Retraction

Retracted: The Connotation and Realization Path of Ecological Civilization Education in Chinese Universities under the Background of Mobile Internet

Mobile Information Systems

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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.

In addition, our investigation has also shown that one or more of the following human-subject reporting requirements has not been met in this article: ethical approval by an Institutional Review Board (IRB) committee or equivalent, patient/participant consent to participate, and/or agreement to publish patient/participant details (where relevant).

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.

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[1] G. Chen, "The Connotation and Realization Path of Ecological Civilization Education in Chinese Universities under the Background of Mobile Internet," *Mobile Information Systems*, vol. 2022, Article ID 8263733, 9 pages, 2022.

Hindawi

Research Article

The Connotation and Realization Path of Ecological Civilization Education in Chinese Universities under the Background of Mobile Internet

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The report of the 18th National Congress of the Communist Party of China creatively clarified the general pattern of socialist construction as "five-in-one," namely, the construction of economy, politics, culture, society, and ecological civilization and pointed out that the construction of ecological civilization should lead and integrate into socialism. This marks that China has entered a new era of ecological civilization and started the great historical journey of building a beautiful China. Ecological civilization education in colleges and universities is an important content and foundation of ecological civilization construction, which can provide sufficient human resources and intellectual preparation for ecological civilization construction, promote the popularization of ecological civilization concept in society, and promote the ecological transformation of economic and social development. Therefore, the education of ecological civilization in colleges and universities is not only the meaning of the integration of ecological civilization into higher education but also an initiative to implement the national strategy, and it is also a realistic demand for realizing the fundamental task of morality and cultivation of people in higher education. This research uses mobile Internet technology to study the path of ecological civilization education in Chinese colleges and universities mainly using the questionnaire survey method, on the basis of multiple stratified sampling, with the help of the revised Chinese New Environmental Paradigm Scale (Chinese New Environmental Paradigm Scale) to collect data.

1. Introduction

The ecological civilization education in colleges and universities is an important channel for the construction of ecological civilization, and the innovation of ecological civilization education in colleges and universities is the demand of the times for the ideological and political theory courses of colleges and universities to keep pace with the times. The innovation of ecological civilization education in colleges and universities will promote the closer integration of ecological civilization and higher education. While enriching the ideological and political education in colleges and universities, it will improve the ecological literacy of college students and cultivate their ecological awareness, thereby promoting the construction of ecological civilization in society.

The 18th National Congress of the Communist Party of China made a new arrangement for the construction of ecological civilization [1]. For the first time, it discussed ecological civilization in a single article and for the first time took "beautiful China" as the grand goal of ecological civilization construction in the future and raised ecological civilization construction to a new height of five in one exposition [2]. "This marks the beginning of China's entry into the era of ecological civilization and the beginning of the great historical journey of building a beautiful China" [3]. The idea of Lide Shuren has a long history, and it has always been the educational philosophy followed by educators. Taking "cultivating morality and cultivating people" as the fundamental task of ideological and political education in colleges and universities, we must insist on moral education first, and "morality" includes ecological ethics and morality,

and cultivating young people with good ecological awareness is "cultivating people" requirements of the times. Therefore, the theoretical courses of ideological and political education are closely related to ecological civilization, and it is imperative to carry out ecological civilization education in colleges and universities [4].

General Secretary Xi Jinping has emphasized many times that governments at all levels should put ecological protection in a more prominent position, must protect the civilized ecological environment like protecting eyes, and must cherish the ecological environment like life [5]. We must make detailed accounts in terms of ecological protection, large accounts, long-term appropriate accounts, and overall accounts, as well as comprehensive accounts [6]. We must keep in mind that environmental protection is a long-term and arduous task, and we must work hard for a long time. While pursuing the needs of development, we must also pay attention to the limited supply of Earth's resources, which is also a pair of eternal contradictions that we must face at all times in development. The report of the 18th National Congress of the Communist Party of China clearly proposed to build a "beautiful China" [7]. At the same time, the central government made major strategic adjustments to the layout, incorporating ecological civilization into the general construction of "five in one." It is precisely because the Party Central Committee attaches great importance to the construction of ecological civilization in my country that a series of achievements have been made, which has also driven the development of ecological civilization education in colleges and universities to a certain extent, and also provided strong policy support and public opinion support for ecological civilization education in colleges and universities and sufficient market demand [8].

