



Construction of Online Platform Based on the Model of Honesty and Morality Education

Xu Zhang, Yunan Wang^(✉), Jinlong Liu, and Xinyu Yang

Harbin Institute of Technology, Harbin 150006, China
{zhangxu, wangyunan, yq20}@hit.edu.cn,
188105110@stu.hit.edu.cn

Abstract. Integrity and morality are the cornerstones of a person's foothold in society and career. Nowadays, frequent events of lack of integrity in society have affected the normal life and study of every one of us. As the source of social development, whether college students can abide by the integrity will be related to the development and fate of the society. Therefore, colleges and universities have listed the issue of honesty education as the core issue of students' moral education. In the process of the education of integrity and morality of college students, this subject combines the information system of the school itself and the technical advantages of relevant enterprises, universities and research institutes to plan and construct the model of the online platform for the integrity and moral education of students. This subject uses a quantitative assessment indicator system to assist teachers in strengthening the integrity and moral education of students.

Keywords: Integrity education · Cloud platform · Electronic signature · Bigdata

1 Introduction

Integrity, that is, sincerity and credibility, is the cornerstone of a person's foothold in society and career. And it's a person's basic principles of life. It requires us to be honest, trustworthy, and seek truth from facts. And it also requires us not to deceive, pretend to be fake, or falsify. Character education and integrity as a set of procedures or tools designed to help young people think about moral issues [1]. In recent years, frequent exposure of safety of food, academic fraud and other lack of integrity, which has seriously affected the normal life and study of every one of us, and also seriously hindered the development of an honest society. Reducing the scientific power of misconduct is a daunting challenge that emerging countries simply cannot ignore [2]. As the source of social development, whether college students can abide by the integrity will be related to the stabilization of the society. Colleges and universities have listed the issue of honesty education as the core issue of students' moral education. And many colleges and universities have introduced many policies to strengthen the integrity education of college students, and use online education information technology to help optimize the integrity education of colleges and universities.

Breaches in academic integrity are a pervasive and enduring international concern to the overall quality of higher education [3]. On the issue of college students' integrity education, colleges and universities have already included students' integrity education as the primary task of college students' moral education. Advances in technology brought changes to many sectors [4]. In cloud computing era, establishing a unified, open, and flexible education informatization platform has significant influence in realizing resource sharing and narrowing education informatization gap [5]. The security, full-covered characteristic of the cloud platform and the flexibility of desktop's virtualization technology, sharing, of thin clients, individuation and other advantages help to solve the traditional problem [6]. As educational industry has revolutionized along with advancement in technology, so is the growth of big data, which is doubling every year [7]. It is no surprise big data has found its place in education and is predicted to be extensively implemented in institutions of higher education in two to three years [8]. Using the advanced technology of the current computer industry and combining the mature technological advantages of relevant industry, academia and research units, they set out to build the information platform for students' integrity education, create an online platform for student credit, and establish a student electronic file and student integrity file for each student to record the learning situation, life situation and scientific research of each student during school, which includes basic files of information for students, study attendance, academic performance, rewards and punishments, awards and credits, and credit history. They use these to manage the basic information and integrity of students electronically. They use the data to electronically manage student basic information and integrity. When the students graduate, the employer company can use the integrity education platform of student to check the real learning status, life situation and personal credit report of each student during the school. Using the online platform of integrity and moral education, we can establish a credit evaluation mechanism for college students, quantitatively manage students' integrity records, and provide corresponding risk warnings. With the help of quantitative credit assessment indicators, we can help students establish good habits of observing integrity, strengthen students' awareness of risk of integrity, and reduce the occurrence of fraud. With the quantitative integrity assessment indicators, we can carry out targeted moral education activities for students. The student integrity education platform realizes the basic information and integrity information sharing of students and provides services for various business systems and the public by opening the information of electronic diplomas, student electronic files and student integrity files of anti-counterfeiting students.

