

Retraction

Retracted: Health Education Knowledge Service Information System Model Based on Virtual Reality

Mobile Information Systems

Received 29 August 2023; Accepted 29 August 2023; Published 30 August 2023

Copyright © 2023 Mobile Information Systems. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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

References

- [1] S. Chen, "Health Education Knowledge Service Information System Model Based on Virtual Reality," *Mobile Information Systems*, vol. 2022, Article ID 2742537, 7 pages, 2022.

Research Article

Health Education Knowledge Service Information System Model Based on Virtual Reality

Sisi Chen 

Central China Normal University, Wuhan, Hubei 430079, China

Correspondence should be addressed to Sisi Chen; 201904012203@stu.zjsru.edu.cn

Received 14 May 2022; Revised 2 July 2022; Accepted 26 July 2022; Published 12 August 2022

Academic Editor: Muhammad Muzammal

Copyright © 2022 Sisi Chen. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

In order to solve the problem of more and more vicious events caused by college students' mental ill-health, a research method of health education knowledge service information system model based on virtual reality is proposed. The platform development approach is based on virtual reality to provide technical support to the process of acquiring, maintaining, pushing, applying, and updating the knowledge of mental health education for college students. The system includes a knowledge base for storing college students' mental health education knowledge, tools for supporting acquisition, classification, editing, and storage of knowledge, and tools for knowledge sharing, application, and innovation of teachers and experts engaged in college students' mental health education. The results are as follows: after using this system, the proportion of students with excellent mental health status in a university has increased significantly, reaching 75%, and the proportion of students with poor health status has decreased from 15% to 7%. The mental health knowledge sharing platform designed in this paper has obtained satisfactory evaluation in the trial universities, accounting for 68% of the trial population. The system presented in this article demonstrates that the system can significantly improve the mental health of college students, and the system outlined in this document is important for improving the efficiency and quality of mental health education for college students and for effectively managing educational knowledge.

1. Introduction

Following the rapid development of science and technology and socioeconomic development in modern society, people's mental health problems are receiving more and more attention [1]. As a special group with high social and cultural level in China, college students' mental health problems have been widely concerned and valued. In recent years, more and more malignant events caused by college students' psychological problems have brought very serious consequences to college students' own family and society [2]. Therefore, giving importance to the mental health counseling of college students is a prerequisite for the development of the social situation. On the other hand, due to the continuous change of students' thinking, characteristics, and ideas and people's continuous attention to mental health problems, coupled with the imperfect mental health education and backward education methods in China, it is difficult for students and

teachers to communicate [3]. Figure 1 shows the overall function diagram of health education knowledge service information system.

2. Literature Review

Knowledge economy is a concept suitable for agricultural economics and industrial economics. The knowledge economy is a brand-new economy that has entered a new era of high-speed data transmission, globalized business competition, and high-tech development [4]. As the name suggests, knowledge economy is an economy based on knowledge-intensive intellectual resources [5]. Knowledge-based economy is an economy with the production and utilization of information as the core, human capital and technology as the driving force, high-tech and service industry as the pillar. It is backed by a strong systematic, high-tech, and efficient scientific research system, and its aim is to achieve the constant updating of knowledge value. The value