2. Theoretical Analysis of Ecological Civilization Education in Colleges and Universities

2.1. Definition of Related Concepts. The word ecology is an imported word, which was first proposed by the Western scholar Haeckel, mainly referring to the interaction between organisms in order to survive in nature [9]. With the continuous deepening and expansion of ecological research, today, the word "ecology" has penetrated into various fields such as society, economy, politics, life, and so on, and more often it expresses the stability of a relationship and the general connection between relationships [10].

Some scholars have pointed out that "the concept of ecological civilization has a narrow sense and a broad sense. In a narrow sense, it is limited to economic development and the balance of nature; in a broad sense, it includes all aspects of society, not only human development and the harmony of nature also requires the harmony between people, which is multi-faceted and multi-level harmony" [11]? Some scholars also believe that "ecological civilization in a broad sense is a new stage of human civilization, which follows the development of industrial civilization; ecological civilization in a narrow sense is one aspect of many civilizations, which exists side by side compared with other civilizations"? Some

scholars believe that "the core of ecological civilization is that in the process of realizing its own survival and development, human beings continue to deepen and reflect on the consequences of their actions, so as to adjust the relationship between man and nature and between man and man" [12].

At present, the development of ecological environment education in China is going through four stages, namely, environmental protection education stage, sustainable development education stage, and ecological civilization education stage [13].

As can be seen from Figure 1, environmental protection is a priority in our society. In the stage of environmental protection education, the only goal that education needs to achieve is to solve environmental problems; the content of environmental education in the stage of sustainable development education breaks through the scope of environmental protection knowledge and skills and changes from resource protection and environmental pollution to the coordinated development of society, economy, and environment [14]. Environmental education in the stage of sustainable development is to make human beings realize that their own survival and development are closely related to nature, and the relationship between ecological environment problems and development must be properly handled. The logical starting point of ecological civilization education is the relationship between man and nature, man and society, and man and self [15]. The content is deeper, more specific, and more scientific than environmental education and sustainable development education [16].

Humans should regard themselves as a member or part of nature, respect, and protect nature. The main body of ecological civilization construction is also human [17]. Therefore, in the final analysis, ecological civilization is the civilization of the laborers themselves, and it is the transformation of people's value orientation, production mode, and lifestyle. The transformation ultimately presents people and nature, people and each other, people and others, and the harmonious state of the relationship between the ontology [18].

Ecological civilization education for college students is an important part of school ecological civilization education and a high-level ecological civilization education activity [19]. The so-called ecological civilization education of college students refers to the educational activities that the educators of colleges and universities have planned and organized to cultivate the ecological civilization quality of college students [20].

The ecological civilization education in colleges and universities has the characteristics of multiple layers and rich contents, which mainly include the education of the current situation of the ecological environment, the education of the basic knowledge of ecological science, the education of the concept of ecological civilization, and the education of the rule of law in the ecological environment. Education on the status quo of ecological environment is the foundation of ecological civilization education in colleges and universities. The concept of ecological civilization is the basic viewpoint and attitude of human beings to
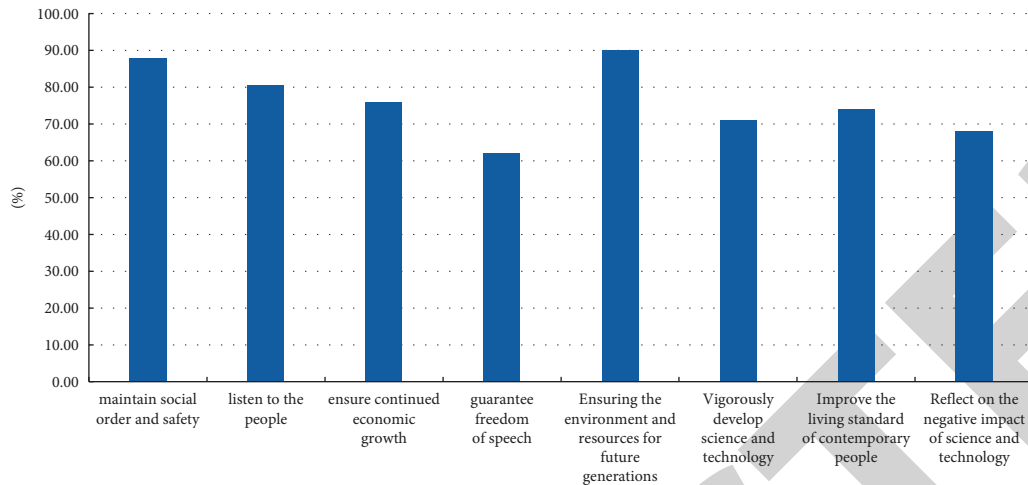
Figure 1: The goals that Chinese society should prioritize at present.

