collection C_3.

Item set	Support count	Transaction list
I1, I2, I3	2	T800, T900
I1, I2, I5	2	T100, T800

Table 7: Frequent 3 item set L_3.

Item set	Support count
I1, I2, I3	2
I1, I2, I5	2

(7) Generate C_4

$$\{112.I3, S\} \, \text{Tid\_list} = \{T800\}, \text{Delete} L_4 = \phi. \tag{1}$$

The algorithm terminates, and all frequent item sets are found.

3. Algorithm Performance Comparison Analysis

The advantage of the Apriori-TIDS algorithm over the Apriori algorithm is that the original database only needs to be scanned once. In other words, only in the first step of generating the Hounset 1-item set C_1, it is necessary to scan through the database to obtain the TID list of each item set, while in calculating the count of any other Hounset C_K, it is only necessary to count the number of TIDs in the corresponding transaction identifier list in C_K [18, 19]. Let the number of item sets C_1 in Apriori set be $|C_I|$, the number of records in the database be n, and the average capacity of each record be p. The time required to compute apriori set C_1 is $O(|C_1|np)$, and the total time required is $O(|C_1|np)$ since the database is scanned only once (the time required to run in memory is negligible compared to the time required to access external memory). Compared to the total time overhead of $O(\sum_k C_k|np)$ for the Apriori algorithm, the Apriori I TIDS algorithm saves a significant amount of time overhead.

TABLE 8: Experimental data records.

Min – sup = 0.03	Algorithm	Test time sampling (unit: ms)	Average value (unit: ms)
	Apriori	51328, 50703, 50203, 51422, 51812, 50765, 51532, 51125, 50859, 51297	51105
	Apriori–TIDS	1563, 1984, 1812, 1766, 1766, 1844, 1797, 1781, 1625, 1938	1788
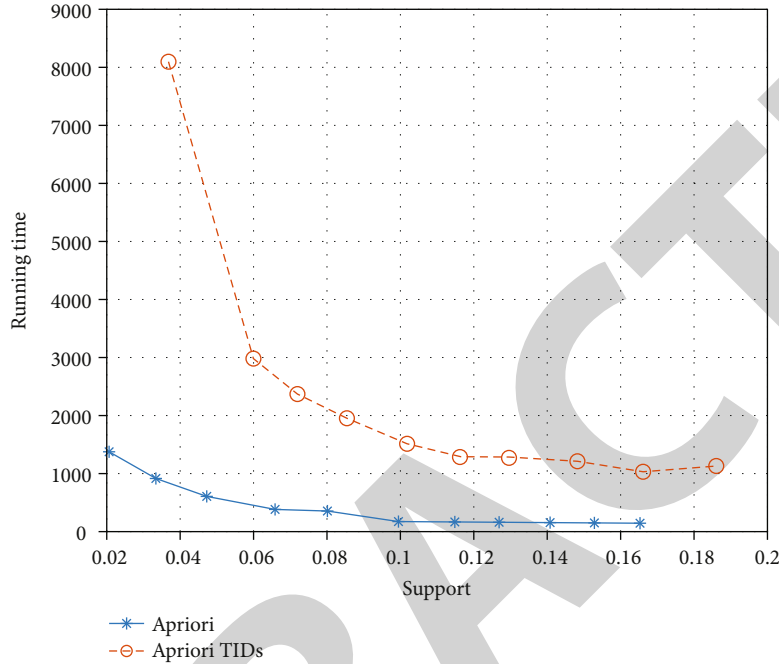
FIGURE 1: Comparison of the time overhead of the two algorithms.
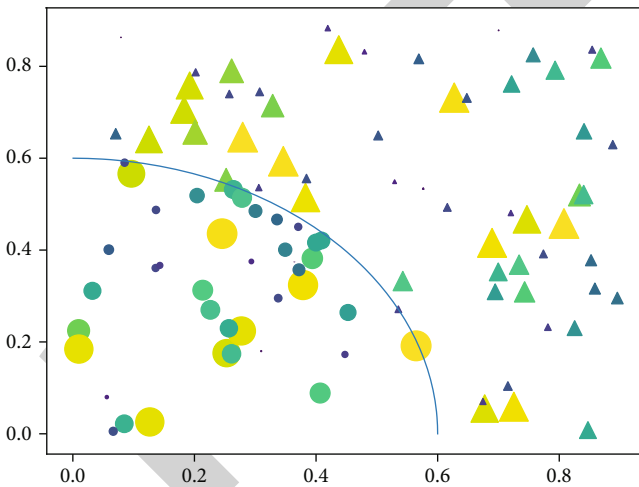
FIGURE 2: Classification of different mining information.