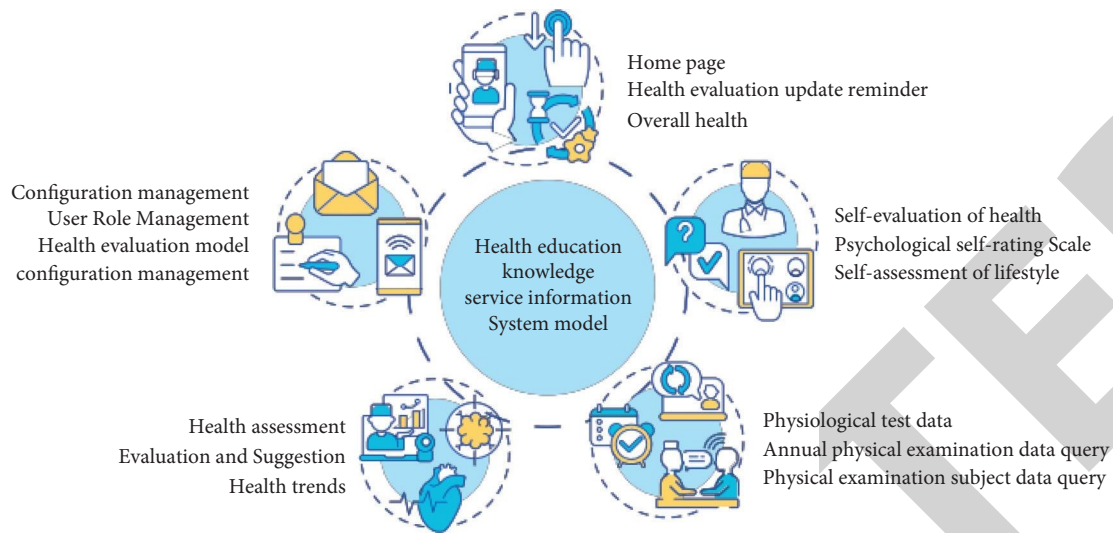


FIGURE 1: Overall function diagram of health education knowledge service information system.

is constantly updated [6]. Knowledge economy is a new economic form and economic theory. Knowledge economy theory comes from the summary of human production and social practice for half a century. It is a new understanding of the connotation of global economy [7]. The law of social development shows that a certain socioeconomic form always corresponds to a certain level of productivity development, and labor tools are the epitome of the level of productivity development. Therefore, the use and creation of labor tools has become one of the important symbols to judge the socioeconomic form [8].

It is not difficult to find that in many developed countries in today's world, knowledge has gradually replaced the hand tools of agricultural economics, the tools of industrial economics, and the computer tools of information economics and has become an intangible new tool of labor [9]. For the first time in the history of human development, the foundations of knowledge and economics have emerged in an intangible form, and this important change has not happened overnight. It is the result of the gradual development of social economy and when this gradual quantitative change accumulates to a certain extent, it brings a fundamental change to the whole world. Knowledge economy is born as a new theory of understanding the economy, the world, and the earth. With the development of economy and the continuous progress of information industry, the environment of knowledge explosion and rapid development of information and the diversification, precision, and individuation of users' demand for information put forward new requirements for the application and promotion of college students' mental health education knowledge, that is, it is necessary to build a knowledge sharing platform for college students' mental health education. That is, it is necessary to build a platform for the knowledge sharing of college students' mental health education [10, 11]. At present, although many colleges and universities have their own campus networks, there are few platforms for sharing and publicizing mental health education knowledge for college students, or there is a lack of

content and management, making the sharing platform unable to play its due role or even useless [12, 13].

The professional training and pre-job training of college students' mental health education cannot meet the needs of regular training and technical improvement of college students' mental health education personnel due to the limited ability of teachers and insufficient funds in colleges and universities. The dissemination and sharing have great limitations. Even if there are new technologies, they can only stay on the surface of learning and understanding and cannot be combined with cases and experience for all-round promotion. Some practical and empirical processing methods and experience technologies cannot be effectively disseminated, shared, and quickly applied to practice [14, 15]. The lack of a platform for effective sharing of mental health education knowledge among college students means that some good and effective experiences and techniques cannot be learned and used by more people, and the mental health education knowledge of college students cannot be acquired, maintained, and used effectively. The knowledge of mental health education of college students cannot be acquired, stored and pushed to application and innovation efficiently and quickly [16].

Based on this, this paper proposes a research on the information system model of health education knowledge service based on virtual reality. By analyzing the problems faced in the process of college students' mental health education, a framework of a knowledge sharing platform for college students' mental health education is designed, a prototype system is developed, and its implementation environment is studied.

3. Research Methods

3.1. Knowledge Sharing Platform Model. The model system of knowledge sharing platform based on Web is usually composed of following layers: interface layer, access and authentication layer, collaborative filtering and intelligence layer, application layer, transport layer, middleware and