understand the organic connection between man, nature and society, and the sum of all thoughts and understandings about ecological civilization.

2.2. Theoretical Basis for the Study.

The ecological theory has explained the objective laws of the above phenomena very well. With the development of human society, scholars have carried out long-term follow-up research on ecology. Now they have basically mastered the content, laws and principles of ecological theory, and have formed a scientific and complete theoretical system (Figure 2).

The study of educational ecology initially started in Western countries. In 1966, British scholar Ashby first proposed the concept of "higher education ecology," which marked the beginning of using the principles and methods of ecology to study problems in the field of education. Subsequently, the American scholar Lawrence. Fleming put forward the concept of "educational ecology." This theory is a research on the connection between ecological education and ecological environment and controls the causes and directions of various educational phenomena to guide the development trend of education. This theory emphasizes the need to study the relationship between education and its surrounding ecology and to study the law and mechanism of the interaction between the two based on the principles of ecology, especially the mechanisms of ecosystems, environmental balance, and sustainable development.

Pedagogy and ecology are two important theoretical foundations of educational ecology. The birth and growth of pedagogy is the result of the combined action of internal and external factors. Its development is an exogenous development process under the joint influence of many social factors; however, pedagogy is an endogenous development process with self-awakening and self-maturity, and a transformation process of self-theoretical thinking. Therefore, the development of pedagogical theory should not only take into account the interaction of education and its surrounding ecological relations.

Marx and Engels criticized Feier's theory of abstract human nature on the basis of critically inheriting all the excellent cultural achievements of human beings, scientifically explained the essence of human beings, and provided a scientific way of thinking for us to understand the essence of human beings.

Based on the theory of human nature, Marx put forward the theory of all-round development of human beings, whose core is "the free and all-round development of all human beings" is the highest proposition of Marxism. Therefore, we should respect nature, protect nature, care for the ecological environment, establish the concept of ecological civilization, and raise our own ecological civilization literacy.

3. Research on the Application of Mobile Internet Technology in Ecological Civilization Education in Colleges and Universities

3.1. The Current Situation of the Application of Mobile Internet Technology in Education in My Country.

With the rapid development of mobile Internet technology, people's learning and communication have broken the previous time and space constraints, and at the same time, a new space has been created for the improvement and play of human capabilities. In today's information society, the work of the school's head teachers is also faced with many new situations and new problems. At the same time, the development of information technology has also brought new opportunities and challenges as shown in Figure 3.

Mr. Lang pointed out that the mobile Internet stimulates students' curiosity and expands the ways and means of obtaining information. Students can actively choose to obtain information. It can increase students' classroom interaction and expand teaching content.