For comparison, we wrote a program to run the Apriori algorithm on the same ORAcLE database with the same table structure and the same data to test its running time. If we set "SETTIMNIGON" in SQL/pLUs of ORAcLE [20], the running time is automatically displayed after the algorithm finishes running, and the time is simply the algorithm running time, excluding the network communication overhead. We use "Course Related Topics" as the experimental data, and there are 102 records in Table 8. Each record has 36 fields. We set different support Min values, and the results are shown in Table 8:

The time pairs of the two algorithms at each support degree are shown in Figure 1.

From Figure 1, it can be seen that the improved algorithm runs significantly more efficiently than the original Apriori algorithm, especially when the support elucidation value is low.

4. Analysis and Evaluation of the Results of the Civics Excavation

4.1. Factors Affecting Mining Results. There are three main factors that affect the mining results:

(1) Classification of achievement bands: different criteria for the classification of achievement intervals will result in a different distribution of student achievement levels, which will affect the results of mining all topics related to achievement [21, 22]

(2) The choice of the gap value: the settings of support and credibility are directly related to the number of rules mined and the degree of interest of users in the rules. If the Min value is set lower, the number of rules mined is higher, and vice versa is lower

(3) Selection of data source: this system selects the data of students in the Department of Computer Science of Grade 01, and all the theme mining is based on the data of this one department. If you select data from more than one department or grade, the result will be changed to some extent. For example, there is a reserved function in this system to select data from multiple departments for mining. If more than one department is selected, the topic "Student Basic Information Linkage" will be mined based on the data of all the departments selected, and the results will be more generalized [23, 24]

4.2. Classification of Mining Results. In addition, to explore the elements of Civics Education in the three aspects of "events, times, and situations" in the information graduate degree course, it is necessary to adhere to the student-centered approach, combine the elements of Civics Education course with the vivid cases around them, ground them, keep them close to the social reality, so that students like to listen, are willing to do and actively do, and then guide them in a subtle way. Graduate students should be guided to think and discern in a subtle way [25]. At the same time, the civics science course cannot be separated from the professional content, but must be combined with the actual, scientific, and reasonable, objective civics science elements. One is to borrow the thinking political elements from different course, enhance the connection and integration between courses, and strengthen the diversity and richness of thinking political education elements. Secondly, combining with the characteristics of colleges and universities and regional features, we integrate university history, school training, regional culture, and red gene into the civics science course, so as to enhance the infectious and attractive power of teaching contents.

The application of ARMEMD system has mined a large number of rules, which can be classified into different categories according to different methods [26]. For the characteristics of this system, we can classify the mined rules according to three different criteria:

(1) According to the relationship between rules and common sense, the rules of mining can be divided into three categories: rules that are consistent with common sense, rules that are consistent with the phenomena that people take "for granted" [27, 28]. We believe that these rules are not necessarily redundant but provide a factual basis for these "taken-for-granted" common knowledge from a data mining perspective

(i) Rules that contradict common sense

This part of the rule is the opposite of what people take for granted and is therefore often of great interest to users.

(ii) Rules that cannot be explained based on existing common sense

This part of the rule cannot be adequately explained according to common sense, possibly because of the low confidence of support, or because the amount of data is relatively small and there is a certain degree of chance.

(2) According to the degree of interest, they can be divided into two categories:

(i) Interesting rules

Such rules reflect facts or laws that are unique, universal, and previously undiscovered, and therefore of high interest.

(ii) Uninterested rules

These rules reflect the facts that are consistent with common sense, are universal, and have been known for a long time, so they are not of interest to users。

(3) According to the guiding role of rules on reality, they can be divided into three categories, as shown in Figure 2, among which the triangle reflects the rules of negative problems in teaching management, such rules reflect some problems in teaching management, and can reflect the causes of the problems to a certain extent, which can assist the decision-making level to take corresponding measures to solve such problems. The circle reflects the rules of some positive phenomena, and such rules reflect some experience in teaching management that is worth promoting [29, 30]. The size of the graph is a rule that has no guiding value, which only confirms known common knowledge or has low support and credibility, and is not representative and not much guidance for teaching management decisions

4.3. Rule Interpretation and Evaluation. In order not to miss the valuable rules, we set the elucidation value low, and thus, the number of association rules mined is large. Here, only a few representative rules are extracted for explanation and analysis [31].