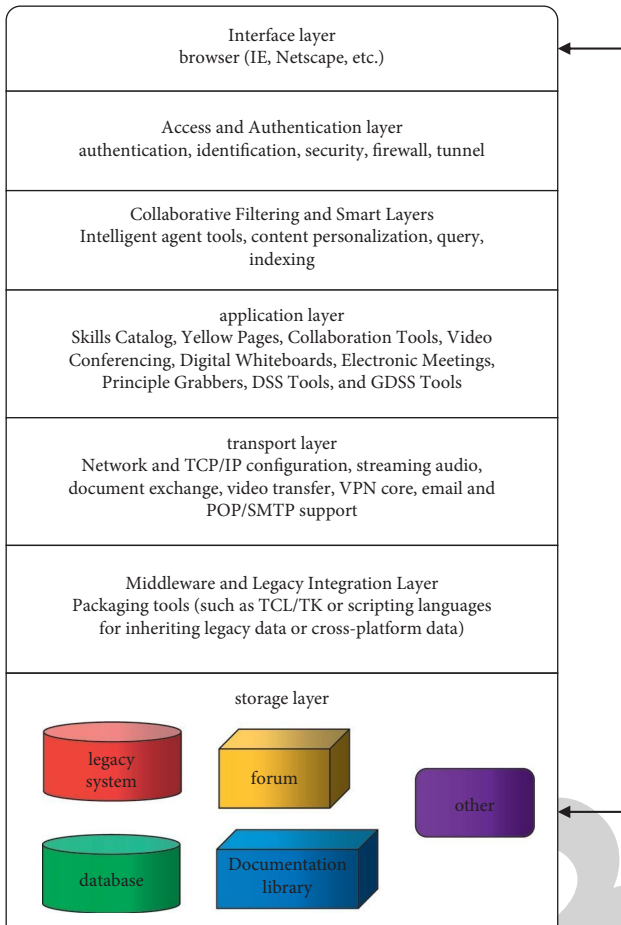


FIGURE 2: Knowledge sharing model.

legacy integration layer, and accumulation layer (2). Applying web technology to the construction of knowledge sharing platform can effectively share, integrate, and reuse heterogeneous knowledge resources distributed on the web, facilitate the construction of web-based knowledge sharing platform, and realize knowledge sharing and reuse on the web [17, 18].

The knowledge management system is a platform for knowledge sharing and an application system or information communication platform for managing explicit and tacit knowledge according to local conditions [19]. Then, the concept of knowledge and human behavior is introduced into the decision support system (DSS), and the three-tier model of knowledge sharing platform is given, as shown in Figure 3.

Level 1 is the knowledge sharing tool, including the expert system language (such as Oracle pi/SQL) or program language (such as C++) constituting the basic components of the knowledge sharing platform. Level 2 is the knowledge sharing platform generator (such as Lotus Notes), which is used to establish various special knowledge sharing platforms. Level 3 is the expertise sharing platform.

The methods and technologies of data management and information management provide the basis and tools for the knowledge sharing platform. To develop a successful knowledge sharing platform, these technologies should be

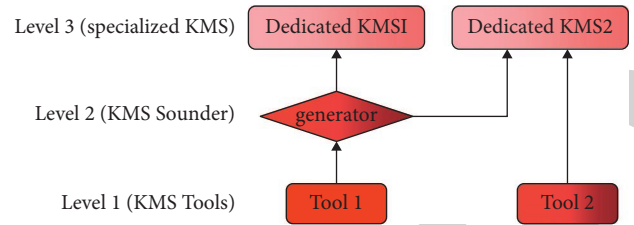


FIGURE 3: Knowledge sharing platform based on hierarchical model.

effectively integrated and used. Since the realization of knowledge sharing depends on the management of data and information transmission, basic IT technologies such as database management system, network technology, and communication system are the necessary infrastructure for a knowledge sharing platform [20]. Based on the underlying technology, the knowledge sharing platform also needs to apply some other information processing and communication technologies.

Several technologies closely related to the knowledge sharing platform include intranet (which can simplify the storage and distribution of large-scale data in different document formats); web page creation tools (including HTML editor, chart design tools, special animation software package, streaming video/audio tools, and so on); file/content management system: search engine; OfficeSuite: collaboration software; and enterprise information network portal.