Learning in the mobile Internet environment can stimulate students' interest in learning, give full play to the advantages of close interaction between teachers and students,
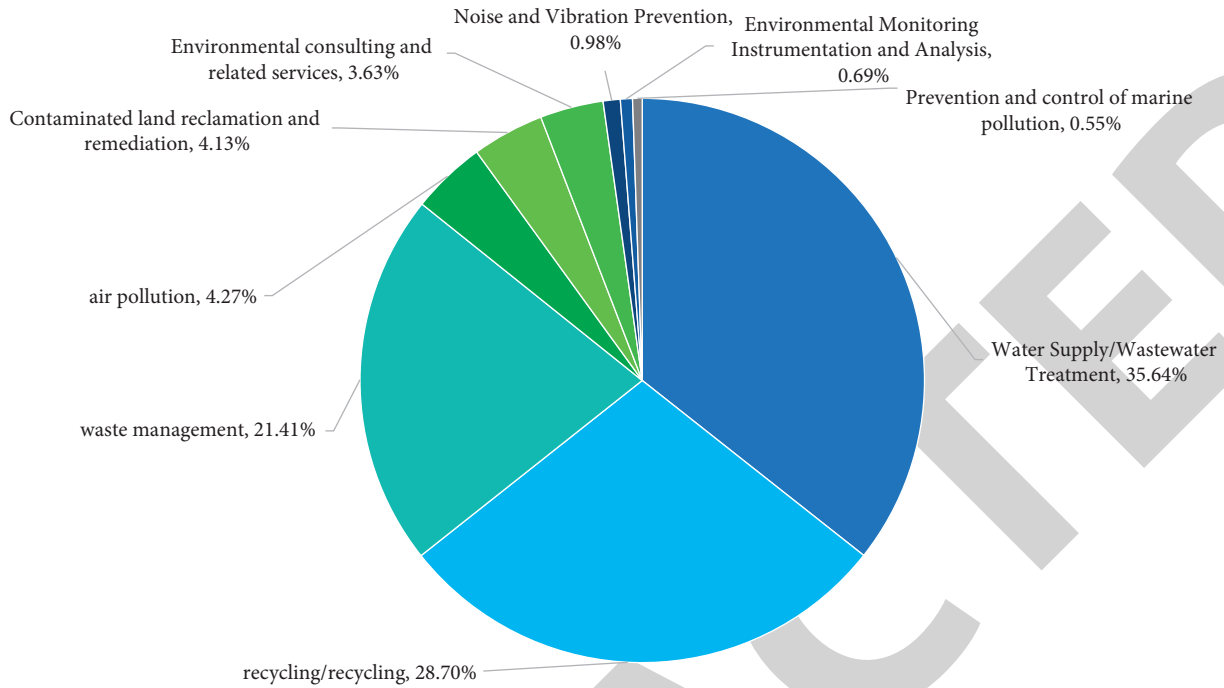
FIGURE 2: The main expectations of colleges and universities for ecological education.
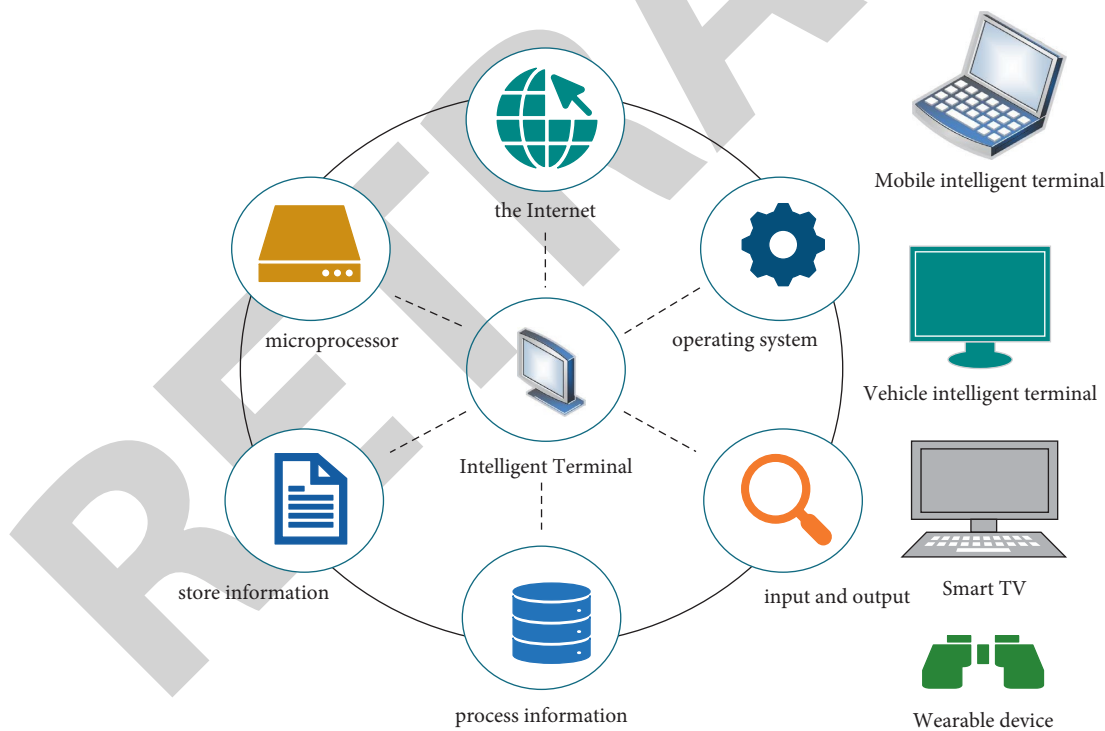