Rule group a:

$$
\begin{aligned}
&\text{Professional foundation course grade} = A = >\text{Professional course grade IIA}(0.083, 0.727).\cdots\cdots\cdots\text{(al)}, \\
&\text{Professional Course Grade} = A = >\text{Professional Foundation Course Grade} = A(0.083, 0.889)\cdots\cdots\cdots\text{(2a)}, \\
&\text{Professional Course Grade II C} = >\text{Professional Foundation Course Grade II C}(0.146, 0.737).\cdots\text{(3a)}.
\end{aligned}
\tag{2}
$$

The meaning of this set of rules is 72.7% of students with good grades in major foundation courses also have good grades in major courses (rule al), 73.7% of students with poor grades in major courses have bad grades in major foundation courses (rule 3a), and 88.9% of students with good grades in major courses also have good grades in major foundation courses (rule 2a).

This set of rules shows that there is a strong relationship between professional foundation courses and professional courses, which are consistent with known common knowledge and confirms this objective law from the fact. Therefore, we should pay attention to the teaching quality of professional foundation courses.

Rule group b:

$$\text{Public course grade IIA into professional foundation course grade IIA} = >\text{professional course grade recognition}(0.073, 0.875) \cdots (3b),$$

$$\text{Public course grade recognized eight professional course grades} = A > \text{professional basic course grade} = A(0.073,)bl, \cdots \cdots (4b),$$

$$\text{Professional course grades} = A = >\text{public course grades II A}(0.073, 0.778)..\cdots \cdots \cdots \cdots \cdots \cdots \cdots (bl),$$

$$\text{Professional Foundation} = AA \text{ Professional} = A = >\text{Public} = A(0.073, 0.875) \cdots (bz). \quad (3)$$

The meaning of this set of rules is 87.5% of students with good grades in public courses and professional foundation courses also have good grades in professional courses (rule bl), 100% of students with good grades in public courses and professional courses also have good grades in professional foundation courses (rule bZ), 77.8% of students with good grades in professional courses also have good grades in public courses (rule b3), sand tudents with good grades in professional courses and professional foundation courses 87.5% of students with good grades in major and basic courses also had good grades in public courses (rule b4).

This set of rules suggests that public course has a strong influence on the basic and specialized courses, which are consistent with new common knowledge. For science and technology students [32], public courses such as advanced mathematics and linear algebra can cultivate students' ability to reason logically, and public courses such as English and listening are basic language tools, which are necessary for learning professional course well.

Rule group c:

$$\text{Mao Zedong Thought II A} = >\text{English (I)} = A(0.11, 5.0647)..\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (d),$$

$$\text{Mao Zedong Thought IIA} = >\text{Probability Theory} = A(0.125, 0, 706).\cdots \cdots \cdots \cdots \cdots \cdots (2c),$$

$$\text{Mao Zedong Thought} = A = >\text{Discrete Mathematics} = A(0.1 \text{ coincidence}, 0.647).\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (3c),$$

$$\text{Advanced Mathematics A(I)} = CA \text{ Introduction to Computers II C} = >\text{Mao Zedong Thought II C}(.0o73, 1).\cdots (4c),$$

$$\text{University Physics (I} =)AA \text{ Probability Theory} = AA \text{ Advanced Mathematics A(II)}$$
$$= A \text{ II} > \text{Mao Zedong Thought} = A(.073, 1)., \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (5c),$$

$$\text{Advanced Mathematics A(II)} = CA\text{dvanced Language Programming} = C$$
$$= >\text{Mao Zedong Thought} = C.(073, .778).\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots, .. \cdots \cdots \cdots \cdots (6c),$$

$$\text{Advanced Mathematics A(II)} = AA \text{ Physics Experiment} = A = >\text{Mao Zedong Thought C}.(.063, .857)\cdots \cdots (7c). \quad (4)$$