All kinds of functions and services of knowledge sharing platform ultimately have to rely on the implementation technology of knowledge sharing platform. It can be said that without the technical support of a strong knowledge sharing platform, it is difficult for enterprises to effectively implement knowledge sharing. It is not only the basis for building a knowledge sharing platform but also a strong driving force for knowledge sharing. At present, the technologies to realize knowledge sharing platform mainly include

- ① Groupware technology [21, 22]: at present, the famous groupware products mainly include Lotus Domino/notes, Novell GroupWise, and Microsoft Exchange.
- ② Internet/intranet technology: Internet/intranet not only provides a basic platform for knowledge sharing platform but also provides some convenience for knowledge dissemination and sharing.
- ③ XML technology: XML is a meta language that can be used to create domain specific markup languages. It includes the following contents: DTD, XML schema, CSS, XSL, and XLL.
- ④ Database and knowledge base system technology.
- ⑤ CBR method.
- ⑥ Other related technologies include data mining technology, push technology, and information retrieval technology.

3.2. Knowledge Sharing of College Students' Mental Health Education. The purpose of the process of designing mental health education for college students is mainly to produce new results, to adapt the case to the knowledge needs of each process, to develop knowledge of the various stages, and to experience litigation. Through the four main links of knowledge acquisition, knowledge storage, knowledge push, and knowledge innovation, the knowledge of case handling experience in each stage of the development of new scientific research results can be actively, timely, and effectively applied to college students' mental health teaching and case processing [23]. For researchers in a specific stage of the development of new scientific research achievements, what they pay attention to is the practicability of the final college students' mental health education knowledge in teaching and case processing, that is, how to assist them to effectively complete teaching and case analysis and processing [24]. Therefore, the rigidity of each link in the process of sharing mental health education knowledge for college students is critical (see Figure 4).

There are four key links in this basic process, namely, knowledge acquisition, knowledge storage, knowledge push, and knowledge innovation [25].

3.3. Design of Knowledge Sharing Platform for College Students' Mental Health Education. The knowledge sharing platform of college students' mental health education is to provide systematic support for the acquisition, storage, push, and application innovation process of college students' mental health education knowledge from technology. The knowledge sharing platform for college students' mental health education should have the following functions:

- (1) Have a knowledge base for storing college students' mental health education knowledge.
- (2) Have tools to support the acquisition, classification, editing, and storage of knowledge.
- (3) Have tools to support knowledge workers in knowledge sharing, application, and innovation.

The overall design framework of the knowledge sharing platform for college students' mental health education is mainly composed of four parts: presentation layer, application layer, function layer, and storage layer, as shown in Figure 5.

The presentation layer is the interface connecting users and the system, which is responsible for responding to user operations and displaying processing results. This layer is a browser interface that communicates directly with the user, receiving user input and displaying information returned from the campus network server. As long as Internet Explorer (IE), Firefox, and other browsers are used for online knowledge sharing activities, each functional module has an interface display in the browser.

The application layer of the knowledge sharing platform for college students' mental health education is the key layer of the knowledge sharing platform for college students' mental health education. It is located on the campus network server and application server. It receives the information

from the browser, puts forward the query request to the database server, and returns the query result to the browser. It is used to respond to the user's request, complete the application business processing, or undertake expensive computing tasks. The application layer is responsible for realizing the processing logic of various knowledge sharing platforms and business management. It is the core of the knowledge sharing platform and directly determines the function of the whole platform. When there is a database access task, the application layer further sends corresponding requests to the database system. Most of the functions of the knowledge sharing platform for mental health education for college students are built on this layer.

The function layer of college students' mental health education knowledge sharing platform has no user interface and does not directly realize the specific knowledge sharing operation but provides technical and platform support for the implementation of each module in the application layer. The functional layer of college students' mental health education knowledge sharing mainly uses technologies and tools such as intelligent agent, push technology, web server, and e-mail server. First obtain the relevant knowledge needs of the demander and then search the knowledge that meets the needs of users from the knowledge source. After matching, mining, pushing, and screening, push the explicit knowledge to users at the appropriate time according to certain user demand criteria: inform the users in need of tacit knowledge through knowledge link, so that users can clarify their exact location and knowledge carrier.

The storage layer of college students' mental health education knowledge sharing platform provides various knowledge base resources, which is located on the database server. It mainly carries out knowledge management, information storage, data update, query, and other operations through the database system and maintains the security and integrity of data. It is provided to the application through the database interface and finally presented to the client browser in HTML format. The knowledge base of this platform is established for the needs of the functional modules of the application layer. The knowledge base of college students' mental health education knowledge is used to store various knowledge resources, including the theoretical knowledge base of college students' mental health education, college students' mental health education teachers and expert personal information database, expert database, knowledge evaluation database, knowledge index database, and other information.