2 Construction Methods of Online Platform for Integrity Education

2.1 Establish a Management System of Student Electronic File

The establishment of a student electronic file management system can help schools to aggregate and organize the results of the college and major teaching and educational process. In the process of real teaching, the data in the teaching and educational process

of each major and college is relatively scattered. The information is distributed among multiple systems such as the educational management system and the educational support system of school. Relevant data on student study and life at school is also decentralized management. It is difficult to trace the teaching and educational process of students, which is not conducive to the management of information process in major and college. At the same time, some details of the ideological activity, social relations, rewards and punishments, awards and loans, training, counseling records, etc. that students have to experience in their daily lives are not managed well. Therefore, it is absolutely necessary to strengthen the management of relatively weak links in the management of student and simultaneously integrate data already existing in multiple systems. For information with a large amount of data, it is necessary to properly organize, extract and mine. The establishment of each student's information file is convenient for scientific analysis of students' learning and life, early detection of problems, avoiding risks, and thus strengthening the management of students' study and life.

2.2 Establish a File on Student Integrity

In order to effectively carry out integrity and moral education for students, on the basis of the student electronic file management system, continuously improve the students' integrity education management system, and according to the performance of students' study, life and other activities, such as whether the test is cheating, whether to take classes on time, whether academic copying, tuition and fees, book borrowing, reward and punishment, breach of contract, bank credit card records, resumes are fraudulent, etc., establish a quantitative model of students' integrity assessment indicators. Through the quantitative evaluation index system, we can quantitatively analyze and count the students' integrity in a timely manner, and establish a risk warning mechanism for students' integrity risks. For students who reach the critical value of integrity, the integrity platform will automatically issue a warning. At the same time, through the quantitative evaluation index system, teachers and managers can also provide targeted counseling on the integrity of students.

Through a comprehensive analysis of a series of activities related to the integrity of students' daily life, and with reference to the opinions of other education experts and scholars, this paper constructs a system of integrity assessment indicators as shown in Table 1. Using the entropy weight method to determine the relative weight of each factor, the final integrity assessment indicators and their weight distribution are shown in Table 2.

With the data recorded in the electronic file management system for student and integrity indicator maintenance, the online platform will automatically calculate the integrity data of each student. If the calculation result is less than 0.6, the platform will automatically send the integrity data to the students through the integrity warning mechanism for student. At the same time, with the evaluation value of each item in the evaluation index system, it can also provide detailed education assistance data for managers and teachers to help teachers and administrators with targeted education on students' integrity and morality. Quantitative credit assessment data can also help students to self-discipline, self-education, self-management and self-evaluation in daily

life. This can also help students to establish a good habit of abide by integrity. At the same time, in the process of students' moral education, the importance of students' integrity files can be warned. Once the integrity files are established, they will be disclosed to the society, employers and financial institutions. Students with bad credit assessment will affect their follow-up life conditions such as employment.

Table 1. Student integrity assessment index system

Primary indicator	Secondary indicators	P(h e)	CF(ei, e)	Wi	CFi(h, e)
Record of exam cheating	Never	0.8667	0.5305	0.9792	0.5195
	Occasionally	0.7111	-0.0172		0.0169
	Frequently	0.4000	-0.4413		0.4322
Record of absenteeism at school	Occasionally	0.7778	0.2175	0.2821	0.0614
	Frequently	0.7333	0.0610		0.0172
Academic plagiarism	Never	0.8667	0.5305	0.9565	0.5074
	Occasionally	0.8000	0.2958		0.2829
	Frequently	0.5333	-0.2551		0.2440
Delay in payment of tuition and fees	Never	0.8222	0.3740	0.6408	0.2262
	Occasionally	0.7556	0.1393		0.0842
	Frequently	0.4667	-0.3482		0.2106
Deferred return of the book	Occasionally	0.8667	0.5305	0.4931	0.2616
	Frequently	0.7778	0.2175		0.1073
Record of penalized	Yes	0.3111	-0.5655	0.4700	0.2658
	Not	0.8000	0.2958		0.1390
Record of random breach of contract	Yes	0.8222	0.3740	0.3521	0.1317
	Not	0.7111	-0.0068		0.0024
Record of credit card loss of trust	Never	0.8444	0.4523	1.000	0.4523
	Occasionally	0.8000	0.1173		0.1173
	Frequently	0.3778	-0.4724		0.4724
False resume	Never	0.8444	0.4523	1.000	0.4523
	Occasionally	0.8000	0.1173		0.1173
	Frequently	0.3778	-0.4724		0.4724

P(h|e) of them indicates the conditional probability of each evaluation indicator in the presence of different secondary indicators. CF(eie) indicates the certainty factor of each secondary indicator. Wi indicates the relative weight of each of Primary indicators in the evaluation index system. CFi(h, e) indicates the credibility of each secondary assessment indicator without default.