FIGURE 3: The application of mobile Internet technology in ecological education in colleges and universities.

fragmented learning and personalized learning in the mobile Internet environment, improve students' information literacy and ability to use information technology, and help improve learning. At the same time, teachers can make full use of existing information technology to improve the shortage of face-to-face teaching hours and the insufficient communication between teachers and students after class.

At present, people's work and life are increasingly dependent on the Internet, and it is hoped that the requirements for obtaining network services in the process of moving are getting higher and higher. It enables the nodes of the TD-LTE communication system network to access the Internet, and at the same time, it can further expand the scope of Internet mobile access of the TD-LTE

communication system, so that the traditional center-based network and the wireless ad hoc network are well combined. This method has good practical value.

3.2. Research on TD-LTE Resource Allocation Algorithm

3.2.1. RA Algorithm Introduction. In the RA algorithm, the objective function is modeled to maximize the system capacity, and the total system capacity is expressed as follows:

$$\max \sum_{k=1}^{K} \sum_{n=1}^{N} \frac{\rho_{k,n}}{N} lb \left(1 + \frac{p_{k,n} h_{k,n}^2}{N_0 (B/N)} \right). \tag{1}$$

(1) In the formula, p_k, $n = 1$ means that the resource block n is occupied by user k, otherwise it is 0; B is the total bandwidth of the system; h_k, n means that the resource block n of user k is above n The channel gain of; p_k, n represents the power allocated by the system on resource block n when user k occupies it. While pursuing the optimization of the objective function, there is also the limitation of the total transmit power:

$$\sum_{k=1}^{K} \sum_{n=1}^{N} p_{k,n} \leq P_{\text{total}}. \tag{2}$$

(2) In the formula, p_k, $n \geq 0$ applies to all k, n, that is, on all allocated resource blocks, the power is not less than 0. In addition, when RB allocation is performed, the user selects a resource block with a large channel gain to occupy it. Since the objective function (1) is to maximize the total system capacity, it can be predicted that users with poor channel quality and low channel gain will never be able to obtain resources if the fairness constraints are not imposed. Therefore, it is necessary to carry out further fairness conditions. Generally, before allocating resources, first set the proportion of users as follows:

$$R_1: R_2: R_3: \cdots : R_k = \gamma_1: \gamma_2: \gamma_3: \cdots : \gamma_k. \tag{3}$$

(3) Here, R_k represents the capacity of user k, which is defined as follows:

$$R_k = \sum_{n=1}^{N} \frac{\rho_{k,n}}{N} lb \left[1 + \frac{p_{k,n} h_{k,n}^2}{N_0 (B/N)} \right]. \tag{4}$$

3.2.2. Introduction to MA Algorithm. Under the MA algorithm, the objective function is modeled as minimizing the total transmit power.

$$\min P_{\text{overall}} = \sum_{k=1}^{K} P_k = \sum_{k=1}^{K} \sum_{n=1}^{N} \rho_k(n) P_k(n). \tag{5}$$

(5) In the formula, $p_k(n)$ represents the transmit power of user k on the resource block and should have $p_k(n) \geq 0$, which means that the transmit power

obtained by user k when using resource block n is not less than 0. Among them, ρ_k, $n = 1$ means that resource block n is occupied by user k, otherwise, ρ_k, $n = 0$. While finding the optimal solution to the objective function, constraints must be added to meet the user's QoS requirements.

First define the capacity of user k, which is the same as formula (4), and then define the power condition required by user k as follows:

$$p_k(n) = \frac{f_k(R_k(n))}{h_{k,n}}. \tag{6}$$

(6) In the formula, $f_k(R_k(n))$ represents the actual transmit power required by the user to obtain the capacity of R_k, that is, the actual transmit power is a function of R_k as an independent variable. From the overall point of view of formula (6), in order to achieve the required power transmission, it is necessary to use a power greater than $f_k(R_k(n))$ power emission due to the presence of channel gain of h_k, n.