This set of rules reflects a high degree of correlation between Mao Zedong thought and various other public, professional basis, and specialized courses. Considering this set of rules by itself, it seems to be unexplainable by common sense. However, we observed a large number of such similar rules and found that all the rules mined were of this form:

$$\text{Course X} = A \text{ II} > \text{Course Y IIA, Course X II C} = >\text{Course Y} = C. \quad (5)$$

That is, a course grade is excellent, then another course grade is excellent; a course grade is poor, then another
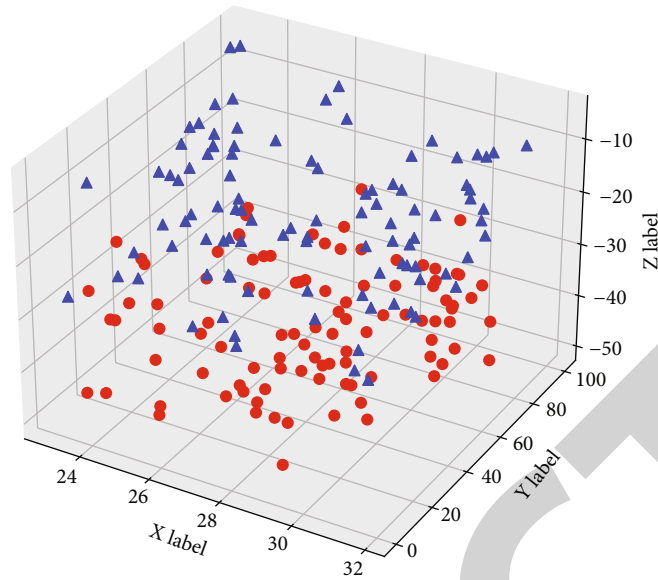
FIGURE 3: Visualization of rule interpretation and evaluation in different dimensions.
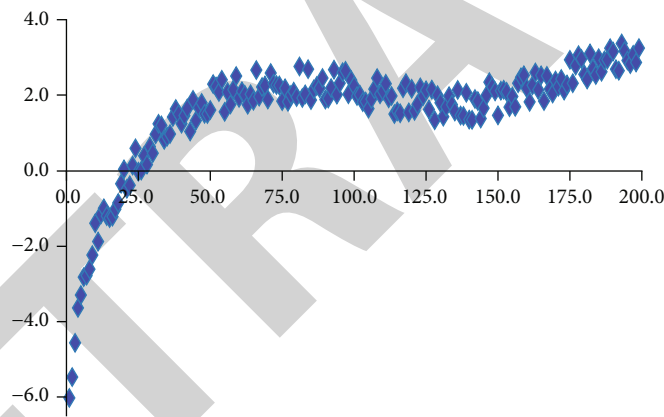
FIGURE 4: Students' evaluation of the Civics course by different study hours.

course grade is poor, and there is not found a type such as "course X = A two > course Y two C" or "course X two C => course Y = A". The rule of "Course X = A II > Course Y II C" or "Course X II C = > Course Y = A" was not found. This indicates that students with good academic perfor-mance tend to have better grades in all subjects, and even if there are cases of bias, the number is very small, so no such rule is found. In this way, it is easy to understand the phe-nomenon reflected in the rules of rule group 3.

Rule group d:

$$\text{Level } 6 = \text{failed II} > \text{gender} = \text{male}(0.604, 0.866) \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (\text{dl}),$$

$$\text{Gender II Male} = >\text{Grade VI II Failed}(0.604, 0.784) \cdots \cdots \cdots \cdots \cdots \cdots \cdots (\text{d2}).$$

(6)

That is, 86.6% of the students who did not pass English 6 were male, and 78.4% of all male students did not pass 6. This is in line with the commonly held view that boys are slightly less gifted than girls in learning languages. It is rec-ommended that emphasis be placed on strengthening the tutoring of male students when teaching English.

Rule group e:

$$\text{Gender} = \text{Female ii} > \text{Health status} = \text{A}(0.208, .0909). \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (\text{el}),$$

$$\text{Interests II Sports} = >\text{Gender} = \text{Male}(0.729, 1) \cdots, \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (\text{e2}), \qquad (7)$$

$$\text{Gender} = \text{Male II} > \text{Interests} = \text{Sports} (0.729, 946). \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (\text{e3}).$$

Rule el means 90.9% of female students are in good health. Health status here is mainly calculated based on the students' physical education results in four semesters, and this rule indicates that the overall level of physical fitness of female students in the computer science department is relatively good. There is no corresponding rule found for male students, which indicate that the level of physical fitness of male students in this department is slightly lower compared to female students. Interestingly, rules ez and e3 indicate that male students are basically into sport but do not perform well in physical education classes.