Table 2. Credit evaluation indicators and their weight distribution

Assessment index	Weight distribution
Record of exam cheating	0.1682
Record of absenteeism at school	0.0485
Academic plagiarism	0.1643
Delay in payment of tuition and fees	0.1039
Deferred return of the book	0.0847
Record of penalized	0.0807
Record of random breach of contract	0.0605
Record of credit card loss of trust	0.1718
False resume	0.1175

In the online education platform of integrity and morality, through the sharing of information on students' integrity, it can provide personalized services to all sectors of society and the public, establish a communication mechanism between the public and the school, and use feedback information to optimize the school's education system of integrity and morality.

2.3 Providing Interfaces and Service Interfaces for Graduates

Open student integrity platform, provide a series of service interface and interface, provide personal integrity information for graduates, which helps to accelerate the employment of students.

The Integrity Platform for student will provide a series of interfaces to provide some functions for graduate students, such as transcript printing, statistics on student life in school, inquiries on student integrity data, verification of student diplomas, which can help students avoid the phenomenon of lack of credibility such as resume counterfeiting, graduation certificate fraud.

3 Key Technologies for the Construction of Integrity Education Platform

3.1 Cloud Platform Technology

Cloud platform technology is the inevitable development trend of computer big data processing. Now many companies have started cloud platform technology to build their own business systems. The construction of the student integrity education platform is also based on the cloud platform technology, which establish the electronic file system and student integrity system for students in colleges and majors, and it can be a supplement to the school information system construction.

As a server-side data storage and processing center, the cloud platform is highly scalable, large-scale, high-availability, and low-cost. The school has completed the basic work of the cloud platform. Considering the popular services provided by the future integrity education platform, the characteristics of huge information throughput, and the need for support of big data modeling analysis and decision making, cloud platform is the cornerstone of building a platform for integrity education. It is also conducive to the integration of information resources such as teaching and moral education throughout the school.

3.2 Adopt Electronic Signature Technology and Network Security Authentication Technology

In this information times, the security of various networks and information systems is the primary task that needs to be solved in the construction of information technology, and it is an effective guarantee to ensure the safe operation of information systems. In the construction of information platform for college students' integrity education, the system will adopt technologies such as electronic signature and network security authentication to ensure the security and reliability of information recording.

Electronic signature technology is a PKI-based information security technology to ensure the security and reliability of the system. The electronic signature is stored in the database in the form of encrypted data, and the important log records are digitally signed in the data table to prevent modification. The electronic signature is also imported into the security device in encrypted storage. Electronic signature technology can ensure the security of data transmission between the seal server and the signature system by setting multiple protection methods. First, the data is compressed and encoded for transmission, and only the signature system with compression coding rules can identify it. Secondly, the server and the signature system use asymmetric encryption and decryption technology to encrypt important data, effectively ensuring that the designated user can securely obtain the original data.

3.3 Data Mining

In the process of education and teaching management in schools, a large amount of educational data and student education information have been accumulated, and a large amount of similar data is generated every year. Through informatization research, we found that these huge data are distributed in various management systems for management, and the data lacks relevance and cannot be effectively captured, managed and processed.

In the construction of the student integrity platform, we will use the relevant technology of big data to effectively extract and manage the data in the school's many decentralized systems, analyze the effective data in teaching affairs, teaching and student education, and establish a complete student electronic file, which will help improve the quality of teaching and morality education in major and college.