3.2.3. Maximum Throughput Algorithm (Max TP). The maximum throughput scheduling algorithm selects only the user with the largest carrier-to-interference ratio when selecting the scheduled user, that is, the user with the best channel condition occupies resources to transmit data, so that it can transmit data, adapt to the time-varying characteristics of wireless channels, and make full use of the effect of multiuser diversity. When the channel condition of the user deteriorates, the eNode B reselects other users with the best channel conditions, and the eNode B always serves the user with the best channel condition at the current moment.

The total throughput of the system increases with the number of users, which is defined as:

$$TP = \sum_{i=1}^{k} t p_i, \tag{7}$$

where k is the total number of users; in this simulation, the total number of users is 114. The priority calculation formula of the maximum throughput scheduling algorithm is as follows:

$$k = \arg \max_{j=1,\dots,K} \left\{ \left(\frac{C}{I} \right)_j (t) \right\}. \tag{8}$$

The throughput obtained by the maximum throughput scheduling algorithm is the limit value of the system throughput, but it does not take into account the fairness requirements between users at all. Users with poor conditions will have very few opportunities to receive services, and even the so-called "starvation" phenomenon will occur. From the perspective of occupying resources, the maximum load-to-interference ratio scheduling algorithm is the most unfair.

3.2.4. Proportional Fair Algorithm (PF, Proportional Fair). The priority calculation formula of the proportional fair scheduling algorithm is as follows:
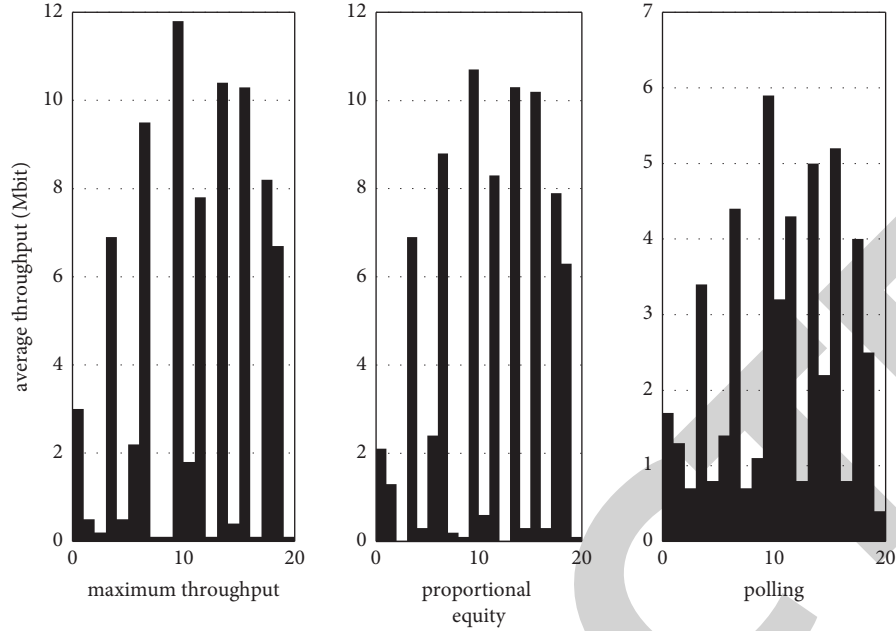
FIGURE 4: Average throughput of each user under three algorithms.

$$k = \arg \max_{j=1,\ldots,K} \left\{ \frac{r_j(t)}{R_j(t)} \right\}. \tag{9}$$

In the above formula, $r_j(t)$ is the instantaneous rate of user j at the current moment, which is determined by the channel state information of user j; $R_j(t)$ is the average rate of user j in the time window T_c. The update formula of the average transmission rate of user j is as follows:

$$R_j(t+1) = \left(1 - \frac{1}{T_c} \right) R_j(t) + \frac{r_j(t)}{T_c}. \tag{10}$$

T_c represents the size of the time sliding window. The size of the time window reflects the user's tolerance for not getting data transmission opportunities. A larger T_c means that the user can wait for a long time until the channel quality becomes better, which is conducive to improving the throughput of the system but may bring to add a delay.