4. Result Analysis

4.1. Effect of the System before and after Use. The system developed in this paper has been implemented in a particular university. The probationary period is one academic year. Record the mental state of the students, as well as the sampled students. A comparative study of the psychological state of pre and post-trial college students was conducted to examine the effects of the system developed in this article on the psychological health of students, and the results are given in Figure 6.

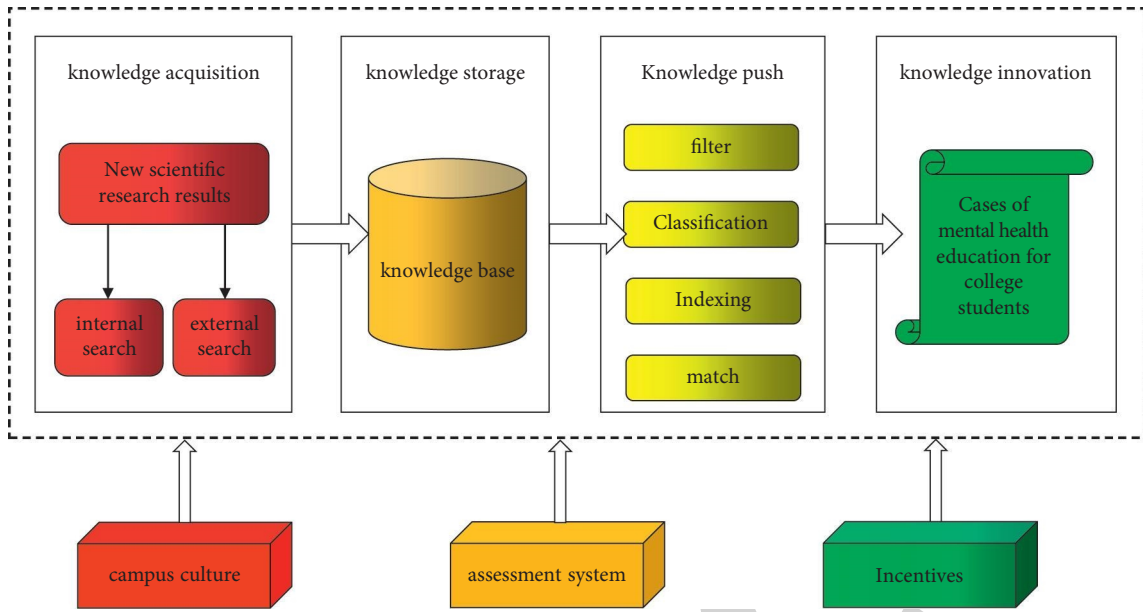


FIGURE 4: Sharing process of college students' mental health education knowledge.