In the online platform of student integrity education, we will collect a large amount of data related to teaching and moral education through the student's electronic file, the student's credit file, and the feedback from the employer company. On the basis of the

cloud platform, the problem domain model is established through big data technology, and through the analysis and mining of data, it provides decision-making basis for the education and teaching of the college and the moral education of the students.

4 Framework of the Integrity Education Platform

Based on the student integrity education management platform, we carry out detailed finishing and planning according to the user groups it faces and the different needs of these groups. According to the specific needs of each participants and the functions that the platform can provide, the following structural division was carried out. The structure of the platform is shown in Fig. 1.

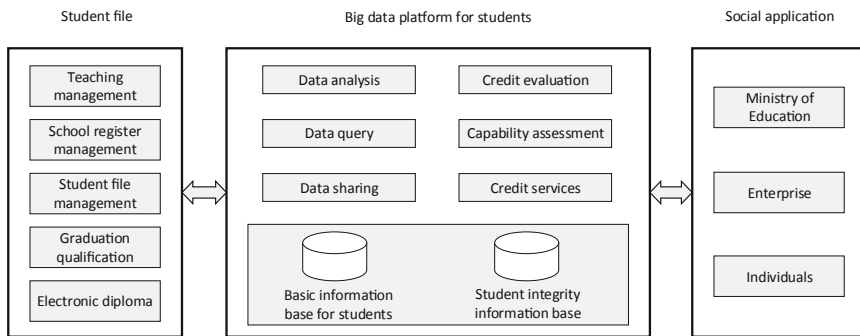


Fig. 1. Structure of the integrity education platform

The construction of the student integrity education management platform mainly includes the following three parts.

4.1 Student File

The student file section is mainly used internally by the school. The user group is mainly for teachers and individual students in the school. The module mainly completes the following functions, including school teaching management, student status management, establishing student electronic files, review of student graduation qualification, and management of students' electronic diploma. Through the construction of the student electronic file management system, we will extract and analyze the data of all the information systems of the school, and complete the construction of the student basic information database and the student integrity information database. Through the management of the student's electronic diploma, we use the electronic signature and digital signature encryption technology to complete the production and issuance of the student's electronic diploma, in order to prevent the occurrence of graduation certificate fraud.

4.2 Big Data Platform for Students

Based on the student basic information database and the student integrity information database, the student big data platform will refer to the relevant quantitative student integrity assessment indicators for data analysis and modeling. The system will automatically calculate the student's integrity data and complete the student's integrity assessment. It will also provide functions such as data sharing and data query for social employers and individuals to realize the sharing of integrity information among college students and provide services for the business systems of each company and the public.

4.3 Social Application

In the process of graduates working in the company, if the company needs to investigate the integrity of the graduates, it can enter the student integrity education platform through the credit service interface provided by the student big data platform to investigate the students' integrity. The contents of the survey mainly include the integrity report of the school, the status of the diploma, and so on.

Based on the student basic information database and the student integrity information database, the student integrity platform will provide functions such as honest data query, data statistics, and integrity evaluation of students. It will also provide companies and individual students with the necessary functions such as a public credit service interface. By using a mobile device such as a web browser or mobile phone, the company or individual student can access the open integrity service interface in the student integrity platform. In this interface, you can query the basic situation of the student, the school integrity record and the integrity analysis report. And through the feedback interface in the integrity interface, the system can provide timely feedback on the actual work situation and integrity of the students employed in the company. The graduated student himself can also use the similar interface to query the basic file data, integrity record and integrity statistics at school. The Student Integrity Service Interface provides flexible query and statistical conditions for the company and the student, which is facilitate query and operation.

5 Conclusion

Whether college students can develop good integrity and morality will, in a big respect, is related to the prosperity and strength of the country and the healthy development of society. For schools and individual students, it is related to the healthy development of colleges and universities and the future and destiny of the students. The construction of student integrity platform is an important part of the university's wisdom education system, and it is also an important part of academic integrity and the integrity education of school. Using the Student Integrity Platform can help students build good habits of integrity. The establishment and opening of the public service interface can establish a bridge between the school and the employer company, and if can also help the school to improve the integrity and morality education of the students.

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