3.3. Simulation Results and Performance Analysis. The analysis of the questionnaire is mainly evaluated from the system throughput and system fairness. It can be seen from Figure 4 that the polling algorithm sacrifices throughput in order to take into account fairness, and its spectral efficiency is not high. As can be seen from Figure 5, the maximum throughput algorithm has the highest throughput; the proportional fairness algorithm has a slightly smaller throughput than the maximum throughput algorithm.

4. Experimental Results and Analysis

4.1. Sample Description. According to the method of cluster sampling, a total of 1,200 people were selected, of which 1,125 valid questionnaires were recovered, with a recovery rate of 93.75%. Tables 1 and 2 present school attributes,
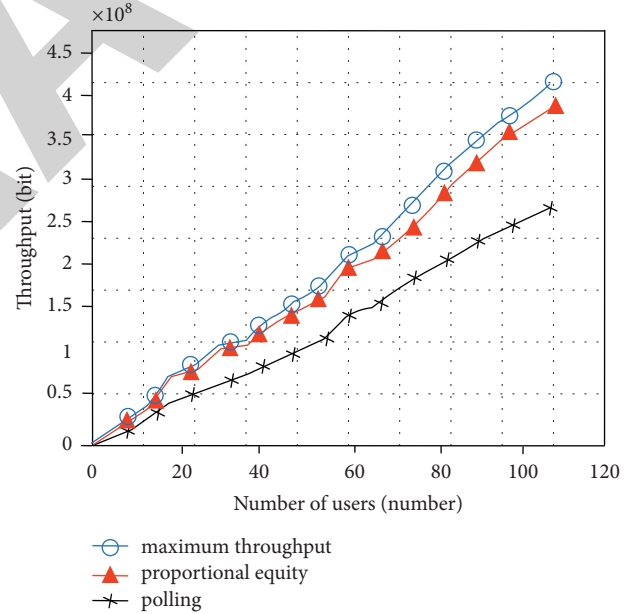
FIGURE 5: Comparison of the total throughput of the three algorithms.

school names, and demographic data of the respondents in this survey, respectively.

4.2. Cognition of Environmental Issues. Regarding the cognition of my country's environmental problems, 263 students chose "very serious," accounting for 23.4%; 690 students chose "relatively serious," accounting for 61.4%; 115 students chose "general" ", accounting for 10.2%; excluding the 36 invalid choices for this question, only 16 students chose "not too serious" and 5 students chose

TABLE 1: Colleges and majors involved in the survey respondents.

School property	School	Sample size
985 211	Fudan University	6
985 211	East China University of Science and Technology	82
985 211	Hunan University	106
211	Guizhou University	68
211	Shihezi University	73
Provincial and Ministerial Joint Universities	Changsha University of Science and Technology	37
Provincial and Ministerial Joint Universities	He Bei University	53
Provincial Key University	Hunan University of Science and Technology	92
Provincial Key University	Jiangsu Normal University	55
Provincial Key University	Southern Medical University	82
Provincial Colleges and Universities	Gansu University of Political Science and Law	49
Provincial Colleges and Universities	Gansu University of Traditional Chinese Medicine	58
Provincial Colleges and Universities	Guiyang College of Traditional Chinese Medicine	72
Provincial Colleges and Universities	Shanxi Finance University	231

TABLE 2: Demographic data of respondents.

Sample category	Classification	Frequency	Percentage (%)
Grade	Freshman	287	25.5
	Sophomore	426	37.9
	Junior year	241	21.4
	Senior year	171	15.2
Gender	Boy	505	44.9
	Girl	620	55.1
Political status	Communist	219	19.5
	Probationary member	343	30.5
	Communist youth league	447	39.7
	Other	116	10.3
Job title	Student leaders	246	21.9
	Non-student leaders	879	78.1
Birthplace	City	302	26.8
	Rural	823	73.2
Total		1125	100

TABLE 3: Cognition of my country's environmental problems.

		Frequency	Percentage (%)
	Very serious	263	23.4
	More serious	690	61.4
	Generally	115	10.2
Efficient	Less serious	16	1.4
	Can't tell, do not care	5	0.4
	Invalid answer	16	3.2
	Total	1125	100

chose "disagree," accounting for 12%; 308 students chose "unclear, uncertain," accounting for 27.4%. In the topic "If the government's tax increase can be used exclusively to improve environmental problems, I am willing to increase tax," 698 students chose "agree," accounting for 62.0%; 171 students chose "disagree," accounted for 15.2%; 254 students chose "unclear, uncertain," accounting for 22.6%. In the topic "protecting the environment and controlling pollution is not as urgent as some people say," 72 students chose "agree," accounting for 6.4% (see Table 4).