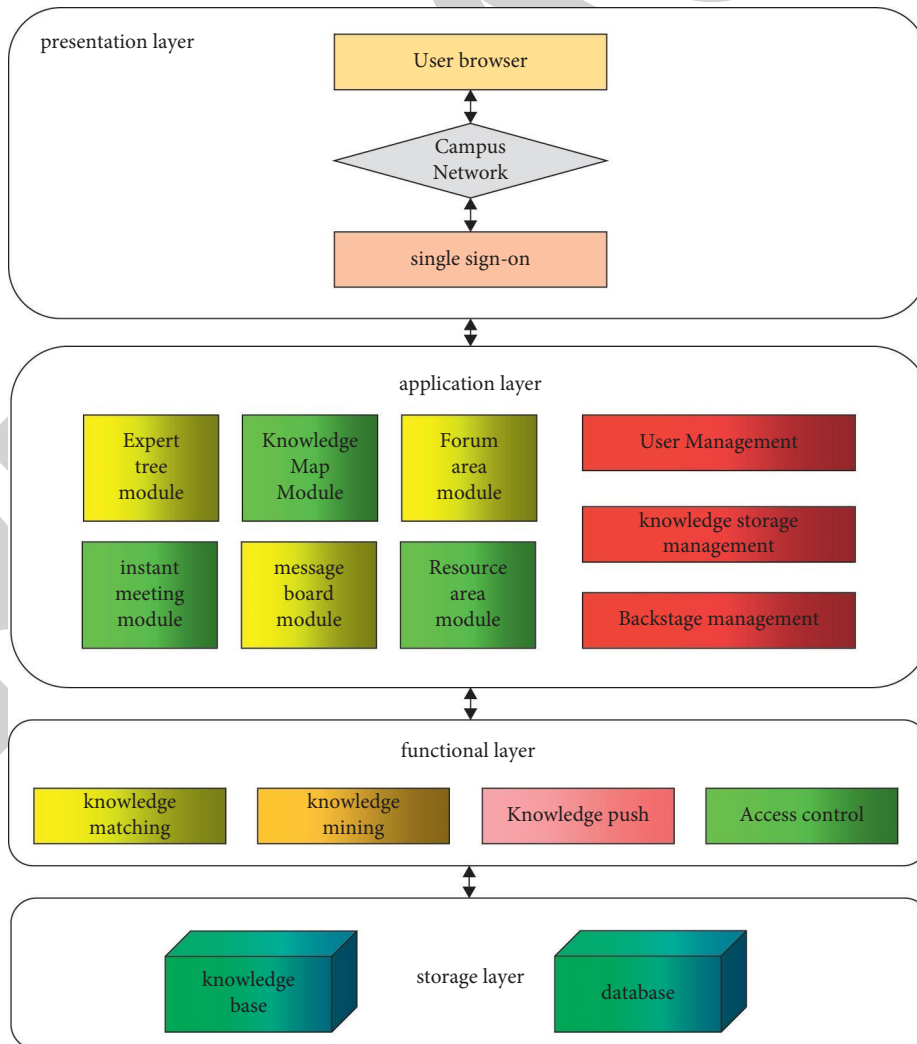


FIGURE 5: Overall framework of the platform.

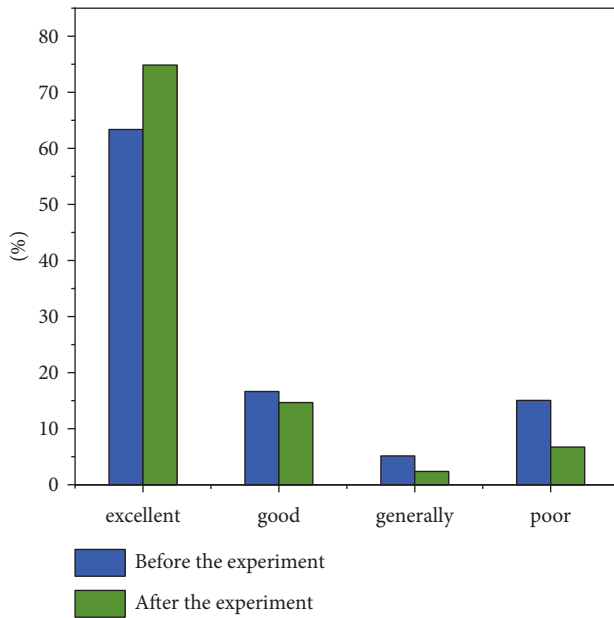


FIGURE 6: Distribution of students' mental health status before and after the use of the system.

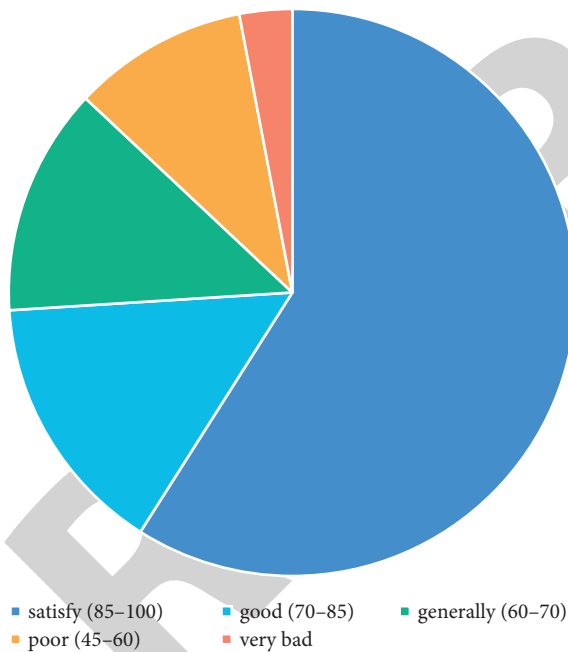


FIGURE 7: System usage score.