Rule group f:

$$\text{Mean score II A} = >\text{teaching mode} = \text{teacher lecture} (0.188, 1). \cdots \cdots \cdots \cdots (\text{n}),$$

$$\text{Mean score} = \text{C} = >\text{Instructional mode} = \text{Teacher lecture}(0.167, 1) \cdots \cdots \cdots \cdots (\text{2f}),$$

$$\text{Mean score II A} = >\text{Education} = \text{Master's degree} (0.125, .0667) \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (\text{ez}) \qquad (8)$$

$$\text{Mean score II C} = >\text{Education} = \text{Master's}(0.125, .075) \cdots \cdots,. \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots (\text{4f}),$$

Grade point average II C II > assessment method = closed book exam (0.146, .0875). $\cdots \cdots \cdots \cdots \cdots \cdots \cdots$ (5f), Grade point average II C II > Practice hours = less than 5% (.146, .0875). $\cdots \cdots \cdots \cdots \cdots \cdots \cdots$ (6f).

The visualization of rule interpretation and evaluation in different dimensions is shown in Figure 3, where rule n means that 100% of classes with good average performance are taught by teachers, while rule several means that 100% of classes with poor average performance are also taught by teachers, and these two rules indicate that there is no necessary connection between the use of teacher teaching and teaching performance. Similarly, rules 4 and 4f show that there is no necessary relationship between teachers' education and teaching performance.

Rule 5f means that 87.5% of the classes with a poor grade point average used a closed-book test. No corresponding rule was found for classes with good average score. This indicates that the results of using closed book exams tend to be less desirable than those of open-book exams. It indicates that the department's closed book exams are more difficult than open-book exams, or that the evaluation criteria for closed book exam papers are less rigorous than those for open-book exams.

Rule 6f means that 87.5% of the classes with a bad grade average had a very low percentage of practical hours (less than 5%). No corresponding rule was found for classes with good grade point averages. This indicates that the percentage of practical class time is too low for students' knowledge acquisition. It is recommended to increase the percentage of practical lessons in the teaching arrangement as much as possible.

In addition, no correlation was found between "gender" and "academic performance," indicating that the academic performance of computer science majors is not significantly related to gender. We did not find any connection between humanities and other course. It is suggested that the humanities course in our school has no significant influence on the overall quality of students, and it is suggested that the current humanities course in our school should be adjusted.

4.4. Civics Teaching Evaluation. The final teaching effect is often not determined by a single party but may depend on the cooperation and synergy of teachers, counselors, and postgraduate supervisors, and it is difficult to judge the root cause of the changes produced by postgraduates. Moreover, there is no more systematic and unified index on how to reasonably and effectively evaluate the effectiveness of the civics course. Professional Civics course is generally considered to be the most critical and difficult part of the Civics course, and the reasonable and effective evaluation of professional Civics course is one of its most core problems.

As shown in Figure 4, the evaluation of students' Civics courses with different learning duration, x-axis is time (minutes), and the axis is an evaluation score, we can know the evaluation principle, standard, and application of teaching effect of Civics courses for research information graduate degree, which can positively stimulate the enthusiasm of teaching reform of Civics courses for teachers in charge, help teachers reflect on the teaching effect of Civics, further optimize the teaching content and way of Civics courses, and effectively promote the sustainable development of the teaching of Civics and Political Science.

5. Conclusions

The professional degree courses are an important part of the master's degree course, and only by incorporating as many elements of education in the professional degree course as possible can we realize the situation of educating people in a more comprehensive way. Taking the professional degree courses of information master students as an example, this paper discusses the ways to explore the educational elements of the Civics and Political Science courses based on the three factors of "matter, time, and situation" and gives the corresponding teaching evaluation principles and standards considering the characteristics of Civics and Political Science courses.

Data Availability

The datasets used in this paper are available from the corresponding author upon request.

Conflicts of Interest

The author declared that he/she has no conflicts of interest regarding this work.

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