4.4. Status Quo of Ecological Civilization Education in Colleges and Universities. In the question "Does your university offer special compulsory courses on environmental protection?", 128 students chose "yes," accounting for 11.4%; 351 students chose "may have," accounting for 11.4%. 31.2%. In the question "Does your university offer special environmental protection elective courses?", 266 students chose "yes," accounting for 23.6%; 378 students chose "may have," accounting for 23.6%. to 33.6% (see Table 5).

This chapter investigates and analyzes college students' awareness of ecological civilization from five aspects: cognition of environmental problems, willingness to contribute to environmental protection, daily environmental protection actions, level of environmental knowledge, and status quo of environmental problems through questionnaires and analysis. While understanding the current situation of ecological civilization education in colleges and universities, we found many existing problems in ecological civilization education in colleges and

"unclear, do not care," accounting for 1.4% and 0.4%, respectively (see Table 3). As a developing country, my country is faced with problems such as a large population base, insufficient per capita mineral resources, and low per capita green space occupancy. Due to the development of the economy, the lag of environmental legislation and the lack of supervision by the government's environmental protection department, a series of environmental problems such as air pollution, water pollution, deterioration of soil conditions, serious vegetation damage, noise pollution, and aggravation of solid waste have been brought about. Correct understanding of my country's environmental problems is the primary issue of environmental protection and environmental governance.

4.3. Willingness to Contribute to Environmental Protection. Among some statements about environmental protection, in the topic "If I am sure that money can be used to improve environmental problems, I am willing to pay for it," 680 students chose "agree," accounting for 60.4%; 135 students

TABLE 4: Some statements about environmental protection.

Some sayings about environmental protection	Agree (%)	Disagree (%)	Can't tell (%)	Invalid answer (%)	Total (%)
1. If I am sure that the money can be used to improve the environment, I am willing to pay	60.4	12.0	27.4	0.2	100
2. If the government's tax increase can be used to improve environmental problems, I am willing to increase tax	62.0	15.2	22.6	0.2	100
3. Protecting the environment and controlling pollution is not as urgent as some say	6.4	79.8	13.6	0.2	100
4. The government should be responsible for improving the environment, but it's better not to spend my money	24.8	42.8	32.0	0.2	100

TABLE 5: Status quo of ecological civilization education in colleges and universities.

Related question	Have (%)	Might have (%)	No (%)	Probably not (%)	Can't tell (%)	Invalid answer (%)	Total (%)
1. Does your university offer compulsory courses on environmental protection?	11.4	31.2	29.8	19.0	7.2	1.4	100
2. Does your university offer elective courses in environmental protection?	23.6	33.6	12.6	17.4	11.0	1.8	100
3. Does the university ideological and political course involve environmental protection and ecological civilization?	45.0	34.6	5.8	7.6	4.4	2.6	100

universities. Although colleges and universities have generally carried out ecological civilization education, the strength of education is not enough; students have a certain understanding of environmental problems, but they lack the ability to practice; the existing ecological civilization education methods and methods in colleges and universities are very old and cannot be conform to the requirements and development of the times.

5. Conclusion

It is essential to enrich and improve the ecological civilization education in colleges and universities by building the theme website of ecological civilization education, opening online ecological civilization education classrooms, and using other media. Furthermore, it is necessary to strengthen the system construction, team building, and diversified activity platform construction of college environmental protection associations to promote college environmental protection. The construction of the community; by creating a harmonious educational atmosphere, infiltrating the concept of green education, and building a green education campus, we will create a green university platform and innovate ecological civilization education in colleges and universities.

The establishment of ecological civilization society is inseparable from the development of ecological civilization education in colleges and universities. Innovation of ecological civilization education in colleges and universities can better guide college students to establish ecological civilization awareness, cultivate ecological civilization literacy, and make ecological civilization behavior a conscious behavior activity of college students.

Data Availability

The labeled dataset used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

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