It can be seen from Figure 6 that after using the system, the proportion of students with excellent mental health status in the school has increased significantly, up to 75%, and the proportion of students with poor health status has decreased from 15% before the use of the system to 7%. The system in this paper shows that it can dramatically improve the mental health of college students.

4.2. Evaluation of Knowledge Sharing Platform for College Students' Mental Health Education. After the experiment, the students who have used the knowledge sharing system in the university are collected to evaluate the system. The evaluation of the system is carried out from six aspects: knowledge richness (E), knowledge acquisition convenience (F), knowledge upload convenience (G), knowledge sharing convenience (H), system fluency (J), and the impact of the self-evaluation system on mental health (L). Each aspect is scored in the percentage system. The calculation formula of the overall score (T) is as follows:

$$T = (E * 0.1 + F * 0.2 + G * 0.1 + H * 0.2 + J * 0.2 + L * 0.2) * 100\%. \quad (1)$$

The collected scores are summarized and analyzed, and the results are shown in Figure 7.

As can be seen from Figure 7, the mental health knowledge sharing platform designed in this paper has received satisfactory evaluation in the trial universities, accounting for 68% of the trial population. In response to the suggestions for improvement, this paper will be analyzed and the focus will be on further improving the system, using it extensively, and improving the mental health of college students.

5. Conclusion

This paper introduces the design and implementation of a prototype system of a knowledge sharing platform for college students' mental health education. The application background, development, and operation environment of the prototype system are given, and the main function interface is introduced. The implementation of college students' mental health education knowledge sharing platform is analyzed from the construction of college students' mental health education knowledge sharing platform to maintain the system construction and cultural construction. The main results of this study are as follows:

- (1) It describes the origins and development of knowledge management, the definition of knowledge, its characteristics, classification, transformation, knowledge sharing processes, and conceptual models.
- (2) The knowledge sharing process of college students' mental health education is described, namely, acquisition, storage, and push innovation.
- (3) It provides an overview of the platform for sharing knowledge on mental health education for college students. The functions and key technologies of the main components of the platform are introduced. We emphasize that the key technologies for implementing knowledge sharing platforms and evaluating system usage are web technology, knowledge processing technology, and XML technology.

Data Availability

The data 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.

References

- [1] J. Zhang, L. Zhu, S. Li et al., "Rural-urban disparities in knowledge, behaviors, and mental health during covid-19 pandemic: a community-based cross-sectional survey," *Medicine (Baltimore)*, vol. 100, no. 13, 2021.
- [2] V. Patel, "Income inequality and psychiatric admission in a rich country: happiness does not guarantee mental health equity," *JAMA Psychiatry*, vol. 77, no. 3, pp. 233-234, 2020.
- [3] A. Sachar, T. Willis, and N. Basudev, "Mental health in diabetes: can't afford to address the service gaps or can't afford not to?" *British Journal of General Practice*, vol. 70, no. 690, pp. 6-7, 2020.
- [4] A. Stewart, "The medical model in mental health: an explanation and evaluation by ahmed samei huda OUP. 2019. £41.99 (pb). 408 pp. ISBN 9780198807254," *The British Journal of Psychiatry*, vol. 218, no. 4, p. 233, 2021.
- [5] S. Mingolla, A. Celano, and M. Santopietro, "Op0082-pare the effect covid-19 has on the mental health of people living with rheumatic diseases. from data to interventions," *Annals of the Rheumatic Diseases*, vol. 80, no. Suppl 1, pp. 44-45, 2021.
- [6] S. Uniyal, S. K. Mangla, P. R. S. Sarma, M. L. Tseng, and P. Patil, "Ict as "knowledge management" for assessing sustainable consumption and production in supply chains," *Journal of Global Information Management*, vol. 29, no. 1, pp. 164-198, 2021.
- [7] M. Nakayama, E. Hustad, and N. Sutcliffe, "Agility and system documentation in large-scale enterprise system projects: a knowledge management perspective," *Procedia Computer Science*, vol. 181, no. 1, pp. 386-393, 2021.
- [8] N. S. Sazonova and N. V. Syreishchikova, "Improving knowledge management using information technology for industrial enterprises," *Russian Engineering Research*, vol. 41, no. 11, pp. 1103-1107, 2021.
- [9] J. L. Verdegay and Z. Rodriguez, "A new decision support system for knowledge management in archaeological activities," *Knowledge-Based Systems*, vol. 187, no. 1, pp. 104843.1-104843.10, 2020.
- [10] W. Sardjono, T. Pujadi, S. Sukardi, A. Rahmasari, and E. Selviyanti, "Dissemination of sustainable development goals through knowledge management systems utilization," *ICIC Express Letters*, vol. 15, no. 8, pp. 877-886, 2021.
- [11] K. Borodako, J. Berbeka, and M. Rudnicki, "Technology used in knowledge management by global professional event services," *Journal of Global Information Management*, vol. 29, no. 1, pp. 145-163, 2021.
- [12] J. M. Masinde and O. Sanya, "Information organization activities in the knowledge management setting," *Journal of Digital Information Management*, vol. 19, no. 1, pp. 1-9, 2021.
- [13] M. A. Molodchik, I. A. Esaulova, and A. V. Molodchik, "Knowledge management model based on organizational and motivational mechanisms," *Management Science*, vol. 11, no. 2, pp. 85-98, 2021.
- [14] L. Pereira, J. Santos, Á. Dias, and R. Costa, "Knowledge management in projects," *International Journal of Knowledge Management*, vol. 17, no. 1, pp. 1-14, 2021.
- [15] B. Ghasemi, S. Khalijian, T. U. Daim, and E. Mohammadipirlar, "Knowledge management performance measurement based on world-class competitive advantages to develop strategic-oriented projects: case of iranian oil industry," *Technology in Society*, vol. 67, no. 5, p. 101691, 2021.
- [16] N. Li, "Curriculum data association organization and knowledge management method for unstructured learning resources," *International Journal of Emerging Technologies in Learning (IJET)*, vol. 15, no. 06, pp. 79-83, 2020.
- [17] V. Mkrttchian, "Avatars-based decision support system using blockchain and knowledge sharing for processes simulation: a natural intelligence implementation of the multi-chain open source platform," *International Journal of Knowledge Management*, vol. 17, no. 1, pp. 72-92, 2021.
- [18] J. Zhai, X. Xu, J. Xu, and X. Lyu, "Research on green collaborative innovation mechanism of cloud manufacturing enterprises under government supervision," *Mathematical Problems in Engineering*, vol. 2021, no. 1, pp. 1-17, 2021.
- [19] O. Okudan, C. Budayan, and I. Dikmen, "A knowledge-based risk management tool for construction projects using case-based reasoning," *Expert Systems with Applications*, vol. 173, no. 1, p. 114776, 2021.
- [20] S. Vijayan, X. Zheng, P. Shankar, and Z. Huiyu, "Application of intelligent systems in multi-modal information analytics," *Advances in Intelligent Systems and Computing*, vol. 929, p. 1512, 2019.
- [21] R. Huang, S. Zhang, W. Zhang, and X. Yang, "Progress of zinc oxide-based nanocomposites in the textile industry," *IET Collaborative Intelligent Manufacturing*, vol. 3, no. 3, pp. 281-289, 2021.
- [22] X. Liu, C. Ma, and C. Yang, "Power station flue gas desulfurization system based on automatic online monitoring platform," *Journal of Digital Information Management*, vol. 13, no. 06, pp. 480-488, 2015.
- [23] J. Jayakumar, B. Nagaraj, S. Chacko, and P. Ajay, "Conceptual implementation of artificial intelligent based E-mobility controller in smart city environment," *Wireless Communications and Mobile Computing*, vol. 47, pp. 1-8, 2021.
- [24] S. Kannan, G. Dhiman, Y. Natarajan et al., "Ubiquitous vehicular ad-hoc network computing using deep neural network with iot-based bat agents for traffic management," *Electronics*, vol. 10, no. 7, p. 785, 2021.
- [25] Y. Matsuoka and E. Gonzales Rocha, "Sendai voluntary commitments: landslide stakeholders and the all-of-society approach enhanced by undrr," *Landslides*, vol. 17, no. 10, pp. 2253-2269, 2020.